



European Vacancy and Recruitment Report 2014

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EUROPEAN VACANCY AND RECRUITMENT REPORT 2014

European Commission

Directorate-General for Employment, Social Affairs and Inclusion

Unit C.3 - Skills, Mobility and Employment Services

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Abbreviations

ALMP	Active Labour Market Policy
EC	European Commission
EEO	European Employment Observatory
EMP	Employment
EJMB	European Job Mobility Bulletin
EVM	European Vacancy Monitor
EVR	European Vacancy and Recruitment Report
EU	European Union
EWCO	European Working Conditions Survey
ISCO	International Standard Classification of Occupations
ISCED	International Standard Classification of Education
GDP	Gross domestic product
ILO	International Labour Organisation
ICT	Information and communication technologies
HR	Human resources
JVS	Job Vacancy Statistics (source - EUROSTAT)
LFS	Labour Force Survey (source - EUROSTAT)
NACE	Classification of Economic Activities in the European Community
NSO	National Statistical Organisation/Office
OECD	Organisation of Economic Co-operation and Development
ORS	Online recruitment services
PES	Public Employment Services
PRES	Private Employment Services
STW	Short-time working
TAW	Temporary Agency Work(er)
TWA	Temporary Work Agency
Q1, Q2	First quarter of the year, second quarter etc.
UNEMP	Unemployment

Executive summary

Recruitment activity in Europe (vacancies and hirings) shows only partial recovery, with vacancies down -19 per cent and hirings down -14 per cent on average in 2012 compared to 2008. However, when compared to their lowest levels during the crisis (i.e. the third quarter of 2009) vacancies had risen by 25 per cent by the third quarter of 2013 and hirings had increased by 7 per cent.

'Top growth' occupations in employee numbers are mostly high skilled. Software and sales professionals, as well as personal care workers and nurses in the health services show robust growth in employment. Top growth in hirings between 2011 and 2012 was concentrated in *'agricultural, forestry and fishery labourers'* (1.2 million hirings, mostly in the south of Europe), *'personal care workers in health services'* and *'administrative and specialised secretaries'* (respectively 1.4 and 0.6 million hirings, in particular in northern Europe).

The share of the low educated in hirings is contracting across all major occupational groups, even in 'elementary occupations' where it fell by four percentage points between 2008 and 2012. This may be an indication of the effects of declining employment causing more low skilled jobs to be filled by those with medium education or above instead of by the low skilled.

Between 2008 and 2012 the **proportion of hirings with non-standard contracts increased**: from 44 to 46 per cent for part-time contracts and from 56 to 59 per cent for temporary contracts. Temporary contracts were more common in countries with strong employment protection for permanent contracts (Spain, 90 %), student jobs (Sweden, 75 %), seasonal demands (both Spain and Sweden) and limitations on the duration of temporary work assignments (France, 75 %, particularly in industry). Temporary contracts were fewer in countries with less employment protection for permanent contracts: Estonia (29 %), Malta and the United Kingdom (both 22 %).

Half of all people hired were below 30 years of age in 2013 and this proportion has been fairly consistent since 2008. The **high rate of turnover in youth employment** is the main factor why the relatively high rate of hirings of young people – which is one of the key findings in this report – has not been reflected in a significant reduction in youth unemployment. Low educated youth were worst affected by the crisis, hiring fell by one third (- 31 %) comparing the second quarter in 2013 with 2008. The proportion of low educated youth hirings in 2012 was relatively high in south Europe (Italy, Malta, Portugal and Spain - 30 - 40 %), and mostly in low skilled jobs such waiters in restaurants and shop assistants.

Key findings

a. Vacancies and hirings:

- **At 218 million, average EU employment in 2012 was 2.6 per cent less** than in 2008. While employment was back at pre-crisis levels in eight countries and coinciding with increased GDP in Austria, Belgium, Germany, Malta and Sweden, employment continued to fall in 2012 in nine countries and by -5 per cent or more in Greece, Portugal and Spain.
- **Recruitment activity (vacancies and hirings) shows only partial recovery**, with vacancies down -19 per cent and hirings down -14 per cent on average in 2012 compared to 2008. However, when compared to their lowest levels during the crisis (i.e. the third quarter of 2009) vacancies had risen by 25 per cent by the third quarter of 2013 and hirings had increased by 7 per cent. The total number of hirings (for 27 EU Member States) in the third quarter of 2013 was still significant (around 9.6 million) which compares with the 10.9 million in the same quarter of 2008. Vacancies increased in Sweden alone, but job hirings increased in 4 EU Member States, while staying the same in 6 and falling in 16 countries. Growth in hirings was combined with employment growth in Hungary (mostly new jobs in the public sector), in Luxembourg (where the finance sector recovered well) and in Sweden (with strong overall development). In contrast, there was a sharp decline in hirings in the east and south of Europe, with reductions of -25 per cent or more below pre-crisis levels in Greece, Romania, Slovenia, Slovakia and Spain and also in the far west in Ireland, reflecting significant reductions in employment in those countries.
- **Recruitment intensity in terms of vacancy and hiring rates** fell accordingly, but only from 2.6 to 2.3 for hirings. **Northern Europe had higher vacancy rates in the post-recession period and experienced the highest levels of hiring during the recession.** In 2012, the job vacancy rate was highest in the Nordic countries followed by Germany and confirmed the better economic performance of these countries. **Hiring opportunities for the unemployed** (ratio of unemployed to hirings) **deteriorated in all countries over the period 2008-2012.** The probability of getting a job was influenced by age and in particular by education.

Hiring prospects for the low educated deteriorated significantly as the ratio almost doubled (up to 3.5 from 1.9). Hiring prospects declined for all age groups, but relatively less so for those aged under 30.

- **Private sector recruitment** forming the largest part of the labour market **responded faster and stronger to the business cycle** than the broad public sector, particularly in 2009 and 2010. However, after the partial recovery, faltering growth caused private sector vacancies and hirings to lag behind those in the public sector which were not as strongly affected by short-term changes in the economy.

b. Occupational demand:

- **Hirings recovered between 2008 and 2012 in three of nine major occupational groups** *'professionals'*, *'service and sales workers'* and *'elementary occupations'*. While some of this growth is due to new jobs being created, increasing job turnover was the main cause of increased hirings in elementary jobs, in particular in the countries that were worst affected by the crisis (such as Greece, Portugal and Spain) or where the crisis was prolonged (for example, the Netherlands). This does not suggest a structural change in the skills levels of hirings. In particular, no skills polarisation is evident from recent developments in hirings, at least not for non-manual jobs.
- **The specific occupations with the largest volumes of hirings in 2012** included a number of medium skilled services workers such as *'shop salespersons'* (3.1 million hirings, all EU countries), *'waiters and bartenders'* (1.9 million, most EU countries except a few in east Europe) and *'personal care workers in health services'* (1.4 million, in the top 10 of eight countries: Denmark, Finland, Germany, Ireland, Italy, Spain, Sweden and the United Kingdom). Other occupations with large volumes of hirings included various *'elementary occupations'* and *'service and sales workers'*. The high volumes of hirings associated with these occupations reflected their relatively large numbers in employment and a relatively high incidence of seasonal work and of job turnover.
- **The Top 25 occupations for employee growth in the EU between 2011 and 2012 were dominated by those requiring higher level skills** (18 out of 25), 11 of which were in the *'professionals'* category. Those occupational fields with the highest growth were health, teaching, engineering and administration. Within the fields the top three occupations for absolute growth were (in descending order) *'software and applications developers and analysts'*, *'personal care workers in health services'* and *'sales, marketing and public relations professionals'*. The demand for IT specialists cuts across many sectors and is related to the general economic recovery which would also help explain the growth in sales and administrative jobs. New and replacement jobs in health care are projected to increase as demand grows from an ageing population in Europe.
- **'Top growth' occupations in both hirings and employee numbers** between 2011 and 2012 were concentrated in *'agricultural, forestry and fishery labourers'* (1.2 million hirings, mostly in the south of Europe), *'personal care workers in health services'* and *'administrative and specialised secretaries'* (respectively 1.4 and 0.6 million hirings, in particular in northern Europe). The growth of *'agriculture, forestry and fishery workers'* consisted largely of seasonal workers, while the combined growth in hirings and employees for the other two occupations indicate new job creation.
- The general **fall in the number of people hired** particularly affected manual occupations *'craft and related trades workers'* and *'plant and machine operators and assemblers'*. The decline reflected the fall in employee numbers in construction (-17 %) and industry (-10 %), with employment in construction falling by half in Greece, Ireland, Lithuania and Spain and by -20 per cent or more in industry in the same countries. The fall in hirings of skilled manual workers was particularly sharp in 2009. Hirings also fell for *'managers, legislators and senior officials'*, but it was less acute and more prolonged.
- **Occupations where both the numbers of employees and the numbers of hirings decreased were mostly related to the construction sector**, in particular in the south of Europe (though less so in Italy) and some east European countries (Bulgaria, Croatia, Estonia and Poland). Where a fall in employment in construction is less visible in hirings such as in Ireland and Lithuania, increased job turnover is a likely explanation. Employee and hiring numbers also fell significantly among generalist secretaries (in particular in Belgium), as well as in jobs requiring driving skills (*'heavy truck and bus drivers'* mostly in the larger countries and *'mobile plant operators'*).
- **The largest employee growth occupations for 'professionals'** between 2011 and 2012 were in the fields of health, engineering, administration, teaching, ICT, finance and sales at the EU level. Each of these occupational fields has specific features with regards to labour demand: **ICT** - recruitment difficulties are caused by the lower numbers of graduates in the west of Europe; **health care** - regional imbalances due to the labour migration from east to west; **teaching** - increased demand for staff at tertiary level due to increase in the participation rate in higher education institutions; **engineering** - recovery from earlier falls during recession, although with differences between specialisations; and **finance** - job opportunities for young workers remained quite favourable even in those countries with declining employment in this sector.

c. Education requirements:

- **Labour market conditions hit the low-educated worst of all**, with their employment rate falling the most since 2008 to 45 per cent in 2012, compared to 68 per cent for the medium educated and 82 per cent for the high educated. The share of the low educated was higher for hirings than for employees in every European country except Malta indicating high labour turnover (26 : 19 % at EU level) indicating less job stability for the low educated. In addition, prospects of low educated unemployed, as measured by the numbers of unemployed compared to hirings, were worst for the low educated at 4.4 compared to 1.7 for the high educated and were particularly poor in 2012 in the countries most affected by the crisis (Greece, Ireland, Italy, Portugal and Spain).
- **The share of the low educated in hirings is contracting across all major occupational groups, even in 'elementary occupations'** where it fell by four percentage points between 2008 and 2012. This may be an indication of the effects of declining employment causing more low skilled jobs to be filled by those with medium education or above instead of by the low skilled. This is particularly the case for young jobseekers in the three Baltic countries and even more so in Portugal. Despite this change, still a substantial number of low-educated people were hired into medium skilled jobs largely because of 'skills supply' limitations.
- **The 25 occupations with the largest decline in employees in the EU between 2011 and 2012 were dominated by jobs requiring low to intermediate skills** (19 out of 25), in particular those requiring manual skills (12). The occupational fields affected by these falls in employee numbers were wide-ranging though industry and construction were the most affected. The top two occupations were in construction ('*building frame and related trades workers*' and '*mining and construction labourers*') with third place taken by '*general office clerks*' which are found across sectors. Along with related occupations in the bottom 25 such as '*other clerical support workers*', '*tellers, money collectors and related clerks*', '*keyboard operators*' and '*secretaries (general)*', '*general office clerks*' continue to be affected by developments in IT displacing traditional lower skilled administrative roles.
- **Correspondingly, the Top 25 occupations for employee growth in the EU between 2011 and 2012 were dominated by those requiring higher education** (18 out of 25), 11 of which were in the '*professionals*' category. Those occupational fields with the most growth were health, teaching, engineering and administration. Within the fields the top three occupations for absolute growth were (in descending order) '*software and applications developers and analysts*', '*personal care workers in health services*' and '*sales, marketing and public relations professionals*'. The

demand for IT specialists cuts across many sectors and is related to the general economic recovery which would also help explain the growth in sales and administrative jobs.

d. Young jobseekers:

- **Half of all people hired were younger than 30 years old** in 2013 and this proportion has been fairly consistent since 2008. This reflects a combination of factors; firstly, the incidence of temporary employment was somewhat higher among the young employed; secondly, young workers tend to be strongly represented in occupations which are characterised by a relatively high incidence of turnover. Finally, young people tend to change jobs more often. The **high rate of turnover in youth employment** is the main factor why the relatively high rate of hirings of young people – which is one of the key findings in this report - has not been reflected in a significant reduction in youth unemployment.
- **At the same time the ratio of unemployed young jobseekers to hirings is below that for all age groups**, increasing from 1.2 to 1.7 over the reference period compared to the rise from 1.8 to 3.1 for all age groups. Within the EU, hirings of young unemployed fell most in those countries most affected by the crisis such as Greece, Ireland, Italy, Portugal and Spain, but even within those countries hirings of unemployed adults fell even more.
- **An analysis of the occupational structure of the youth labour market** shows that the highest numbers and increasing proportions of young people (including students) are hired in services and sales followed by elementary occupations. Youth hirings in general fell sharply in 2012 (compared to 2011) in most countries but with some exceptions:
 - For **young 'professionals'**, hirings increased in 2012 in Austria, Denmark, France, Sweden and the United Kingdom, mostly in healthcare and ICT.ⁱ
 - For **young 'clerks'**, hirings increased in 2012 across Europe.
 - For **young 'service and sales workers'**, hirings increased in 2012 in Austria, France and Sweden. Hirings fell in Greece and Spain, but less so than for other occupational groups in these countries. Youth hirings increased in particular for food services ('*waiters and bartenders*' and '*cooks*').
 - For **young workers in 'elementary occupations'** increases in hirings in 2012 are mostly attributable to increasing job turnover, some of which is due to seasonal work.
- **Top growth occupations in youth hirings in 2012** were in hospitality ('*waiters and bartenders*'), clerks ('*numerical clerks*', '*clerical support workers*', '*client information workers*', '*general office clerks*'), in healthcare ('*personal*

ⁱ Germany is excluded in this analysis for technical reasons.

care workers in health services) and *'protective service workers'*.

- **Low educated youth were worst affected by the crisis, hiring fell by one third (- 31 %)** comparing the second quarter in 2013 with 2008. This holds also true when compared to low educated people aged 30 and older. However, composition of youth hirings varies across Europe. The proportion of low educated youth hirings in 2012 was relatively high in south Europe (Italy, Malta, Portugal and Spain - 30 - 40 %) while the share of medium educated youth hirings was highest in some east European countries as well as in Austria and Germany due to the strong apprenticeship system. The proportion of high educated youth hirings (excluding students and apprentices) was highest in Cyprus, Ireland, United Kingdom, Greece and Netherlands (close to 40 % or more).

e. Types of contracts and job turnover:

- **Between 2008 and 2012 the proportion of hirings with non-standard contracts increased: from 44 to 46 per cent for part-time contracts and from 56 to 59 per cent for temporary contracts.** The proportion of hirings through TWAs initially fell in 2009, but by 2012 it had returned to the pre-crisis level of 10 per cent. Overall, the proportion of recent hirings in jobs fell from 26 per cent in 2008 to 23 per cent in 2012, indicating lower job mobility.
- **The use of temporary contracts depends on factors such as employment protection legislation, seasonal demand and student jobs.** On average in the EU, 59 per cent of hirings in 2012 were on a temporary contract, but temporary contracts were more common in countries with strong employment protection for permanent contracts (Spain, 90 %), student jobs (Sweden, 75 %), seasonal demands (both Spain and Sweden) and limitations on the duration of temporary work assignments (France, 75 %, particularly in industry). Temporary contracts were fewer in countries with less employment protection for permanent contracts: Estonia (29 %), Malta and the United Kingdom (both 22 %).
- **In 2012 over half of hirings across all occupational groups (except *'legislators and managers'*) were on temporary contracts** and even over 70 % in *'elementary occupations'* and *'skilled agricultural and fishery workers'*. These percentages were higher than in 2008. With regards to part-time hirings the picture is more mixed. While the share was highest and increasing in *'services and sales'* (up to 48 %) and for *'elementary occupations'* (up to 44 %), hiring on a part-time basis, despite an increase, remained uncommon for *'craft and related trades workers'*, *'plant and machine operators'*, *'legislators and managers'* (between 11 and 16 %).
- **For *'elementary occupations'*, all indicators pointed to high and increasing job turnover in 2012 compared to**

2008, reflecting structural use of temporary contracts particularly in Croatia, France, Poland, Spain, Slovenia and Sweden, and reflecting the seasonal jobs in summer particularly in the three Baltic countries, Denmark and Finland.

- **For *'plant and machine operators and assemblers'* and *'craft and related trades workers'*. In Estonia, Denmark, Finland, Latvia and Lithuania, the proportions of temporary contracts were also very high** although they were in similar proportions to 2008. For France, this is partly due to the high numbers of TWA workers being placed for less than one month's duration.
- **For *'service and sales workers'*, job turnover was extremely high in Spain and Sweden despite a low incidence of TWA work.** The proportion of temporary hirings in this occupational group was around 90 per cent in both countries.
- **For *'clerks'*, the indicators for job turnover were generally about average in 2012**, and they decreased compared to 2008. This was most probably due to an increasing proportion of public sector hirings where job turnover is generally less frequent.
- **For the high skilled jobs, all indicators pointed to generally low job turnover, in particular for *'legislators, senior officials and managers'*.** In this occupational group, only 9 per cent were hired three months earlier at the most, reflecting the tendency to fill in positions for *'legislators, senior officials and managers'* with people already working in the organisation without recourse to the labour market.

f. Public Employment Services (PES) and Temporary Work Agencies (TWA):

- **Employers in those countries covered by the data notified more vacancies to the PES in 2012 compared to 2010**, although the numbers were generally below 2008 levels. The trend was different in some east European countries where, for example, the increases in the three Baltic countries reflected a recovery from sharp falls in 2009, while falls in vacancy notifications in Cyprus and Slovakia reflected the persistence of economic difficulties.
- **The occupations with the highest volume of vacancies notified to the PES in the EU countries covered included *'shop salespersons'* and *'manufacturing labourers'*.** In the centre and the north of Europe, large numbers of vacancies for a variety of high-skilled jobs were notified to the PES, whereas in the south of Europe skilled manual jobs dominated the notifications.
- **On average in the EU, both the PES and the TWAs each helped fill near ten per cent of all the jobs.** This may underestimate the role of PES in placing jobseekers, since many often collaborate with other placement agencies.

Also, the PES has a role training disadvantaged jobseekers who have less access to internet and social media in the online search for job vacancies, which does not show up in their share of helping fill vacancies. Lastly, job vacancies are not only filled by the unemployed but also by people who were jobseekers moving between jobs and these are less likely to use the PES.

- **Both PES and TWA sources helped fill slightly more of the jobs requiring low to medium levels of education (11 % each during 2008-2012).** Both those below and above the age of 30 were generally helped by PES and TWA to a similar extent. In some countries, such as the Netherlands and Finland, the proportion of young workers being placed is higher due to students taking TWA jobs.
- **For the mainstay of the types of occupations handled by PES, in particular ‘service and sales workers’ and ‘elementary occupations’, the hirings with PES involvement increased slightly between 2008 and 2012.** Some of these occupations have high turnover, and employers may have built up a relationship with their PES to meet these recurring labour needs. The Top 10 - occupations for PES showed a variety with prevalence of public sector jobs reaching from ‘refuse workers’ through ‘general office clerks’ to ‘regulatory associate government professionals’.
- **Over the period 2008 to 2012, TWA workers were hired in significantly increasing numbers in low to medium skilled occupations such as ‘elementary occupations’ and ‘service and sales workers’,** partly reflecting increasing job turnover. The Top 10 occupations for TWAs were dominated by ‘process and operator’ jobs in a range of manufacturing industries, a high proportion of these can be traced to France.

g. Country group profiles:

- The main indicators used in the EVRR to monitor the developments of the labour market in Europe over 2008-2013 such as job vacancies and vacancy rate, job hirings and hiring rate, number of employees, PES vacancy inflow, and the level of ‘underemployment’ (proportion of temporary and part-time involuntary contracts) show **considerable variation between 28 EU Member States.** At the same time, **three clusters of countries** can still be defined as having certain similarities on indicators’ development within a group.

The first cluster includes countries such as **Greece, Spain, Portugal** which in all aspects were most affected by recession. In these countries, young workers relied on elementary jobs such as being a waiter in restaurants or shop assistants, while prospects for the low educated were even weaker as the medium educated accepted low skilled jobs. The second cluster includes those countries which demonstrated a good resilience to the crisis and

its aftermath such as **Austria, Sweden and Germany.** Here hirings fell marginally with generally good matches between educational and job skills levels, in particular for the medium educated in vocational education and training (VET) and with low proportions of involuntary temporary contracts in hirings. A third cluster consists of largely east European countries such as **Hungary, Poland and Slovakia** characterised by a relatively important manufacturing sector and large proportions of medium educated people in the population. The high proportions of medium educated people in this third cluster matches the demand for medium educated workers in the relatively dominant manufacturing sector, but labour market shortages in certain high-skilled professions may occur due to labour migration to the west of Europe.

Background, scope and limitations

European Vacancy and Recruitment Report (EVRR) 2014 is the second step forward in a gradual building-up of a more up to date, dynamic and comprehensive picture of developments in the European labour market, combining information from diverse data sources. The first edition of the report was published in December 2012 as part of the European Commission’s “Skills Panorama”. It made a significant contribution to our understanding of how the European labour market functions.

This **second edition of the EVRR** is a key component of the European Commission’s endeavour to develop a systematic labour market monitoring system focusing on changes in the recruitment demand. The analyses utilise detailed data on occupations and education qualifications and traces developments in recruitment over the last five years using a combination of data on hirings and job vacancies both in different Member States and for the EU as a whole, or groups of EU countries according to data availability.

In addition to providing an update on developments in hirings and vacancies, this second edition also provides an insight into the **implications of vacancies and hirings on employment.** While every vacancy or every hiring represents a job opportunity for every jobseeker, the filling of such vacancies or the hiring of jobseekers does not, in general, result in an increase in total employment. This is because most entries into employment are either by people who are changing jobs, or by people who are replacing workers who have left the labour force through retirement, emigration or for other reasons.

The report brings together **information from a wide range of European and national sources** using Eurostat data, principally Job Vacancy Statistics (JVS) and the Labour Force Survey (LFS). It also uses data from PES, data from privately run TWAs and also information from online services. The Eurostat JVS is the only European source that provides job vacancy information, but the longer data time series is available only for a limited number of countries. PES vacancy

data is available for 22 of the 28 EU Member States, but it only covers the vacancies notified to PES. The LFS provides comprehensive, representative and comparable data for all EU28 countries on job hirings – including by occupation and education – and is therefore used extensively in this report.

While many benefits can be derived from enhancing the level of transparency in the European labour market, the project has had to cope with a number of **challenges**. First and foremost, the limited availability of comparable vacancy data for the whole of Europe, combined with a change in the main classification used for the analyses of occupations from the International Standard Classification of Occupations (ISCO) in 2011 which caused a disruption in the time series. For this reason, many analyses of changes at the occupational level are limited to 2011-2012. However, as the use of such a short period would limit the study's capacity to assess future employment growth potential, partially comparable data from the period 2008-2012 is also included in the analyses for a selection of occupational fields.

Conclusions and recommendations for policy response

1. Further developing Labour Market Intelligence in the EU is needed with a focus on skills requirements and the relationship of recruitment demand and employment

A number of ongoing and more recent European and national initiatives have the potential to enhance labour market intelligence in the future. These initiatives may overcome the challenges which confronted this report. Since 2010 data delivery for Eurostat's Job Vacancy Statistics has been made compulsory for Member States. Another European initiative, ESCO (European Classification of Skills/Competences, Occupations and Qualifications), has reached the implementation stage. The long-term use of this skills-related system should bridge the persistent gap in analysis of skills requirements beyond the simple level of analysis according to occupation. A more in depth exploration in the future, with a focus on country profiles, could contribute to the existing information base of EURES, and it could also contribute to European policies in employment and education.

2. Hirings trends show the need to better support transitions on the labour market and to up-skill workers with low qualifications

The crisis reinforced the trend towards skills upgrading. Hiring and employment volumes continued to be largest in the medium range skills segment, while recruitment of highly educated people was not only more resilient during the recession, but at the same time it offered more sustainable employment.

While reinforcing the need for a combined strategy, this report has identified a particular need for action to help people with low qualifications. Comprehensive evidence shows that the

low skilled suffer a higher risk of frictional and structural unemployment. Current trends in labour demand may aggravate the situation. According to the analyses in this report, the least educated suffered most from the decline in recruitment demand during the recession. Hirings data for Europe also showed that employers increasingly recruit medium educated people for occupations where lower skilled traditionally had a strong foothold, such as '*elementary occupations*' or various occupations in '*services and sales*'. This adds some urgency to the Europe 2020 headline target to reduce the number of people leaving school early, and it also gives urgency to the employment target. Furthermore this finding implies the importance of implementation of policy initiatives on lifelong learning and policies designed to facilitate transitions, such as the European Youth Guarantee and the European Alliance for Apprenticeship.

3. The rising share of temporary and part-time contracts calls for better support to transitions and for policies to ensure adequate training and career development

Increased labour turnover and the rising share of atypical contracts requires enhanced support for labour market transitions for individuals. Public employment services and vocational training institutions should be better equipped to support career shifts on increasingly flexible labour markets.

The increase in (involuntary) temporary or part-time contractual arrangements can adversely affect individual career development. These trends can result in more labour segmentation, an increase in the poverty trap and the dilution of workers' rights. In addition, employers may be reluctant to invest in human resource development and training where greater number of workers is hired on the basis of short temporary contracts. This will affect the career prospects of young workers in particular, but it will also have potentially wider effects on employers and economies. Therefore, policies should be developed at European level in cooperation with the social partners to ensure adequate access to career guidance and participation in training, as well as social protection for this growing category of workers.

Introduction

Monitoring labour demand in Europe

As part of its Europe 2020 flagship initiative 'An Agenda for New Skills and Jobs', in 2010 the European Commission (EC) launched the 'Monitoring Labour Market Developments in Europe' project. The objective of this project is to increase labour market transparency for all stakeholders who need information about recent developments on the demand side of the labour market, for example decision-makers in the fields of education and employment, public and private employment services including EURES advisers, education and training providers, career guidance services, and policy and labour market analysts.

The European Vacancy and Recruitment Report (EVRR) is a key component of the European Commission's endeavour to develop a systematic labour market monitoring system focusing on changes in the recruitment demand for skills using occupation as a proxy - including employment contractual arrangements, education qualifications and so forth. The report also includes an analysis of the activities of recruitment agencies - both public and private - as they represent the interface of labour demand and supply, matching vacancies with suitable jobseekers in particular segments of the labour market.

This EVRR 2014 is the second edition of a planned series of biennial publications providing an analysis of changes in occupational demand. The first edition of the report was published in December 2012 as part of the European Commission's "Skills Panorama". This publication is the next step forward in the gradual build of a more up to date, dynamic and comprehensive picture of developments in labour demand across the European labour market by combining information from a wide variety of data sources. Other elements within this overall project include two quarterly bulletins, the European Vacancy Monitor and the European Job Mobility Bulletin.ⁱⁱ

The analysis of recruitment demand does not necessarily produce similar results as an analysis of employment. Changing demand in recruitment may impact on employment trends in a variety of ways. Generally, an increase in vacancies will be reflected in an increase in employment where new job creation is in excess of job losses (an expansion in demand). However, many job openings arise because of the need to replace workers who have left the labour force as a result of retirement, emigration or for other reasons. In addition, the single biggest generator of vacancies is workers changing

their jobs, either voluntarily or because their employment contract has come to an end.

While there are many benefits to be derived from enhancing the level of transparency in the European labour market, the project faced a number of challenges. The limited availability of comparable vacancy data for the whole of Europe, together with a significant change in 2011 in the main classification used for a breakdown by occupation as provided by the International Standard Classification of Occupations (ISCO), have posed major difficulties which caused a disruption in the time series. Overall, the project can be considered as a 'work in progress', building up more comprehensive information and a longer-term perspective over time.

Sources of information used

The report brings together information from a range of European and national sources using Eurostat data - Job Vacancy Statistics (JVS) and Labour Force Survey (LFS), data from Public Employment Services (PES) and data from Temporary Work Agencies (TWA). The analyses include both European level data and national data:

- Eurostat data on job vacancies from the JVS series
- Eurostat data on employees, job hirings (also called 'recent job-finders' in other studies) and numbers of unemployed from the LFS, including the type of contract, analysis by occupation (using ISCO categories), education level and field (using International Standard Classification of Education - ISCED - categories), and the recruitment channels that were used in recent hiring (PES and TWA)
- Job vacancy registration data from national PES including occupational analysis of vacancies (ISCO)
- Information from TWAs on numbers of agency workers

Where appropriate, results of other international and national studies are used to provide additional support to the analysis and interpretation of the data.

ii <http://ec.europa.eu/social/main.jsp?catId=955>

Country coverage, usage of classifications, time period and measurements

Country coverage and usage of classifications

While LFS data are available for the whole EU28, the JVS and the PES data are confined to a limited number of countries. For the period between 2008 and 2012, reliable JVS data are available on a comparable basis for 15 EU Member States only. This is largely because the JVS was made a compulsory requirement for Member States from the first quarter of 2010. This means that for countries such as Austria, Belgium, Bulgaria, Denmark, Finland, Ireland, Croatia, Cyprus, Hungary and Malta, there is no JVS data for 2008. Additionally, 2008 JVS data for Germany is not used due to a methodological change in late 2009, and JVS data for Italy is not used because it does not cover the whole economy.

The PES data covers between 13 and 22 countries depending on the type of analysis required. One of the reasons for this is the recent change in the ISCO-classification, and the uneven transition to the new classification of the data in some countries. For example, the 'top 5' occupations with the highest growth or the steepest decline in PES vacancy inflow in 2012 are identified for 10 countries that used the new ISCO-08 classification and at the same time for 12 countries that continued to use the old classification ISCO-88.

While LFS data are generally available for all 28 EU Member States, availability is limited to a smaller number of countries for certain types of analysis. This is due to inconsistencies in classifications over time, or high levels of non-response to some questions in certain countries making disaggregation of the data problematic. Changes in hirings in occupational groups, or by educational field, are generally below the publication limits at country level, and so they cannot be presented.

The new ISCO-08 classification introduced a fundamental break in the LFS data series by occupation, which is most visible at ISCO 3-digit level, but in some cases also at 2-digit and 1-digit levels. Not all countries are affected to the same extent and in the level of the classification in the same way. This makes it difficult to compare the recent data with pre-2011 data. For this reason data before and after 2011 are only compared by major occupational group. Appropriate warnings are given where changes in 2011 seem attributable to this change in classification. For a limited number of occupational fields, developments in the periods 2008-2010 and 2011-2012 are analysed separately (for example in Chapter 6).

Definitions of education levels

In this study, based on definitions in the LFS, educational levels are determined by the highest level that was successfully completed by the respondent. A 'high education level' is defined as tertiary education or "post-secondary non-tertiary"

or "upper secondary short courses" (ISCED-97 classification), which in most countries covers education beyond formal upper secondary education. However, the share of persons whose highest attained educational level is beyond upper secondary but not tertiary is very small. A 'medium education level' is defined as formal upper secondary education. Those with medium and high education levels are generally considered as 'qualified workers'. A 'low educational level' refers to a primary or lower secondary education.

Time period and measurement of developments

The analyses conducted for this report cover the economic crisis that started in 2008, and the post-crisis period up to 2013, and they provide an insight into how recruitment patterns have changed during this time.

To allow for comparability of the data from a variety of sources, the analyses cover a limited period of time beginning with the first quarter of 2008 and ending with the third quarter of 2013 for JVS and LFS data, and the second quarter of 2013 for the PES data. The only data provided for a longer period is the Eurociett (the European Confederation of Private Employment Services) data on TWA agency workers from 1996 (in Chapter 11).

In this report developments are often presented in the form of indices as this provides a clear illustration of the scale of change over time, including any volatility due to seasonal factors. It also has the advantage of facilitating the comparison of trends between countries where labour force size differs greatly. To complement the information, absolute values are also included at the bottom of most of the charts.

Key indicators

The key indicators used in the subsequent chapters of this report are briefly described below, with additional information given in the relevant chapters:

Job vacancyⁱⁱⁱ and stock of job vacancies

A job vacancy is defined as a paid post (i.e. for employees), that is newly created, unoccupied, or about to become vacant:

1. for which the employer is taking active steps and is prepared to take further steps to find a suitable candidate from outside the enterprise concerned; and
2. which the employer intends to fill either immediately or within a specified period of time.

A vacant post that is only open to internal candidates is not treated as a 'job vacancy'. The number of job vacancies refers to the number of vacancies that were still open at that point in time. In most countries the total number is

iii Eurostat definition, http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/job_vacancies

an estimate based on a survey of companies of their open vacancies at the time of the survey, while in other countries the total number is based on administrative data.

Job hirings and job hiring rate

Job hirings refer to employees who were employed in a 'reference week' of that quarter and have started working for their employer within a month, or, at most, three months earlier than the month of the reference week – this excludes contract renewals.

For a person who started multiple jobs within the same quarter, only the last hire is counted. Statistical offices often define such persons as job-finders^{iv}. Eurostat indicates new jobs by means of the "time since the job started". Job hirings do not cover the self-employed as a job vacancy is defined as a vacant post for an employee (see definition above).

The term 'job hiring rate' usually refers to the proportion of hirings in a recent period. In this report the term 'job hiring rate' expresses the number of job hirings as a percentage of all employees to give a useful indicator of the dynamics of recruitment in the labour market.

Inflow of PES vacancies

The inflow of PES vacancies is the number of newly registered job vacancies during a certain period of time. The inflow of registered job vacancies depends not only on the demand for labour, but also on the extent to which employers involve the PES in filling job vacancies. In terms of international comparisons, it is not possible to use 'stock' figures due to the differences in national policies on closing registered vacancies. For example, the stock will be higher if vacancies are closed after six months compared to if they are closed after just one month.

To **identify top growth occupations** the analysis of developments in recruitment demand is carried out at different levels. Firstly, the focus is on developments in employee numbers. However, an analysis of changes in employees alone is not sufficient to assess movements in job opportunities. Even if the number of employees falls, recruitment demand can still increase, for example when an increased number of older workers leaves the labour market. Secondly, an analysis of changes in hirings is conducted and it includes the identification of the Top 25 occupations with

- i) the strongest hirings growth
- ii) the strongest hirings decline
- iii) the most hirings in the most recent calendar year.

Such an analysis alone is not sufficient, because an increase in hirings may merely reflect increasing job turnover. But combined together, an analysis of both changes in employee

numbers and in hirings indicates where demand has recently increased or declined.

To identify the occupations associated with more **precarious employment contracts**, and high and increasing job turnover, three types of contractual arrangements, and a fourth overarching indicator, were analysed for the nine major occupational groups:

1. the proportion of hirings with temporary contracts
2. the proportion of hirings conducted via TWAs
3. the proportion of hirings with part-time contracts
4. the proportion of 'recently started' jobs.

A 'recently started' job is defined here as having started within three months prior to the interview and is equivalent with a job hiring. The occupational groups with particularly high, or even increasing, hiring rates are likely to have high and increasing levels of job turnover, especially if confirmed by the three indicators on contractual arrangements presented above.

To **measure job opportunities** a ratio of unemployed to job hirings is used.

Unemployed to job hirings (LFS)

The ratio of unemployed to job hirings indicates the relative ease of hiring, or the relative competition for jobs among the unemployed. An increase in the ratio can be due to increasing unemployment, decreasing job hirings or a combination of both.

A ratio of less than 1.0 (indicating fewer people looking for work than there are vacancies available) is possible but it does not necessarily mean a shortage of labour supply. The main reason in this case is that not all jobseekers are unemployed. In buoyant labour markets particularly, workers may change jobs without being unemployed in the meantime, leaving a vacancy for which another person needs to be hired while unemployment levels remain unaffected.

Exploring the comparative position of different recruitment channels and their importance for different types of jobs, the report focuses on the PES and the TWA. The LFS data of self-reported hirings by age group and education level are used to profile both the PES and TWA and the development of their profiles over the last four years.

^{iv} In the EVRR 2012, the phrase 'job-finders' rather than 'job hirings' was used. In other literature, they are sometimes called 'recent recruits'

Job hirings via PES or a TWA

The LFS contains two questions relevant to the recruitment channel:

- Has the PES contributed to the finding of your current job?
- Is your current job a TWA job?

As PES and PRES (private employment agencies) cooperate in many countries with the PES (including vacancies from private sector agencies in their own databases for jobseekers), the results presented may be used to identify the market share for each of these channels, but do not allow for direct comparison.

The LFS data also allows for analyses of the development of hirings via PES and TWA for the major occupational groups as well as the identification of the Top10 occupations featured most prominently in both PES and TWA hirings.

Structure of the report

Chapter 1 examines the context for the development of job vacancies in Europe, focusing on changes in economic and employment growth. It explains the overall movements in GDP and employment over the past five years. The period covered encompasses the economic crisis that started in 2008 and then engulfed most parts of the world.

In **Chapter 2** the focus is on the exploration of job vacancies and their development at the EU level and in individual countries. It analyses how recruitment demand responded to the economic crisis and the extent to which it has recovered since then.

Chapter 3 explores key trends in recruitment demand from the development of both total and youth hirings since the beginning of 2008 against the background of trends in overall employee numbers. Young people are afforded a separate analysis reflecting the growth in youth unemployment. It also examines the developments in contractual arrangements in hiring, especially focusing on part-time and temporary contracts and it explores the extent to which these contracts are voluntary or involuntary from the employee perspective.

Chapter 4 focuses on the types of jobseekers that are hired and how this compares to the number of unemployed jobseekers for different categories of educational level and age group. The implications of these trends for young people, particularly in the context of job opportunities, are explored in detail.

Chapter 5 combines an analysis of changes both in employee numbers and in hirings to indicate where recruitment demand has recently expanded or contracted. A picture of expansion demand and replacement demand is presented covering demand arising from older workers leaving the labour market and from job-to-job movements. The development of job hirings and employment are also disaggregated by major

occupational groups. Finally, the chapter identifies those occupations with the largest increases and decreases and the highest volumes of hirings.

Chapter 6 presents an in-depth profile of those occupational fields which include the Top 25 growth occupations namely: healthcare, information and communication technology (ICT), engineering, education and finance. The main developments in employee numbers in these occupational fields for each country are presented and the analysis focuses on the key features of employment, and the implications for future recruitment.

Chapter 7 further explores the relevance of educational levels for hirings in general and for the various major occupational groups. It discusses to what extent jobseekers with different educational levels found jobs in the corresponding skills levels (low, medium and high).

Chapter 8 further elaborates on the key features of the contractual arrangements discussed in general in Chapter 3. This chapter explores which major occupational groups were particularly affected by the growth in more flexible employment arrangements.

Chapter 9 examines the demand for young people (the 15-29 age group) and it explores those occupations where young people were hired in increasing numbers, taking into account changes in total employment. Starting with youth hirings by major occupational group, it then concentrates on the top 25 occupations where youth hirings have increased. The chapter concludes by studying the educational level of young people who were recently hired, both including and excluding students.

Chapter 10 and **Chapter 11** examine the relative importance of two recruitment channels: PES and TWA. It discusses their different profiles in regard to job hirings of different age groups and education levels. These chapters illustrate the development of hirings via PES and TWA for the major occupational groups and present relevant details of the Top10 occupations which featured most prominently in PES and TWA hirings.

The Statistical Annexes includes detailed tables with absolute numbers and indices for the whole EU, as well as for individual countries. It also presents the country-specific data about occupations that are most in demand (top-growth occupations) and those which experience decline (by employee number and PES vacancy inflow).

1 Economic context and employment

1.1 Introduction

This chapter examines the context for the development of job vacancies in Europe, focusing on changes in economic and employment growth. The period covered encompasses the economic crisis that started in 2008 and then engulfed most parts of the world and underlined the high degree of economic interdependence that now exists. This was clearly demonstrated in the EU and within the euro-zone where Member States are strongly inter-reliant.

In Europe, the effects of the crisis were mixed and most Member States suffered the effects later than in other parts of the world. The key triggers - a fall in construction activity and the financial crisis - were certainly felt early on in some EU Member States such as Ireland, Spain and the United Kingdom, while others such as France, Germany and the Netherlands were less susceptible to these factors, at least in the early stages of the crisis. However, eventually all EU Member States were affected to some extent, both in terms of economic growth and the labour market.

1.2 Background

Latest GDP growth shows tentative signs of emerging recovery

The delayed start of the crisis is evident in movements in the quarterly index of GDP between the first quarter of 2008 (the base) and the third quarter of 2013 (Chart 1.1). For the EU28¹ GDP continued to increase during the last three quarters of 2008 before it fell sharply at the beginning of 2009. It then failed to recover to the base quarter until the fourth quarter of 2010 when it finally reached 102. Subsequent years displayed a similar pattern of falls below the base quarter at the beginning of the year, before regaining some momentum. By the end of 2013, average EU GDP growth had not recovered to the level that prevailed at the start of the crisis in 2008. However, the most recent data (for the second and third quarters of 2013) gives some room for cautious optimism with tentative signs of an emerging recovery, a view reflected in the Annual Review of the EU Employment and Social Situation Quarterly Report which stated:

'There are signs that an economic recovery in the EU, even if fragile, is beginning to take hold'².

Employment stabilised since 2010 – but at a lower level

Developments in employment over the same period have been sensitive to the changes in GDP, more or less tracking the troughs and peaks. The indices of both employment in total³ and employees effectively peaked in the third quarter of 2008 and then slipped below the base quarter and failed to regain the same position by the third quarter of 2013. All this is reflected in changes in the employment rate for the EU28. For males and females aged 15–64 combined, this fell from 65.7 per cent in 2008 to 64.1 per cent in 2012, which translated into millions of jobs lost and an unemployment rate that increased from 7.1 per cent in 2008 to 10.5 per cent in 2012. Men fared worse, with a fall in the male employment rate of 3.1 percentage points from 72.7 per cent in 2008 to 69.6 per cent in 2012. In contrast there was little change in the employment rate for women which fell only slightly from 58.8 per cent to 58.5 per cent. This discrepancy is to some extent explained by the larger effects of the economic downturn on certain male-dominated sectors such as construction and manufacturing, especially in countries where those sectors were severely affected such as Ireland, Spain and the United Kingdom.

Recent analysis of the gender gap in employment⁴ confirmed that male employment is more sensitive to fluctuations in the business cycle than female employment. According to this report, in countries such as Latvia and Lithuania where labour market conditions improved recently, the employment of males is also likely to increase faster at the start of a recovery, to some extent restoring the traditional gender gap in employment rates. The fact that the number of unemployed rose faster than the loss in jobs suggests that labour supply increased. The report notes that there was an increasing activity rate among women (possibly where women returned to work to maintain family incomes in the face of job losses among other family members) while the activity rate for men remained more or less the same.

1 Following Croatia's accession to the EU in July 2013, the figures for Croatia have been backdated and included to create a consistent pattern for the current 28 Member States.

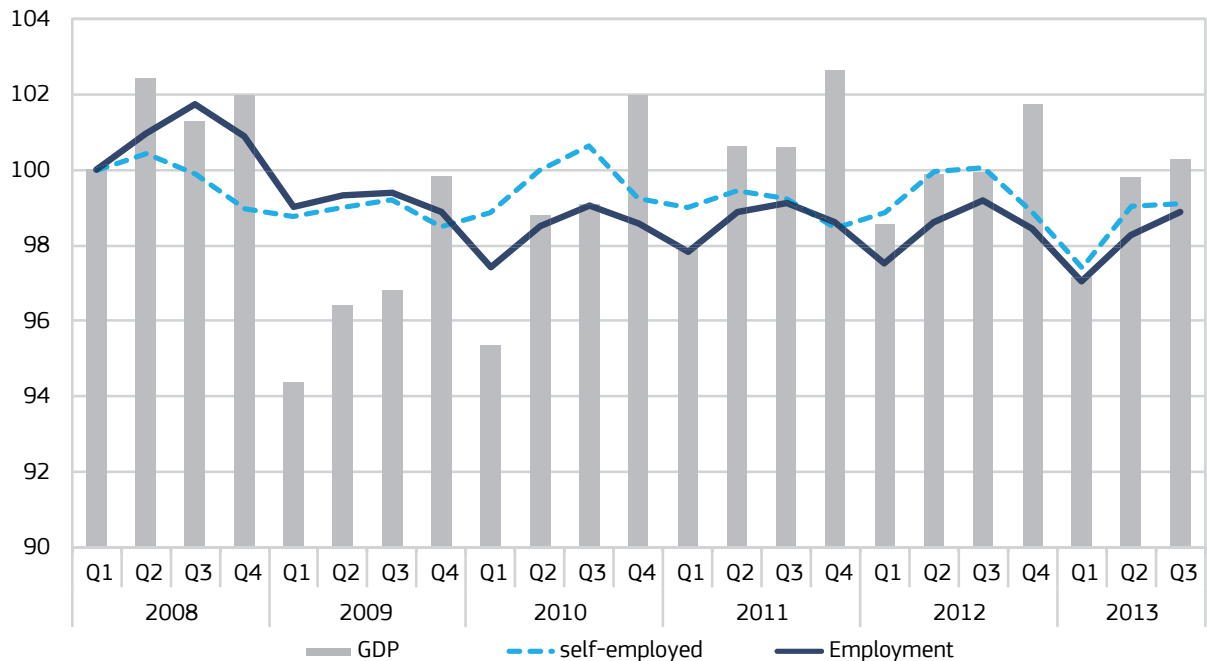
2 European Commission DG EMPL (2013) EU Employment and Social Situation – Quarterly Report (Special Edition: Annual Review) <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=1974&furtherNews=yes>

3 Total employment includes self-employed and family workers in addition to employees.

4 European Commission DG EMPL (2013) Labour Market Developments in Europe 2013, p. 26, http://ec.europa.eu/economy_finance/publications/european_economy/2013/pdf/ee6_en.pdf

Chart 1.1 Development of GDP, total employment and self-employed

Index, 2008Q1 - 2013Q3, 2008Q1 = 100, 28 countries



Source: Eurostat Labour Force Survey, National Accounts and EVRR calculations.

GDP: Chain-linked volumes, in euros of reference year 2005, not seasonally adjusted.

Absolute values 2013Q3: GDP, € 2.9 trillion; Employment (in millions): Total, 218.5; Employees, 182.2; Self-employed, 33.0; Other (family workers) 3.4.

The effects of the crisis on employment are even more evident for young people. Between 2008 and 2012 the employment rate for those aged 15-24 came down from 37.3 per cent to 32.8 per cent, again with big differences between males and females. For young males the employment rate fell from 40.3 per cent to 32.8 per cent, while the rate for young females fell less – from 34.3 per cent to 30.7 per cent. This resulted in increasing levels of youth unemployment, rising from 15.8 per cent in 2008 to 23.0 per cent in 2012, though there was wide variation between EU Member States. In comparison, the rise in the overall unemployment rate (the 15-64 age group) appears relatively modest, increasing from 7.1 per cent in 2008 to 10.5 per cent in 2012.

Changes in employment (especially in the numbers of employees) tend to respond to changes in economic activity, but there is a time lag, so it is reasonable to assume that if the recent signs of a recovery are sustained, then this will lead to some recovery in jobs. During a crisis, employers may retain some of their personnel for strategic reasons, even if there is insufficient work for all their employees. This 'labour hoarding' was a widely applied strategy during the start of the financial crisis in some countries when expectations were

that the sharp economic decline would be short-lived⁵. This strategy causes employment to fall less in times of crisis, but it also causes an extra delay in the later jobs recovery. Another reason for a delayed response of employment to a recovery in GDP is that it takes time to recruit new workers. This means that the initial signs of recovery in GDP in late 2013 may take some months to translate into jobs growth.

One feature of the crisis has been the growth in non-standard forms of employment (more fully discussed in Chapter 3). As labour market conditions tighten, jobseekers will tend to adjust their requirements accordingly and this generally leads to higher levels of self-employment, part-time working and temporary contracts (particularly of the 'involuntary kind' where jobseekers prefer full-time or permanent employment contracts), or contracts with even looser conditions such as 'zero hours contracts'⁶. Undeclared work has also been

⁵ OECD Employment Outlook (2012), page 64.

Leitner and Stehrer (2012), Labour hoarding during the crisis: Evidence for Selected Newer Member States from the Financial Crisis Survey, wiiw working papers 84 <http://wiiw.ac.at/labour-hoarding-during-the-crisis-evidence-for-selected-new-member-states-from-the-financial-crisis-survey-dlp-2632.pdf>

⁶ Zero hours contracts are essentially 'on call' arrangements where generally there is no obligation on the employer to offer work and none on the employee to accept it. Those on such contracts have similar employment rights as regular workers and so will benefit from, for example, holiday entitlement and any national minimum wage requirements.

identified⁷ as an increasing problem during the crisis as poorer economic conditions persuade some (mostly smaller) employers to accept and make undeclared payments.

The development of self-employment will depend on a number of factors including the confidence of the individual to set up their own business, the amount of support given in terms of financial assistance and training, and the market for the goods or services offered (which may be affected by the prevailing economic conditions). In poor labour market conditions, there may also be a 'push factor' where an unemployed person will see self-employment as a 'second-best' alternative to working as an employee. The number of self-employed fell earlier than the number of employees, indicating that they were among the first to feel the effects of the crisis in 2008, even before GDP fell sharply early in 2009. Between 2010 and 2012 self-employment proved more stable than the number of employees, but at the start of 2013 the index fell for both self-employed and employees alike.

Only five countries recovered both their GDP and employment levels since the start of the crisis

In the EU28, GDP fell overall by -1 per cent between 2008 and 2012 while employment fell by as much as -3 per cent in the same period. Within the EU, 18 countries had negative GDP growth at or below this EU28 level, and all but two of these countries also experienced negative employee growth. Over this period the persistence of the effects of the crisis are clear with only nine countries (Austria, Belgium, Estonia, France, Germany, Malta, Poland, Slovakia and Sweden) showing positive or zero GDP growth in 2012 compared to 2008 (Chart 1.2).

In the nineteen countries with negative GDP changes since 2008, GDP fell by -4.6 per cent on average and the number of employees fell on average by -5.6 per cent since 2008. This suggests that employment was more responsive to economic change in 2012 than historical expectations (so-called 'Okun's Law'⁸) where employment changes tended to be, on average, around half of GDP changes (whether positive or negative). Countries with particularly high job losses (over 10 per cent) were Bulgaria, Croatia, Greece, Ireland, Latvia, Lithuania and Spain. While job losses are normally a feature of economic

downturns, in some cases they can have a positive effect in that labour becomes better allocated to more productive sectors.

Of those countries with increases in GDP between 2008 and 2012, by far the largest increase was in Poland with 12 per cent, followed some way behind by Sweden and Slovakia. In these three countries the growth did not generate similar growth in employment, and the number of employees actually fell in Poland and Slovakia. In Poland this disparity can be largely attributed to increased value-added in the construction sector which went up by around one-third between 2008 and 2012, while employment remained stable (including the self-employed which can be a significant component in that sector).

Three small countries, namely Cyprus, Luxembourg and Malta, showed significant increases in the number of employees between 2008 and 2012 compared to GDP developments. In these countries, changes in value-added can be volatile in certain dominant industries such as finance in Luxembourg and tourism in Cyprus, so productivity improvements in these sectors do not necessarily directly translate into employment. Also in Hungary there is a marked difference between GDP (falling 6 per cent between 2008 and 2012) and employee development (increasing 1 per cent), which can be attributed to public sector job growth both during the crisis and, as noted earlier, after the crisis.

The 28 Member States are grouped below according to the direction of medium-term changes in GDP and the number of employees between 2008 and 2012.

		GDP		
		↑	↓	no change
Employees	↑	Austria, Belgium, Germany, Malta, Sweden	Cyprus, Hungary	
	↓	Estonia, Poland, Slovakia	EU28 Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Greece, Ireland, Italy, Latvia, Lithuania, Netherlands, Portugal, Romania, Slovenia, Spain, United Kingdom	
	no change			

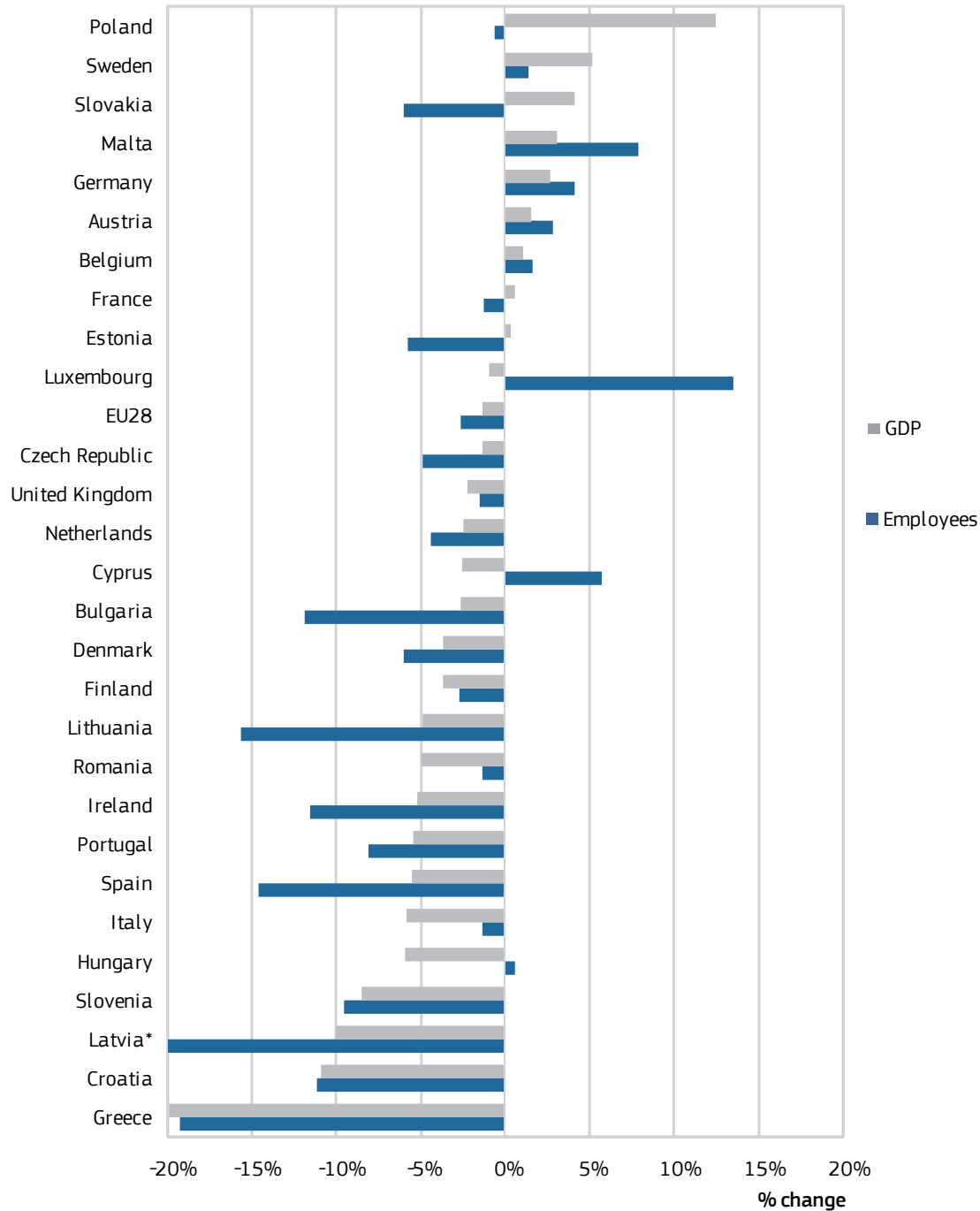
↑ = increase ↓ = decrease

7 European Commission DG EMPL (2014) Employment and Social Developments in Europe 2013; <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=2023&furtherNews=yes>

8 Okun's law refers to his observation in 1962 that employment changes in the USA were on average half of GDP changes, both positively and negatively. This is confirmed repeatedly across the world; see e.g. Ecoris and IZA (2011), 'Analysis of costs and benefits of active compared to passive measures', p 198, ec.europa.eu/social/BlobServlet?docId=7601&langId=en. Exceptions to Okun's law are a group of "Continental" countries including Austria, Belgium, France and Germany with employment changes less than half of GDP changes

Chart 1.2 Mid-term development in GDP and employees

Percentages, 2012 compared to 2008, by country, 28 countries

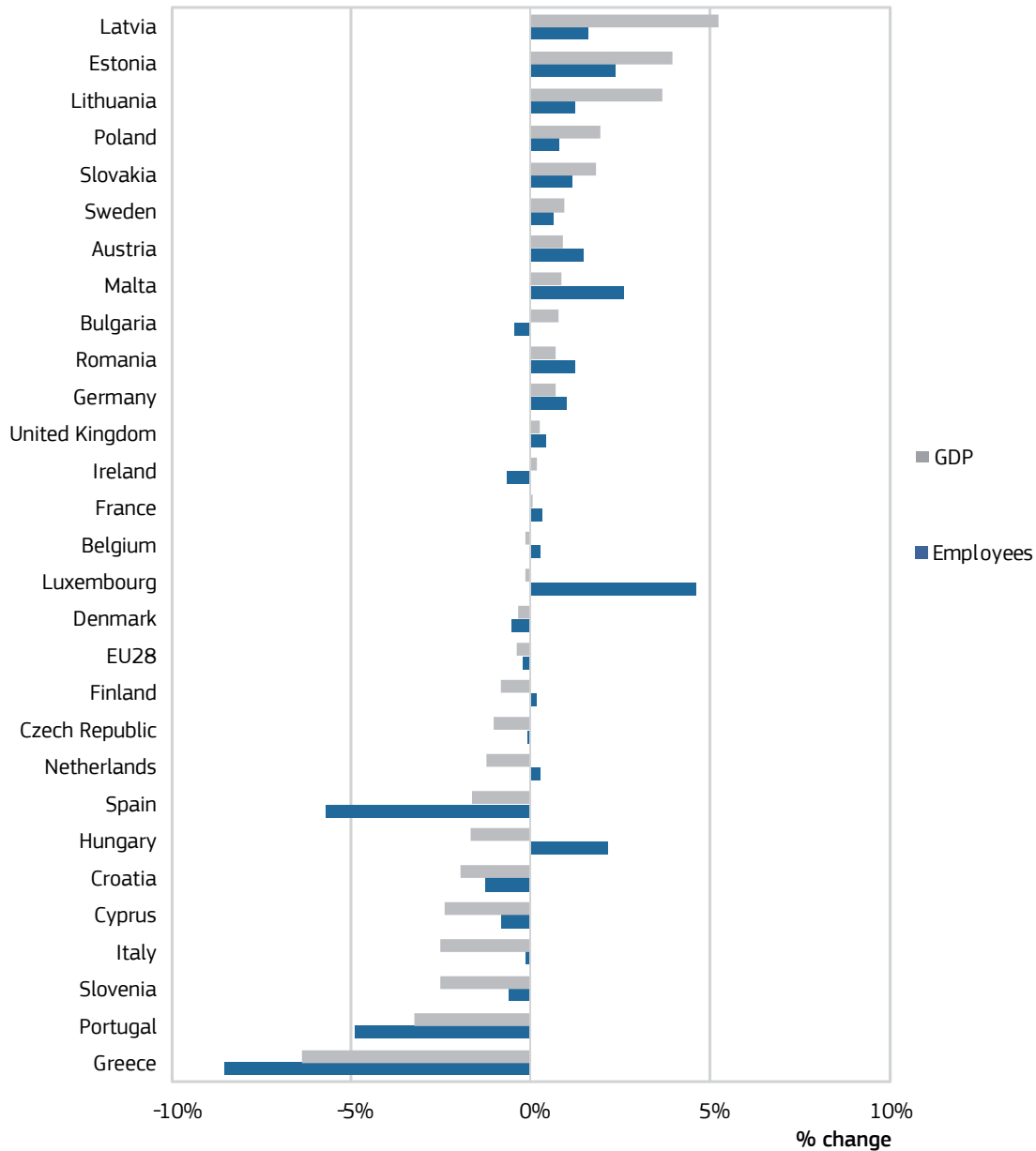


Source: Eurostat, National Accounts (GDP), Labour Force Survey (employees) and EVRR calculations.
 GDP: Chainlinked volumes, in euros of reference year 2005, not seasonally adjusted.
 Absolute values 2012: GDP, € 11.8 trillion.

* In Latvia the change in employees was -23% and outside the range of the chart.

Chart 1.3 Recent development in GDP and employees

Percentages, 2012 compared to 2011, 28 countries



Source: Eurostat, National Accounts (GDP) and Labour Force Survey (employees)
 GDP: Chain-linked volumes, in euros of reference year 2005, not seasonally adjusted.
 Absolute values 2012: GDP, € 11.8 trillion, Employees: 182 million.

In 2012 changes in GDP and employees were both positive in ten countries

A comparison of the changes in GDP and the number of employees over the short-term (2011- 2012) shows that in most countries the two indicators tended to move in the same direction. However, differences in the individual Member States reveal contrasting experiences (Chart 1.3).

If the fourteen countries with positive recent GDP growth are combined, average GDP growth in 2012 compared to 2011 was 0.5 per cent, and average employee growth in those countries was at a similar magnitude at 0.7 per cent. Again, if the fourteen countries with negative recent GDP change are combined, average GDP decline and average employment decline in 2012 compared to 2011 were both -1.9 per cent. Therefore, employment continued to correspond to GDP developments in contrast to the historical experience before 2008. This underlines the conclusion that for the whole 2008-2012 period the labour markets in the EU may have moved towards greater flexibility.

The 28 Member States are grouped below according to the direction of recent changes in GDP and the number of employees (2012 compared to 2011):

		GDP		
		↑	↓	no change
Employees	↑	Austria, Estonia, Germany, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Sweden	Hungary	Luxembourg
	↓		Croatia, Cyprus, Greece, Portugal, Slovenia, Spain	Denmark, Ireland
	no change	Bulgaria	Czech Republic, Finland, Italy, the Netherlands	EU28 Belgium, France, United Kingdom

↑ = increase ↓ = decrease

In the case of nine countries, the falls in GDP and employees between 2011 and 2012 were quite distinct. In six of these countries (Croatia, Cyprus, the Czech Republic, Hungary, Italy, and Slovenia) the fall in GDP was greater than the corresponding fall in employees, suggesting that employers held on to their workers in the expectation of an upturn, or they were encouraged to do so by appropriate active measures. However, in three countries the fall in employees exceeded the corresponding fall in GDP. This was most pronounced in Spain where the -2 per cent fall in GDP was accompanied by a -6 per cent fall in employees. This can be attributed in particular to the relatively labour intensive construction sector where employment continued to fall, dropping by a further -19 per cent between 2011 and 2012 with employment in 2012 less than half the level of 2008.

There remains a small group of countries where GDP fell between 2011 and 2012 but employee numbers increased. In Luxembourg, GDP fell by just under -1 per cent yet employees increased by 5 per cent and in Hungary the fall in GDP was -2 per cent while the number of employees increased by 2 per cent. For Hungary, the likely explanation is a growth in public sector jobs in labour intensive activities such as health care, and the effects of active measures providing temporary work for unemployed jobseekers in a range of activities mainly focused on social and community work. In 2012, public sector employment in Hungary was 3 per cent higher than in 2011 and this exactly compensated a 3 per cent decline in private sector employment. In Luxembourg, the contribution of the finance sector to GDP is highly volatile but it represents 25 per cent or more of its total GDP. Fluctuations in the performance of the finance sector may not always translate into employment, for example in 2012 when value-added for the finance sector in Luxembourg dropped by -7 per cent, employment increased by 2 per cent.

Southern Europe showed a combination of declining GDP and employment

Among the eleven countries with falls in GDP of -1 per cent or more between 2011 and 2012, eight were located in the southern half of Europe and these were also the worst affected throughout the crisis. Greece had the biggest recent fall in GDP of -6 per cent while in Italy, Portugal and Slovenia it was -3 per cent, and it was -2 per cent in Croatia, Cyprus, Hungary and Spain. Some of these countries (notably Cyprus, Greece, Portugal and Spain) were severely affected by the euro crisis.

1.3 Conclusions

Average GDP growth in the EU has not fully returned to the pre-crisis level but the most recent data gives some cause for optimism that sustained economic growth is back. Throughout the reference period employment generally responded to changes in GDP and this has led to a significant fall in the employment rate (especially for males) and an increase in the unemployment rate with young people particularly badly affected.

An examination the short-term developments (i.e. 2011-2012) shows that employment was much more responsive to economic changes than was historically the case, and this could be a sign of more flexibility in EU labour markets.

In general, employment tracked movements in GDP over the period 2008-2012. However, as GDP declined in most countries, total employment also contracted resulting in an overall decline of 2.6 per cent. Analysis of the most recent trends gives some cause for optimism as employment contracted by only 0.2 per cent in the period 2011-2012.

2 Vacancy development

2.1 Introduction

The previous chapter explained the overall movements in GDP and employment and this is followed in this chapter by further exploration of job vacancies. Job vacancies and also job hirings (discussed in Chapter 3) can reflect an increase in the size of the workforce (expansion demand), or the need to replace those workers who have left (replacement demand), or the number of people changing jobs. Vacancies and hirings can increase even when employment decreases if, for example, more workers leave the labour market (perhaps for retirement) or when there is more movement between jobs. Therefore job vacancies reflect unmet labour demand but they are not necessarily indicative of labour shortages or mismatches.

Job vacancies (Eurostat Job Vacancy Statistics)

Job vacancies refer to vacant paid posts (i.e. for employees), exclusive of internal vacancies (see Introduction for a full definition). In most countries their total number is an estimate based on a survey of companies on their open vacancies at a given moment in time, but in some countries their number is based on administrative data.

Job Vacancy Rate

The Job Vacancy Rate (JVR) expresses the total number of vacancies posted as a proportion of employment plus vacant posts:

$$\text{Job Vacancy Rate} = \left(\frac{\text{Number of job vacancies}}{\text{Number of occupied posts} + \text{Number of job vacancies}} \right) \times 100$$

The Job Vacancy Rate usually indicates an increase of business activity and employment. However, changes in the structure of employment arising, for example, from an increase of temporary jobs can trigger an increase of vacancies without a concomitant increase in employment.

Job Vacancy Statistics for the whole 2008 to 2012 period are only available on a comparable basis for a selection of EU Member States and this is reflected in the analysis in this chapter. Because of this, other indicators used (such as employees) have been limited to the same group of countries and so will not be compatible with, for example, the employee figures in Chart 2.1 which is based on all of the EU28 countries⁹.

2.2 Development of vacancies at the EU and country level

Fall in vacancies reflects the decline of business activity and more reluctance to change jobs

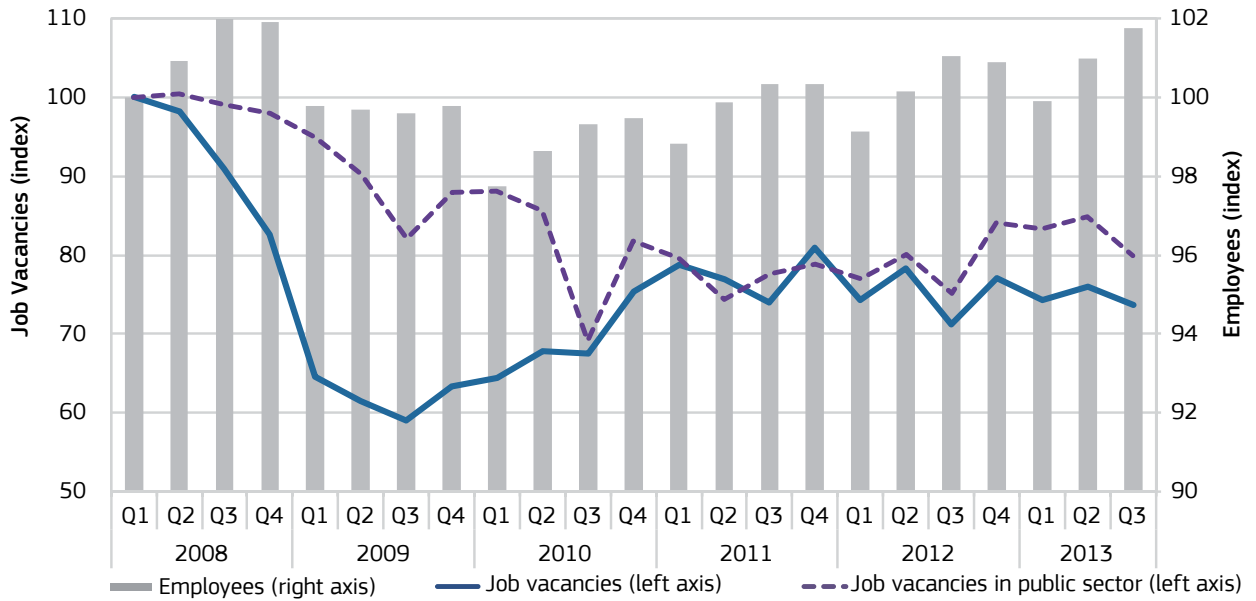
The development of employee numbers in the aggregate of the 15 countries covered shows a familiar pattern of it peaking in late 2008 before falling back as the crisis began to bite in 2009 (Chart 2.1). In the fifteen countries for which vacancy information is available for the whole period since 2008, the number of employees has developed more favourably than in the EU28 as a whole, ending close to the base value in the first quarter of 2013 compared to around three percentage points below the base value (first quarter of 2013) for the EU as a whole (Chart 1.1).

At its lowest point in the first quarter of 2010, the employees index had fallen to 88 (base quarter is the 1st quarter of 2008) but recovered slightly before almost reaching the base quarter again by the first quarter of 2011 (Chart 2.1 – note the index scale for employees is on the right axis). For the most part the index then hovered around this level before rising again in 2013, and in the first quarter it had virtually reached the base level. Comparisons with developments for employees in the EU28 (Chart 1.1) show that the troughs were much less deep than for the larger group of all 28 countries and some of this can be explained by the more favourable changes in Germany and the United Kingdom (explored below).

⁹ The 15 countries covered for the whole period are as follows: Bulgaria, Cyprus, the Czech Republic, Estonia, Germany, Lithuania, Luxembourg, Latvia, the Netherlands, Portugal, Romania, Sweden, Slovenia, Slovakia and the United Kingdom. It should also be noted that the inclusion of Germany and the United Kingdom, and the absence of other large Member States such as France, Italy and Spain, will mean that the UK and Germany tend to dominate the overall developments.

Chart 2.1 Development of job vacancies and employees

Index, 2008Q1 - 2013Q3, 2008Q1 = 100, 15 countries



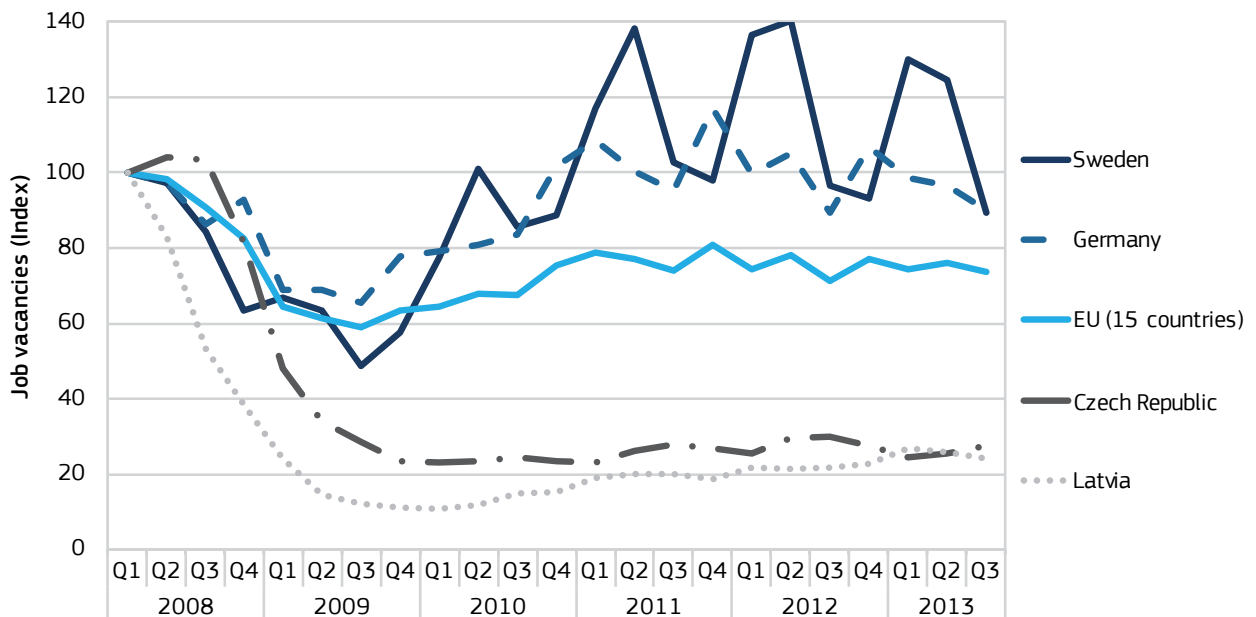
Source: Eurostat Labour Force Survey, Job Vacancy Statistics and EVRR calculations

Countries included: Bulgaria, Cyprus, Czech Republic, Estonia, Germany, Lithuania, Luxembourg, Latvia, the Netherlands, Portugal, Romania, Sweden, Slovenia, Slovakia and the United Kingdom.

Absolute values 2013Q3: Employees, 95.3 million; Vacancies, 1.7 million.

Chart 2.2 Development of number of job vacancies in selected countries

Countries with highest and lowest job vacancy growth 2008Q1-2013Q3, index , 2008Q1 = 100



Source: Eurostat, Job Vacancy Statistics.

Absolute value 2013Q3: Sweden: 59,400; Germany: 863,400; Czech Republic: 38,400; Latvia: 3,700; EU (15 countries): 1.7 million

In comparison with the number of employees, developments in job vacancies have been much more pronounced (Chart 2.1). For the aggregate of the 15 countries covered, job vacancies started to dip sharply from the third quarter of 2008, a full half year before the number of employees fell, reaching their lowest point of 60 (compared to the base quarter) before rising slightly. By the first quarter of 2013, job vacancies were still languishing between 70 and 80 points compared to the base quarter with no sign of imminent improvement. Part of this is due, in some countries, to employers retaining their workers despite a downturn in business activity thereby reducing the need for new recruitment.

Public sector vacancies declined over the period 2008-2012 but not as sharply as the overall reduction in vacancies, and since the middle of 2010 the development of public sector vacancies more or less mirrored the trend of total vacancies.

Decline in vacancies applied throughout the EU

The development of job vacancies in the 15 countries covered showed a significant dip to around three-fifths of the base quarter level at the beginning of 2009 before rising slightly and then remaining fairly stable right up to the third quarter of 2013 (Chart 2.2). Some countries, such as the Czech Republic and Latvia, replicated this overall development, while others experienced more fluctuations. This was the case in Germany, for example, with evidence of seasonal peaks towards the last quarters of each year from 2010, which is probably due to demand for staff in retail jobs for the Christmas period. Sweden also experienced seasonal peaks, and these were more pronounced from around the beginning of 2010. The peaks in Sweden came earlier in the year, associated with the seasonal demand for workers in the agricultural and tourism sectors.

Examined individually, it is clear that all but one of the 15 countries were still below the base quarter value in the first half of 2013 (see Statistical Annex). The exception was Sweden where the index reached 125 in the second quarter of 2013 but all the fourteen remaining countries were under 100 and most of these were well under 100. Four countries (Germany, Luxembourg, Portugal and the United Kingdom) reached over three-quarters of their first quarter 2008 value, but among the remaining ten the indices there was considerable variation. The three countries with the lowest levels were Cyprus (17), the Czech Republic (25) and Latvia (26), while a further three countries had values over half the base quarter level (Bulgaria, Slovakia and Slovenia).

As indicated earlier, employee developments during and after the crisis were more favourable in Germany and the United Kingdom than in most other countries. In a recent IZA (Forschungsinstitut zur Zukunft der Arbeit) paper¹⁰ the authors indicate that policies may seek to boost employment by

incentivising employers to retain existing employees or to hire new employees. While they show that in general the incentives to hire new employees are more effective, this and other studies indicate that the German *Kurzarbeit* scheme was an exception. Under this scheme, partial unemployment benefits are, under certain conditions, given to those employees whose working hours were reduced. The authors estimate that the scheme effectively protected around 400,000 jobs by the third quarter of 2009.¹¹ It is reasonable to assume that helping some employers retain workers would have reduced the need to recruit new employees to replace workers leaving the company and so the number of job vacancies would be lower as a result. However the number of job vacancies in Germany fell less than average among the fifteen countries covered between the end of 2008 and 2009 (see Annex Table 1.4) reflecting that other employers still recruited more employees to expand their businesses. Beyond the initial shock in 2009, vacancies increased again in 2010 and 2011 reflecting the expansion of jobs, although vacancies fell back in 2012 and 2013.

The example of the UK shows that falls in GDP do not necessarily give rise to high unemployment. In the United Kingdom there was no equivalent nation-wide active measure¹² that aimed to protect jobs yet despite one of the biggest falls in GDP in the EU, unemployment did not rise proportionately. Employers faced with potential skills shortages appear to have held on to their workers perhaps in the expectation that it would be difficult to recruit the right skills again in the future. There was no subsidy involved and employer decisions may have been influenced by the United Kingdom's well publicised skills shortfalls. In the end, the recession lasted longer than expected and some employers eventually had to reduce the size of their workforces. However in broad terms the high levels of labour retention was a major factor in keeping unemployment lower than it might have been. Another factor is the flexibility of the United Kingdom labour market, and this is shown in particular by the willingness of jobseekers to take work below their usual expectations or requirements (more fully discussed in Chapter 3). As in Germany, job vacancies fell less than average in the United Kingdom between the end of 2008 and 2009. However, unlike in Germany, vacancies in the United Kingdom were more or less stable in 2010 and 2011 before partially recovering across most sectors in 2012 and 2013.

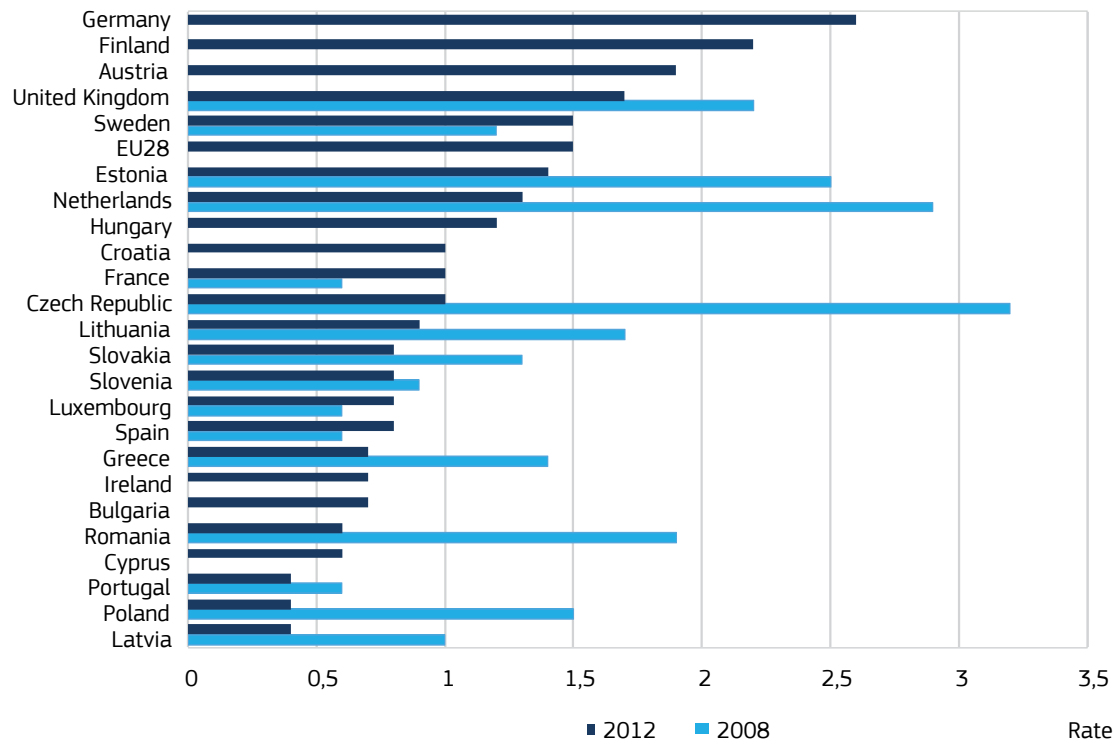
10 Brown A. J. G. and J. Koettl (2012) Active labour market programs: Employment gain or fiscal drain? (IZA DP No 6880) ftp.iza.org/dp6880.pdf

11 Bundesagentur für Arbeit (2011), Der Arbeits- und Ausbildungsmarkt in Deutschland, Monatsbericht May (2011).

12 The devolved administration for Wales did have a measure to support employers retaining workers during the crisis. 'ProAct' provided a subsidy to employers to help retain staff who would otherwise be made redundant. Employers used the down time to retrain their employees ready for the business upturn. The programme was subjected to an independent evaluation in 2011 in which, overall, it was judged a success. Available at: <http://wales.gov.uk/docs/caecd/research/impacetevaluationproacten.pdf>

Chart 2.3 Job vacancy rates

Rate, 2008 and 2012, 25 countries and EU28



Source: Eurostat Job Vacancy Statistics and EVRR calculations.

For three countries, Denmark, Italy and Malta, statistics are included in the EU total but these countries are not included individually as they have a limited coverage.

In a recent paper on unemployment during the economic crisis, Pissarides¹³ found much in common in the experience of Germany and the United Kingdom suggesting that: *'The introduction of structural reforms in Britain and Germany that increased the flexibility of the labour market avoided the structural problems of previous recessions.'* In both countries, Pissarides referred to structural reforms introduced long before the crisis which took time to reach their full (positive) effect on employment and GDP, after initially having negative effects.

Higher vacancy rates in Northern Europe reflect better economic performance

The latest figures for 2012 show a concentration of the highest job vacancy rates in the northern part of Europe led by Germany with a rate of 2.6 (Chart 2.3). Of the eight countries with rates in excess of 1.0, seven were in this part of the EU, and all but Estonia were older Member States (Austria,

Finland, Germany, the Netherlands, Sweden and the United Kingdom).

The countries with the lowest job vacancy rates include those most affected by the euro-crisis (Cyprus, Ireland, Portugal and Spain) though other countries such as Luxembourg and France also had rates of 1.0 or below.

Accounting for sharp falls in vacancy rates is not straightforward. In some cases, it may be the product of a highly flexible labour market or it may simply reflect the depth of the economic crisis. A comparison of the change in job vacancy rates between 2008 and 2012 illustrates how the crisis hit both employment and vacancies. In the majority of countries rates fell sharply, such as the fall from 3.2 in 2008 to 1.0 in 2012 in the Czech Republic or from 2.5 to 1.3 in the Netherlands. The very high job vacancy rates in these two countries in 2008 may indicate that before the crisis vacancies remained open for a relatively long time due to difficulties in finding new workers. In some other countries, where the falls in job vacancy rates were significant, the effects of the crisis on the labour market was probably the driver and this was the case in Greece, Portugal and Romania, for example. However, the sharpest falls to the lowest levels of vacancy rates were

13 Pissarides C A (2013) Unemployment in the Great Recession (Centre for Economic Performance (CEP) Discussion Paper 1210 (May) <http://cep.lse.ac.uk/pubs/download/dp1210.pdf>

in Latvia and Poland, suggesting that job opportunities were particularly limited in those two countries.

While the majority of countries have yet to reach pre-crisis levels of labour demand, three countries (France, Luxembourg and Sweden) had increased job vacancy rates between 2008 and 2012, although they remained at or below the EU average.

In certain circumstances it is possible to envisage a high level of hirings coexisting with a low level of vacancies. For example, if a labour market is characterised by a very high share of short-term temporary contracts, many of the vacancies created will not necessarily register in the vacancy survey. This may very well explain the situation in Spain, where the level of hirings is much higher than the level of vacancies.

2.3 Conclusions

Compared to employees, job vacancies fell much more steeply in 2009 to around three fifths of their base quarter value and while there was some recovery they remained well below the base at the end of the period analysed (third quarter of 2013).

The fall in vacancies reflected the decline of business activity between 2008 and 2012. Conversely, the relatively better economic performance of Northern Europe recorded the highest vacancy rates, led by Germany with a rate of 2.6. Germany was one of eight countries with rates in excess of 1.0 and all but one of these eight were older Member States. Countries with the lowest job vacancy rates include those most affected by the euro crisis.

It is notable that the five countries which recorded rising GDP and employment between 2008 and 2012 (as documented in Chapter 1) also experienced the highest vacancy rates.

3 Trends in recruitment demand

3.1 Introduction

This chapter further explores key trends in recruitment demand from the perspective of hiring. Hirings differ from vacancies in a number of key respects (see definition below), not least because vacancies are based on employer-provided information and hirings data comes from individuals in a household survey, so they are essentially complementary sources of labour demand.

In this chapter hirings are firstly examined from the perspective of the development of both total and youth hirings since the beginning of 2008 against the background of the general development of employees. Young people warrant a separate analysis because of high youth unemployment during the crisis, underlined by the increase in the youth unemployment rate in the EU from 15.8 per cent in 2008 to 23.0 per cent in 2012, compared to an increase from 7.1 per cent to 10.5 per cent for the whole labour force aged 15-64. Secondly, hirings are used to examine the developments in contractual arrangements focusing on part-time and temporary contracts, which offer less security of income than full-time and permanent contracts. Nevertheless, the greater flexibility of part-time work and temporary contracts may suit some workers, so particular attention is paid to the incidence of 'involuntary' part-time and temporary hirings. It is important from a policy perspective to assess the extent to which the crisis increased this form of 'underemployment'. To better understand this phenomenon, this chapter examines the degree to which the hours of work offered were less than the employees wanted.

Job hirings (based on Eurostat Labour Force Survey - LFS)

Every quarter, the Labour Force Survey measures the number of people who were recruited in the previous three months based on the individual's response in the household LFS. The way in which the question is structured means that these are new jobs in the sense that they exclude contract renewals, workers undertaking new tasks for the same employer and so forth. They are referred to as 'job hirings' in this report. This measure is quite different from the job vacancies statistics (discussed in Chapter 2) which are a measure of vacancy activity in a single day; and is based on a survey of enterprises rather than households. Therefore the two measures are not directly comparable though they provide complementary sources of information on labour demand.

The **job hiring rate** is an indicator of the relative intensity of recruitment activity. It is the percentage of all employees who were hired during the previous three months to the survey reference date.

3.2 Development of recruitment

Hirings track developments in employee numbers

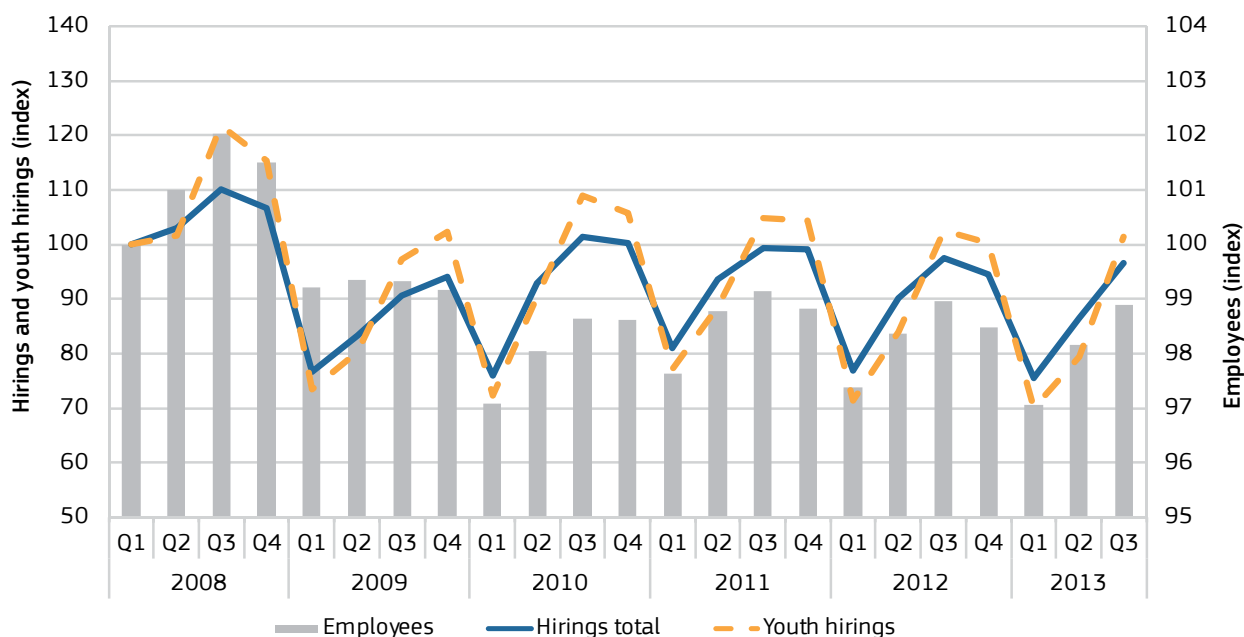
Total hirings in the EU (27 countries covered) closely tracked movements in employees between the first quarter of 2008 and the third quarter of 2012 (Chart 3.1). This indicates that employers were still recruiting in high numbers during the crisis. Hiring activity may not necessarily increase the number of employees since a significant proportion may be due to workers moving between jobs, often called 'job churn'. The developments in hirings clearly show the expected seasonal peaks with recruitment in sectors such as agriculture and tourism rising in the second and third quarters of each year, with further peaks in demand around the Christmas/New Year period in some countries contributing to steeper falls in the last quarter of each year. In this respect, Chart 3.1 differs from the corresponding Chart 2.1 for job vacancies in that the former includes more of those countries (such as Member States in southern Europe with significant summer tourism) with regular seasonal employment patterns. Even given these differences, it is clear that the development of hirings for the 27 EU countries in aggregate show that after a significant fall at the beginning of 2009, hirings assumed a predictable pattern of peaks and troughs, and comparing 'like for like' quarters generally shows that hirings have yet to return to 2008 levels.

The total number of hirings in the third quarter of 2013 was around 9.6 million which compares with the 10.9 million hirings in the same quarter of 2008 (to avoid any seasonal distortions). This large difference of 1.3 million fewer hirings is indicative of the effects of the crisis on recruitment activity and was not much different to the third quarters in 2012, 2011 and 2010. Among individual countries, examination of the developments in the 25 countries (where comparable data exists for the third quarters of 2008 and 2013 - see Annex, Table A1.5 and A1.6) shows that job hirings increased in 10 countries, stayed the same in one (Austria) and fell in 14. Each group of countries contained a mix of older and newer Member States and some form different geographical parts of the EU (see Chart 3.2). Most changes were relatively small, though the exception was Luxembourg where the index almost doubled.

One in two persons hired were aged under 30 while high youth unemployment persisted

The development of youth hirings over the reference period shows the same peaks and troughs as total hirings, though the peaks in particular were higher (Chart 3.1). In the third quarter of 2013 youth hirings accounted for over half of all

Chart 3.1 Development of total and youth (age 15-29) recent hirings, and employees
Index, 2008Q1 - 2013Q3, 2008Q1 = 100, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

France is excluded due to high LFS non-response in the 2013Q1-Q3 job start data.

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values 2013Q3: Employees, 159.2 million; Total hirings, 9.6 million; Youth hirings, 4.9 million.

hirings and this proportion has been fairly consistent since 2008. This may seem at odds with the significant fall in the youth employment rate (down -4.5 percentage points) and the corresponding rise in unemployment (up 7.2 percentage point). The reason is that not all hirings result in the creation of an additional job.

Some key features of the overall youth employment market in the EU were set out in a special section of the European Vacancy Monitor devoted to young jobseekers¹⁴ and included the following observations:

- An ageing workforce made young people an increasingly valuable recruitment option;
- Education is important because job opportunities for higher qualified workers were rising;
- In certain areas such as ICT, finance and engineering employers are relatively dependent on young professionals;
- Young people were less represented in hirings for low skilled and skilled manual jobs;
- In specific low-wage jobs the share of youth hirings is very high;
- Young males tended to find jobs in a much more diverse range of occupations than young females.

These factors continued to apply to the current labour market for young people, though with varying emphases in different countries.

In the third quarter of 2013 youth hirings in the EU totalled 4.9 million out of total hirings of 9.6 million or over half. The explanation why youth hirings constitute such a large share of total hirings is straightforward. Young people tend to spend a period of time in relatively low skilled jobs, often in the hospitality or retail sectors, while they are accumulating qualifications or work experience. As such they are disproportionately represented in those occupations with relatively high levels of job turnover.

Some of this recruitment activity of young people involved short, fixed-terms contracts. In a recent study¹⁵ the author examined the causes of the high youth unemployment rates in Europe and found they were deep-rooted and pre-dated the crisis, though the crisis aggravated the situation. In particular the author attributed this to poor transitions from education to the labour market for young people who ended up in precarious jobs, some failing to meet their needs in terms of hours or pay and others not commensurate with their educational levels.

¹⁴ European Commission DG EMPL (2012), European Vacancy Monitor No 5 (January 2012). <http://ec.europa.eu/social/keyDocuments.jsp?type=0&policyArea=0&subCategory=0&country=0&year=0&advSearchKey=vacanciesmonitoring&mode=advancedSubmit&langId=en&orderBy=docOrde>

¹⁵ Thompson S (2013) States of uncertainty – youth unemployment in Europe (Institute for Public Policy Research (IPPR) http://www.ippr.org/images/media/files/publication/2013/11/states-of-uncertainty_Nov2013_11453.pdf

Accordingly the paper suggests that ‘young people have led the shift towards the bottom of the labour market’. The author found that taking specific low-level jobs often meant being trapped in such work for long periods, suggesting that in this segment youth do not necessarily move to better jobs. This is in line with the finding of the European Vacancy Monitor that the share of youth hirings is very high in the specific low-wage jobs noted above. Furthermore, the suggestion from the author is that employment protection legislation in some countries can work to reduce job opportunities for young workers in favour of those already in work (known as ‘insiders’). However the author also noted that many other factors influence job opportunities for youth, such as the vocational education system which in Germany accounted for sustained transitions to potentially higher quality jobs.

Job hirings show considerable variation between countries

The variations in the development of job hirings are clear when a selection of countries are examined (Chart 3.2). The total EU index of job hirings is shown to vary with relatively small fluctuations compared to some countries (although the index is the same as in Chart 3.1). For Romania and Spain the overall development of job hirings was much more negative than in the EU, although seasonal fluctuations were of a similar magnitude. Cyprus and Estonia showed much more pronounced fluctuations, both overall and seasonally

Comparing the indices for job hirings in the first quarter of 2013 with the base (first) quarter of 2008 (using the same

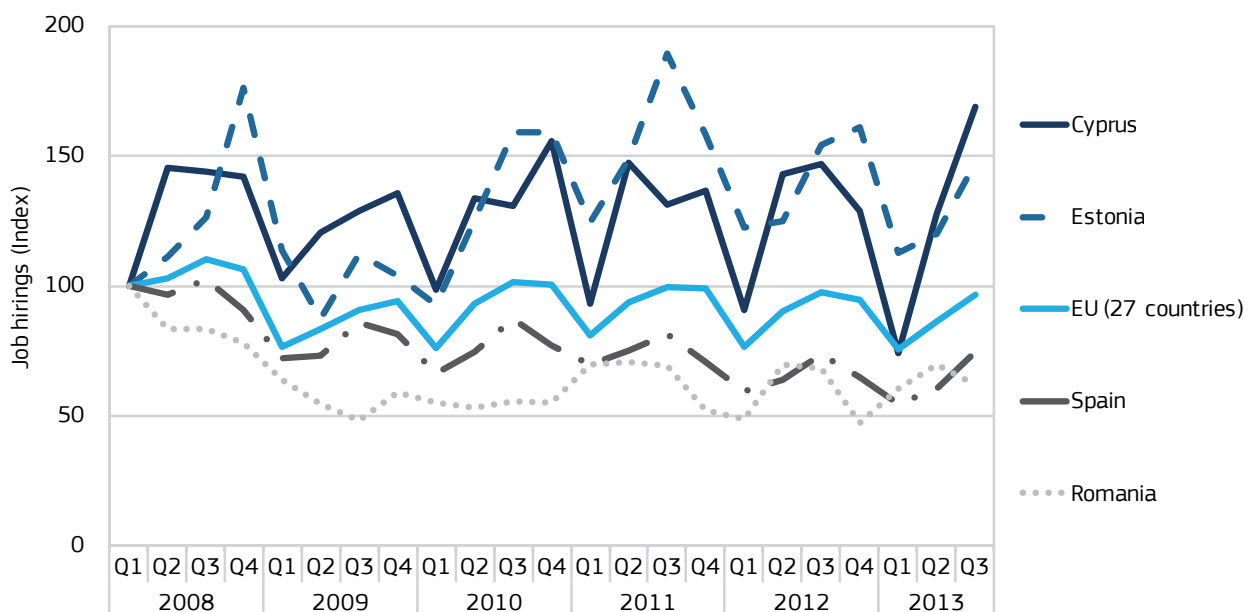
quarter avoids any distortions from seasonality), just four countries (Estonia, Hungary, Luxembourg and Malta) had levels higher than the base quarter, with Luxembourg well ahead of the other three with an index of 186 (Annex Table A1.6). A further 13 countries had first quarter 2013 indices of between 75 and 100, the majority of which were older Member States, though included in this group were Bulgaria, the Czech Republic, Latvia and Slovakia. The eleven Member States with the lowest indices in the first quarter of 2013 (i.e. under 75) were a mixture of older and newer. Alongside countries severely affected by the euro-crisis such as Cyprus, Ireland, Italy and Spain, were other countries such as France and the United Kingdom where clearly hirings activity was still comparatively sluggish.

Nordic countries climbed down from highest levels of hiring workers

Expressing hirings as a ratio of the number of employees provides a “hiring rate” which indicates the relative intensity of recruitment activity (Chart 3.3). Much of this hiring activity will be due to labour turnover with employers filling existing posts as workers leave for a variety of reasons, since employment fell generally (as discussed in Chapter 1). At the start of the reference period in 2008, three Nordic countries (Denmark, Finland and Sweden) had the highest proportions of hirings as a share of employees among the 25 EU Member States shown. These three countries also had the highest proportions in 2012 suggesting some consistency in the recruitment activity throughout the recession, some of which derives from seasonal labour demand (such as for construction workers in

Chart 3.2 Development of number of job hirings in selected countries

Countries with highest and lowest job hirings growth 2008Q1-2013Q3, index , 2008Q1=100, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Absolute value 2013Q3 (in thousands): Cyprus: 28; Estonia 43; Spain 1.249; Romania 119; EU (27 countries) : 9.585

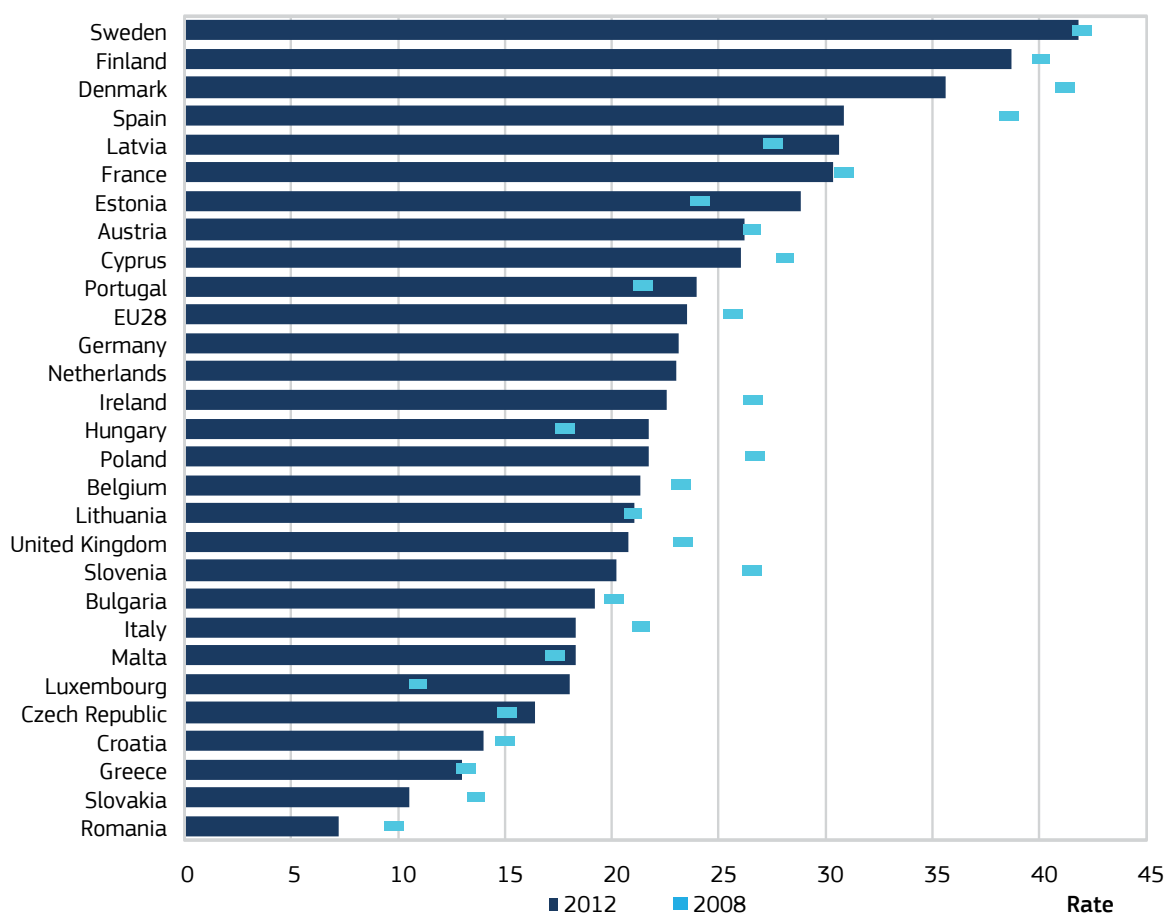
Denmark and Sweden, as well as tourism). Seasonal demand to a great extent also explains the relatively intense levels of hiring activity of other countries that have fared less well in the crisis, such as Spain and Latvia. In the case of Spain, hiring activity was likely also be boosted by the high proportion of temporary contracts (more fully discussed below).

In the case of seven countries, hiring rates increased between 2008 and 2012. Five of these were newer Member States – the Czech Republic, Estonia, Hungary, Latvia and Malta and much of the increased hiring intensity can be attributed to generally increased demand for labour but also greater use of temporary contracts. The two other countries were Luxembourg and Portugal, both with different experiences during the crisis. Portugal was deeply affected by the problems in the euro-zone but a recovery in labour demand has been largely met by greater use of temporary contracts.

Those countries with relatively low hiring rates represent a mixed group that includes some newer and some older Member States. Hiring intensity was evidently lowest in Romania, Slovakia and Greece. This may indicate that employers in these countries have much lower levels of labour turnover and relatively low levels of temporary contracts. But this is not the case in some other countries with relatively low hiring intensity such as the United Kingdom (24 per cent in 2008, and slightly lower in 2012). In this country, labour turnover, particular those workers leaving voluntarily, tends to fall during difficult labour market conditions as employees hold on to their jobs in the expectation that finding a new job would be difficult. In most countries there is some indication, when comparing 2008 and 2012 hiring intensity figures, that hiring rates have fallen, though the scale of change has not been large.

Chart 3.3 Hirings rate

Rate, 2012 and 2008, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

All EU28 countries are included.

Absolute values EU28 2012: Employees, 181.1 million (annual average); Hirings (sum during a year), 42.5 million.

For the Netherlands and Germany 2008 values are absent because LFS non-response in 2008-2010 job start data is very high.

3.3 Development of contractual arrangements

Part-time hirings increased in most countries at the expense of full-time hirings

A greater decline in hirings for full-time jobs is revealed by examination of developments from the first quarter of 2008 to the third quarter of 2013 (Chart 3.4). By the end of the period the index, at 94, was still below the base quarter and more significantly (comparing the first quarter figures in each of the six years), at 68, it was at its lowest point in 2013. By contrast the index for part-time hirings, while displaying similar seasonal fluctuations as its full-time counterpart, was consistently above the third quarter of 2008 and ended the period (third quarter of 2013) at 104, above the base quarter.

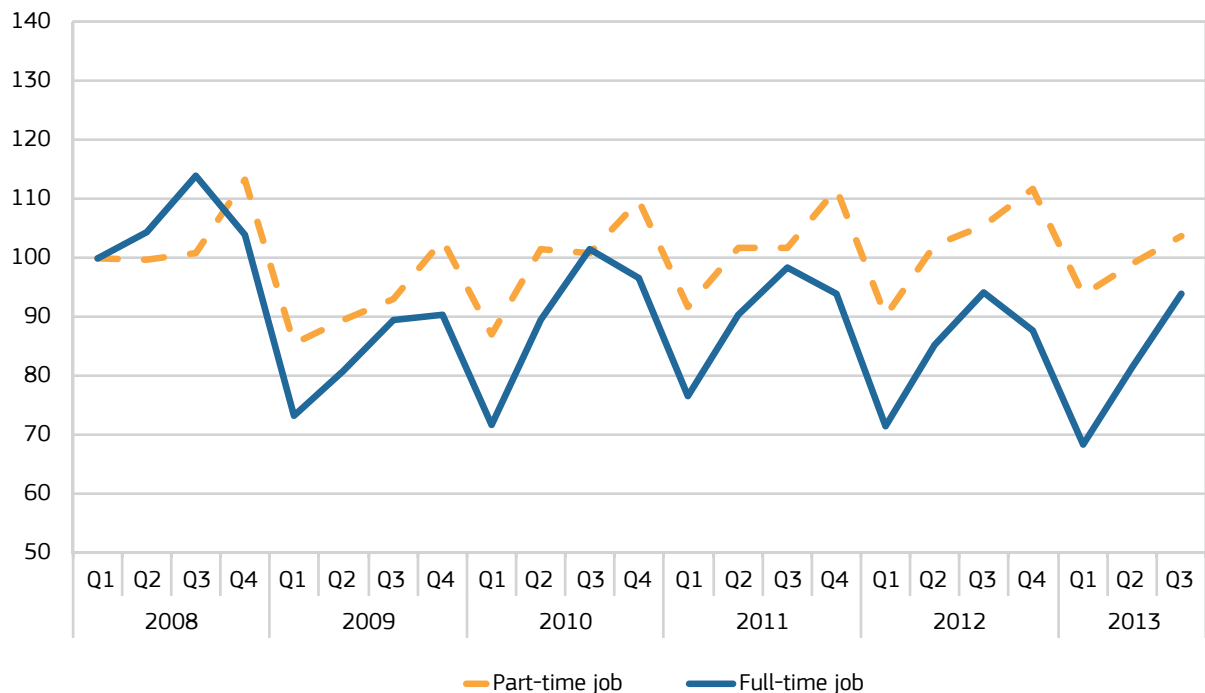
Growth in part-time hirings ... but half the recruited workers prefer full-time work

There are significant differences between Member States in the proportion of part-time employees and in general terms

the highest shares are in the older Member States and the lowest are in the newer Member States (Chart 3.5). The three countries with the highest proportions of part-time hirings in 2012 were the Netherlands (57 per cent), Ireland (41 per cent) and Denmark (40 per cent). Traditionally the Netherlands has had relatively high levels of part-time working mainly because it is regarded as the standard arrangement to combine work and child care, and the employment rate among women is among the highest in Europe. In the case of Ireland, which had the second highest share of part-time hirings in 2012, this was also an established characteristic of the labour market as in 2008 the share was only slightly less at 39 per cent. In Denmark, the increase between 2008 and 2012 was much more significant, rising from 31 per cent to 40 per cent. At the other end of the scale, part-time working in Hungary in 2012 was just 2 per cent, in Romania 5 per cent and in Bulgaria 8 per cent, though in the latter two countries the proportions did increase from 2008 (from 2 per cent in Romania and 5 per cent in Bulgaria). In the aggregate of the 26 countries shown (Chart 3.4), in 2008 the proportion of part-time employees was 27 per cent and by 2012 this proportion had increased significantly to 30 per cent.

Chart 3.4 Development of full-time and part-time hirings

Index, 2008Q1 - 2013Q3, 2008Q1 = 100, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

France is excluded due to high LFS non-response in the 2013Q1-Q3 job start data.

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values 2013Q3: Full-time hirings, 6.6 million ; Part-time hirings, 3.0 million.

Involuntary part-time hirings gained a foothold in newer Member States

There was no clear pattern to the increase in part-time hirings over the period of the crisis and this continued to be the case during the recovery. In the EU overall, the increase in part-time working was relatively small at 4 per cent between 2008 and 2012 (virtually all of it involuntary). In the Member States least affected by the economic downturn there was modest variation in the growth in part-time hirings. For example in Austria, the proportion of part-time hirings in total hirings increased from 27 per cent in 2008 to 29 per cent in 2012, and in Germany it increased from 24 per cent to 29 per cent. But among those countries most affected by the euro-crisis there were significant variations. For example, while Italy (from 13 per cent to 24 per cent) and Cyprus (from 23 per cent to 37 per cent) recorded big increases in part-time working, in Greece the increase was small (from 10 per cent to 11 per cent), as was the case in Portugal (from 23 per cent to 26 per cent). This suggests that overall levels of part-time working alone may not be a reliable indicator for how employment relationships have altered during the crisis in different countries.

Involuntary part-time working highest in Ireland, Italy and Spain

A clearer indicator as to how the crisis affected recruitment comes from an examination of the numbers of those hired to work part-time, but who would prefer full-time work. This proportion was 16 per cent of total hirings at the EU level (and half of part-time hirings). The grouping of countries according to their shares of involuntary part-time working in 2012 (Chart 3.4) was as follows:

Share of involuntary part-time hirings (2012)	Countries (shares in parentheses)
Below 10 per cent	Croatia (2), Estonia (3), Romania (3), Luxembourg (4), Slovenia (4), Latvia (5), Lithuania (5), Austria (6), Bulgaria (6), the Czech Republic (6), Denmark (9), Malta (7), Poland (7), Belgium (8), the Netherlands (9)
10-19 per cent	Germany (10), Finland (11), Hungary (11), Slovakia (12), France (14), Cyprus (15), Greece (16), Portugal (18)
Above 20 per cent	Ireland (22), Italy (25), Spain (30)

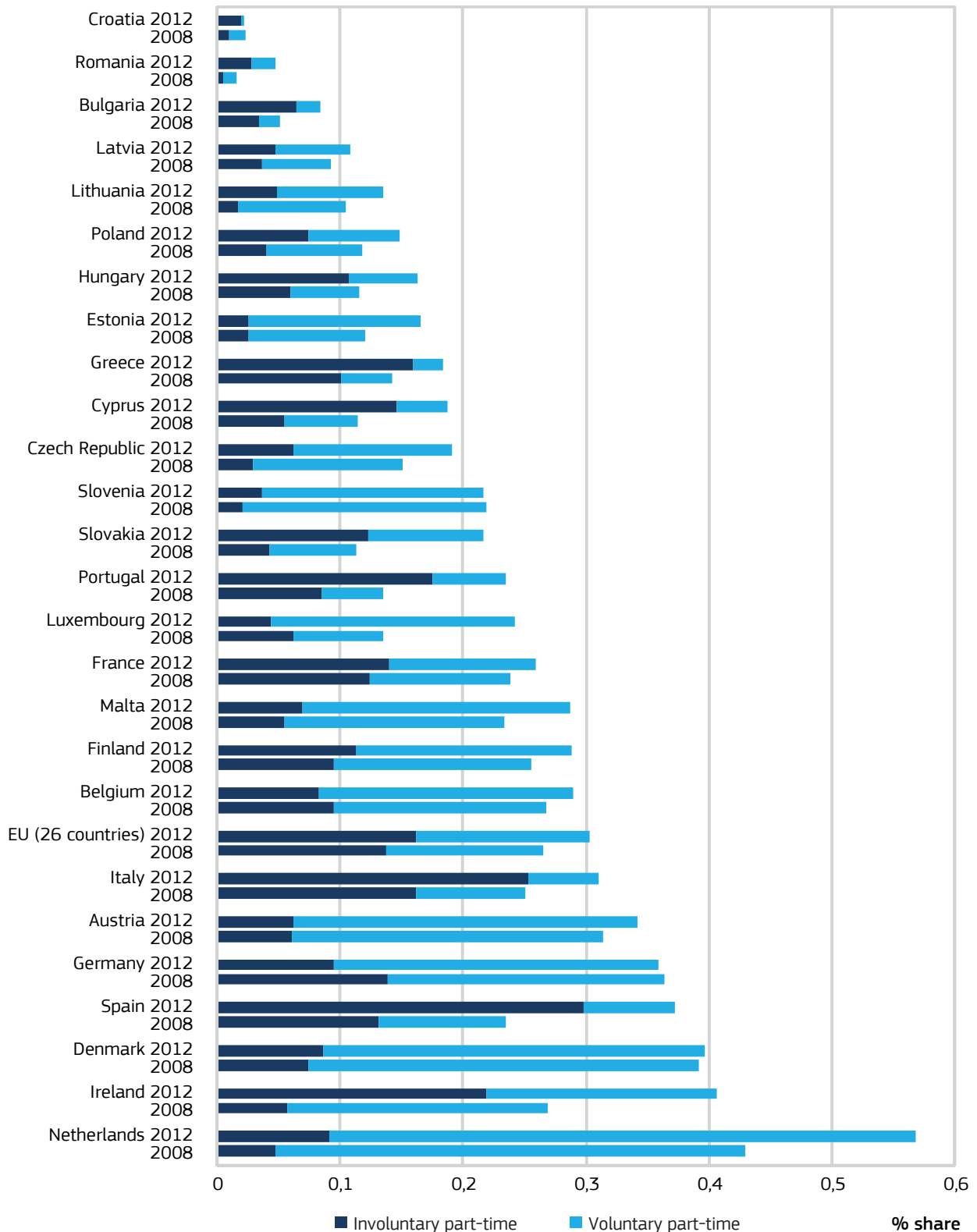
The table shows that the three countries with the highest shares of involuntary part-time workers in 2012 (Ireland, Italy and Spain) were those severely affected by the crisis in general and the euro-zone in particular, and were also at or above the EU average in other badly affected countries such as Cyprus (15 per cent), Greece (16 per cent) and Portugal (18 per cent). High levels of involuntary part-time working mean that incomes are lower for those affected which filters through to spending and tax receipts, all affecting the pace of economic recovery.

Changes in the shares of involuntary part-time working between 2008 and 2012 are further indications that high proportions of involuntary part-time work were an effect of the crisis. At the EU level the proportion of persons hired into involuntary part-time jobs went up from 10 to 16 per cent between 2008 and 2012, and the five countries most severely affected by the euro-crisis were among the six with the biggest increase in involuntary part-time working, led by Spain (with a 15 percentage point increase) and Ireland (16 percentage point increase).

Most of the newer Member States recorded only small increases in the proportion of hirings into involuntary part-time jobs, but these countries also tended to have comparatively low levels of part-time working in general (for example 2 per cent of all hirings in Bulgaria and Romania and 6 per cent in Hungary and Latvia). In only five countries, the share of involuntary part-time working fell over the reference period, this included countries such as Austria, Belgium and Finland where part-time working in general is well established.

Chart 3.5 Voluntary part-time and involuntary part-time hirings

Percentage of total hirings, 2008 and 2012, 26 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Sweden and the United Kingdom are excluded due to high non-response in the reason for part-time work

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values involuntary and voluntary part-time hirings in the EU (26 countries), 2012 (in millions) : 1.459 and 1.286

Permanent hirings still well below their pre-crisis levels

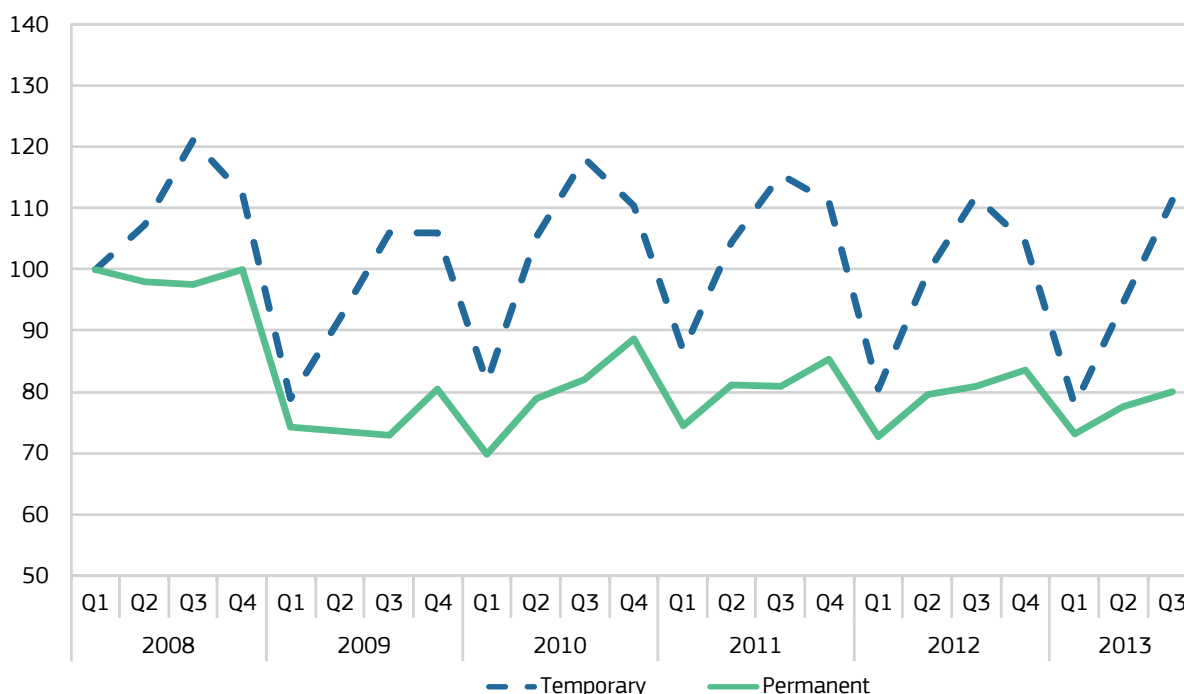
One of the casualties of the crisis has been the recruitment of workers to permanent jobs as employers take a cautious approach during a period of economic uncertainty. In the EU there was a significant drop in permanent hirings in the first quarter of 2009 when the index was 30 points below the base quarter (Chart 3.6). Since then, permanent hirings have continued to fluctuate in a narrow band and at the end of the reference period, were still only at four fifths of the hirings activity in the first quarter of 2008. A likely reason behind this change in recruitment activity is the reluctance of employers to commit to permanent contracts as long as economic conditions remained uncertain. In addition, any retention of labour by employers during the crisis (as discussed in Chapter 2) will also have the effect of reducing hirings in general. Most of the fluctuations in permanent hirings over the period are due to the effects of seasonal recruitment activity, but such activity is much less pronounced than for temporary hirings.

Developments in temporary hirings reflect seasonal demand for labour

The movements in temporary hirings are at a higher level in relation to the base period and they are more volatile with large (mostly seasonal) swings (Chart 3.6). Temporary hirings were still severely affected in the later stages of the crisis, with the winter dips falling to 20 per cent below the base level of the first quarter of 2008, although the fall was less in 2011. Only the summer peaks remained consistently high at between 10 and 20 per cent above the base level. A significant part of the fluctuations in temporary hirings was due to the normal seasonal demand for workers in sectors such as agriculture, tourism and retail, and seasonal workers, who are re-hired every year even if the number of permanent jobs declines.

Chart 3.6 Development of temporary and permanent hirings

Index, 2008Q1 - 2013Q3, 2008Q1 = 100, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

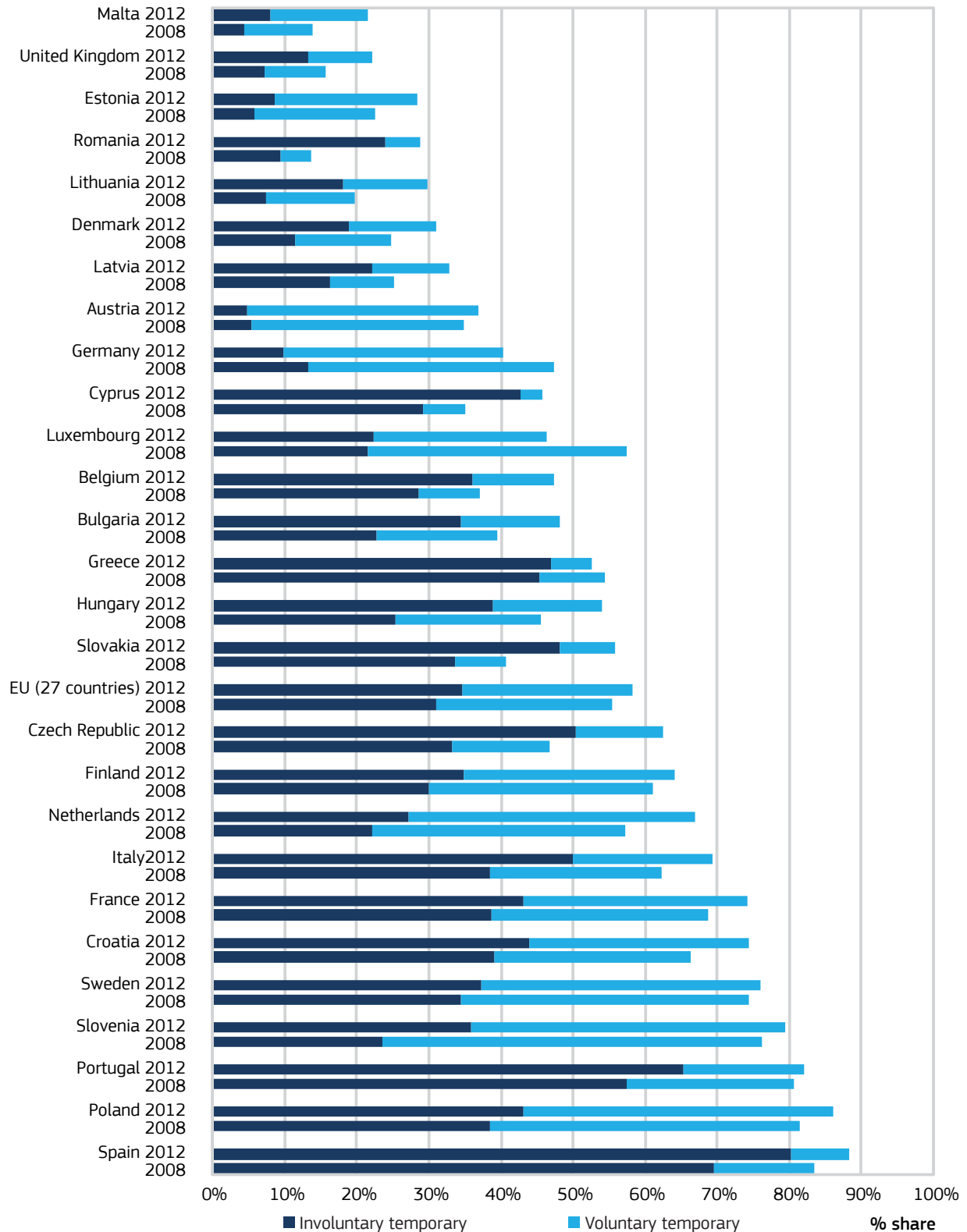
France is excluded due to high LFS non-response in the 2013Q1-Q3 job start data.

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values 2013Q3: Temporary hirings, 5.9 million; Permanent hirings, 3.7 million.

Chart 3.7 Involuntary and voluntary temporary job hirings

Percentage of total hirings, 2008 and 2012, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Ireland is excluded due to high non-response in the reason for the temporary contract).

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values involuntary and voluntary temporary hirings in the 27 EU countries, 2012 (in millions): 1.459 and 1.286

Temporary hirings increased in most countries at the expense of permanent hirings

The overall increase in temporary hirings masked some significant variations among Member States (Chart 3.7). For example, in 2012, the three countries with the largest proportions of all hirings that were temporary were Spain (88 per cent), Poland (86 per cent) and Portugal (82 per cent), while the three lowest were Malta (22 per cent), the United Kingdom (22 per cent), and Estonia (28 per cent). All six of these countries saw the proportion of temporary hirings increase since 2008, and this was the case for the majority of Member States (and it followed an initial fall in demand for seasonal jobs when sectors such as tourism were hit by the crisis) contributing to a small increase in the EU27 overall, with the proportion of temporary hirings at 58 per cent in 2012. However, there were three exceptions where the proportion of temporary hirings fell, namely Germany, Greece and Luxembourg. In Greece, the change was small at just -1 percentage point difference and this was more likely due to the general fall in recruitment activity. In Germany, in contrast, the fall was -7 percentage points and in Luxembourg it was -9. In both cases, this is likely to reflect their stronger economic performance during the crisis which helped sustain permanent recruitment activity.

Another factor influencing the use of temporary hirings relates to the extent of employment protection legislation, and how this affects the ability of employers to adjust their workforces to fluctuations in the business cycle. As noted earlier, in a Special Focus in the European Vacancy Monitor in those countries with flexible labour markets employers have less need to turn to temporary hirings since the costs of letting permanent employees go (in terms of administration and financial compensation) is proportionately less than the cost in countries with more restrictive conditions. The low proportions of temporary hirings in Denmark, Estonia and the United Kingdom, at around one quarter of all hirings, illustrate this, as all three are considered to have relatively flexible labour markets. During the crisis some countries (often temporarily) relaxed restrictions on the use of fixed term contracts, notably Greece (from 2011), Lithuania (for 2010–2015), Netherlands (2010–2012), Poland (2009–2011), Portugal (from 2012) Romania (from 2011) and Spain (2011–2013). In contrast a few countries incentivised the use of permanent contracts (Italy, 2012) or limited the possibilities to renew temporary contracts (Slovakia, 2013), in an effort to stave off abuses by employers¹⁶.

Portugal and Spain saw highest shares of 'involuntary temporary hirings'

One effect of the crisis has been a lack of permanent full-time jobs forcing jobseekers to take part-time or temporary jobs as an interim measure. The growth in involuntary part-time hirings (covered earlier) was common to most Member States and this is also the case for involuntary temporary hirings. In the EU (with 27 countries covered), the proportion of involuntary temporary hirings increased from 31 per cent in 2008 to 35 per cent in 2012 (Chart 3.7). Of the 27 Member States, all but two (Austria and Germany) saw increases in the share of involuntary temporary hirings. Even those countries with more flexible labour markets (such as Denmark and the United Kingdom) saw significant increases, and this is probably due to the general underlying effects of the crisis on overall recruitment activity in those countries, forcing jobseekers to be less selective.

In 2012, by far the highest proportions of involuntary temporary contracts were in Spain and Portugal with 80 per cent and 65 per cent of total hirings respectively. Both countries were already starting from a relatively high position, with the share of involuntary temporary contracts increasing from 70 to 80 per cent for Spain between 2008 and 2012, and the share increasing from 57 to 65 per cent for Portugal. In Spain, for example, the use of temporary contracts increased substantially in the mid-1980s when regulations for new jobs were relaxed, in an attempt to try and encourage employers to recruit more workers in the face of high unemployment. More recently, from 2011 employers in Spain were temporarily allowed to extend temporary contracts up to the beginning of 2013. Further changes have targeted the costs and bureaucracy involved with dismissing workers in their first year with the motivation that this may make employers more likely to take on workers on permanent contracts. Greece extended the limit for fixed term contracts from 24 to 36 months in 2011, but it is still too early to assess its impact on temporary hirings.

Otherwise, the mix of countries shows that some of the lowest shares of involuntary temporary hirings were distributed among the older and newer Member States with no clear pattern (as the European Vacancy and Recruitment Report 2012 shows). This continued to be the situation in 2012 (as shown in the summary table below). Five countries had shares below 15 per cent of all hirings, three older Member States (Austria, Germany and the United Kingdom) and two newer Member States (Estonia and Malta). The six countries with between 16 and 30 per cent shares were a mix of older and newer Member States mostly in northern Europe. The highest number of countries fell into the 31–45 per cent category and included six newer Member States in addition to Belgium, Finland, France and Sweden.

¹⁶ See Eurofound (2014) Young people and temporary employment in Europe, op cit.

The six countries with the highest proportions of involuntary temporary hirings were mostly those severely affected by the euro-crisis, including Greece, Italy, Portugal and Spain.

Share of involuntary temporary hirings (2012)	Countries (shares in parentheses)
Less than 15%	Austria (5), Estonia (9), Germany (10), Malta (8), United Kingdom (13)
16-30%	Denmark (19), Latvia (22), Lithuania (18), Luxembourg (22), Netherlands (27), Romania (24)
31-45%	Belgium (36), Bulgaria (34), Croatia (44), Cyprus (43), Finland (35), France (43), Hungary (39), Poland (43), Slovenia (36), Sweden (37),
Over 45%	Czech Republic (50), Greece (47), Italy (50), Portugal (65), Slovakia (48), Spain (80)

While many of the countries with high shares of involuntary temporary hirings in 2012 had similarly high shares at the start of the crisis, some countries had experienced significant increases between 2008 and 2012. This was most marked in Romania where the share increased by 15 percentage points from 9 to 24 per cent, and there were also increases of a similar magnitude in the Czech Republic (33 to 50 per cent), Cyprus (29 to 43 per cent), Hungary (25 to 39 per cent), Italy (38 to 50 per cent), Slovakia (34 to 48 per cent) and Slovenia (24 to 36 per cent). In a few other countries that started from comparatively low shares in 2008, by 2012 the share of involuntary temporary hirings had virtually doubled, for example in the following countries – Denmark (11 to 19 per cent), Lithuania (7 to 18 per cent), Malta (4 to 8 per cent) and the United Kingdom (7 to 13 per cent).

The subject of involuntary temporary contracts among young people was discussed in the recent Eurofound paper¹⁷. It identified a typology for the main reasons for temporary employment and allocated countries accordingly. The biggest group comprised those countries where involuntary temporary employment was the dominant reason, and there were eleven Member States as follows (in order of the share starting with the biggest): Slovakia, Estonia, Czech Republic, Cyprus, Portugal, Romania, Greece, Belgium, Hungary, Latvia, and Poland. In most cases, the employment contracts held by young people were of less than 12 months duration, and some were considerably less (for example 70 per cent were for under six months in Slovakia). Spain had one of the highest shares of young people employed on temporary contracts (65 per cent in 2012) and also one of the highest in terms of the proportion of those taking such contracts involuntarily (81 per cent). The high proportion of young workers employed on temporary contracts indicates that for only a few temporary hirings in Spain, the contract is converted into a permanent one (as noted in European Vacancy Monitor No 12¹⁸).

3.4 Conclusions

Total hirings in the EU27 closely tracked movements in employees between the first quarter of 2008 and the third quarter of 2013 showing that employers were still recruiting in high numbers during the crisis. A significant proportion of this hiring activity was likely to be due to workers moving between jobs (job turnover) and the expected seasonal peaks with recruitment in sectors such as agriculture and tourism. Around one in every two hirings were for those aged under 30 years old and showed similar peaks and troughs between 2008 and 2012.

In the EU overall, the increase in hirings into part-time jobs was relatively small at 4 per cent between 2008 and 2012 (virtually all of it involuntary). Among Member States there was no clear pattern in the increase in part-time hirings over the period of the crisis and this continued to be the case during the recovery. Even in those countries least affected by the economic downturn there was modest growth in part-time hirings. The three countries with the highest shares of involuntary part-time workers in 2012 were also those severely affected by the economic crisis. Involuntary hirings mean reduced income for those taken on and reduced spending and tax income which will slow the pace of economic recovery.

Temporary hirings showed much greater fluctuations than hirings into part-time jobs, mostly caused by seasonal labour demand. The proportion of involuntary temporary hirings in the EU increased from 31 per cent in 2008 to 35 per cent in 2012. All but two Member States (Austria and Germany) saw increases in the proportion of involuntary temporary hirings. Even in the countries where it is easier to dismiss workers on permanent contracts (such as Denmark and the United Kingdom), there were significant increases of (involuntary) temporary hirings, as jobseekers were forced to take what work they could. In 2012 the highest shares of involuntary temporary contracts were in Spain and Portugal.

17 Eurofound (2014), Young people and temporary employment in Europe, op cit.

18 European Vacancy Monitor No 12, February 2014 <http://ec.europa.eu/social/main.jsp?catId=955>

4 Job opportunities for the unemployed

4.1 Introduction

The historical analysis in the previous chapters provides a valuable backdrop to further exploration of the available data. In this chapter the focus is on the people who fill the vacant jobs and how this compares to the number of unemployed jobseekers. The emphasis is on looking at competition for jobs on the labour market through the hirings data disaggregated for such categories as level of education. There is also a separate analysis of the developments for young people and an assessment of how this affected their opportunities on the labour market.

The ratio of unemployed to job hirings indicates the relative ease of hiring, or the relative competition for jobs among unemployed jobseekers. An increase in the ratio can be due to increasing unemployment, decreasing job hirings, or both. A ratio of less than 1.0 would appear to indicate a shortage of labour supply (i.e. fewer people looking for work than there are vacancies available). However this is unlikely to be the case for a number of reasons. Firstly, the LFS unemployment data will not identify all those seeking work – some may remain hidden or undeclared. Secondly, not all jobseekers are unemployed, and in reality most vacancies are filled by those already in work who change job without a period of unemployment.

The ratio of the unemployed to hirings gives some indication of the relative tightness of the labour market – the higher the ratio the more difficult to find a job, since there are more unemployed but fewer hirings. This is a useful, if crude, measure since it cannot account for mismatches in the labour market due to geographical or occupational (skills) factors. Even if there are high numbers of unemployed (in which case the ratio is high and indicates difficulty in finding a job), it does not necessarily imply that it is easy for employers to recruit workers. Recruitment may still be difficult if the unemployed do not have the required skills. However, if unemployment was high and hirings were low, then this can be considered an indicator of fewer job opportunities. The ratio is in fact just one possible indicator of labour market tightness, but this one has the advantage that comparable information is available for all Member States.

4.2 Development of job opportunities

Job opportunities for the unemployed deteriorated in all countries

Labour market conditions deteriorated in all Member States (except Luxembourg) between 2008 and 2012, as measured by the ratio of unemployed to hirings. The changes were most marked in those countries worst affected by the euro-zone crisis including Ireland, Italy, Portugal and Spain, but especially Greece where the ratio quadrupled from 3.7 to 15.6 (Chart 4.1). Most of the other worst affected countries were newer Member States such as Bulgaria, Croatia, Lithuania and Slovakia. However, within this group the ratios at the end of the reference period in 2012 varied from a high in Slovakia (7.3) and Croatia (6.8) to a low of 3.3 in both Bulgaria and Lithuania.

The latest economic forecasts from the European Commission (winter 2014) offer the prospect of some respite from the poor labour market conditions in some of those worst affected countries listed in the previous paragraph. In the EU28, after GDP more or less stagnated in 2013, it is expected to increase by 1.5 per cent in 2014 or slightly less in the euro-zone at 1.2 per cent. But the growth will not be even throughout the EU, and the three Baltic States are expected to show the fastest change followed by some countries outside the euro-zone such as Poland, Sweden and the United Kingdom. The countries for which little or no growth was projected for 2014 are Cyprus, Finland and Slovenia.

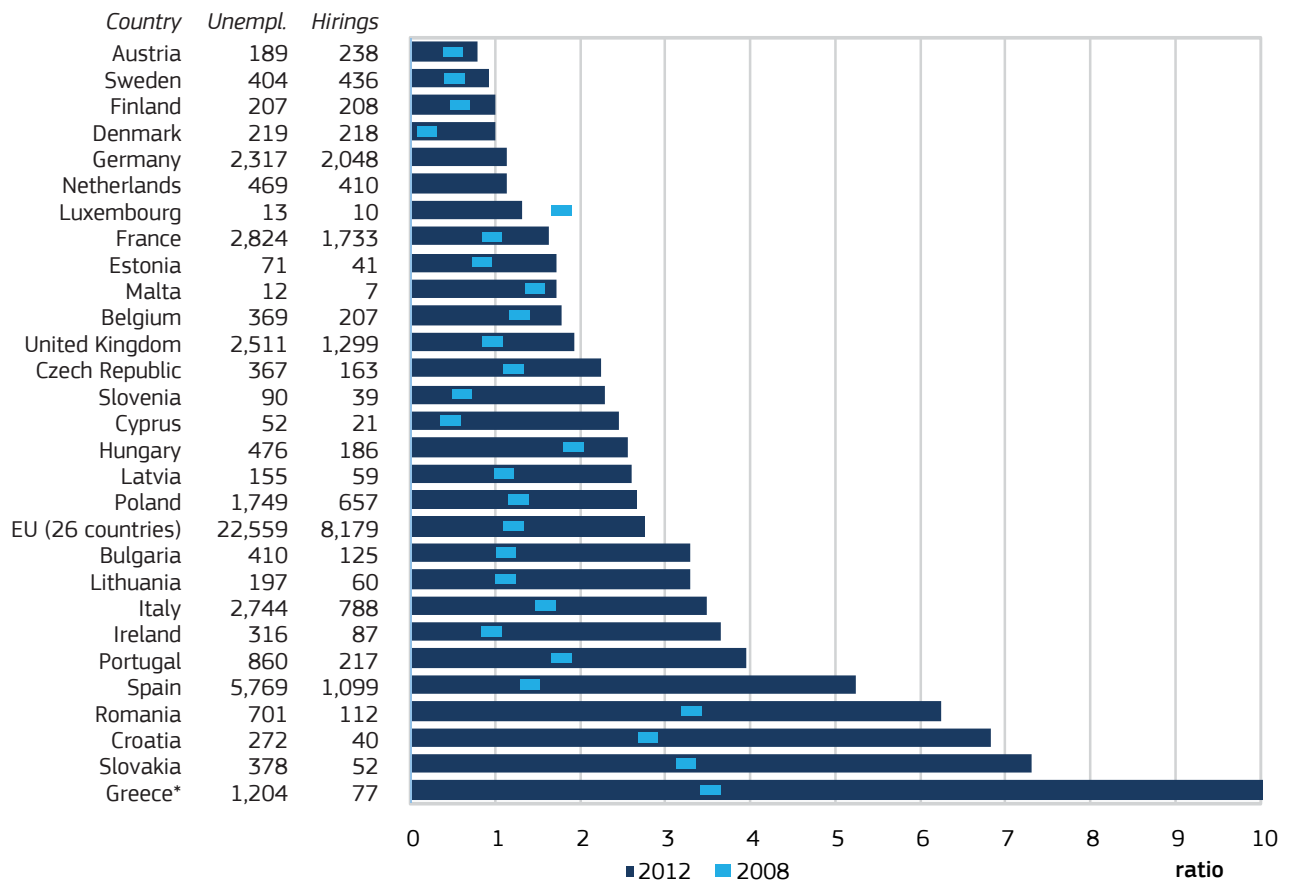
Latest data shows best job opportunities for the unemployed found in older Member States

Looking at the countries with the lowest unemployment to hirings ratios in 2012, in 18 cases they were below the EU average of 2.8 (26 countries covered). This list was dominated by the older Member States headed by Austria (0.8) and Sweden (0.9), the only countries with ratios below one (see explanation at start of the chapter). Other countries in the northern half of Europe filled the next seven places with ratios in a relatively small band ranging from 1.0 to 1.7. In these countries the changes since 2008 were relatively small and show the greater resilience of their labour markets to the effects of the crisis.

In Luxembourg the ratio of unemployed to hirings fell from 2.0 to 1.3 between 2008 and 2012 and this suggests an improving labour market situation in that country. Certainly

Chart 4.1 Ratio of unemployed to hirings

Ratio 2012 and 2008, and absolute numbers for 2012 given in the columns, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier

The average quarterly hirings are compared to the average number of unemployed during the year.

*Greece ratio 2012: 15.6, outside of the range of this chart.

Germany and the Netherlands are excluded from the EU total due to high LFS non-response in job start data of 2008.

unemployment stabilised at around 7.0 per cent there in the last few quarters of 2012, but there has been no significant decline that would underpin such a reduction in the unemployed to hirings ratio. This therefore means that hirings have increased significantly and this has certainly applied to temporary jobs and to lesser extent, to part-time jobs (as discussed in Chapter 3). However, Luxembourg is not typical of other Member States with a relatively small population, as it benefits from considerable cross-border work flows, and jobs in financial services and jobs in the European Institutions.

Job opportunities for the unemployed remained below pre-crisis levels for all age groups

Since the first quarter of 2008, the ratio of total unemployed to total hirings steadily increased from 1.5 to 2.4 in the third quarter of 2013 (Chart 4.2). Over the 23 quarters represented, the ratio fluctuated in response to general changes in economic activity, particularly seasonal demand for workers

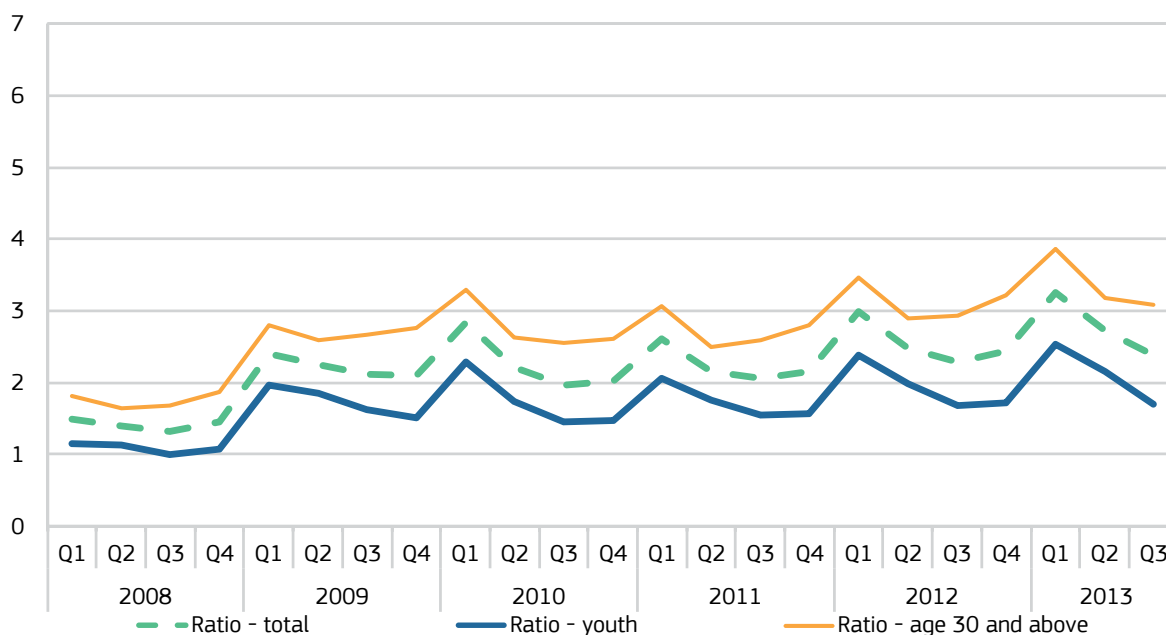
(see Chapter 3 and Chart 3.1 for more information on hirings). However, comparing the same third quarters over the period shows that the movements in the ratio for all ages has, since 2009, fluctuated in a relatively narrow band from 2.1 at the start of the period to 2.4 at the end, and the ratios for both youth in particular and adults - to a slightly lesser extent conform to this pattern.

While hiring opportunities for youth increased, more were on temporary contracts

As previously discussed (see Chapter 1), youth unemployment has increased substantially during and after the crisis with the EU youth unemployment rate at around 23 per cent in 2012 (and in many countries it reached much higher levels). Examination of the unemployed to hirings ratio for this group confirms the deterioration of job prospects for young people. The unemployed to hirings ratio for youth increased from 1.2 to 1.7 over the reference period but by the third quarter of

Chart 4.2 Ratio of unemployed to hirings by age category

Ratios, 2008Q1 - 2013Q3, youth (age 15-29) and age 30 and above, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

France is excluded due to high LFS non-response in 2013Q1-Q3 job start data.

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values unemployment 2013Q3 (in millions): Youth, 8.3; Age 30 and above, 14.5.

Absolute values hirings 2013Q3 (in millions): Youth, 4.9; Age 30 and above, 9.6.

2013 it was well below that for all age groups. This seemingly better relative position for youth is confirmed by the much higher upward shift in the unemployed to hirings ratio for those aged 30 and above. This increased from 1.8 to 3.1 over the (almost) five year period and by the end it was almost twice the ratio of those aged 15-29. But the lower ratio for youth is largely due to a comparatively higher level of hirings because more young people take jobs on temporary contracts, both voluntarily and involuntarily (as discussed in Chapter 3), which is likely to result in higher levels of turnover (or 'churn') in the labour market. As such, it does not necessarily represent better job opportunities for youth than for older jobseekers.

A related development (as confirmed by a recent Eurofound report²⁰) has been that in the absence of sufficient numbers of permanent jobs, increasing numbers of young people have taken more precarious forms of employment such as temporary contracts and part-time working (further discussed in Chapter 10). Such contracts tend to have a shorter duration, and so they lead to higher job turnover which, in turn, leads to increased hirings. This decline in the supply of traditional permanent job openings for young people was evident before the onset of the crisis in some countries, and it was part of

a general expansion of training contracts and probationary employment periods. The crisis has reduced the availability of permanent jobs and so more young people moved from one temporary job to another, competing with other jobseekers who, in increasing numbers, also took temporary (and part-time) employment involuntarily.

Better hiring prospects for youth in most countries but increased numbers of unemployed competing for the available jobs

The lower ratio of unemployed to hirings for youth compared to those aged 30 and over remained the case for all those countries with higher than EU average ratios for youth. The sole exception was Romania where job opportunities in 2012 were relatively poor for both age groups, but more so for youth (at 7.0 compared to 5.7) (Chart 4.3a). This was consistent with its position in 2008 when the youth ratio also exceeded that for those aged 30 and over (3.8 and 3.3) but around half the levels that pertained 2012. For all other Member States youth labour market prospects appeared to be better than for their older counterparts and with sometimes wide differences. For example in Croatia the youth ratio was 4.7 compared to 9.7, and in Ireland 2.5 compared to 5.1. In only a few countries both ratios were close, including the United Kingdom (1.8

20 Eurofound (2014) Young people and temporary employment in Europe <http://www.eurofound.europa.eu/docs/erm/tn1304017s/tn1304017s.pdf>

compared to 2.1), the Czech Republic (1.9 and 2.5), and Italy (3.4 and 3.6).

All countries saw their ratios of unemployed to hirings increase for both youth and older age groups between 2008 and 2012. In the case of youth, the ratio increased less than for the older age group. As discussed above, there can be many reasons why the youth ratio increased less than the ratio for those aged 30 and above, including increasing job turnover, and the replacement of older workers with younger workers (perhaps better qualified and possibly at lower wages). Also young workers, more so than their older counterparts, have the alternative of full-time education instead of looking for a job. In addition to all these factors, various active labour

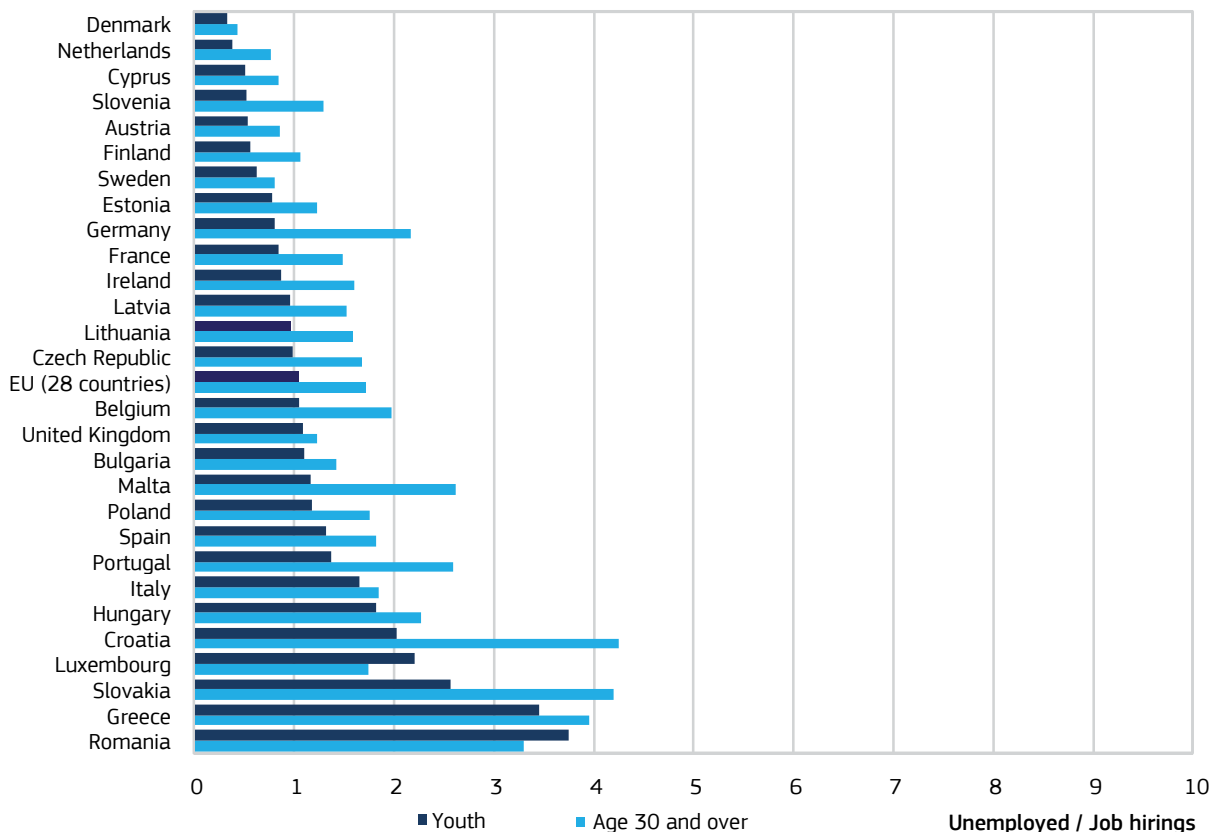
market policy interventions targeted at youth may also have a positive effect on their job prospects, at least temporarily²¹.

The analysis earlier in this chapter showed that compared to 2008, job opportunities for young people worsened, although the ratio of unemployed to hirings remained better than for those above age 30. The increase in short-term hirings in particular is likely to generate a greater degree of job turnover and this is reflected in the ratio of unemployed to hirings for

²¹ In 2013 the European Commission issued a Recommendation (April 2013) on the Youth Employment Initiative and Youth Guarantee backed up with funds to help ensure all Member States offer support to young people. Further information is available at: <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=1829&furtherNews=yes>

Chart 4.3a Ratio of unemployed to hirings by age

Ratios, 2008, youth (age 15-29) and 30 and over, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

The average quarterly hirings are compared to the average number of unemployed during the year.

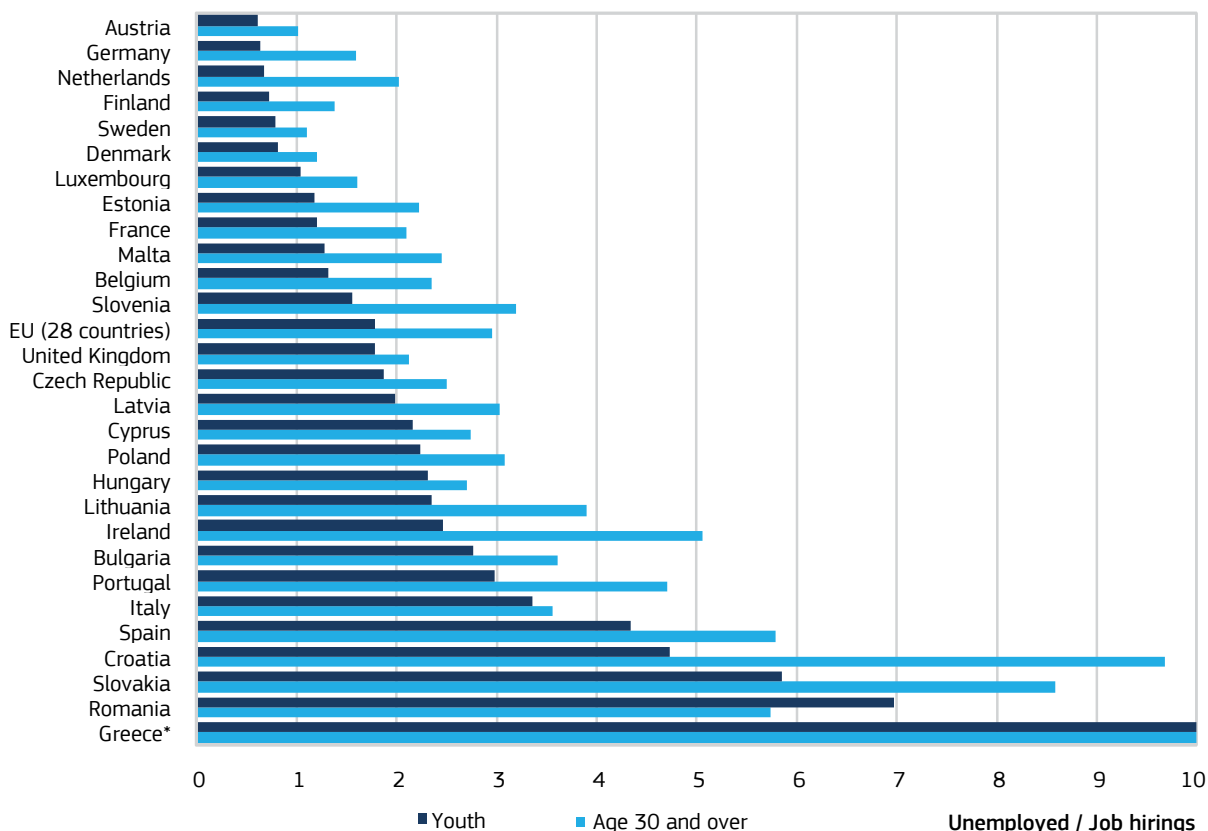
* For Greece the ratios for youth and age 30 and over were 15.0 and 15.9 respectively in 2012 and are outside the range of the chart.

both workers below and above age 30 (Chart 4.3b). In 2012, the aggregate ratios for the EU28 were 1.8 for youth (aged 15-29) and 3.0 for those aged 30 and over. The opportunities had deteriorated for both groups at a similar pace compared to 2008 when the comparable ratios were 1.3 for youth and 1.9 for those aged 30 and over. The notion that short-term hirings affected jobseekers both below and above the age of 30 is further confirmed by the proportions of temporary hirings which were high for both age groups at 66 per cent for young people and 58 per cent for those aged 30 and over. In one respect, people aged 30-64 were in a better position than those below the age of 30 since a greater proportion of them were employed and did not need to seek a (first) job. However

those above the age of 30 that were unemployed, on average, found fewer jobs than young jobseekers.

The lowest ratios of unemployed to hirings for youth were mostly in the older Member States with six countries with ratios below 1.0 in 2012, namely Austria (0.6), Germany (0.6), the Netherlands (0.7), Finland (0.7), Sweden (0.8) and Denmark (0.8). Significantly no country had a ratio of below 1.0 for those aged 30 and over, though Austria came close with a ratio of 1.0. In most of these countries levels of unemployment for both youth and adults remained relatively low. In countries such as Austria and Germany youth unemployment increased only slightly during the crisis (standing at rates of 8.8 per cent

Chart 4.3b Ratio of unemployed to hirings by age
Ratios, 2012, youth (age 15-29) and 30 and over, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

The average quarterly hirings are compared to the average number of unemployed during the year.

* In Greece the ratios for youth and age 30 and over were 15.0 and 15.9 respectively in 2012, and so they are outside the range of the chart.

and 7.8 per cent respectively in the first quarter of 2013). According to Eurofound, the vocational training system in these two countries continued to provide places for large numbers of young people making the transition from education to the labour market²².

Hiring prospects for low educated worsened compared to high educated

Examination of the development of the ratio of unemployed to hirings by educational level confirms a number of expectations (Chart 4.4). Between the first quarter of 2008 and third quarter of 2013 there was a gradual upward shift in the ratios for all three educational levels indicating greater difficulty for the unemployed to find jobs. Also, the gap between the low educated versus the medium and high educated widened. At the start of the period, the ratio for the low educated category

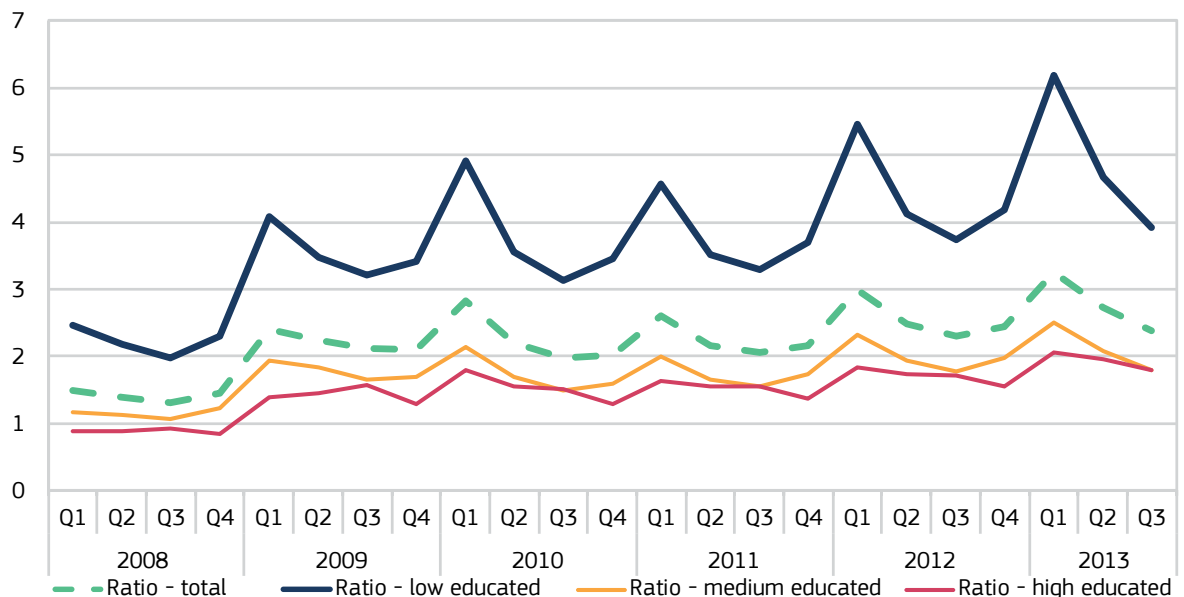
was 2.5 and this had increased to 3.9 by the end of the period. The same figures for the medium educated were 1.2 at the start rising to 1.8 at the end, and for the high educated 0.9 to 1.8. The doubly high end ratio for the low educated suggests more difficult labour market conditions. The medium educated may seem to have fared best, but part of this was caused by some of them taking jobs below their qualification, particularly in the south of Europe (as discussed later in Chapter 7).

Seasonal variation mostly driven by hiring the low educated

The fluctuations in the ratios of unemployed to hirings also provide some insight by which people are hired for seasonal jobs. For the low educated, the seasonal movements were pronounced and show the familiar pattern of increased hirings in the second and third quarters of each year as sectors such as agriculture and tourism fill posts for the spring and summer. In contrast, the seasonal fluctuations for the medium and particularly for the high educated were much less pronounced.

²² According to Eurofound (2014) Young people and temporary employment in Europe, op cit, of those aged 15-24 in temporary employment in 2012, 84.3 per cent in Germany and 76.8 per cent in Austria were doing vocational education or training.

Chart 4.4 Ratio of unemployed to hirings by educational level
Ratios, 2008Q1 - 2013Q3, low, medium and high educated, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

France is excluded due to high non-responses in 2013Q1-Q3 job start data.

Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Low educated: Primary and lower secondary education (ISCED 1-2)

Medium educated: Formal upper secondary education (ISCED 3)

High educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

Absolute values hirings 2013Q3 (in millions): Lower educated, 2.5; Medium educated, 4.7; Higher educated, 2.3.

Absolute values unemployment 2013Q3 (in millions): Lower educated, 10.0; Medium educated, 8.5; Higher educated, 4.2.

This suggests that these groups depended less on seasonal jobs, manifesting itself in lower peak hirings but nevertheless lower unemployment rates on average.

Hiring prospects continue to be less favorable for low educated in all countries except Greece and Cyprus

According to the earlier discussion (Chart 4.4), it was clear that the period 2008 to 2013 (third quarter) was one of volatility for the low-educated in the EU labour market as seasonal recruitment patterns prevailed. In contrast the development for the high educated was much smoother, and it was less affected by changes in the seasonal demand for labour. However, when examined on a country by country basis, there is significant variation in the ratios of unemployed to hirings both between countries, and also between the high and low educated.

In comparing educational levels, the differences between countries will be strongly influenced by the education and vocational training systems in each country. In most EU Member States, the differences in job opportunities for the

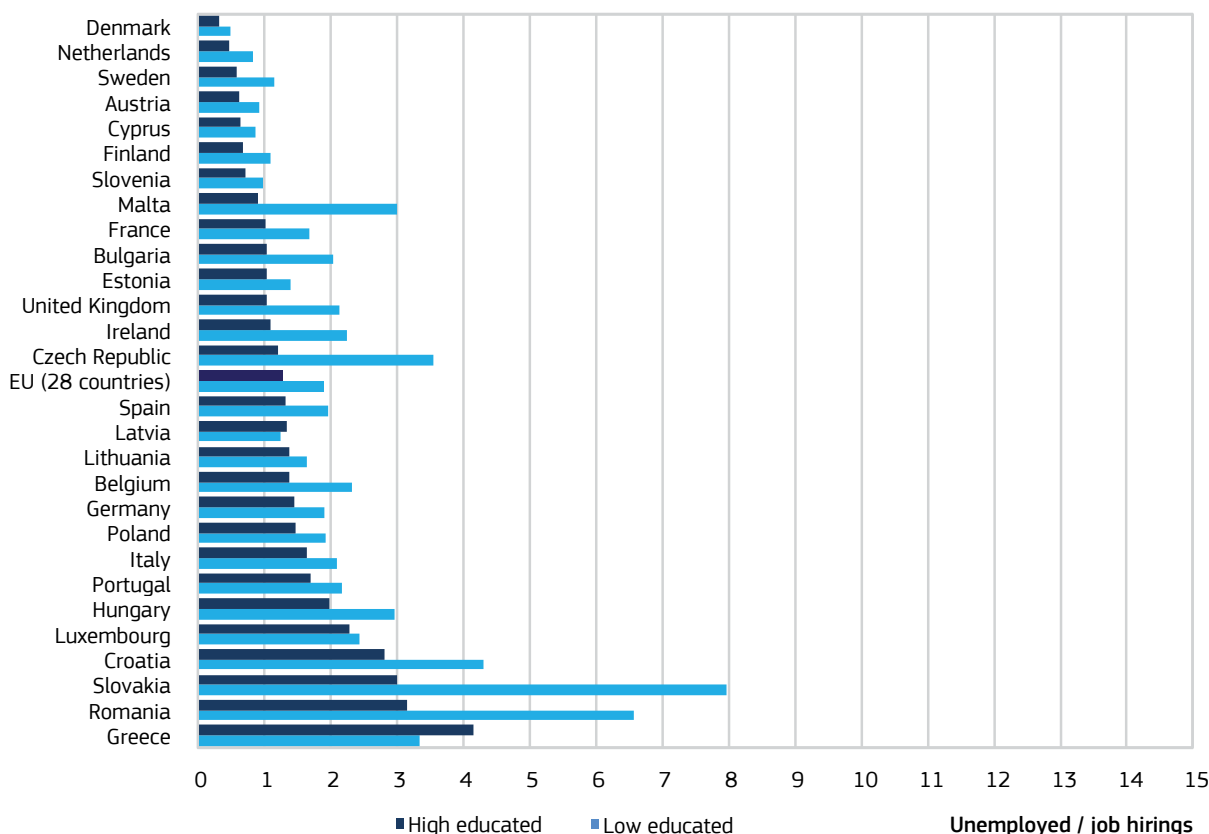
unemployed by educational level were more pronounced than the differences by age, and this is certainly the case in, for example, Ireland and the United Kingdom, but also in Croatia, the Czech Republic, Romania and Slovakia. In the Czech Republic and Slovakia, the low educated are a particularly small group in the labour market (more fully discussed in EVRR 2012²³) and their job turnover was particularly high (as discussed further in Chapter 7 in this report).

For the high educated, the EU average unemployed to hirings ratio was 2.2 in 2012, with half of the EU countries having lower ratios and half having higher ratios (Chart 4.5a). Of those countries having below average ratios (i.e. indicating better labour market prospects for jobseekers) all but four were older EU Member States with Austria, Denmark, Finland, and Sweden all with ratios under 1.0. Those with the highest ratios for the high educated were the same countries affected most by the crisis in general, such as Greece, Ireland, Italy, Portugal and Spain.

23 European Commission (2012) European Vacancy and Recruitment Report 2012 <http://ec.europa.eu/social/main.jsp?catId=955>

Chart 4.5a Ratio of unemployed to hirings by educational level

Ratios, 2008, high educated and low educated, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

The average quarterly hirings are compared to the average number of unemployed during the year.

In 2008 (Chart 4.5b), when the EU28 average ratio for high educated was 1.3, there were also 14 countries on either side and eleven were common to both years. Between 2008 and 2012 Bulgaria, Cyprus and Ireland dropped out of those with the lowest ratios indicating a change from better to worse than the EU average labour market conditions. Belgium, Germany and Luxembourg moved up to take their places. In all but two countries the ratios had been much lower in 2008 (less than half their 2012 levels in most cases) showing that even for the high qualified, labour market conditions worsened (Germany and Luxembourg were the exceptions). Between 2008 and 2012, the ratios roughly quadrupled in Cyprus, Greece, Ireland and Spain. Taking Ireland as an example, according to the OECD²⁴ it has the highest proportion of young adults (aged 25-34) who have completed tertiary (i.e. degree level) education in the EU, with almost half of the age group educated to this level. The expectation would be that

this would cause the high educated to be particularly badly affected in Ireland, but even here the increase from 1.1 to 3.9 was no worse than the increase from 2.2 to 7.6 for the low educated.

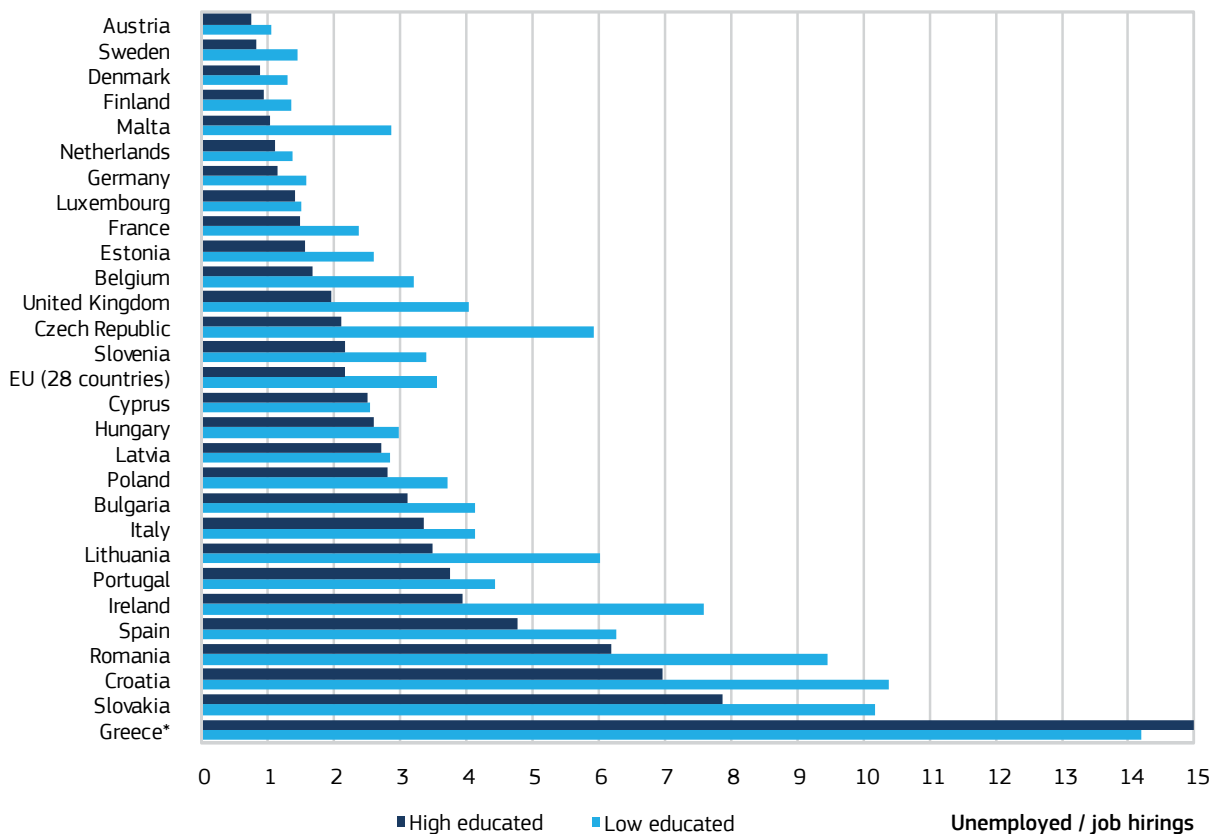
In 2012, in all but two EU Member States the high educated jobseekers enjoyed more labour market opportunities than the high educated. The exceptions were Greece, where the ratio of unemployed to hirings was above that for the low educated (as explained above) and Cyprus, where both ratios were the same (Chart 4.5b).

For the EU28, the ratio of unemployed to hirings for the low educated was 3.5, which was over 50 per cent higher than the ratio for high educated and over half of the countries (15) had ratios below this average. None of these countries had ratios for the low educated at below 1.0 (as was the case for the high educated in some countries), though seven countries (Austria, Denmark, Finland, Germany, Luxembourg, the Netherlands and Sweden) had relatively low ratios of between 1.0 and 2.0.

24 Organisation for Economic Cooperation and Development (2013) Education at a glance 2013 (OECD, Paris) [http://www.oecd.org/edu/eag2013%20\(eng\)--FINAL%2020%20June%202013.pdf](http://www.oecd.org/edu/eag2013%20(eng)--FINAL%2020%20June%202013.pdf)

Chart 4.5b Ratio of unemployed to hirings by educational level

Ratios, 2012, high educated and low educated, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

The average quarterly hirings are compared to the average number of unemployed during the year.

* For Greece the ratio for low-educated was 17.8 in 2012 and outside the range of this chart.

There is some overlap of those countries with the lowest ratios for both the low and high educated (mostly confined to older Member States in northern Europe such as Austria, Denmark, Finland and Sweden), signalling the general resilience of these economies and their labour markets to the crisis. But these countries have also seen increases in the ratio since 2008, in the same way as all the other countries (Chart 4.5b). However, the greatest deteriorations in the labour market prospects for the low educated were in countries with large falls in GDP such as Cyprus, Greece, Ireland, Lithuania, Slovenia and Spain. The extent of the crisis for the low educated is put into perspective when it is considered that not only did unemployment increase and hirings fall, but those hirings that did take place also reflected a greater degree of turnover, as discussed later in Chapter 8.

4.3 Conclusions

Since 2010 labour market opportunities in the EU did not change much and remained significantly worse than in the pre-crisis period. A particular feature of this post-crisis period has been the growth in unemployment which affected the young and the old, and the low and the high educated, though in different degrees. For example, young people have had consistently higher levels of hirings and this was already the case before the crisis, and it largely reflects young workers seeking their first jobs and making their early career moves. The generally higher level of job turnover for youth (including outflows to education) is also a factor in the higher level of hirings for that group and the observation that this does not necessarily lead to lower levels of unemployment.

Labour market opportunities have generally been better for the high educated than those with low education, although between 2008 and 2012 conditions deteriorated for both groups. The most affected countries were among the newer Member States, and those adversely affected by the euro-zone crisis such as Greece, Ireland, Italy, Portugal and Spain. In a small number of mostly older Member States in northern Europe, labour market prospects remained good for jobseekers with high or low education, and good for both young and older age groups.

5 Development of occupational recruitment demand

5.1 Introduction

This chapter focuses on the development of recruitment in major occupational groups and specific occupations. It lays the groundwork for the next four chapters which discuss in more detail the type of jobs for which people were hired.

Data on job hiring by major occupational groups is available for all 28 EU Member States from the LFS. This allows in-depth exploration of the relative importance of major occupational groups for different countries, and how this affects the development of new jobs between 2008 and 2012. It also allows discussion of whether employee growth in 'high skilled jobs' is related to the number of qualified workers early in their career (ages 25-34), which would indicate that new supply and new demand are correlated.

This chapter continues to discuss those occupations where demand increased the most, and also those occupations where demand declined the most between 2011 and 2012. The shorter time period covered for individual occupations is due to the change in the ISCO classification between 2010 and 2011. The detailed occupations (at 3-digit level) are more likely to have changed with the re-classification than the broader major occupational groups. Also, LFS data on hirings for individual occupations in individual countries were generally so low that the annual changes in the figures are not reliable and are consequently not published in this report. The figures are reliable for just one occupation, ('*domestic, hotel and office cleaners and helpers*') and only in the case of two countries. Therefore, developments in hirings in 2012 are only discussed at the EU level.

For the EU as a whole, the analysis of developments in recruitment demand is carried out at different levels. Firstly, the focus is on developments in employee numbers. However an analysis of changes in employee numbers alone is not sufficient to assess movements in job opportunities. Even if the number of employees falls, recruitment demand can still increase, for example in the situation where an increased number of older workers leave the labour market. Neither is an analysis of changes in hirings alone sufficient to understand the impact of employment, as an increase in hirings may simply reflect increasing job turnover. But combined, an analysis of changes in employee numbers and of changes in hirings does indeed indicate whether job openings have actually expanded or contracted. It needs to be kept in mind, however, that an increase in 2012 may either indicate that the 2012 figures were quite high, or that the 2011 figures were quite low. In

this chapter a selection of professional fields will be identified that are sector specific and had significant employee growth in 2012. The next chapter will discuss the trends for these fields over the separate periods 2008-2010 and 2011-2012, before and after the change in ISCO classification.

It should be noted, however, that even in cases where the volume of job openings have contracted between 2011 and 2012, there may nevertheless be a very significant number of employment opportunities available. For example, although both hirings and employee numbers of '*building frame and related trades workers*' fell between 2011 and 2012, in 2012 there were still 1.2 million hirings of '*building frame and related trades workers*'. While recruitment difficulties and placement opportunities were clearly lower than before the crisis, this did not mean a low level of recruitment activity. In recognition of this fact, this chapter finishes with the data on top hiring volumes of 2012.

5.2 Developments in hirings according to major occupational groups

Recovery in hiring of professionals, service and sales workers and elementary occupations

In 2009, fewer people were hired in all major occupational groups, but this was less the case for '*skilled agricultural and fishery workers*', '*service and sales workers*', '*elementary occupations*' and '*professionals*' (Chart 5.1). Hirings partially recovered in 2010, once again in all major occupational groups. In 2011 and 2012, hirings resumed their fall in some occupational groups, but continued to develop more favourably for the groups mentioned above with the exception of '*skilled agricultural and fishery workers*'. The increasing number of persons hired in the '*professionals*' group from 4.7 million in 2008 to 5.2 million in 2012 can be partly attributed to the change in the classification of occupations (ISCO) between 2010 and 2011. Nevertheless, developments both before and after 2011 (as discussed in the various issues of the European Vacancy Monitor²⁵) lead to the conclusion that hirings of '*professionals*' had recovered by 2012. But even so, the increase in hirings in this group was insufficient to compensate for the overall fall in annual hirings of -1.7 million for '*craft and related trades workers*' between 2008 and 2012 and a fall of -1.2 million each for '*technicians*

25 European Commission, 2010-2014: European Vacancy Monitor, ec.europa.eu/social/main.jsp?catId=955

and associate professionals', 'clerks' and 'plant and machine operators and assemblers'. Overall, 5.9 million fewer hirings took place between 2008 and 2012.

Continued decline in hiring of medium skilled manual workers and 'legislators, senior officials and managers'

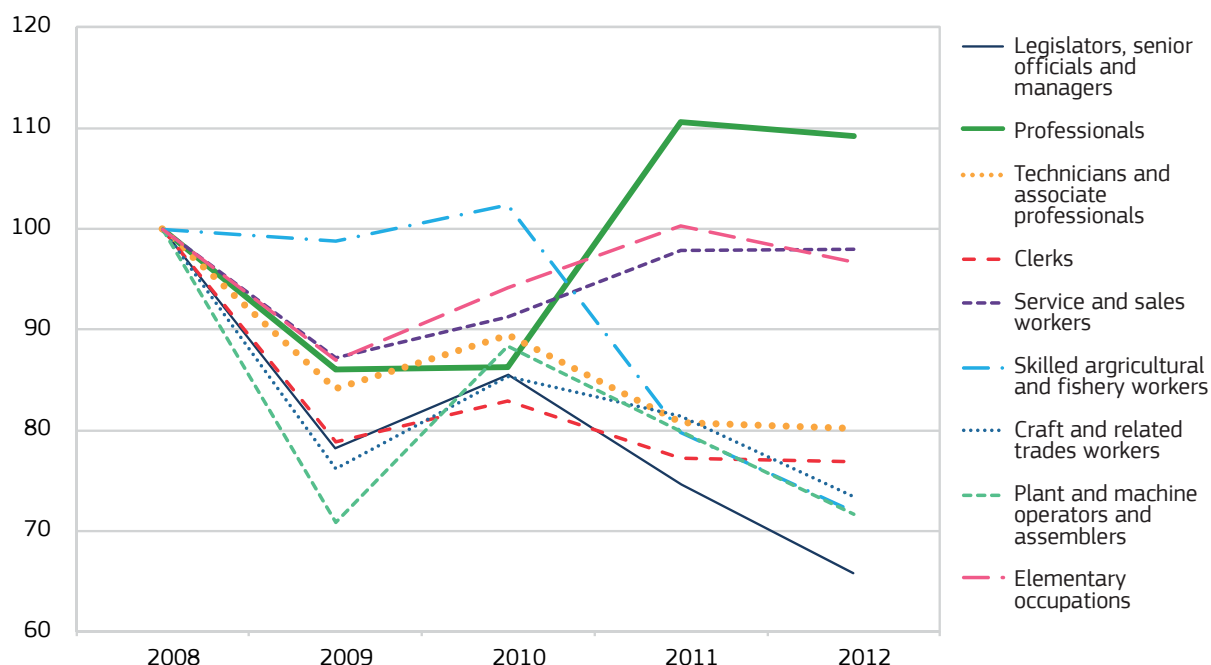
As the crisis continued, developments among the major occupational groups diverged, but the continuing decline among the medium skilled manual groups 'plant and machine operators and assemblers', 'craft and related trades workers' and among 'legislators, senior officials and managers' in both 2011 and 2012 was evident. Changes in hiring between 2010 and 2011 need to be interpreted with caution since the classification of occupations changed (from ISCO-88 to ISCO-08), but the developments both before and after this change of classification show that the hiring of skilled manual workers (operators and craft workers) and managers were the worst hit both by the initial phase of the crisis and during the slow recovery. This is likely to be due to the general sensitivity of the industry and construction sectors to the business cycle.

While 'legislators and senior officials and managers' work predominantly in the public sector, managers are more widely dispersed, so the decline in hiring in this group is likely to be of a more general nature. In the public sector, embargos on hiring new staff (often called a 'vacancy freeze') could be a contributory factor; another factor could be 'labour hoarding', which research has shown was significant for managers and other skilled workers. In a 2010 survey of Dutch employers who had insufficient work for their employees, between 30 and 40 per cent indicated that they tried to exclude managers from any redundancies. Technical staff were not retained in the first year of the crisis but were kept in the second year by half of the companies surveyed.²⁶ As explained in Chapter 3, labour hoarding has the effect that fewer workers are dismissed when the economy contracts, but it also means that fewer new workers are hired when the economy improves.

²⁶ Ecorys (2010), Labour hoarding door bedrijven (Labour hoarding by companies), page 26, www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2010/03/31/ecorys-onderzoek-labour-hoarding-door-bedrijven-personeelsbeleid-en-strategische-overwegingen.html

Chart 5.1 Development in job hirings by major occupational groups

Index, 2008-2012, 2008=100, 28 countries



Source: Eurostat Labour Force Survey, and EVRR calculations.

Job hiring refers to employees who were employed in a 'reference week' and had started working for their employer up to three months earlier.

Absolute values job hiring 2012 (in millions, sum of four quarters): Legislators, senior officials and managers, 0.8; Professionals, 5.2; Technicians and associate professionals, 5.2; Clerical support workers, 4.4; Service and sales workers, 10.2; Skilled agricultural, forestry and fishery workers, 0.6; Craft and related trades workers, 4.9; Plant and machine operators and assemblers, 3.2; Elementary occupations, 8.2.

Skills polarization not evident from hirings data

Another interesting observation is that the occupational groups where hirings recovered come from all three skills levels. This implies that there is no obvious evidence of significant skills polarisation in the hiring data. If this phenomenon does exist in hirings, it may involve a contrast between higher skilled workers and skilled manual workers (operators and craft workers). The latter group did in fact experience a persistent decline, due mainly to the contraction in the manufacturing and construction sectors.

Increasing demand in health care and 'administrative services and support activities'

The recovery of hirings in 'professionals', 'service and sales workers' and 'elementary occupations' naturally resulted in higher proportions of these groups in total hirings (Chart 5.2). Employees in these occupational groups work in many sectors but still, an analysis of employee growth in economic sectors (in the Eurostat Labour Force Survey data) gives a first hint where the largest increases took place, namely the predominantly private sector 'administrative services and support activities' and the health care sector. Between 2008 and 2012, employment in each of these two sectors increased by 8 per cent at EU level. As discussed later (Section 5.3),

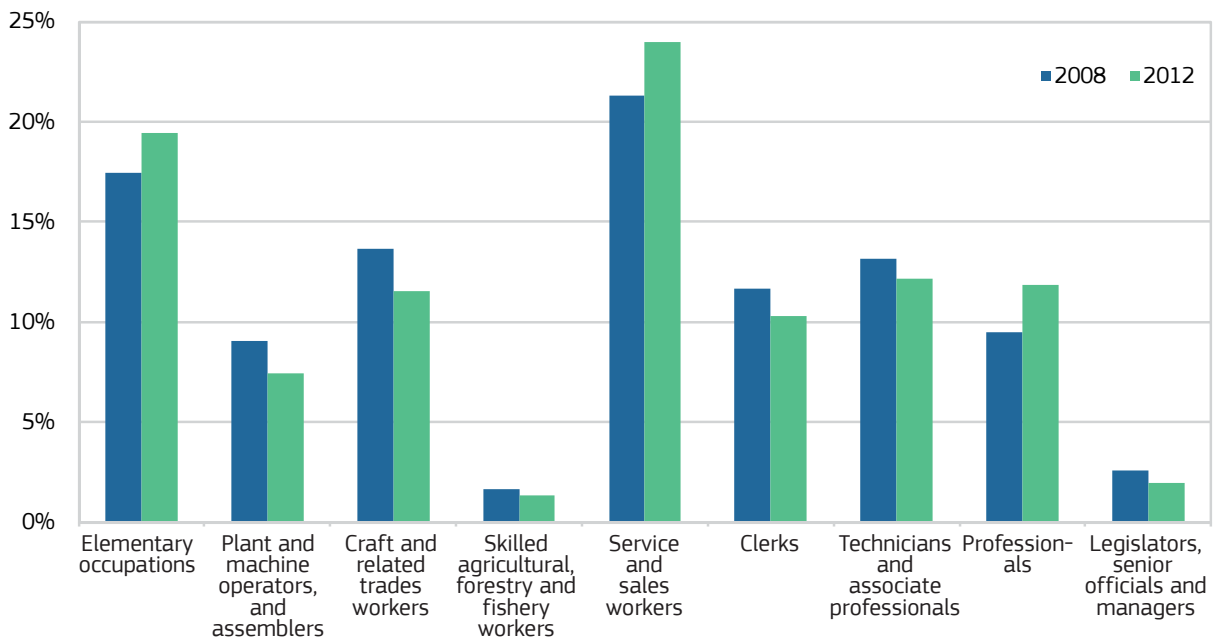
both administration and health care related workers were among those with highest employee growth over the whole reference period. This suggests that growth in the hiring of 'professionals' and of services workers within the group of 'service and sales workers' reflected real employment gains and corresponded with an increased demand for employees with administrative and health care skills.

The increase in the demand for healthcare workers to some extent reflects the demographic factors such as the ageing of the European population and, in some EU Member States, the high birth rate. The developments of technologies have displaced many routine tasks and have resulted in an increase of a demand for employees with professional qualifications. The development of the Internet has transformed the way goods and services are traded and supported, and has resulted in a major increase in employment in these activities.

When interpreting developments in hirings over a longer period, it must be remembered that hirings at a continued high level can correspond to high employment growth or replacement demand. Similarly, a prolonged increase in hirings generally corresponds to accelerating employment growth or replacement demand. Such a development is unlikely to last for the long-term even if employment continues to grow. Indeed, the latest two issues of the European Vacancy

Chart 5.2 Distribution of job hirings by major occupational group

Percentages, 2008 and 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute values job hirings 2012 (in millions, sum of four quarters): Legislators, senior officials and managers, 0.8; Professionals, 5.2; Technicians and associate professionals, 5.2; Clerical support workers, 4.4; Service and sales workers, 10.2; Skilled agricultural, forestry and fishery workers, 0.6; Craft and related trades workers, 4.9; Plant and machine operators and assemblers, 3.2; Elementary occupations, 8.2.

Monitor discussed the developments in the first two quarters of 2013 and reported year on year decreases in hirings of 'professionals' and of 'service and sales workers'.²⁷ The fall in hirings in the first two quarters of 2013 in these groups is an early indicator that continuing growth cannot be guaranteed and that hirings may have reached their peak.

The analysis of economic sectors further revealed that in the trade sector both the number of employees and hirings declined between 2008 and 2012. However, the reason that hirings of 'service and sales workers' developed relatively favourably is that 'shop sales workers' were a relatively small part of the broader group of 'service and sales workers'. As will be discussed later in Section 5.3, the increased hiring of 'service and sales workers' as a whole should be attributed to 'personal service workers in health care' and 'child care workers'.

Increase in employment of 'professionals', and 'service and sales workers', confirms hiring trend across the EU

In nearly all countries, 'professionals' and 'service and sales workers' were employed in greater numbers in 2012 than in 2008 (Chart 5.3a), with a variation between countries in their hirings (Chart 5.3b). This confirms the developments reported in the European Vacancy Monitor up to the last two issues which discussed the changes in the first two quarters of 2013. In the latest issue, it was observed that "increasing hirings of 'professionals' in half of the EU countries including Poland, Spain and the United Kingdom were insufficient to compensate for the larger falls in other countries including France, Germany and Italy."²⁸

The employment growth identified previously in the administrative services and support activities and health care sectors also took place in the majority of countries. Employment in administrative services and support activities fell by more than one per cent in only nine countries (Cyprus, the Czech Republic, Finland, Greece, Ireland, Latvia, Malta, the Netherlands and Spain) while employment in the health care sector decreased in only five countries: Bulgaria, Denmark, Greece, Lithuania and Slovenia. The decline in Greece is probably attributable to austerity measures, but for the other countries, specific developments have led to decreasing employment in these sectors. For example, in Bulgaria a lack

of supply of healthcare professionals limited employment growth in that sector (see EVM10²⁹).

'Craft and related trades workers' and 'plant and machine operators and assemblers' are concentrated in the construction and industry sectors and so the fall in employee numbers in the former occupational group is consistent with the fall in employment in the construction sector (down -17 per cent between 2008 and 2012). Industry was the only other sector where employment fell by more than five per cent in the period (down by -10 per cent), and this was accompanied by a decline in jobs for 'plant and machine operators and assemblers' in all countries, with the exception of Hungary and Lithuania – even though no exact percentage changes can be given for occupational groups due to the change of ISCO classification in 2011, the decline in industry and construction are accurate and confirm the findings for craft workers and operators.

It is interesting to compare the development of employees in Chart 5.3a with development of hirings in the chart 5.3b because it illustrates which countries and which occupational groups are providing employment opportunities in terms of both hirings and employment. The results are as follows:

- There is a decline in both hirings and employee numbers for 'legislators, senior officials and managers' in most countries. Only in Sweden did hirings increase, while employment increased in six other countries besides Sweden (France, Malta, Poland, Portugal, Slovenia and Spain).
- For 'professionals' there was a significant increase in job opportunities as employment increased everywhere except Latvia, while hiring declined in five more countries besides Latvia (Belgium, Greece, Lithuania, Slovenia and Spain).
- There were an overall decline of hirings for 'technicians and associate professionals' with an exception of Ireland and Luxembourg, while employment decreased in more than half of the countries except for increases in Cyprus, Hungary and eight countries in northern Europe.
- There were an overall decline of job opportunities for 'clerks' as employment fell in all but four countries except (the Czech Republic, Germany, Latvia and Slovakia) while hirings fell in all but two countries (Estonia and Hungary).
- There was a significant increase in employment of 'services and sales workers' although both employee numbers and hirings fell in (Greece, Ireland and Portugal).
- There was a general decline of employment and hirings for 'skilled agricultural and fishery workers' although both employee numbers and hirings increased in Romania and Sweden.
- There was an overall reduction in job opportunities for 'craft and related trades workers'. Only four countries recorded increase employment (Austria, Belgium, Slovenia and Sweden), while only two recorded an increase in hirings (the Czech Republic and Luxembourg).

27 European Commission, European Vacancy Monitor issues 11 and 12, ec.europa.eu/social/main.jsp?catId=955, cover the first two quarters of 2013. Comparisons with the first two quarters of 2008 are affected by the high levels of hirings just before the crisis broke out in many countries, resulting in a decline compared to the first two quarters of 2008 even if hirings increased compared to the average of 2008. To avoid misleading conclusions based on atypical seasons, this report discusses mostly developments on an annual basis.

28 European Commission (2014): European Vacancy Monitor issue 12, page 11, ec.europa.eu/social/main.jsp?catId=955

29 The outflow of health professionals from east European countries to Member States in the west is another factor limiting supply.

- For 'plant and machine operators and assemblers' there was an overall decline in both employment and hirings, which increased only in Hungary.
- While hirings and employment were generally decreasing in 'elementary occupations', both employment and hirings increased in five countries (Cyprus, France, Hungary, Latvia and the United Kingdom), indicating increasing opportunities for low-skilled workers in those countries.

Countries affected most by the crisis saw increased turnover for 'elementary' jobs

The number of employees in 'elementary occupations' increased in seven countries and declined in 21 countries between 2008 and 2012 (Chart 5.3a) and in most of the latter group of countries the number of employees in 'elementary occupations' also came down more than in other occupations. This contrasts with hirings in this occupational group which declined in 13 countries and came down more than in other occupations in just five countries (Chart 5.3b).³⁰ This provides an indication of increased turnover in 'elementary occupations'.

In France, Hungary and Latvia, the proportion of people hired in 'elementary occupations' increased by more than five percentage points between 2008 and 2012. In Hungary, the increase may have been partly due to direct government-led job creation. For these three countries increasing job turnover in this occupational group was evident despite a minor increase in employment. The proportion of 'elementary occupations' in hirings went up by between 4 and 5 percentage points in Greece, Portugal, the Netherlands and Spain, while the proportion of employees in 'elementary occupations' decreased in those countries. Greece, Portugal and Spain were severely affected by the financial crisis; in the Netherlands, largely due to a fall in consumer confidence³¹, vacancies and hiring decreased at a slower but consistent pace.

In contrast to the seven countries where there appeared to be an increase in job turnover in 'elementary occupations', there were no countries where it declined. The proportion of 'elementary occupations' in recruitment declined between 2008 and 2012 in Austria, Denmark, Finland and Romania, but in each of these four countries this was in line with the declining proportion of elementary occupations in employee numbers. Overall, job turnover in 'elementary occupations' increased at the EU level, particularly in those countries affected the most by the crisis.

Continued decline in hirings in EU for all occupational groups except professionals

Between 2008 and 2012 total hirings in the EU (26 countries) fell by -12 per cent with only one occupational group, 'professionals', showing an increase over the period (Chart 5.3b). The percentage changes for each occupation were as follows:

- Legislators, senior officials and managers -34 per cent
- Professionals up by 10 per cent
- Technicians and associate professionals -19 per cent
- Clerks -22 per cent
- Service and sales workers -1 per cent
- Skilled agricultural and fishery workers -27 per cent
- Craft and related workers -26 per cent
- Plant and machine operators and assemblers -28 per cent
- Elementary occupations - 3 per cent.

The relatively smaller decreases in 'clerks' and 'elementary occupations' reflect the higher labour turnover expected in these types of job.

Good prospects for well educated managers, professionals and technicians aged 25-34

The proportion of employees in 'high skilled' occupations increased further in a number of countries where it was already above average. This is particularly marked for three groups – 'professionals', and 'technicians and associate professionals' in Finland and Luxembourg; 'professionals' and 'legislators, senior officials and managers' in Poland, Slovenia and Sweden, and in France the proportion grew in all of these occupational groups.

What is a striking finding is that in these six countries (Finland, France, Luxembourg, Poland, Slovenia and Sweden) the proportions of those educated to at least upper secondary level within the age group of 25-34 year old were relatively high.³² This proportion was highest in the EU in Slovenia (94 per cent), Poland (94), Finland (91) and Sweden (91), after Slovakia and the Czech Republic (both at 95 per cent). And for tertiary educated, their proportion in this age group was highest in the EU in Luxembourg (47 per cent) and France (44), after Ireland and the United Kingdom (both at 47 per cent).³³ Overall, developments suggest that those countries with relatively high proportions of qualified workers aged 25-34 also display increasing employment in high skilled jobs.

³⁰ No information is available on six countries due to limitations disaggregating the LFS data

³¹ DG ECFIN, 2013 forecast page 94 and 2014 forecast page 84, ec.europa.eu/economy_finance/eu/forecasts

³² OECD, Education at a Glance, [oecd.org/edu/eag2013%20\(eng\)--FINAL%2020%20June%202013.pdf](http://oecd.org/edu/eag2013%20(eng)--FINAL%2020%20June%202013.pdf), Table A1.2a.

³³ Ibid, Table A1.3a.

Chart 5.3a Development in employees by major occupational group

2012 compared to 2008, 28 countries

Green cells indicate an increase, red cells indicate a decrease, blank cells indicate no significant change.

	Legislators, senior officials and managers	Professionals	Technicians and associate professionals	Clerks	Service and sales workers	Skilled agricultural and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations	Total
Austria						*		*		+3%
Belgium										+2%
Bulgaria						*				-12%
Croatia					*	*				-11%
Cyprus	*							*		+6%
Czech Republic										-5%
Denmark						*				-6%
Estonia				*	*					-6%
Finland										-3%
France										-1%
Germany										+5%
Greece						*				-20%
Hungary										+1%
Ireland										-12%
Italy										-1%
Latvia										-24%
Lithuania										-16%
Luxembourg								*		+13%
Malta			*	*		*				+8%
Netherlands										-7%
Poland										-1%
Portugal										-8%
Romania										-2%
Slovakia										-6%
Slovenia					*					-9%
Spain						*				-15%
Sweden										+1%
United Kingdom										-1%
EU28	-16%	+23%	-4%	-8%	+12%	-12%	-17%	-17%	-7%	-3%

Source: Eurostat, Labour Force Survey, and EVRR calculations.

* Indicates limited reliability of the change

Chart 5.3b Development in hirings by major occupational group

2012 compared to 2008, 26 countries

Green cells indicate an increase, red cells indicate a decrease, blank cells indicate no significant change.

	Legislators, senior officials and managers	Professionals	Technicians and associate professionals	Clerks	Service and sales workers	Skilled agricultural and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations	Total
Austria										-1%
Belgium										-9%
Bulgaria		*				*				-18%
Croatia	*	*	*	*	*	*		*		-22%
Cyprus										-4%
Czech Republic				*						-1%
Denmark						*				-20%
Estonia										+10%
Finland		*								-8%
France										-4%
Germany **										
Greece	*					*				-24%
Hungary						*				+19%
Ireland										-27%
Italy										-18%
Latvia										-17%
Lithuania						*		*		-18%
Luxembourg	*					*				+77%
Malta			*				*			+10%
Netherlands **										
Poland						*				-21%
Portugal										
Romania										-32%
Slovakia										-31%
Slovenia	*					*	*			-31%
Spain										-33%
Sweden					*					-1%
UK										-15%
EU28	-34%	+10%	-19%	-22%	-1%	-27%	-26%	-28%	-3%	-12%

Source: Eurostat, Labour Force Survey, and EVRR calculations.

* Indicates limited reliability of the change

** Germany and the Netherlands are excluded due to a very high LFS non-response rate on the job start date in 2008.

Hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

In Ireland and the United Kingdom, it is particularly noticeable that while the proportion of all jobs taken by *'professionals'* and *'technicians and associate professionals'* increased between 2008 and 2012, the proportion of *'professionals'* was the only one above the EU average, while *'technicians and associate professionals'* were below the average. This is consistent with the particularly high proportion of 25-34 year old workers in both countries who have completed a tertiary education.

The Netherlands was the only EU country where a high proportion of 25-34 year old qualified workers did not translate into more employment in high skilled jobs between 2008 and 2012. Here the proportions of *'legislators, senior officials and managers'* and of *'technicians and associate professionals'* decreased over that period. Furthermore, contraction in the Dutch labour market was prolonged causing some young jobseekers aged around 20 to pursue higher education as a result of the lack of employment opportunities. This is supported by the fact that between 2008 and 2011 (the latest available data), the number of students in tertiary education increased most sharply in the Netherlands (up 30 per cent). In Austria, Cyprus, Germany and in the Flemish region of Belgium increases in the number of students were between 20 and 30 per cent. However, in the Netherlands youth unemployment also increased by 3.2 percentage points between 2008 and 2012, compared to increases of 1.8 per cent in Belgium, and 0.7 per cent in Austria and a fall of -2.5 per cent in Germany.

But even in the south of Europe, where employment fell across most major occupational groups, some exceptions existed for high skilled jobs. Even though the increase in employed professionals needs to be viewed with care due to possible classification issues, the numbers of *'legislators, senior officials and managers'* employed in Portugal and Spain also increased, and the number of *'technicians and associate professionals'* increased in Cyprus.

The better labour market prospects for the higher educated are to some extent consistent with the findings in a recent Eurofound study on the extent of employment polarisation in Europe during the crisis³⁴. It states that: *"Higher-paid jobs were much more resilient during the crisis, continuing to grow (albeit marginally) even during the peak periods of the Great Recession."* It goes on to explain that during the main period of the recession (2008-2010), it was public sector jobs in the knowledge-intensive services (particularly education and health) that sustained the growth, whereas in what it calls the 'Stalled Recovery' period (2011-2012) the private sector took the lead, again dominated by the knowledge-intensive services. Interestingly the report suggests that the representation of women in higher level jobs has improved. The combination of better prospects for the higher educated to find a job and their

increasing employment suggests that the higher educated are not only hired more often, but also they benefit from longer lasting jobs, although a full exploration of this development goes beyond the scope of this report.

Most hirings in elementary jobs with high turnover in south and east Europe

With the exception of France, all countries with above the EU average proportions of *'elementary occupations'* in hirings were in the east and south of Europe. In addition, the first three countries with below EU average numbers (but still closest to the EU average) were also in the east of Europe: Croatia, Poland and Romania (Chart 5.4). Apart from France, all countries in the north and west of Europe have lower proportions of hirings of elementary workers. The proportion of *'elementary occupations'* in hiring differed markedly from those in employee numbers (Chart 5.3a and b above). For example, in Austria, Belgium and Denmark the share of elementary jobs is above the EU average for employee numbers but below it for hiring (figures for 2012). In Greece, Hungary and Lithuania, the share of elementary jobs is below the EU average for employee numbers but above EU average for hiring. Following on from this, the ratio of elementary job hirings to the overall number of employees would be expected to be among the lowest in the first three countries (Austria, Belgium and Denmark) and among the highest in the last three (Greece, Hungary and Lithuania). In fact, after Sweden and Finland, Denmark had the highest hiring rate in the EU (see Chart 3.3 in Chapter 3) and this applied to all major occupational groups except managers. By contrast in Greece, the hiring rate was among the lowest for all major occupational groups after Romania and Slovakia. In fact, in all EU countries the hiring rate for elementary jobs is above the national average for all jobs. There are many possible reasons for this, including the incidence of temporary jobs, student jobs and seasonal jobs in tourism or agriculture, and the ease of terminating employment contracts.

Opportunities for skilled manual workers in east of Europe

The eleven countries with the highest proportions of skilled manual jobs rated according to hiring are all located in the east of Europe (except Portugal). Croatia is the only country in this part of Europe where the share of the hirings in skilled manual jobs is below the EU average. The explanation for this is quite straightforward as the high share of this occupational group in hirings fully reflects its corresponding high share in employee numbers. The hiring rate of skilled manual workers in the east of Europe is either at or below the EU average for this occupational group.

Non-manual skilled workers dominant in British and Irish hiring

The share of skilled non-manual jobs (consisting of *'clerks'* and *'service and sales workers'*) in hirings is highest in Croatia,

34 Eurofound (2013) Employment polarisation and job quality in the crisis: European

Jobs Monitor 2013 (Eurofound, Dublin) eurofound.europa.eu/pubdocs/2013/04/en/1/EF1304EN.pdf

Chart 5.4 Hiring by broad skills categories per country

Percentages of total hirings, 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Elementary = ISCO 9; Skilled manual = ISCO 6-8; Skilled non-manual = ISCO 4-5; High-skilled = ISCO 1-3

Ireland, Sweden and the United Kingdom. In Sweden this reflects the high job turnover in this occupational group. On an annual basis, the ratio of hirings to employees in non-manual skilled jobs in that country is over 60 per cent. In Croatia, Ireland and the United Kingdom these high shares reflect the high proportion of this occupational group in employment, both for 'clerks' and for 'service and sales workers'. The hirings rate is roughly at the EU average for this occupational group in Ireland and the United Kingdom, and actually below the EU average in Croatia.

Largest proportion of hirings in high-skilled jobs mostly in west of Europe

As with medium skilled jobs, the differences between countries in the proportion high-skilled in hirings reflect similar differences in employee numbers. The proportion of high-skilled jobs in the numbers of new people taken on by companies is highest (in descending order) in Luxembourg, Malta, Belgium, Ireland, Denmark, the United Kingdom, Germany, the Netherlands, Finland and Sweden (Chart 5.4).

For Luxembourg and Belgium, the high proportions of high-skilled jobs may be related to the nature of the employment generated by the European Institutions in these two countries. For Ireland and the United Kingdom, the high proportions are in line with the similar high proportion of tertiary educated people in these two countries.

For Germany, the high proportion of high-skilled jobs reflects the corresponding high proportion of 'technicians and associate professionals' in employee numbers which, together with Austria and France, is among the highest in Europe. The high proportion of this occupational group is related to the high proportion of employees with vocational qualifications in these three countries (further explored in Chapter 7). In the Netherlands, the proportion of all three high-skilled occupational groups ('legislators, senior officials and managers', 'professionals' and 'technicians and associate professionals') is relatively high compared to other countries.

5.3 Identifying the recent top growth occupations

The 'Top 25' occupations are calculated by comparing annual numbers of hirings per ISCO category for 2012 with annual numbers for 2011.

Occupations are ranked by absolute growth rather than percentage change to avoid the numerically smallest occupations always ending up on top, and to avoid the use of arbitrary minimum thresholds for selecting larger occupations. To provide a more comprehensive picture of the development in the demand for skills, this section presents the following 'Top 25' occupations.

- 1a. Growth in employment (where were increasing numbers of workers needed?)
- 1b. Growth in hirings (where were hirings increasing, including those to replace workers leaving employment?)
- 2a. Decline in employment
- 2b. Decline in hirings
3. Most recent hiring volumes (where was recruitment demand high, even, or increasing?)

In the charts four skills groups are distinguished. These are related to the major occupational groups as indicated in the table below:

Skills Level	Main occupational groups (ISCO 1 digit)
Highly skilled (HS)	Legislators, managers, professionals and technicians
Skilled non-manual (NM)	Clerks and service/sales workers
Skilled manual (M)	Agricultural, craft and trade workers, machine operators
Elementary (EL)	Labourers, elementary service/sales workers

Source: Cedefop

Significant numbers of professionals in top employee growth occupations

Although total employee numbers declined at the EU level in 2012, they increased for many high-skilled jobs and particularly for professionals (Chart 5.5). Out of the 25 occupations where employee numbers increased the most, 18 were in jobs that require high skills and 11 were occupations in the 'professionals' group. In Europe, there were just a few countries where professionals did not make a significant and positive contribution to employment change, most notably in Bulgaria where there was a shortage of high-skilled workers in several fields (see further Chapter 6). In contrast, in a few countries (Portugal in particular), occupations in the 'professionals' group were among the few that had growth in employee numbers in 2012.

Employee numbers increased across many occupational fields, but especially for those in **health** (with five occupations among the top growth of which two were in the 'professionals' group), and **teaching, engineering** and **administration** employees (each with three occupations among the top 25, including some in the 'professionals' group). As well as their 'sector specific' characteristics, the employee growth in various occupations within the fields of health, teaching and engineering, as well as ICT and finance, was the main reason to study developments in their respective broader fields in the next chapter.

Within the **health occupations**, 'personal care workers in health services' was the largest group with 4.5 million employees, an increase of over 100,000 between 2011 and 2012. Health occupations contributed to employee growth in 2012 in many countries in Europe, but particular countries saw increases in different health specialisms (see also Annex AC1.3):

- 'personal care workers in health services': Belgium, Greece, Italy and the Netherlands
- 'nursing and midwifery professionals': Croatia, the Czech Republic, Denmark, France, Malta and Portugal
- 'medical and pharmaceutical technicians': the United Kingdom
- 'other health associate professionals': Austria
- 'medical doctors': the Netherlands.

The most recent issues of the European Vacancy Monitor³⁵ indicate that employment in health may have reached its peak level in 2012 in most European countries. However, employment in 'personal care workers in health services' continued to grow in the first two quarters of 2013 in Denmark, Italy, Romania and above all in the United Kingdom, but 'nursing and midwifery professionals', 'nursing and midwifery associate professionals' and 'other health associate professionals' slipped from the 'Top 25' employee growth occupations in the second quarter of 2013.

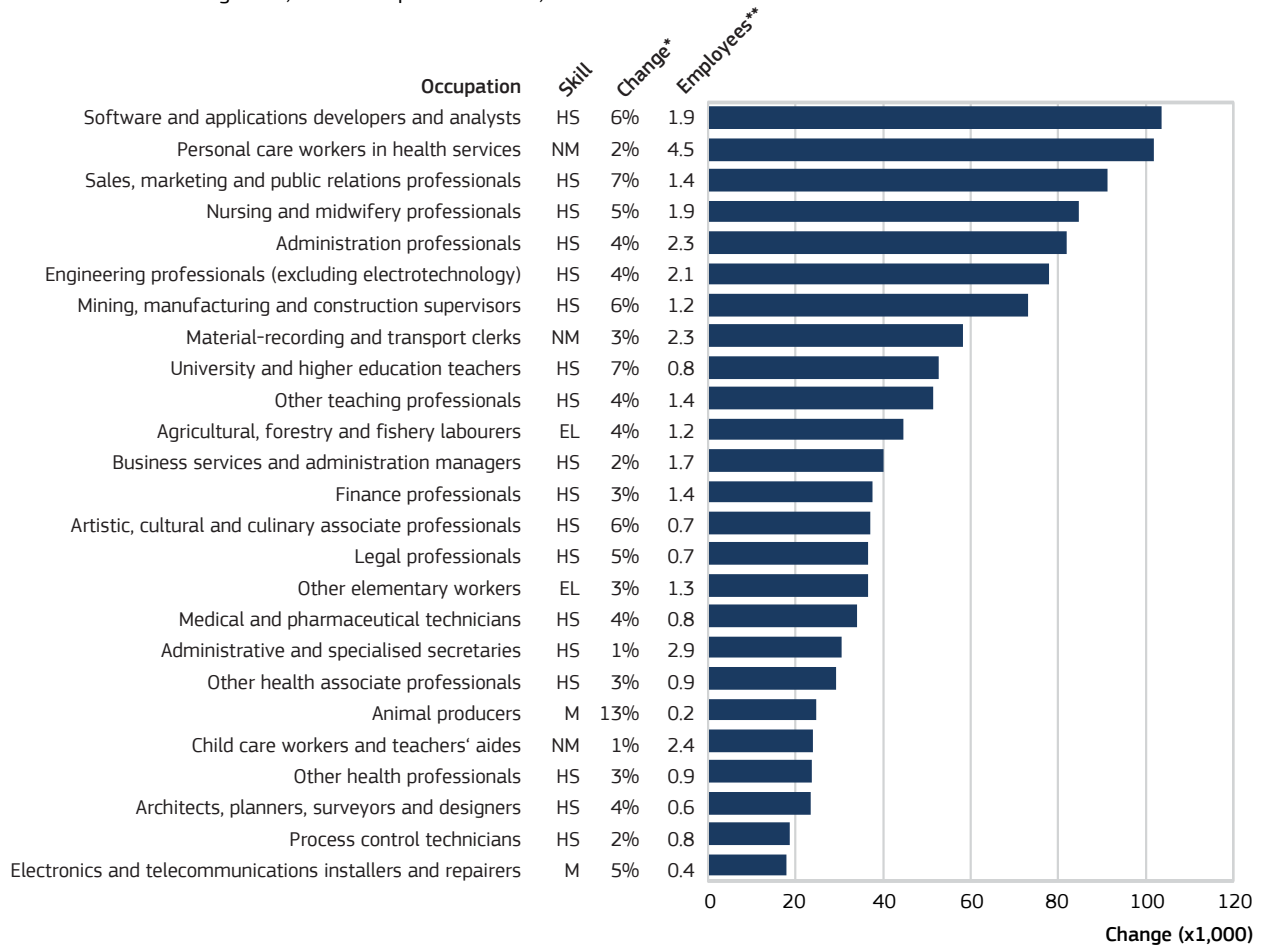
As will be discussed in greater detail in the next chapter, the number of employees in **teaching** increased for 'university and higher education teachers' and for 'other teaching professionals' outside the formal education system. In general terms, in 2012 the number of employees in teaching increased mostly in selected countries such as Denmark, Finland and Latvia, as summarised below:

- 'university and higher education teachers': Denmark, Estonia, Latvia and Portugal
- 'other teaching professionals': Denmark, Finland, Hungary and Slovenia
- 'child care workers and teachers' aides': Finland, France and Latvia.

³⁵ European Commission (2014), European Vacancy Monitor issue 12, page 13, ec.europa.eu/social/main.jsp?catId=955

Chart 5.5 The 25 occupations with the largest employee growth

Absolute growth, 2012 compared to 2011, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded due to changes in the coding of occupations in 2012.

Occupations by ISCO-08 on 3-digit level.

EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled non-manual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

* Percentage change of 2012 compared to 2011.

** Average number of employees in 2012, in millions.

According to the European Vacancy Monitor cited above, the number of teaching professionals still grew in the second quarter of 2013 in nine countries, including Poland and Spain.

Engineering staff were employed in greater numbers in 2012 in a large number of countries, but this occupational field was especially important for the development of employment in the Czech Republic, Finland, France and Italy, where several engineering occupations were in the 'Top 10' occupations for growth. The contribution of various engineering occupations to employment growth in 2012 in the Member States is summarised as follows:

- 'Engineering professionals (excluding electro-technology)': Austria, the Czech Republic, Finland, France and Romania
- 'Mining, manufacturing and construction supervisors': Belgium, Cyprus, the Czech Republic, Estonia, Finland, Italy, Poland, Portugal and Sweden
- 'Process control technicians': Finland, France and Italy.

However, employee developments in engineering vary from quarter to quarter and also between countries (more fully discussed in the next chapter). According to the European Vacancy Monitor, in the second quarter of 2013 year on year employee growth in engineering was greatest in Denmark, Poland, Spain, Sweden and the United Kingdom.

In **administration**, employee numbers increased in 2012 in many countries across Europe, but this field was particularly important for total employment growth in Austria, France, Ireland, Latvia, Luxembourg and Sweden, where several administrative occupations featured in the 'Top 10' growth occupations:

- 'Administration professionals': Austria, Croatia, Cyprus, Denmark, Greece, Ireland, Luxembourg, Latvia, Poland and Sweden

- *'Administrative and specialised secretaries'*: Austria, Finland, France, Luxembourg, Latvia, Malta, Portugal and Sweden
- *'Business services and administration managers'*: Belgium, France, Ireland, Malta, Sweden and the United Kingdom.

Employment of *'administrative and specialised secretaries'* and *'business services and administration managers'* continued to grow year on year in the second quarter of 2013, featuring in the 'Top 10' employee growth occupations of, respectively, five countries (the Czech Republic, Hungary, Luxembourg, Poland and the United Kingdom) and six countries (Austria, Belgium, Bulgaria, the Czech Republic, the Netherlands and Sweden).

ICT is represented in the top growth occupations with just one occupation - *'software and applications developers and analysts'*, but it has seen the biggest level of increase in the EU with over 100,000 more employees in 2012 compared to 2011. This occupation also featured in the 'Top 10' for nine northern European countries - Denmark, Estonia, Finland, France, Luxembourg, the Netherlands, Poland, Sweden and the United Kingdom. According to the European Vacancy Monitor, this occupation continued to lead the employee top growth chart in Europe in the first two quarters of 2013, in particular in Denmark, Finland and the Netherlands. The Czech Republic, Greece, Hungary and Italy also saw growth in software jobs, and, to a lesser extent, so too did Belgium, Ireland and Spain.

Other occupations from the *'professionals'* group with large increasing employee numbers ranked in the 'Top 25' and featured in the country 'Top10' were as follows:

- *'Sales, marketing and public relations professionals'*: in Austria, Belgium, Denmark, Finland, Greece, Hungary, Italy, Malta, Poland and Slovenia
- *'Finance professionals'*: in Austria, Luxembourg, Romania and Spain
- *'Legal professionals'*: in Estonia, Latvia, Luxembourg and Spain
- *'Architects, planners, surveyors and designers'*: in Estonia and Ireland.

In addition to the *'professionals'*, *'personal care workers in health services'* and *'child care workers and teachers' aides'* already discussed above, average employee numbers in 2012 increased by around 20,000 or more at EU level in two agricultural occupations (*'agricultural, forestry and fishery labourers'* and *'animal producers'*), *'material-recording and transport clerks'*, and *'electronics and telecommunications installers and repairers'*, and the non-specific group *'other elementary workers'*.

Seasonal workers led the top growth occupations in annual hirings during 2012

Five of the six occupations with the largest increases in hirings at the EU level in 2012 (Chart 5.6) also had significant numbers of seasonal workers, namely *'waiters and bartenders'*,

'domestic, hotel and office cleaners and helpers' and *'cooks'* (working in sectors such as tourism), *'shop salespersons'* (with demand increasing in the winter around Christmas and New Year) and *'agricultural, forestry and fishery labourers'* (particularly during harvesting). But *'agricultural, forestry and fishery labourers'* was the only one of these occupations where growth in hirings coincided with a significant growth in employee numbers. At EU level, hirings in *'agricultural, forestry and fishery labourers'* went up by 60,000 (or 6 per cent) to a total of 1.1 million, while employee numbers went up by 45,000 to an annual average of 1.2 million in 2012. The similarity of hirings and employee numbers indicates that a very high proportion of labourers in agriculture were seasonal workers.

In 2012 *'shop salespersons'* had over 2.4 million hirings, the largest number of all hirings for any occupation. In addition, between 2011 and 2012 hirings increased by 36,000 (or 1 per cent), though the number of employees remained stable at 7.6 million. Compared to the large number of employees in this sector overall, the modest increase during 2012 in hirings of *'shop salespersons'* is more or less in line with the annual variation, and so it does not represent a significant development for this occupation.

For the other four seasonal occupations with large increases in hirings in 2012, the increases in general do not suggest any sustained growth opportunities, as average employee numbers between the corresponding seasons of 2011 and 2012 fell in each case. Furthermore the reasons behind the negative relationship between employees and hirings in these occupations with a strong seasonal element are quite clear. For example, if the number of permanent staff was reduced to save on labour costs during the winter, then more workers would need to be hired in the summer. This would cause annual hirings to increase and yet average employee numbers would then decrease at the same time.

Hirings confirm 'top employee' growth of professionals

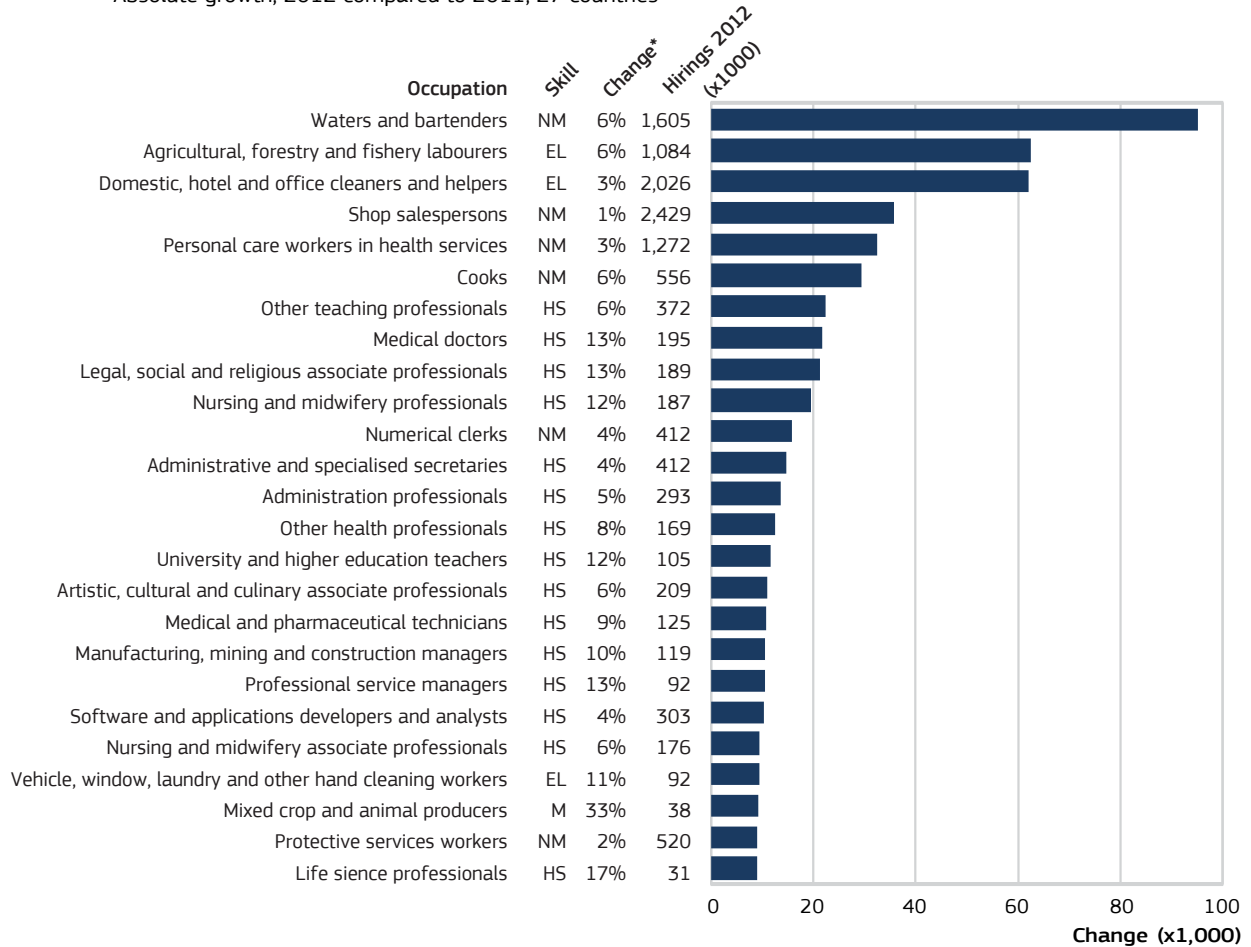
In the category of *'professionals'*, increases in hirings (Chart 5.6) generally confirm increases in employee numbers (Chart 5.5 above), in particular for the following occupations:

- Health: *'medical doctors'*, *'nursing and midwifery professionals'*, *'other health professionals'*, *'personal care workers in health services'* and *'medical and pharmaceutical technicians'*
- Administration: *'administration professionals'* and *'administrative and specialised secretaries'*
- Teaching: *'university and higher education teachers'* and *'other teaching professionals'*
- *'Software and applications developers and analysts'*
- *'Artistic, cultural and culinary associate professionals'*.

Two exceptions in the above fields were *'nursing and midwifery associate professionals'* where employee numbers decreased

Chart 5.6 The 25 occupations with the largest hiring growth

Absolute growth, 2012 compared to 2011, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded due to changes in the coding of occupations in 2012.

Occupations by ISCO08 on 3-digit level.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Job hirings are the total number of job hirings (sum of four quarters) in 2012.

EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled non-manual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

* Percentage change of 2012 compared to 2011.

despite an increase in hirings, and 'business services and administration managers' where employee numbers increased but hirings remained more or less the same between 2011 and 2012.

However, employee growth for the three engineering professions in the 'Top 25' (Chart 5.5 above) was not accompanied by an increase in hirings. The growth in employee numbers for 'finance professionals', 'legal professionals' and

'sales, marketing and public relations professionals' also did not have an increase in hiring. For each of these occupations, demand may have declined if fewer employees left their jobs in 2012. But falling hirings may also indicate greater success in retaining people resulting in less need to recruit new workers. Both are likely explanations so, overall, no definite conclusions can be drawn where developments in employee numbers and hirings moved in opposite directions.

Largest decreases in employees in various medium skilled jobs

Of the 25 occupations with the largest decreases in employee numbers in 2012 (Chart 5.7), 19 were medium skilled, of which 12 involved manual skills and 7 involved non-manual skills, all in different fields.

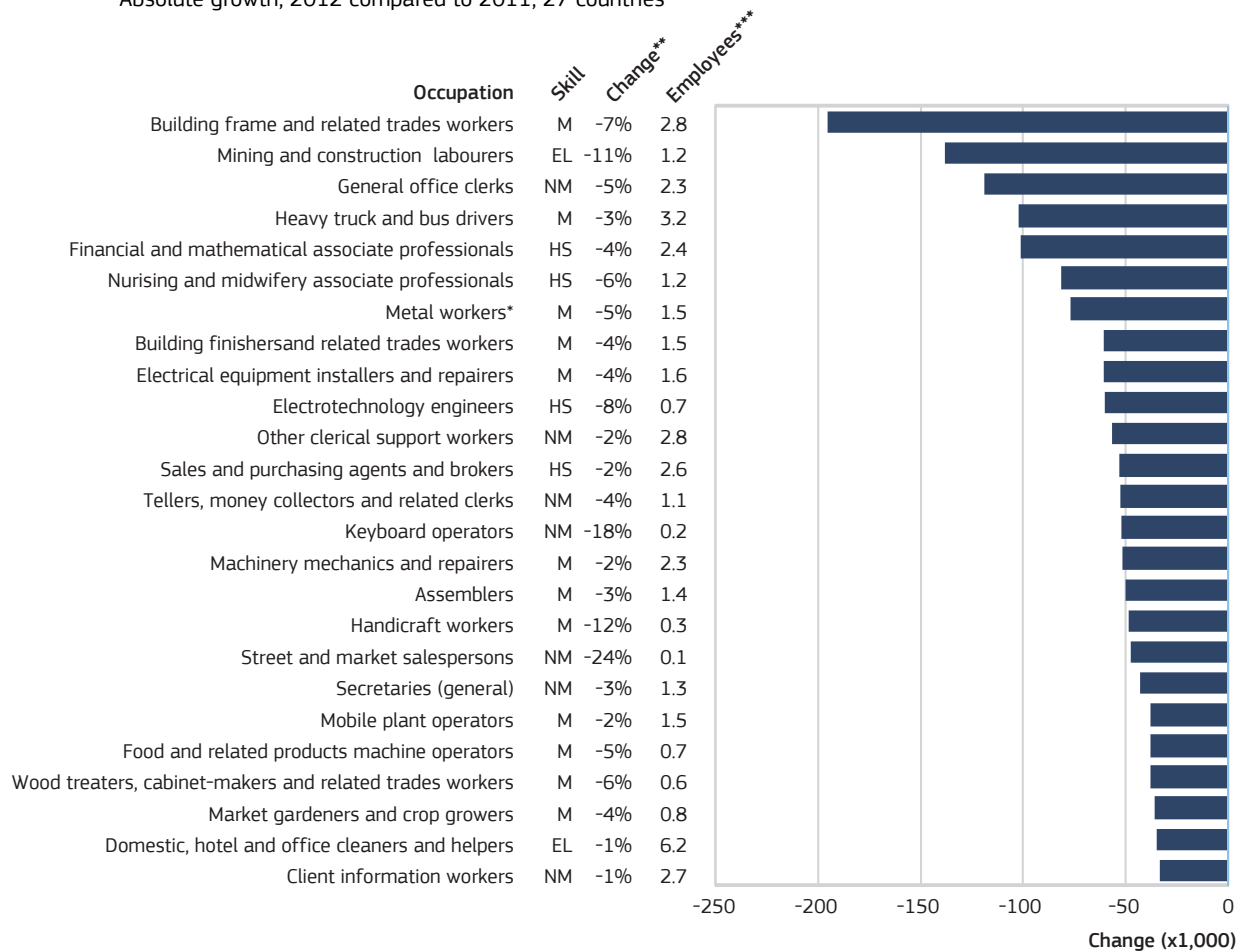
The sector particularly affected in 2012 at the EU level was building construction, with reduced numbers in the following occupations:

- 'building frame and related trades workers' (down by -195,000 employees)
- 'mining and construction labourers' (down by -138,000 employees)
- 'building finishers and related trades workers' (down by -61,000 employees).

In total the loss in construction amounted to 400,000 employees. The comparisons made here are for the average employee numbers over the four seasons of the year compared to the average for 2011, so the job losses were higher in

Chart 5.7 The 25 occupations with largest employee decline

Absolute growth, 2012 compared to 2011, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded due to changes in the coding of occupations in 2012.

Occupations by ISCO08 on 3-digit level.

EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled non-manual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

* Sheet and structural metal workers, moulders and welders, and related workers.

** Percentage change of 2012 compared to 2011.

** Average number of employees in 2012, in millions.

some seasons than in others. The building construction sector was adversely affected across most of southern Europe (Cyprus, Greece, Malta, Portugal and Spain) and impacted on a range of different occupations. There were also reductions in employment in many building-related occupations in some east European countries, including Bulgaria, Croatia, Estonia and Poland. In addition, the numbers of employees in *'building frame and related trades workers'* declined in Hungary, Italy and Sweden, and numbers of employees in *'mining and construction labourers'* fell in Slovakia and the United Kingdom.

Employee numbers also declined significantly in 2012 among various **clerical support workers of a general nature**, as opposed to, for example, specialised secretaries and medical assistants. Employees declined in the following occupations (number of employees less in brackets):

- *'general office clerks'* (-119,000)
- *'other clerical support workers'* (-57,000)
- *'tellers, money collectors and related clerks'* (-52,000)
- *'keyboard operators'* (-52,000)
- *'secretaries (general)'* (-43,000).

These five occupations combined amounted to a job loss of -323,000 employees in 2012. Many of these jobs lost were concentrated in Belgium with -48,000 fewer employees in *'general office clerks'* alone, but generalist clerks of various types were employed in smaller numbers in 2012 compared to 2011 in more than half of the EU countries. There are many reasons, often interrelated, why the demand for generalist clerks has fallen, suggesting that the fall in demand may be of a more permanent nature. Reasons include the automation of processes, the outsourcing to specialised administrative support companies, and the increasing skills requirements now needed by secretaries.

Two related manual occupations with large job losses were *'electrical equipment installers and repairers'* (in particular in Belgium, Spain and the United Kingdom) and *'machinery mechanics and repairers'* (in particular in Croatia, France, Italy the Netherlands, Poland and Sweden). Of these two, the former is generally more likely to be found in construction and *'machinery mechanics and repairers'* are more frequent in industry. Job losses amongst *'heavy truck and bus drivers'* mainly occurred in France, Ireland, Poland, Spain and the United Kingdom, while job losses amongst *'metal workers'* were mainly in Hungary, Italy and Romania. *'Assemblers'* suffered losses mainly in Portugal, Slovenia, and Sweden (and, to a lesser extent, Malta). Job losses in other skilled manual jobs were concentrated in one or two countries only.

Two occupations in the *'technicians and associate professionals'* group ranked among the 25 occupations with the largest decreases at the EU level in 2012, and in both cases this coincided with increases in the number of professionals they are likely to work with, namely *'nursing and midwifery associate professionals'* and *'financial and mathematical*

associate professionals'. This is striking in general and the contrast is even more extreme in some countries. In some countries, professionals even featured in the 'Top 10' for growth, while those working alongside professionals, in the 'associates' category, featured in the 'Top 10' of those with declining employee numbers, as summarised below:

- *'nursing and midwifery associate professionals'* – in Croatia, the Czech Republic, France, Malta and the Netherlands with *'nursing and midwifery professionals'* featuring in the 'Top 10' growth occupations and in Austria, Belgium, Greece and Slovenia although without these professionals featuring in the 'Top 10' growth occupations in those countries;
- *'financial and mathematical associate professionals'* in Belgium, Italy, Malta, the Netherlands, Poland, Romania, Slovakia and Slovenia, with *'finance professionals'* featuring in the 'Top 10' growth of Romania.

These opposite changes for nursing and midwifery at professional and at associate professional level cannot be explained by the change in ISCO because this change took place between 2010 and 2011 while the data refer to 2011-2012. Rather, this is a recent development that warrants further monitoring and analysis as there can be different reasons behind the opposite changes. For example, it could merely reflect a "correction" in the labour market if persons qualified as professionals have previously accepted jobs below their qualification level. But if, for example qualification requirements have changed, there may be a structurally higher need of *'nursing and midwifery professionals'* and nurses and midwives at associate level may need to be further trained. The same further monitoring and analysis is needed for financial and mathematical workers at professional and associate professional level.

In the *'professionals'* category, job losses occurred mostly for *'sales and purchasing agents and brokers'* (Denmark, Hungary, Italy, Poland and Sweden). Job losses among *'electrotechnology engineers'* can be attributed to the United Kingdom where employee numbers fell by -49,000 in 2012, and in Finland they also fell but to a much lesser extent.

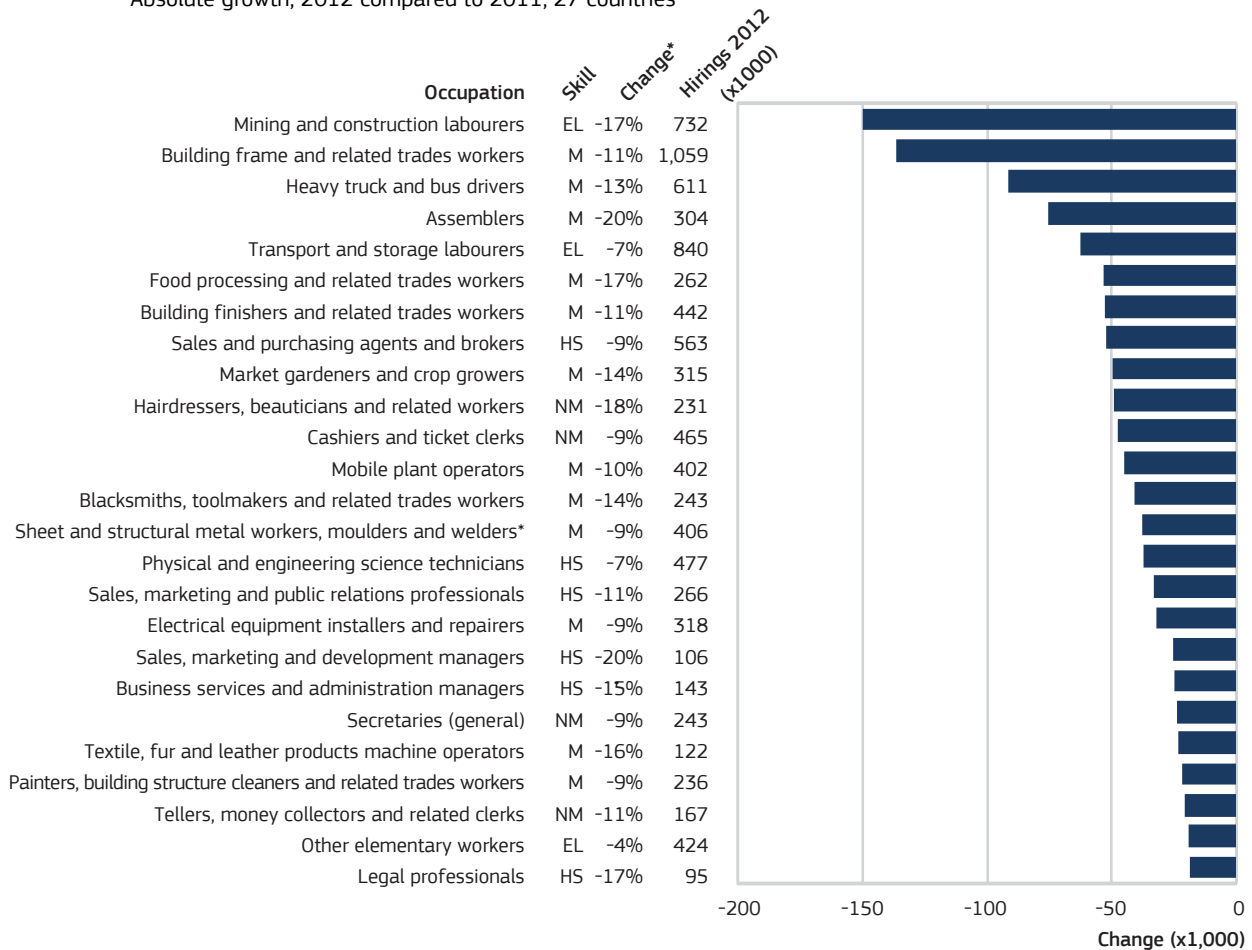
Largest falls in manual medium skilled and elementary jobs

For eleven occupations among the 25 with the largest decreases in hirings in 2012 (Chart 5.8), the fall in demand was consistent with the negative change in employees (Chart 5.7 above). Eight of these occupations are normally associated with manual medium skills, and two with non-manual medium skills.

The most significant reductions in hirings were in occupations related to the **construction of buildings**: *'mining and construction labourers'*, *'building frame and related trades workers'*, and *'building finishers and related trades workers'*, confirming the reductions in employee numbers. The decline in hirings of *'painters, building structure cleaners and related*

Chart 5.8 The 25 occupations with the largest hiring decline

Absolute growth, 2012 compared to 2011, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded due to changes in the coding of occupations in 2012.

Occupations by ISCO08 on 3-digit level.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Job hirings are the total number of job hirings (sum of four quarters) in 2012.

EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled non-manual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

* Sheet and structural metal workers, moulders and welders, and related workers.

trades workers' also coincided with declining employees in that occupation. Also certain **driving skills** were less in demand in 2012 according to both hiring volumes and employee numbers, both for *'heavy truck and bus drivers'* and for *'mobile plant operators'*. The same applies for *'assemblers'*, *'market gardeners and crop growers'*, *'metal workers'* and *'electrical equipment installers and repairers'*.

Apart from the eight manual medium skilled jobs, three further occupations: *'secretaries (general)'*, *'tellers, money collectors and related clerks'* and *'other elementary workers'* were among the 25 occupations which experienced the largest declines in employee numbers alongside reductions in hirings.

Four occupations featuring among the 25 with largest decreases in hirings also appear among the 'Top 25' in

employee growth, all in the *'professionals'* category. These are *'sales and purchasing agents and brokers'*, *'sales, marketing and public relations professionals'*, *'business services and administration professionals'* and *'legal professionals'*. As discussed above, a combination of increasing employees and decreasing hirings generally indicates that fewer employees left their job.

Medium and low skilled jobs dominant in hiring volumes

Out of the 25 occupations with the biggest hiring volumes in 2012, 22 were low and medium skilled jobs (Chart 5.9). These occupations offered many job opportunities even if there were fewer of them than in 2011. This is particularly so for certain jobs in construction (ranking 5th, 11th and 21st in

hiring volumes), transportation (ranking 7th, 12th and 14th in hiring volumes), generalist secretaries (ranking 15th and 24th), as well as for 'client information workers' and 'sales and purchasing agents and brokers'.

Out of these 'Top 25' occupations with the highest hiring volumes, two stand out as having more sustained growth opportunities indicated by coincident increases in employees and hirings. These are as follows:

- 'personal care workers in health services'
- 'administrative and specialised secretaries'.

For 'personal care in health services' the countries with the largest volumes of hirings in 2012 were generally in the north of Europe, confirming employee growth in the field of healthcare in Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Sweden and the United Kingdom (see also the next chapter). Large hiring volumes of 'administrative and specialised secretaries' were largely concentrated in just a few countries (Austria, Germany and Sweden). More detailed statistics on individual occupations with large hiring volumes is in Annex AC.2.

Chart 5.9 Top 25 occupations with most hirings in 2012

Ranking 2012	Occupations (ISCO-08, 3-digit level)	Skills level	2012 job hirings	Employee y-o-y change*	Hirings y-o-y change*
1	Shop salespersons	NM	3.050.400	=	↑
2	Domestic, hotel and office cleaners and helpers	EL	2.387.800	=	↑
3	Waiters and bartenders	NM	1.861.300	=	↑
4	Personal care workers in health services	NM	1.421.300	↑	↑
5	Building frame and related trades workers	M	1.196.500	↓	↓
6	Agricultural, forestry and fishery labourers	EL	1.161.700	↑	↑
7	Transport and storage labourers	EL	1.124.900	=	↓
8	Manufacturing labourers	EL	940.100	=	↓
9	Client information workers	NM	919.200	↓	↓
10	Child care workers and teachers' aides	NM	825.100	↑	=
11	Mining and construction labourers	EL	804.600	↓	↓
12	Material-recording and transport clerks	NM	792.200	↑	↓
13	Food preparation assistants	EL	788.200	↑	=
14	Heavy truck and bus drivers	M	784.100	↓	↓
15	Other clerical support workers	NM	694.200	↓	=
16	Cooks	NM	668.100	=	↑
17	Physical and engineering science technicians	HS	647.200	=	↓
18	Sales and purchasing agents and brokers	HS	610.800	↓	↓
19	Protective services workers	NM	590.100	=	↑
20	Administrative and specialised secretaries	HS	557.900	↑	↑
21	Building finishers and related trades workers	M	552.100	↓	↓
22	Cashiers and ticket clerks	NM	530.600	↑	↓
23	Machinery mechanics and repairers	M	512.900	↓	↓
24	Secretaries (general)	NM	507.100	↓	↓
25	Other elementary workers	EL	506.300	↑	↓
Total top 25			24.434.700		
Total			42.540.000		

Source: Eurostat, Labour Force Survey - own calculations

* "=" change > -1% and ≤ +1%; ↑ increase ≥ +1%; ↓ decrease < -1%.

Germany is excluded from the y-o-y changes due to a change of ISCO coding between 2011 and 2012.

Job hirings are the total number of job hirings (sum of four quarters) in 2012.

HS = high-skilled (ISCO 1-3); NM = Skilled non-manual (ISCO 4-5); M = Skilled manual (ISCO 6-8);

EL = Elementary (ISCO 9).

For the third occupation with both increasing employee numbers and hirings in 2012, *'agricultural, forestry and fishery labourers'*, it has already been mentioned that almost all hirings take place around the same time each year. In 2012 the largest volumes of these workers were hired in the south of Europe, especially in Greece, Italy, Portugal and Spain, and also in Bulgaria and Latvia.

5.4 Conclusions

Hirings of *'professionals'*, *'service and sales workers'* and *'elementary occupations'* recovered from the crisis but for different reasons:

- for *'professionals'*, growth in hirings reflected the growth in employee numbers which generally coincided with the supply of qualified workers aged 25-34, mostly in the west of Europe;
- for *'service and sales workers'*, growth in hirings reflected the general availability of jobs, particularly in health and administration across Europe;
- for *'elementary occupations'* job turnover seems the most relevant factor, particularly in countries where the crisis was deep (Greece, Portugal, and Spain) or prolonged (the Netherlands).

In specific occupations, the recent top increases of employees (2011-2012) were within the *'professionals'* category, mostly in health, engineering, administration, teaching ICT and sales. Employee growth in health, administration and ICT was consistent with increases in hirings for the same occupations. However, hirings of *'sales, marketing and public relations professionals'* and various types of engineering professionals fell in 2012 despite increasing employee numbers, which could be the result of falling replacement demand.

The strongest recent falls in hirings were for *'legislators, senior officials and managers'*, *'craft and related trades workers'* and *'plant and machine operators and assemblers'*, again for different reasons:

- for *'legislators, senior officials and managers'*, part of the reason is that employers retained these workers to avoid the need to hire new staff when the economy improves ('labour hoarding');
- for the two skilled manual occupations the decline in hirings was related to the fall in employee numbers in construction (-17 per cent) and industry (-10 per cent).

Particularly in the construction of buildings, the numbers of employees and hirings fell, most of all in the south of Europe and in some east European countries (Bulgaria, Croatia, Estonia and Poland). Employee and hiring numbers also fell significantly among generalist secretaries (in particular in Belgium), as well as in jobs requiring driving skills (*'heavy truck and bus drivers'* mostly in the larger countries and *'mobile plant operators'*). However, despite the large fall in employees and hirings, large numbers of workers were still recruited into jobs related to the construction of buildings (2.6 million hirings in 2012 combined).

Occupations with over 1.5 million hirings in 2012 were *'shop salespersons'* (3.1 million), *'domestic, hotel and office cleaners and helpers'* (2.4 million) and *'waiters and bartenders'* (1.9 million), each with some degree of seasonal demand. Because of their relatively high hiring volumes, these occupations offer many opportunities for jobseekers despite their slightly falling numbers.

The following three occupations combined top hiring volumes with top recent increases (2011-2012) in both employees and hirings:

- *'agricultural, forestry and fishery labourers'* (1.2 million hirings)
- *'personal care workers in health services'* (1.4 million)
- *'administrative and specialised secretaries'* (0.6 million).

For *'agricultural, forestry and fishery labourers'*, most are seasonal workers that need to be recruited each year even if permanent staff is reduced, particularly in the south of Europe. The substantial hiring volumes in the latter two occupations underline the importance of skilled workers in health and administration, in particular in northern Europe.

6 Trend in demand for selected occupational fields

6.1 Introduction

Developments in employee numbers for selected occupational fields are the principal issues covered in this chapter. Drawing on a range of research sources³⁶, a number of occupational groups are identified as having significant future employment potential:

- Healthcare;
- ICT;
- Engineering;
- Teaching;
- Finance.

The main developments in employee numbers for each country are presented and the chapter focuses on the key features of employment³⁷ in these occupational fields and their implications for hirings.

Due to changes in the ISCO classification of occupations between 2010 and 2011, employee numbers in 2012 cannot be reliably compared with those for 2008 at this detailed occupational (3-digit) level and so changes in the periods 2008-2010 and 2011-2012 are analysed separately. It is also important to note that LFS data by detailed occupational groups can vary between countries³⁸. One consequence of this is that for period 2008-2010, all the detailed occupations in ICT and finance cannot be included for all countries (see footnotes of the charts for more information). For Germany, the classification of occupations into ISCO also changed between 2011 and 2012, so the growth there in 2008-2010, and the absolute numbers in 2012, can be presented, but not the growth between 2011 and 2012.

6.2 Healthcare

Increasing or recovering employment in healthcare in 2012 compared to 2008-2010

Healthcare was one of the few occupational fields where employee numbers increased in both 2008-2010 and 2011-2012 at the EU level, although growth slowed down from 1.9 per cent per annum before 2011 to 1.5 per cent in 2012 (Chart 6.1a and b). In the earlier period, employee numbers in this field fell in seven countries and in 2012 in eight countries. Combining both periods, employee numbers increased strongest in both periods in Croatia and the smaller countries of Cyprus, Luxembourg and Malta, and it decreased strongest in both periods in Bulgaria. The table below summarises the developments in healthcare in 27 countries (excluding Germany, see above):

	Growth 2011-2012	Decline 2011-2012
Growth 2008-2010	Austria, Belgium, Croatia, Cyprus, Estonia, France, Ireland, Luxembourg, Malta, the Netherlands, Poland, the United Kingdom	the Czech Republic, Denmark, Greece, Hungary, Portugal, Romania, Slovenia, Spain
Decline 2008-2012	Finland, Italy, Latvia, Lithuania, Slovakia	Bulgaria, Sweden

In 2012 employees in healthcare occupations were distributed among the following occupations:

- *'Health professionals'* including *'nursing and midwifery professionals'* (2.0 million employees in total) and *'other health professionals'* specialists such as doctors, pharmacists and dentists (1.3 million in total).
- *'Modern health associate professionals'* including *'nursing and midwifery associate professionals'* (2.5 million), *'medical and pharmaceutical technicians'* (1.1 million) and *'other health associate professionals'* including such specialists as physiotherapists, dieticians and opticians (1.7 million).
- *'Personal care and related workers'* in health services (4.8 million), child care workers and teachers' aides (2.5 million combined).

Taken together, these three occupational groups added up to 17.1 million healthcare employees in 2012 in all 28 EU Member States – or 9 per cent of all employees. In 2012, the proportion of healthcare employees in individual countries ranged from lows of 4 per cent in Cyprus and 5 per cent in Bulgaria, Poland and Slovenia, to highs of 14 per cent in Denmark and Finland and even 17 per cent in Sweden.

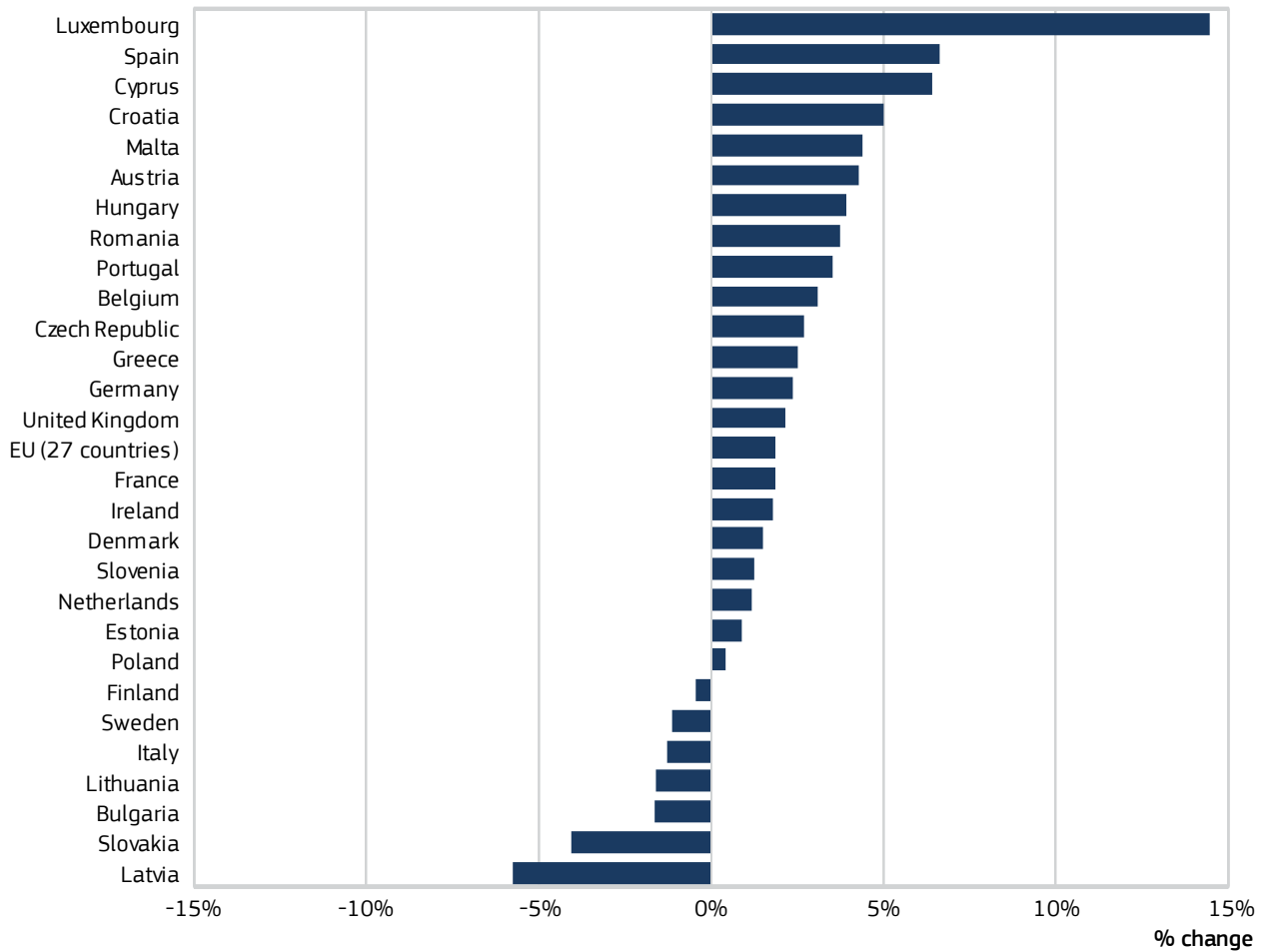
³⁶ E.g., EVRR 2012 and the results from the previous chapter

³⁷ As the focus of this report is on recruitment demand, developments in employee numbers rather than employment are used, but it is recognised that for some professionals in the above fields, self-employment is common in many countries.

³⁸ For Germany, the classification of occupations into ISCO also changed between 2011 and 2012, so for this country growth in 2008-2010 and absolute numbers in 2012 can be presented, but not the growth between 2011 and 2012.

Chart 6.1a Development in healthcare before 2011

Percentages, annual averages 2008-2010, employees in healthcare occupations (ISCO-88), 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

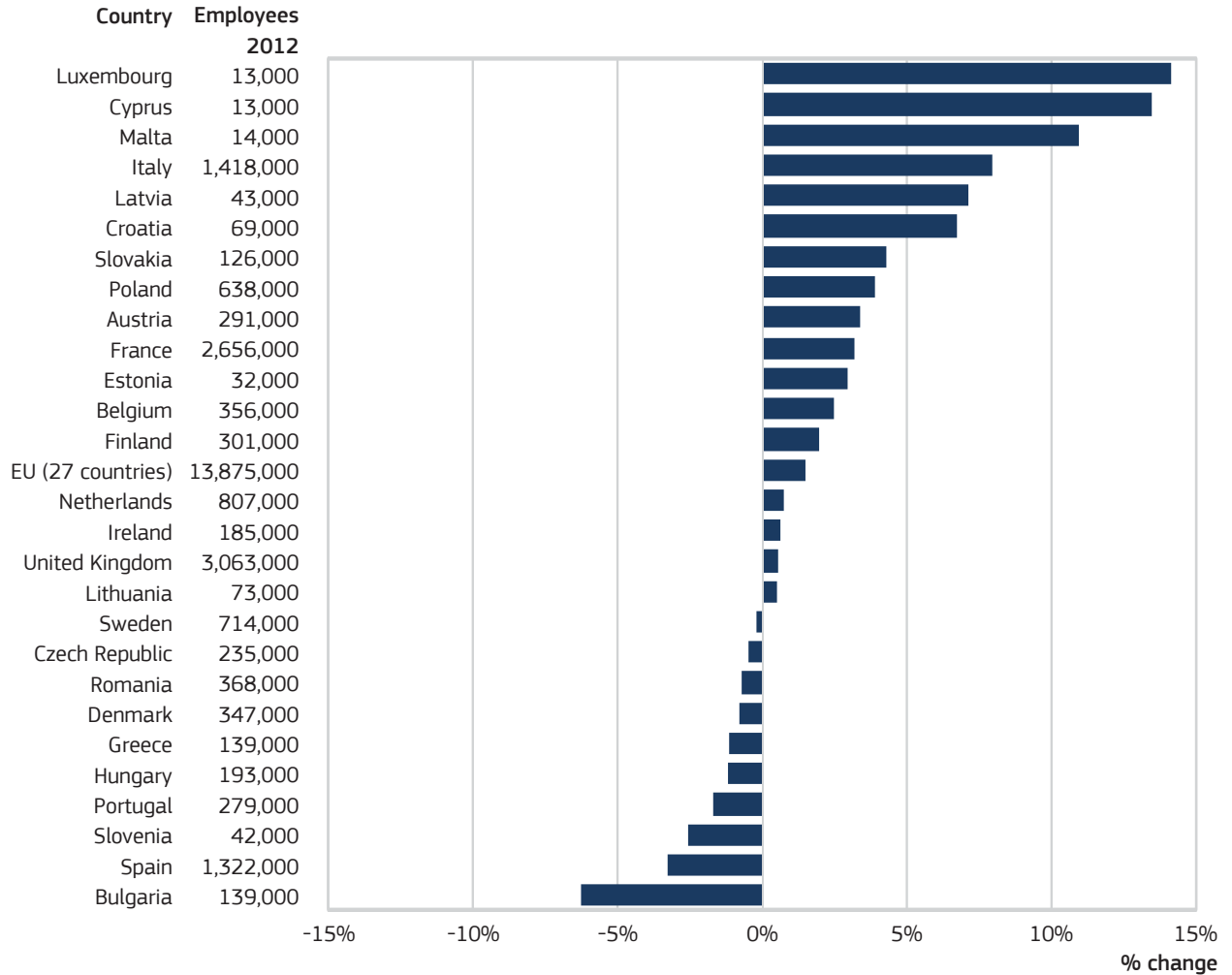
Germany is excluded from the EU total for reasons of comparability with chart 6.1b.

Occupations include (ISCO-88 codes in brackets):

- Health professionals (222, 223).
- Health associate professionals (322, 323).
- Personal care and related workers (513).

Chart 6.1b Development in healthcare after 2011

Percentages, 2012 compared to 2011, employees in healthcare occupations (ISCO-08), 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany (3,279,000 employees in health occupations in 2012) is excluded due to coding changes between 2011 and 2012.

Occupations included are (ISCO-08 codes in brackets):

- Health professionals (22).
- Health associate professionals (32).
- Personal care and related workers (53).

Work in healthcare: a-typical working hours are typical

In healthcare a-typical working hours are generally considered unavoidable, in particular night work and work during the weekends, and this is reflected in regulations and collective agreements.³⁹ In many countries the weekly working time at night is limited by law, and given the general preference of working at the same period of the day rather than shifting periods of the day, this in turn implies that part-time work in healthcare is partly unavoidable. Women working part-time in healthcare are particularly common in the Nordic countries (as well as the Netherlands and Norway). However, in Denmark women in healthcare also prefer part-time work according to this study, and in the Netherlands part-time work is generally voluntary (see also Chapter 3 of this report). Nevertheless, part-time work has a number of potential drawbacks (as discussed in Chapter 3) such as lower coverage of social security and old-age pensions.

Fewer hirings in healthcare despite job growth

Despite the overall increase in the numbers of healthcare employees between 2008 and 2012, hirings declined in all occupational groups except *'nursing and midwifery associate professionals'*. This suggests that the sector had a higher retention of workers before 2010, probably due to fewer job opportunities elsewhere thereby reducing the incidence of employees leaving voluntarily. Hirings also increased for *'nursing and midwifery associate professionals'* between 2011 and 2012, and also for *'other health professionals'* reflecting increased demand. In the healthcare occupations combined, hirings increased most strongly in the United Kingdom (up by 17 per cent) and decreased most strongly in Spain (-19 per cent). The decline in hirings in Spain reflected the overall decline in employees in 2012, while in the United Kingdom the increase in hirings appears largely to have reflected increasing replacement demand since the number of healthcare employees there increased by only 0.6 per cent in 2012.

Healthcare workers in Bulgaria and the north of Europe ageing

With growing demand for healthcare workers in the EU, the age structure of the national workforces in the sector becomes an important determinant in the scale and timing of this demand. Older workers leaving the labour market need to be replaced but this is additional to any recruitment needed to expand employment. In the EU as a whole, in 2012 older workers aged 50–64 years old represented around 28 per cent of total employees in the field of healthcare, but 33 per cent or above in Bulgaria, Finland, Sweden and the three Baltic countries, as shown in the box below, reaching up to 42 per cent in Lithuania and 47 per cent in Bulgaria.

Proportions of older employees aged 50–64 in healthcare occupations in 2012

Significantly lower than EU average (<23%)	Malta (20), Austria (21), Greece (21), Romania (21)
Close to EU average (≥ 23% and <33%)	Luxembourg (24), the Czech Republic (24), Slovenia (24), Germany (25), Portugal (25), the United Kingdom (27), Hungary (27), Ireland (27), Belgium (27), Cyprus (28), France (29), the Netherlands (29), Slovakia (29), Poland (30), Spain (31), Denmark (31), Italy (31)
Significantly greater than EU average (≥ 33%)	Sweden (33), Finland (33), Latvia (35), Estonia (36), Lithuania (42), Bulgaria (47)

For most countries, in 2012 the proportion of older workers in *'health professionals'* was similar to that of total healthcare employees, except in Italy where the proportion was 48 per cent for health professionals compared to 31 per cent for total healthcare employees. This suggests that Bulgaria and Italy in particular face the biggest challenges in meeting future demand for *'health professionals'* particularly when it comes to replacement demand needs.

In Bulgaria and Sweden the high proportions of older workers coincided with a prolonged decline in employee numbers between 2008–2010 and 2011–2012. In the case of Bulgaria, this may be indicative of a shortage of (young) qualified healthcare workers due to Bulgarian workers seeking employment abroad. A recent Eurofound paper confirmed for Bulgaria and Romania in particular a risk of shortages among healthcare employees due to migration (with Germany, Italy and the United Kingdom being the main destination countries).⁴⁰

6.3 Information and communication technologies

Growth of ICT employee numbers accelerated in 2012 compared to 2008–2010

In the EU28 employee numbers also increased in the ICT occupational field in both periods (2008–2010 and 2011–2012), with a significant growth of 1.4 per cent per year between 2008 and 2010, accelerating to 3.5 per cent in 2012 (Chart 6.2a and b). However, while there was overall growth at the EU level, employee numbers in ICT fell in eleven countries over the period 2008 to 2010, but by 2012 this applied in just six countries. Growth was significant and sustained in Belgium, Estonia, Hungary, Ireland, Luxembourg and Portugal. The table below summarises the development for 27 countries (Germany is not included):

³⁹ Eurofound (2010), Comparative analysis of working time in the European Union, page 18, ec.europa.eu/social/BlobServlet?docId=6417&langId=en

⁴⁰ Eurofound (2013), Mobility and migration of health care workers in the east of Europe, eurofound.europa.eu/pubdocs/2013/35/en/1/EF1335EN.pdf.

	Growth 2011-2012	Decline 2011-2012
Growth 2008-2010	Austria, Belgium, Estonia, France, Hungary, Ireland, Luxembourg, Portugal, Sweden, Italy, the United Kingdom	Croatia, the Czech Republic, Greece, Slovakia, Spain
Decline 2008-2012	Bulgaria, Cyprus, Denmark, Finland, Lithuania, Malta, the Netherlands, Poland, Romania	Latvia, Slovenia

In this field a small number of occupations accounted for large numbers of employees (total 2012 EU employees in brackets):

- 'ICT managers' (0.2 million)
- 'ICT professionals' such as 'software and applications developers' (2.4 million) and 'applications developers and analysts' (0.5 million)
- 'ICT technicians' such as 'ICT operations and user support technicians' (1.2 million) and 'telecommunications and broadcasting technicians'; (0.3 million).

These three occupational groups, combined together, accounted for 4.4 million employees in the ICT field in 2012, equivalent to 2.0 per cent of all employees in the EU. This figure excludes the self-employed of which another 680,000 were working in the ICT field. The figure also excludes ICT intensive workers who use ICT software in their daily work, such as planners, researchers and designers. According to the OECD, in its member countries ICT intensive workers account for another 20 per cent of all workers.⁴¹

In 2012, the proportion of ICT employees in individual countries ranged from 1.3 per cent in Greece, Lithuania and Romania to 3.3 per cent in Belgium and Ireland, 3.7 per cent in Luxembourg, 3.8 per cent in the United Kingdom to the highest levels of 4.2 per cent in Finland and 4.3 per cent in Sweden. In general, countries in the east and south of Europe had proportions of ICT employees below the EU average, though with some exceptions (the Czech Republic, Estonia, Hungary, Malta, Slovenia and Spain).

Decreasing hirings in ICT signal lower job turnover

Despite the growth in employee numbers, hirings in the ICT field declined in both periods 2008-2010 and 2012 indicating decreasing job turnover, which could be either due to new developments in the sector or due to poorer labour market conditions in general causing fewer employees to leave their job, or a combination of both.

Young ICT workers in the east of Europe

ICT employees had only a slightly younger age profile than for all occupations (22 per cent compared to 21 per cent), as measured by the proportion of workers aged 15-29. However, on the basis that tertiary educated workers start their careers at a later age, it is perhaps more relevant to compare them with tertiary educated employees where the proportion of workers aged 15-29 was 18 per cent. Eight countries, mostly in the east of Europe, had significantly higher proportions of young ICT staff (see box below).

Proportion of young employees aged 15-29 in ICT occupations in 2012

Significantly above EU average (≥ 33%)	Latvia (48), Malta (45), Estonia (40), Bulgaria (36), Slovakia (36), Cyprus (33), Romania (33), Poland (33)
Not far above EU average (≥ 22% and < 33%)	Austria (31), Lithuania (29), Hungary (27), the Czech Republic (25), Portugal (24), Croatia (23), Germany (22)
Below EU average (<22%)	The United Kingdom (21), France (21), Spain (21), Belgium (20), Greece (20), the Netherlands (19), Ireland (18), Finland (17), Sweden (17), Slovenia (16), Denmark (16), Italy (13), Luxembourg (13)

The combined high proportion of young workers and the low proportion of ICT occupations in national employee totals in newer Member States suggest that the ICT sector in these countries is in an earlier stage of growth. The supply of ICT educated workers is also rapidly catching up with the older Member States. In the EU, the proportion of tertiary educated students in ICT education declined from 5 per cent in 2004 to 4 per cent in 2011, but the proportion increased in Bulgaria, Croatia, the Czech Republic, Estonia, Greece and Poland, according to the available Eurostat data.⁴²

Few women in ICT

An important characteristic of ICT is also the low proportion of women working in the sector. As reported in the European Vacancy Monitor, the proportion of women in ICT occupations was less than one in five, though their proportion was just over 30 per cent in Bulgaria and Romania.⁴³ To tackle the potential threat of shortages of ICT staff, the European Commission, under its Digital Agenda for Europe, called for action to encourage more young people to follow relevant studies and in particular to encourage more females into ICT.⁴⁴

41 OECD (2012) 'ICT skills and employment: New competences and jobs for a greener and smarter economy' (OECD Digital Economy Papers No 198), oecd-ilibrary.org/science-and-technology/ict-skills-and-employment_5k994f3prlr5-en

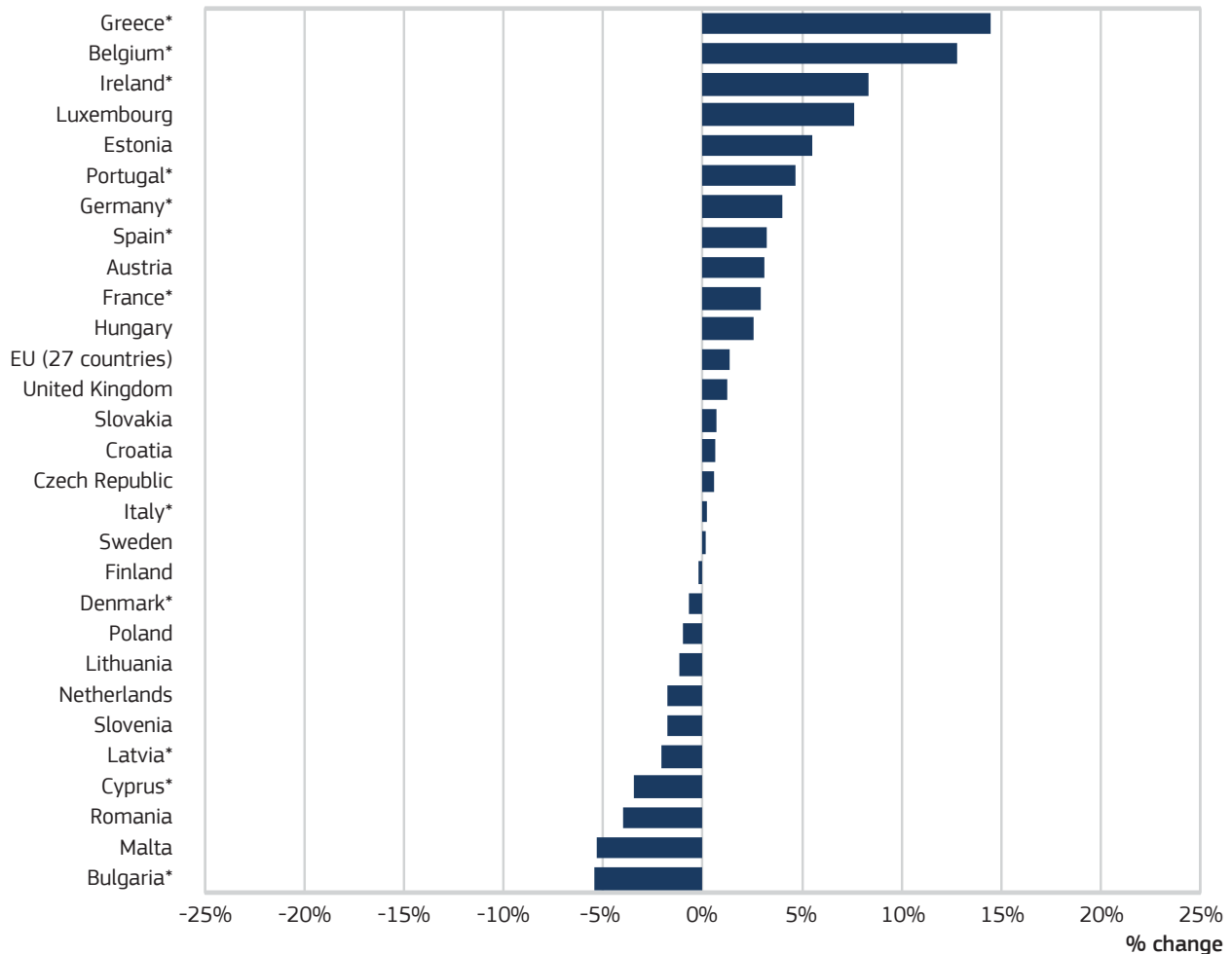
42 epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home

43 European Commission (2013), European Vacancy Monitor, issue 11, page 24, ec.europa.eu/social/main.jsp?catId=955

44 European Commission (2013) 'Women in ICT' (Digital Agenda for Europe), ec.europa.eu/digital-agenda/en/women-ict

Chart 6.2a Development in ICT before 2011

Percentages, annual average 2008-2010, employees in ICT occupations (ISCO-88), 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded from the EU total for reasons of comparability with chart 6.2b.

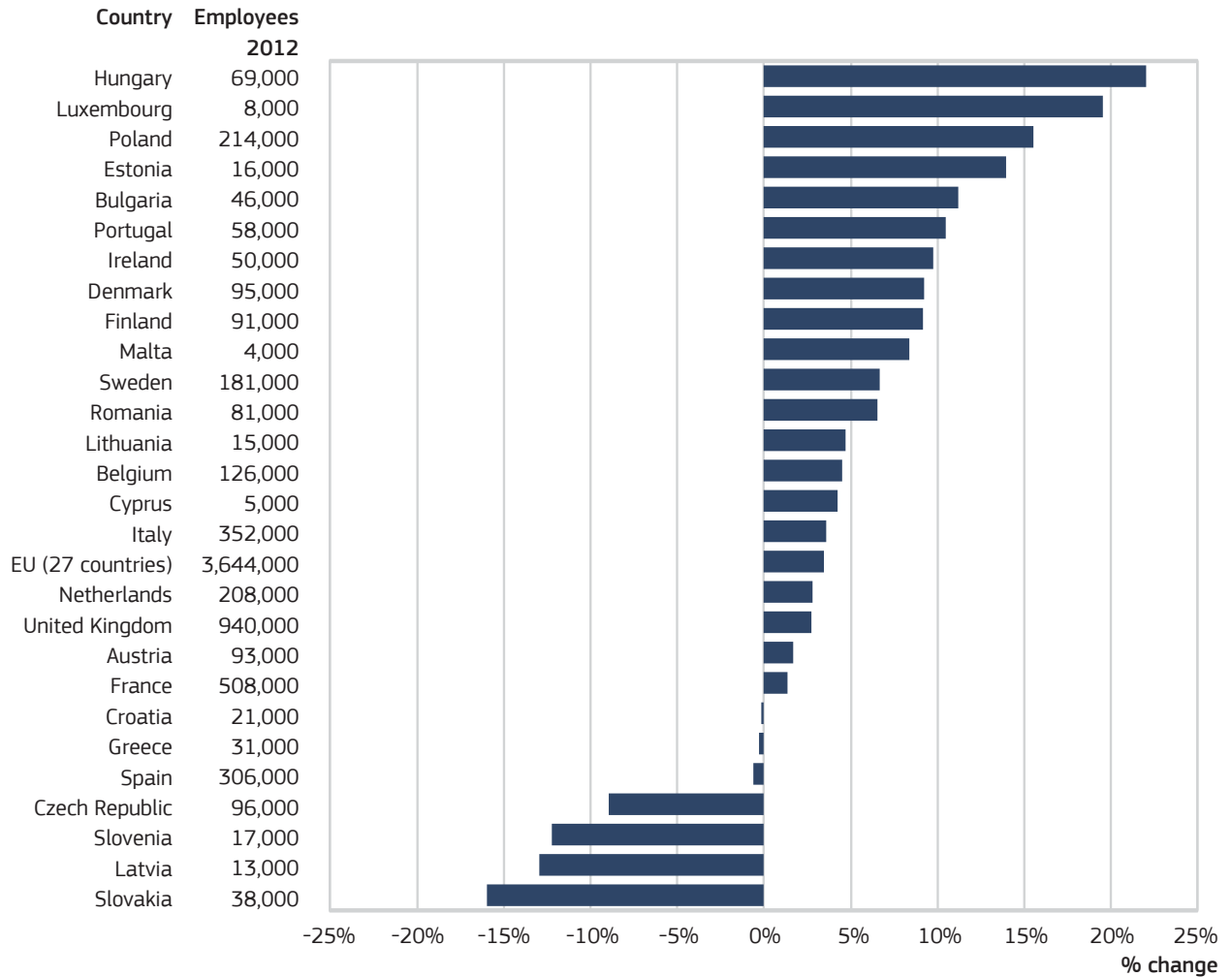
Occupations include (ISCO-88 codes in brackets):

- ICT managers (1236).
- ICT professionals (213).
- ICT technicians (3114, 312, 3132).

* For Belgium, Bulgaria, Cyprus, Denmark, France, Germany, Greece, Ireland, Italy, Latvia, Portugal and Spain no four-digit codes were available for 2008-2010. For these 12 countries 2008-2010 data relate to 213 (ICT professionals) and 312 (computer technicians) and do not include 1236 (ICT managers) and 3114 and 3132 (telecommunications technicians).

Chart 6.2b Development in ICT after 2011

Percentages, 2012 compared to 2011, employees in ICT occupations (ISCO-08), 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany (787,000 employees in ICT in 2012) is excluded due to coding changes between 2011 and 2012.

Occupations include (ISCO-08 codes in brackets):

- ICT managers (133)
- ICT professionals (251, 252).
- ICT technicians (32).

6.4 Engineering

Increase in engineers in 2012 reflected recovery from 2008-2010

Employment in engineering in the EU28 fell in 2008-2010, implying that the modest growth in 2012 (for 27 EU countries) could be interpreted as a partial recovery. Employee numbers in engineering occupations consistently increased in both 2008-2010 and in 2012 only in Cyprus, the Czech Republic, Finland, Luxembourg and Poland (Chart 6.3a and b). In Austria, employee numbers grew by 13 per cent in 2012 which more than made up for the small job losses in 2008-2010. Combined, both periods indicate that fewer people were employed in engineering occupations in 2012 than in 2008, which was consistent with declining numbers in industry and construction (Chapter 5). Engineering was particularly hard hit in the period 2008-2010 in Bulgaria, Ireland, Latvia and Lithuania, with numbers continuing to decrease in Bulgaria in 2012. The table below summarises developments for 27 countries (excluding Germany):

	Growth 2011-2012	Decline 2011-2012
Growth 2008-2010	Cyprus, the Czech Republic, Finland, Luxembourg, Poland	Portugal
Decline 2008-2012	Austria, Croatia, Denmark, Estonia, France, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Sweden	Belgium, Bulgaria, Greece, Romania, Slovakia, Slovenia, Spain, the United Kingdom

In the engineering field, in 2012 the following occupations accounted for significant numbers of employees (figures in brackets show 2012 EU totals):

- 'Engineering professionals' (2.7 million)
- 'Electrotechnology engineers' (0.8 million)
- 'Physical and engineering science technicians' (4.1 million)
- 'Mining, manufacturing and construction supervisors' (1.7 million)
- 'Process control technicians' (0.8 million)
- 'Ship and aircraft controllers and technicians' (0.3 million).

These occupations combined amounted to 10.4 million employees working in the engineering field in 2012 or 5.7 per cent of all employees in the EU. In 2012 the proportion of engineering employees in individual countries ranged from 3.4 per cent in Greece and 3.6 per cent in Latvia and Lithuania, to 6.5 per cent in Austria, 6.8 per cent in Germany, 7.1 per cent in the Czech Republic, 7.4 per cent in Finland and 9.8 per cent in France. With the exception of Finland, the last five countries are also countries identified as having high proportions of workers with engineering qualifications (see Section 7.4 in the next chapter on educational fields).

The developments in employee numbers varied significantly even between neighbouring countries such as the Czech Republic and Slovakia, Croatia and Slovenia, and Belgium and

the Netherlands. It is not easy to identify precise reasons for this diversity, but engineers are employed in many different industry sectors ranging from food processing, to chemicals, to the automobile industry and so the sector mix will be a significant determining factor.

Hirings of engineers reflect mostly replacement demand

Despite the small increase in employee numbers in 2012 of 1.1 per cent at EU level, hirings in the engineering field declined by -4 per cent in the same year, and significantly more so in some countries such Italy and Slovenia, although hirings increased in a few other countries such the Czech Republic and Spain. But in individual countries, hirings and employee numbers moved up or down jointly or in opposite directions. Such a weak relationship is not surprising since employee growth was not very high in 2012, causing this element to be only a marginal part of hirings compared to replacement demand.

Few young engineers

On average in the EU, around 17 per cent of employees in the engineering field were under 30 years old. This was less than the average of 21 per cent across all occupations and even smaller than the average of 18 per cent for workers with tertiary education. Only Austria and Malta had relatively high proportions of engineering employees under 30 years old. For Austria, the general increase in employees in 2012 resulted in increasing job opportunities for young workers. The proportion of young employees in engineering was lowest in Greece. However, small proportions of young workers among engineering staff applied to 14 other countries where the proportion of workers aged 15-29 was below the EU average of 17 per cent.

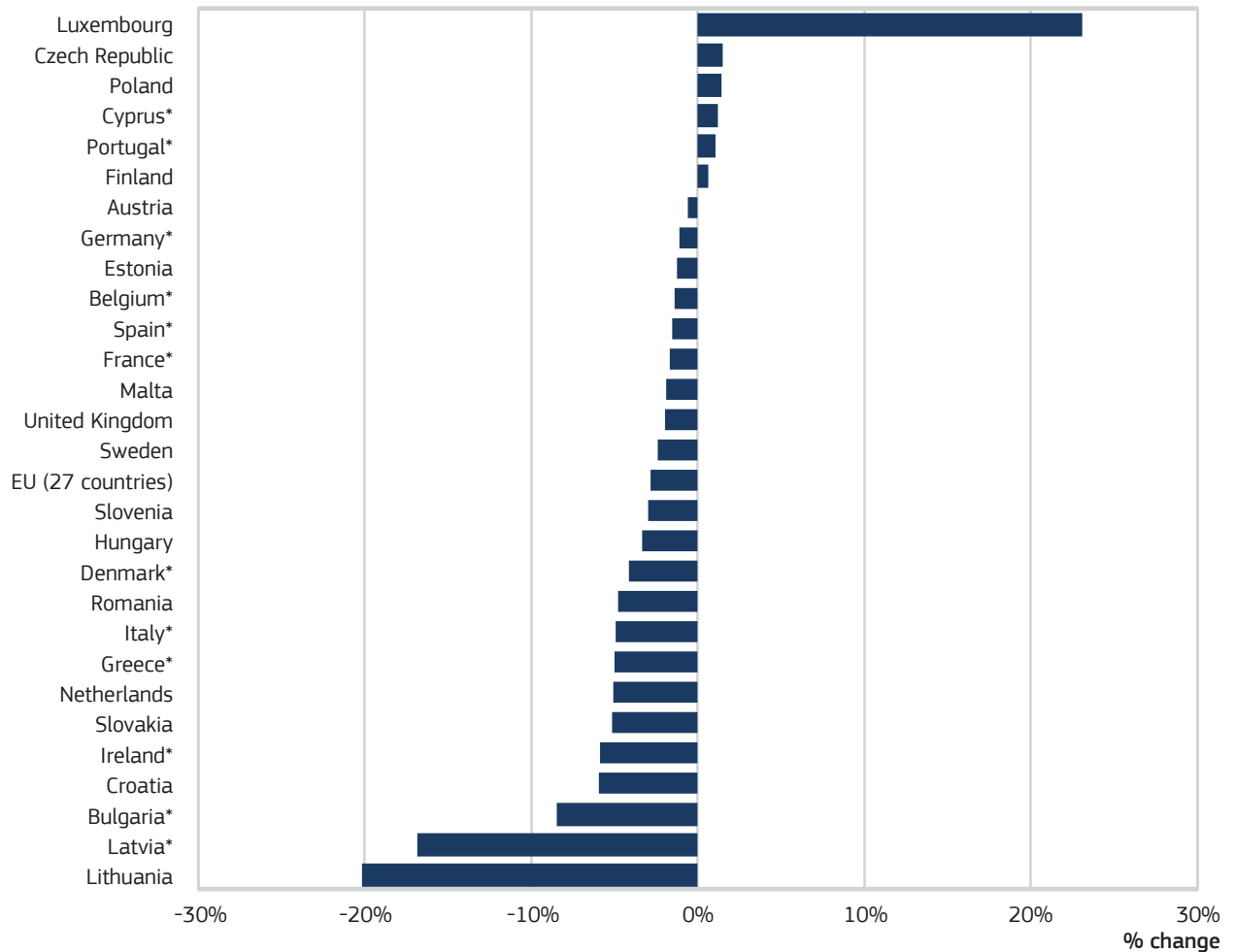
Proportion of young employees aged 15-29 in engineering occupations in 2012

Significantly above EU average ($\geq 23\%$)	Malta (31), Austria (30)
Not far above EU average ($\geq 17\%$ and $< 23\%$)	Cyprus (22), the United Kingdom (22), Latvia (22), Poland (22), Estonia (22), Portugal (20), Belgium (18), Slovakia (18), France (18), Hungary (18), Slovenia (17)
Below EU average ($< 17\%$)	Ireland (16), the Czech Republic (16), Finland (16), the Netherlands (16), Germany (15), Luxembourg (15), Italy (15), Spain (14), Lithuania (14), Croatia (13), Romania (13), Sweden (13), Bulgaria (13), Denmark (10), Greece (10)

A continuing need to educate and train young persons in so-called STEM subjects (Science, Technology, Engineering and Mathematics) in English or MINT subjects (Mathematics, Information technology, Nature studies and Technology) in German, is the conclusion of several recent national reports, including reports from Germany and the United Kingdom.

Chart 6.3a Development in engineering before 2011

Percentages, annual average 2008-2010, employees in engineering occupations (ISCO-88), 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded from the EU total for reasons of comparability with chart 6.3b.

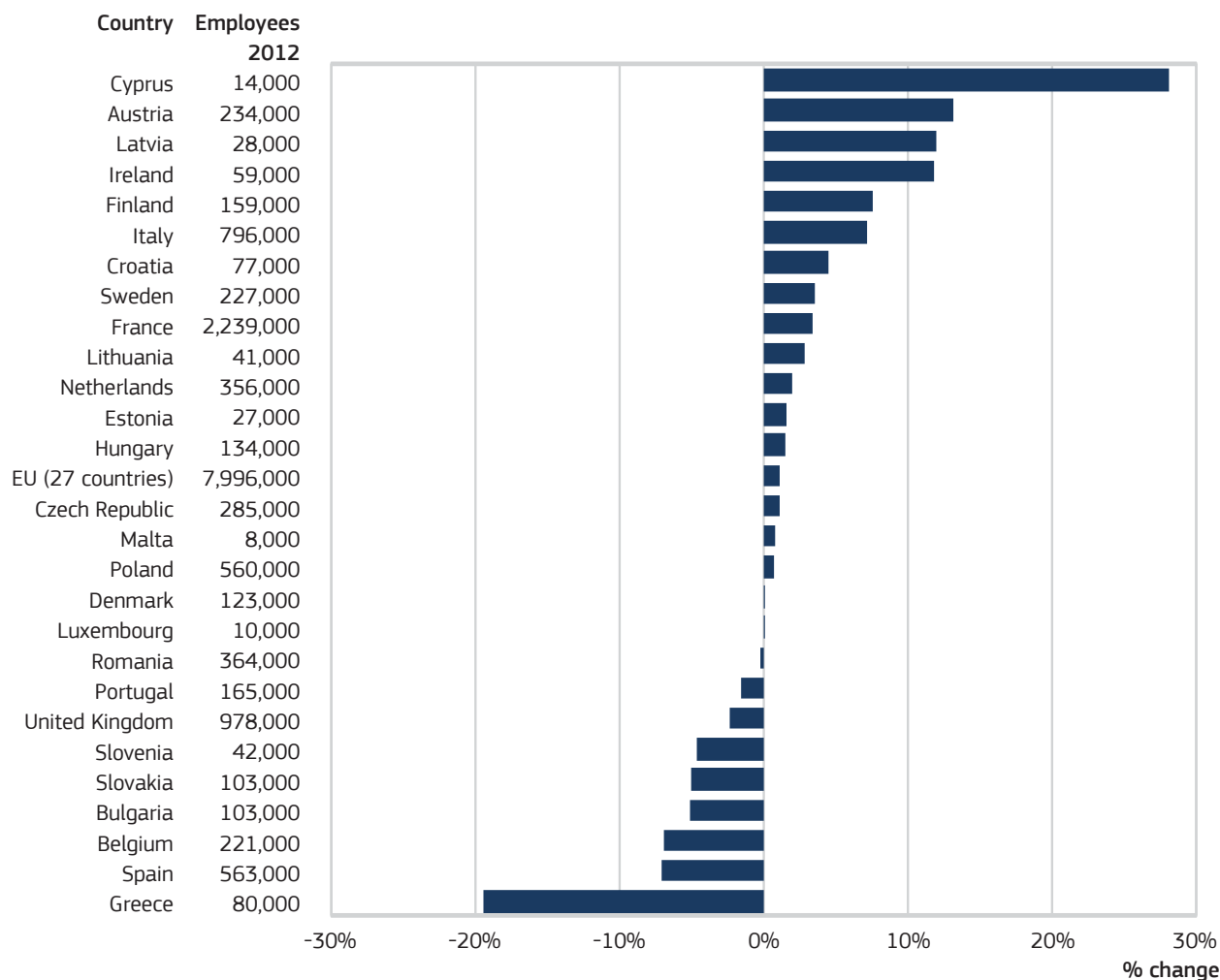
Occupations include (ISCO-88 codes in brackets):

- Engineering professionals (excluding electrotechnology) (2142, 2145, 2146, 2147, 2149).
- Electrotechnology engineers (2143, 2144).
- Physical and engineering science technicians (311).
- Process control technicians (815, 816): chemical-processing plant operators and power-production and related operators.
- Ship and aircraft controllers and technicians (314).

* For Belgium, Bulgaria, Cyprus, Denmark, France, Germany, Greece, Ireland, Italy, Latvia, Portugal, Spain no 4-digit codes were available for 2008-2010. For these 12 countries code 214 (inclusive architects and cartographers) is used for engineers.

Chart 6.3b Development in engineering after 2011

Percentages, 2012 compared to 2011, employees in engineering occupations (ISCO-08), 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany (2,414,000 employees in engineering in 2012) is excluded due to coding changes between 2011 and 2012.

Occupations include (ISCO-08 codes in brackets):

- Engineering professionals (excluding electrotechnology) (214).
- Electrotechnology engineers (215).
- Physical and engineering science technicians (311).
- Mining, manufacturing and construction supervisors (312).
- Process control technicians (313).
- Ship and aircraft technicians (315).

6.5 Teaching

Employee growth in teaching slowed down in 2012 compared to 2008-2010

At EU level, the growth in teachers slowed down from an annual average of 0.9 per cent in 2008-2010 to 0.4 per cent in 2012 (Chart 6.4a and b). In eleven EU countries, the number of employees increased in both 2008-2010 and in 2012. Only in three countries in the south of Europe did teacher numbers decline in both periods, namely Cyprus, Greece and Italy. To a great extent, the demand for teachers in the long run is determined by demography, but the significant fall in teachers employed in these three countries is more likely to be due to the effects of austerity measures leading to cutbacks in spending on education. During the period 2008-2010, teacher numbers increased for all occupational groups except *'university and higher education teachers'*. In 2012 teacher numbers grew by 7 per cent in this category and teacher numbers declined for *'primary school and early childhood teachers'* and *'vocational education teachers'*. The developments in teaching employees were probably related to labour market developments. Vocational training relies on the offer of traineeships and apprenticeships and their supply usually declines in a time of crisis. Also, continuing difficult labour market conditions may persuade more young people to take up tertiary education thereby deferring their entry to the labour market, thus increasing the demand for *'university and higher education teachers'*. This would involve a time lag since student enrolment needs to increase before the numbers of teaching staff can be expanded.

The following table summarises the developments in the employment of teachers in both periods for 27 countries (excluding Germany):

	Growth 2011-2012	Decline 2011-2012
Growth 2008-2010	Croatia, Denmark, Estonia, Finland, Hungary, Ireland, Latvia, Portugal, Slovenia, Spain, the United Kingdom	Austria, Belgium, Luxembourg, Poland, Romania, Slovakia, Sweden
Decline 2008-2012	Bulgaria, the Czech Republic, France, Lithuania, Malta, the Netherlands	Cyprus, Greece, Italy

The definition of teaching staff includes teachers at all levels of education with the following numbers of employees in the EU in specific occupations in 2012:

- *'University and higher education teachers'* (1.1 million)
- *'Vocational education teachers'* (0.7 million)
- *'Secondary education teachers'* (3.1 million)
- *'Primary school and early childhood teachers'* (3.3 million)
- *'Other teaching professionals'* (1.7 million).

Around 10.1 million teaching professionals worked in the EU in 2012, representing 5.6 per cent of all employees. The proportion of teachers among all employees was fairly

consistent in most countries at between 5 and 6 per cent. The main variations from this were Germany and Romania (4 per cent each), Italy, Luxembourg and Slovenia (7 per cent each), Belgium (8 per cent) and the highest were Denmark and Greece (both 10 per cent). The comparatively low proportion in Germany can be attributed to relatively low numbers of *'primary school and early childhood teachers'* while for Romania numbers were relatively low for *'university and higher education teachers'* and also for *'other teaching professionals'* outside the formal education system. Part of the differences may be attributed to differences in educational systems and the classification of occupations, for example 'teacher' or 'teacher's aide', 'early childhood teacher' or 'child care worker', or 'university teacher' or 'researcher' may have different meanings in different countries. However the proportions of teachers in Belgium, Denmark and Greece were so much higher than the average that slight differences in classifications alone are unlikely to explain their differences with other countries.

Lack of young teachers greatest in some east European countries

In 2012, 13 per cent of all teachers in the EU were aged between 15 and 29. This proportion is far below the proportion of 21 per cent for young employees across all occupations. Apart from the smaller countries of Cyprus, Luxembourg and Malta, the proportion of young teachers was significantly above the EU average in Romania and in the countries clustered around the North Sea, which tends to suggest there were no significant difficulties in recruiting young teachers during the crisis in those countries.

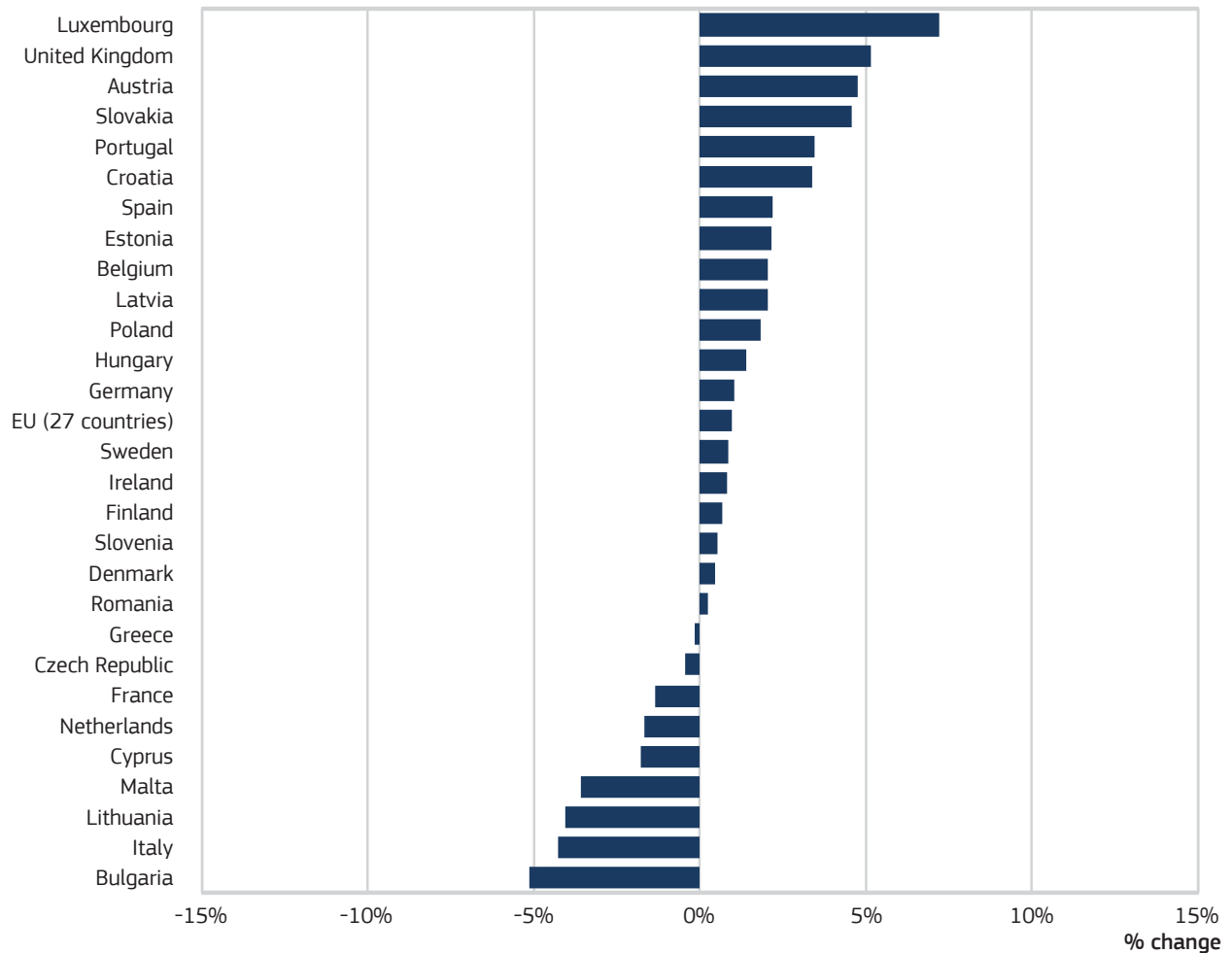
The low proportion of young teachers in Bulgaria could be due to a shortage caused by significant numbers of high educated young people leaving the country for employment abroad. This was confirmed to some extent by the low proportion of young professionals in health and engineering occupations, though this did not apply to ICT. In Italy, the low proportion of young teachers reflects the decline in employee numbers (Chart 6.4a) which was largely achieved by recruiting fewer young workers.

Proportion of young employees aged 15-29 in teaching occupations in 2012

Significantly above EU average ($\geq 18\%$)	Malta (23), Luxembourg (22), Cyprus (21), Belgium (19), Ireland (19), the Netherlands (18), Romania (18), the United Kingdom (18)
Close to EU average ($\geq 10\%$ and $< 18\%$)	Germany (17), Slovenia (16), Croatia (15), Austria (15), Slovakia (15), France (14), Poland (13), the Czech Republic (12), Latvia (12), Estonia (12), Sweden (12), Spain (12), Finland (11), Denmark (11), Hungary (10), Portugal (10)
Below EU average ($< 10\%$)	Lithuania (9), Greece (8), Bulgaria (5), Italy (4)

Chart 6.4a Development in teaching before 2011

Percentages, annual average 2008-2010, employees in teaching occupations (ISCO-88), 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

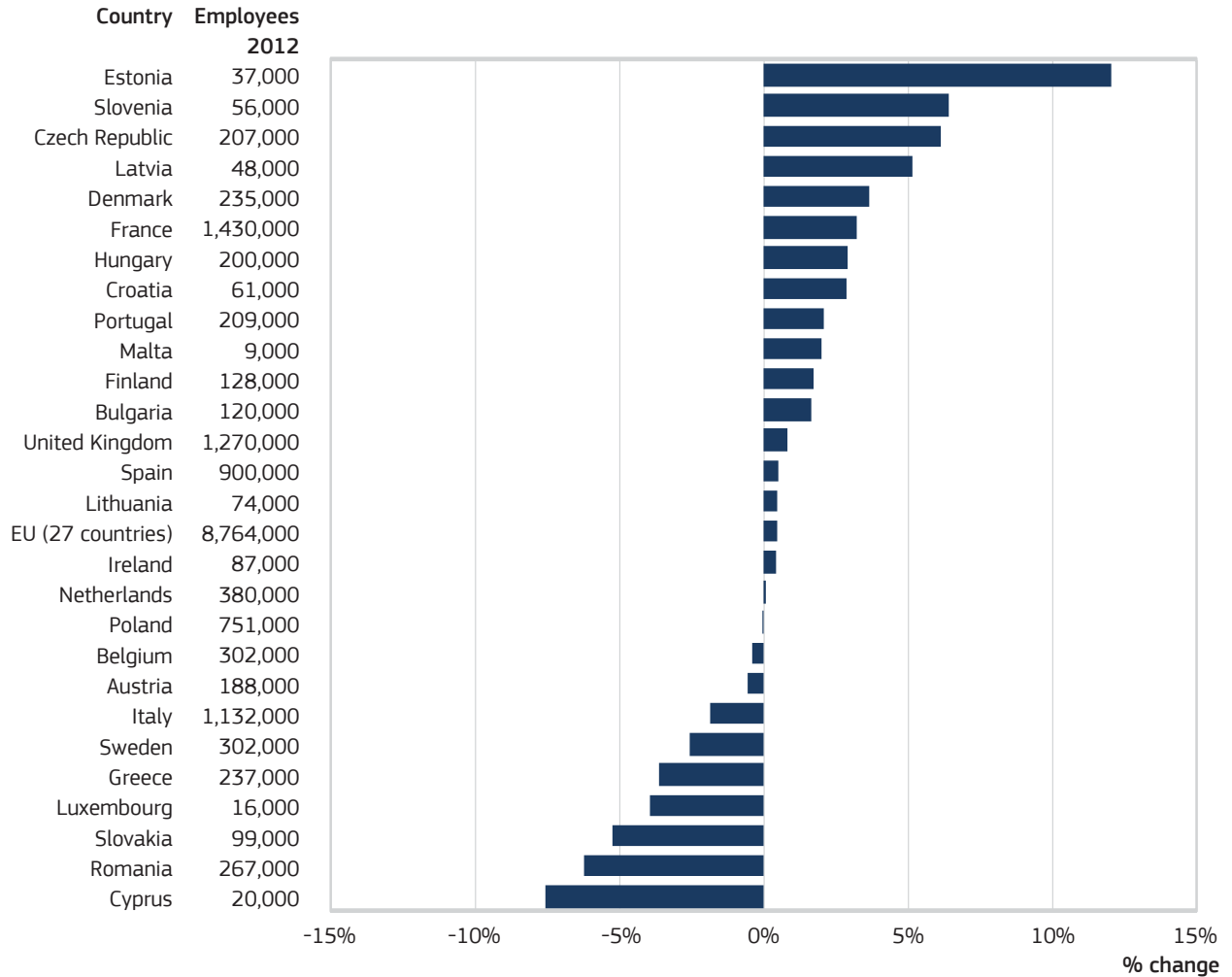
Germany is excluded from the EU total for reasons of comparability with chart 6.4b.

Occupations include (ISCO-88 codes in brackets):

- University and higher education teachers (231).
- Secondary education teachers (232).
- Primary and pre-primary education teachers (233).
- Special education teachers (234).
- Other teaching professionals (235).

Chart 6.4b Development in teaching after 2011

Percentages, 2012 compared to 2011, employees in teaching occupations (ISCO-08), 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany (1,357,000 employees in teaching in 2012) is excluded due to changes in coding between 2011 and 2012.

Occupations include (ISCO-08 codes in brackets):

- University and higher education teachers (231).
- Vocational education teachers (232).
- Secondary education teachers (233).
- Primary school and early childhood teachers (234).
- Other teaching professionals (235).

6.6 Finance

Employment in finance fluctuated both before and after 2011

For the aggregate of the 16 EU countries where comparable data is available, between 2008 and 2010 there was just a slight fall in the number of employees in the finance sector (Chart 6.5a) but between 2010 and 2011, from the broader perspective of the EU27, the fall increased to -1.7 per cent (Chart 6.5b). In nine out of the sixteen countries where data permits a comparison between employment in finance occupations in 2008-2010 and 2011-2012, employee numbers moved in opposite directions in those two periods, indicating a continuing volatility in employee numbers. The finance sector is particularly important for two EU countries, Luxembourg and the United Kingdom, and employment increased in both periods in Luxembourg and decreased in both periods in the United Kingdom. In 2012, finance staff grew strongest in Latvia and Lithuania, but the growth in these countries, as well as in Estonia, must be seen as no more than a recovery from the fall in finance employees in 2008-2010. Due to limited data availability on finance occupations in 2008-2010, developments in only 16 EU countries are covered for both periods, as summarized in the table below.

	Growth 2011-2012	Decline 2011-2012
Growth 2008-2010	Croatia, Luxembourg	Poland, Slovakia, Sweden
Decline 2008-2012	Estonia, Finland, Hungary, Lithuania, the Netherlands, Romania	Austria, the Czech Republic, Malta, Slovenia, the United Kingdom

The following occupations were the largest groups of employees in the EU in finance in 2012:

- *'Finance professionals'* (1.7 million)
- *'Financial and mathematical associate professionals'* (2.8 million)
- *'Sales and purchasing agents and brokers'* (2.9 million).

In addition, approximately 0.6 million finance managers were employed in 2012 in the sixteen countries for which detailed occupational LFS data for this occupation are available. All these occupational groups together meant that 8.0 million employees in finance were working in the EU in 2012, which represented 3.9 per cent of the employees across all occupations. Not surprisingly, given the relatively small size of Luxembourg and its concentration of financial services, 12 per cent of all employees there worked in finance occupations in 2012. The proportions in Cyprus, Denmark, Estonia, Lithuania and Slovenia were between 7 and 9 per cent, and thus also well above the EU average. Proportions were below the EU average in Germany and in three countries in the south of Europe (Malta, Portugal and Spain).

Fewer finance professionals were hired overall ...

Corresponding to the decline in employee numbers, hirings declined at EU level in 2012 by -5 per cent with significant falls in five countries, Cyprus, the Czech Republic, France, Spain and Sweden, which were partially related to changes in employment levels but more so to changes in job turnover.

... but steady recruitment of young finance professionals

On average in the EU, 18 per cent of the employees in finance occupations were aged 15-29 in 2012. This corresponds to the proportion of the same age group among all employees with a tertiary education degree. Despite the employment losses during the crisis, the proportion of young finance employees was significantly above the EU average in Ireland and the United Kingdom, indicating that employers continued to recruit young finance staff at steady rates.

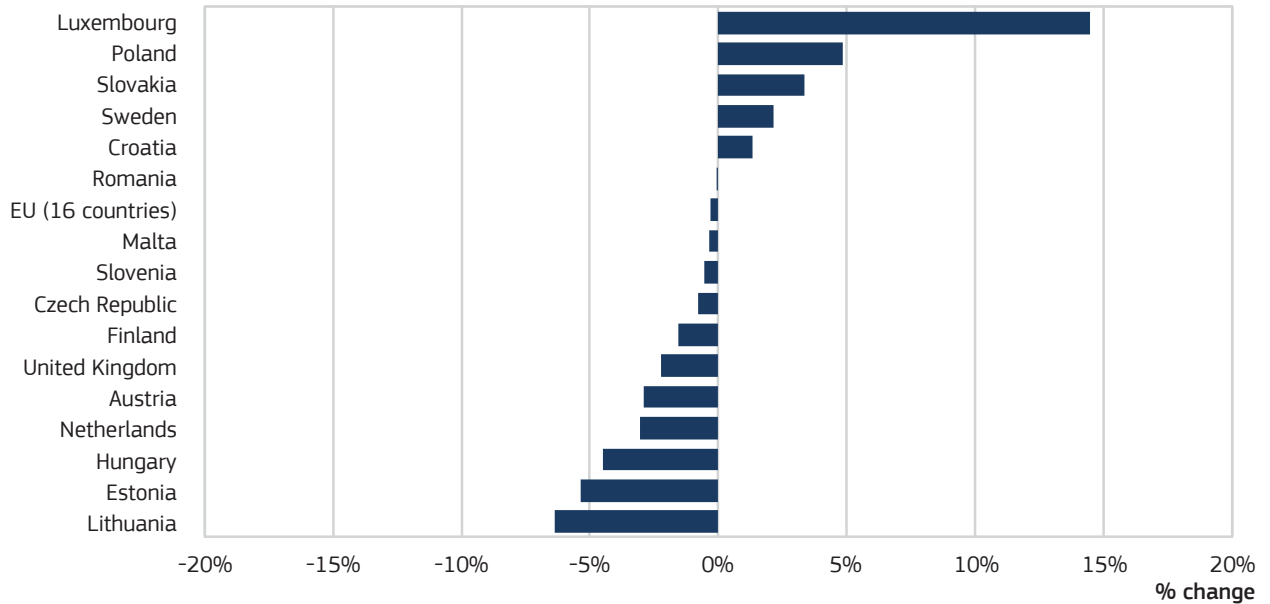
The low proportion of young finance staff in Italy and Spain suggests that employment levels in these countries fell in 2012 (see Chart 6.5b) because fewer young employees were recruited. But in Croatia, Denmark and Slovenia the proportions of young finance employees were also significantly below the EU average.

Proportion of young employees aged 15-29 in finance occupations in 2012

Significantly above EU average ($\geq 23\%$)	Malta (47), Latvia (28), Romania (27), Cyprus (26), Ireland (25), the United Kingdom (24)
Close to EU average ($\geq 13\%$ and $< 23\%$)	Poland (23), Slovakia (23), Hungary (22), Lithuania (22), the Czech Republic (22), France (21), Austria (21), Bulgaria (21), Belgium (18), the Netherlands (17), Luxembourg (17), Greece (16), Estonia (16), Portugal (16), Sweden (15), Finland (15), Germany (14)
Below EU average ($< 13\%$)	Croatia (13), Slovenia (12), Denmark (11), Italy (11), Spain (10)

Chart 6.5a Development in finance before 2011

Percentages, annual average 2008-2010, employees in finance occupations (ISCO-88), 16 countries*



Source: Eurostat Labour Force Survey and EVRR calculations.

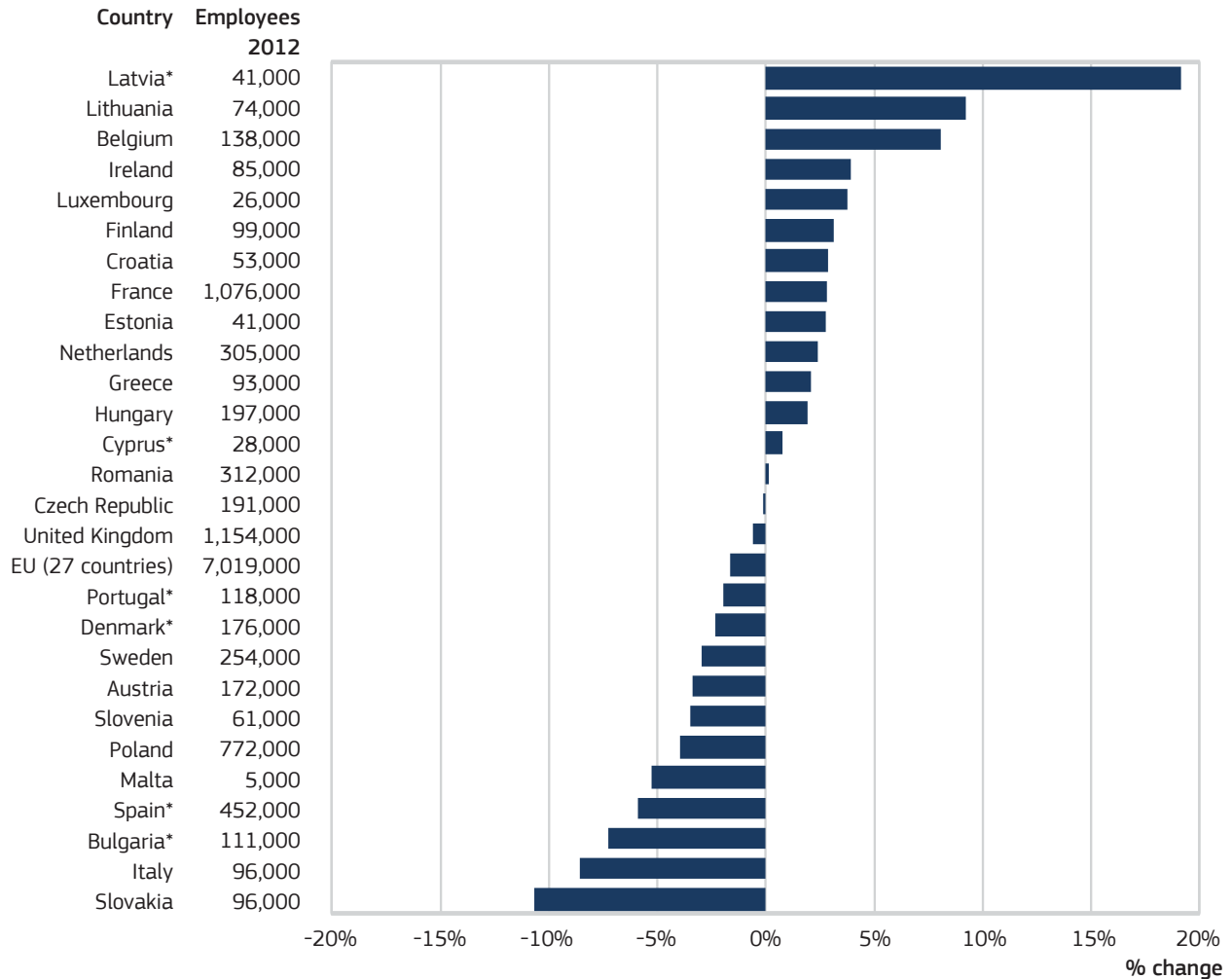
Occupations include (ISCO-88 codes in brackets):

- Finance managers (1231).
- Finance professionals (2411).
- Financial and mathematical associate professionals (3411, 3417, 3433, 3434).
- Sales and purchasing agents and brokers (3412, 3415, 3416, 3421).

* Belgium, Bulgaria, Cyprus, Denmark, France, Germany, Greece, Ireland, Italy, Latvia, Portugal and Spain are excluded because no data by 4-digit codes were available for 2008-2010 and finance occupations could not be identified.

Chart 6.5b Development in jobs in finance before 2011

Percentages, 2012 compared to 2011, employees in finance occupations (ISCO-08), 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany (938,000 employees in finance in 2012) is excluded due to changes in coding between 2011 and 2012.

Occupations include (ISCO-08 codes in brackets):

- Finance managers (1211).
- Finance professionals (241).
- Financial and mathematical associate professionals (331).
- Sales and purchasing agents and brokers (332).

* For Bulgaria, Cyprus, Denmark, Latvia, Portugal and Spain no data by 4-digit codes were available for 2011-2012 and finance managers were excluded.

6.7 Conclusions

Developments in employee numbers in the different sectors covered in this chapter varied considerably across the reference period with the following key features:

- Health occupations continued to grow during the crisis, though the pace slowed down slightly between 2008-2010 and 2012.
- ICT jobs increased during the crisis and the annual rate of growth accelerated between the period 2008-2010 and 2012, more than doubling.
- Engineering employee numbers fell by an annual average of -2.9 in the period 2008-2010 and increased by 1.1 per cent in 2012.
- Teaching occupations saw employee growth slowdown from an annual average of 0.9 per cent in 2008-2010 to 0.4 per cent in 2012.
- Finance employee numbers declined marginally in 2008-2010 but decreased by -1.7 per cent in 2012.

In **health** occupations, older workers represented around 28 per cent in the EU27 compared to 26 per cent across all jobs in all sectors. This was the case far more in some countries including Bulgaria (47 per cent) and Lithuania (42 per cent). Older age profiles of the healthcare workforce in some countries (such as Bulgaria and Lithuania) reflect young health professionals migrating to work mostly in other EU Member States (such as Germany and the United Kingdom). In 2012, in the EU (27 countries), the total number of hirings in health occupations reached almost one million, with *'personal care and related workers'* accounting for almost three in every five healthcare hirings.

In **ICT**, the recent increase in high-skilled ICT jobs contrasted with a decline in the number of ICT students in higher education in the longer term (between 2004 and 2011), although it increased in the east of Europe. The declining supply and increasing demand point to a possible risk of shortages in ICT personnel, particularly in the west of Europe but eventually EU-wide. In the east of Europe the proportion of young workers aged 15-29 in ICT was highest (at 40 per cent or more) in Estonia, Latvia, and Malta. The combination of stronger fluctuations in employment and high proportions of young workers in the east of Europe indicates that ICT in these countries may be at an earlier stage of development than in some older Member States.

In **engineering**, employee numbers developed differently even between neighbouring countries, though engineers are employed in a wide range of sectors. The proportion of young engineering employees aged 15-29 in 2012 was higher in countries with increasing employment, such as, for example, in Austria (30 per cent), while it was lower in countries with decreasing employment such as Greece (10 per cent). This indicates the importance of job growth for particularly young persons with engineering qualifications.

In **teaching**, employment increased for *'university and higher education teachers'* in 2012 but decreased for *'vocational education teachers'* and *'primary and early childhood education teachers'*. Part of these developments reflected the crisis in the labour market, since vocational education depends on the supply of apprenticeships and/or traineeships, while a lack of job opportunities causes some students to pursue higher education instead. In Bulgaria and Italy young teachers aged 15-29 were very rare (proportionately about 4 and 5 per cent of all teachers), and this may point to a shortage of skilled young workers due to migration to other countries.

In **finance**, employee numbers continued to fluctuate in most countries and most of all in the three Baltic States. The proportion of young finance staff aged 15-29 was similar to that of young tertiary educated workers in 2012 in the EU (18 per cent), though this was much lower in Italy (10 per cent) and Spain (11 per cent). The proportion was much higher in the United Kingdom at 24 per cent despite the continuing decline in employee numbers, indicating the continuing efforts of the sector to recruit young workers.

7 Job skills and education

7.1 Introduction

The analysis so far indicated changes in skills needs due to changes in occupational demand. The EVRR 2012⁴² (and some subsequent issues of the EVM) analysed the education and skills requirements for recruitment. Changes in skills needs within occupations are the topic of this chapter. Both changes in occupational demand and changes in educational requirements will determine the demand for qualified workers (having medium or high education). However, an increase of higher educated workers within a lower skilled occupation can also reflect jobseekers accepting jobs below their qualifications. In the latter case, no structural increase in demand for higher educated workers should be concluded but rather over-qualification, which can have knock-on effects for those with lower levels of education with fewer job opportunities for them in their usual occupations.

In general, it is to be expected that the educational level of workers increases as the educational level of the general population increases. An increasing educational level in one occupation is therefore not necessarily “special”. Rather, changes in educational levels need to be interpreted against the background of higher employment rates of higher educated people, and the fact that younger people on average have higher educational levels than older people. In 2012, the employment rate of high educated persons in the EU was 82 per cent compared to 68 per cent for the medium educated and 45 per cent for the low educated. In all of the age ranges (15-24, 25-49 and 50-64), the employment rate is higher for people with a higher educational level. The importance of qualified workers (both medium educated or high educated) is further underlined by the conclusion drawn in Chapter 5 that the proportion of high-skilled jobs increased the most in countries with a high proportion of qualified workers in the age group 25-34.

Between 2008 and 2012 the employment rate declined across all educational levels and age groups, but the high educated were least affected, regardless of the age groups. The proportion of the high educated in employment increased between 2008 and 2012 partly because the employment rate fell less than for the medium and lower educated, but also because the proportion of high education amongst 15-64 year olds went up.

For hirings, the differences were even more pronounced than for employment. Between 2008 and 2012, total hirings fell

by -13 per cent compared to -3 per cent for employment. However, hirings of the high educated increased by 2 per cent, compared to a fall in hirings for the medium educated of -12 per cent, and a fall in hirings for the low educated of -20 per cent.

This chapter discusses changes in the educational structure of demand first by country to provide a general overview, then by major occupational group to analyse changes in educational demand within occupational groups.

7.2 Hirings and employees by educational level

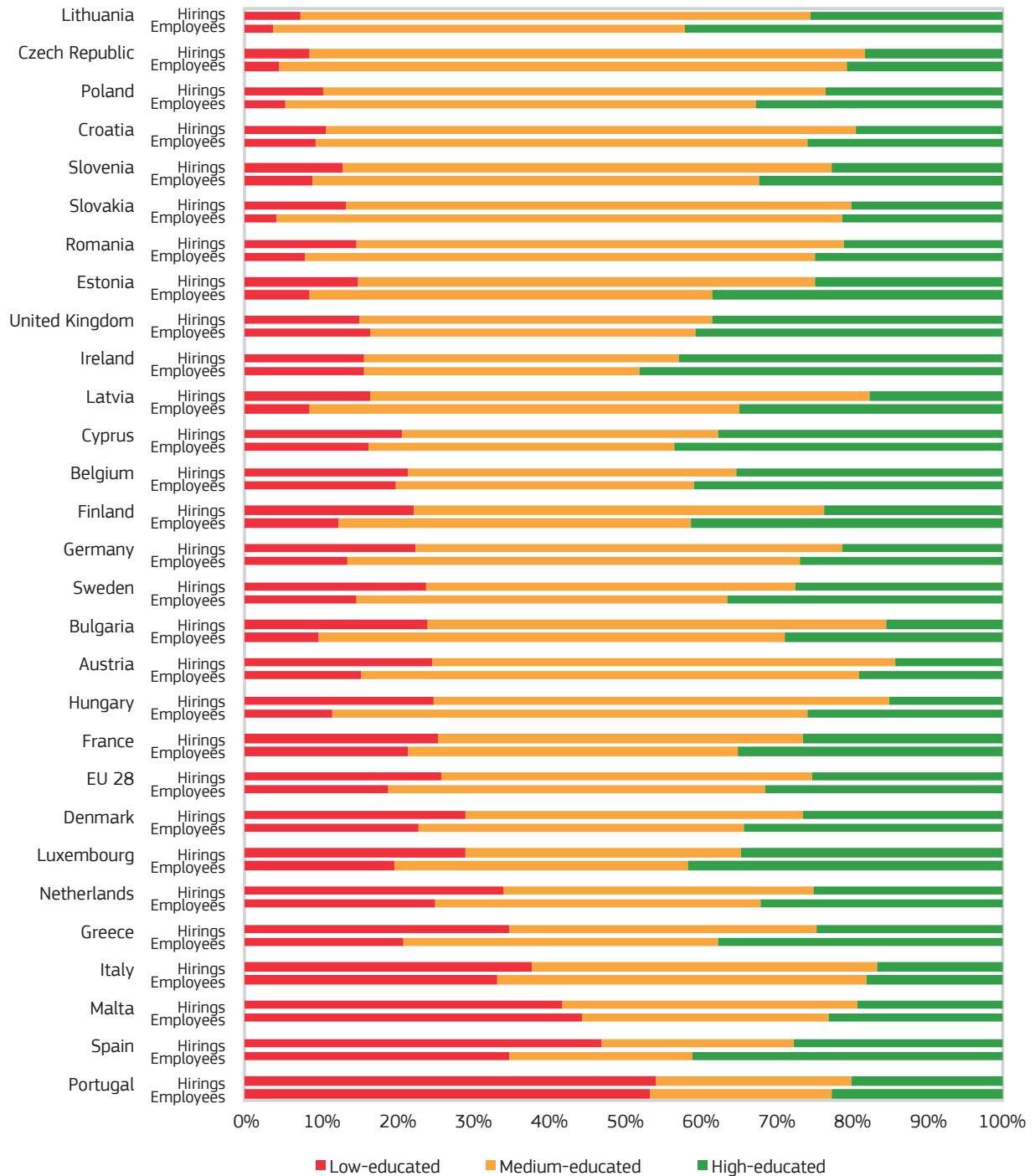
In 2012 the proportion of the low educated in hirings exceeded their proportion of employee numbers in most EU countries (Chart 7.1). At the EU level, the proportion of the low educated in hirings was 26 per cent compared to 19 per cent of employees in 2012. Conversely, a greater proportion of the employees were high educated (31 per cent) than the people hired in 2012 (25 per cent). However the largest group in both employees and hirings were the medium educated who formed half of both: 50 per cent of the employees and 49 per cent of those hired in 2012. Overall, the figures indicate that where hirings exceed employee numbers (as for the low educated), this was largely due to higher levels of labour turnover.

Low educated hirings exceeded employee numbers in most countries mostly due to higher job turnover

It is unlikely that the greater proportion of the low educated in hirings is due to expansion, since the jobs held by the low educated fell the most of all the three educational groups. Consequently, the likely explanation lies in greater job turnover for the low educated. A simple analysis of the proportions of the low educated in hirings and employees shows that those countries with higher proportions of the low educated in hirings generally also have higher proportions in employees. However, these differences reflect the educational system more than the situation in the labour market. To meaningfully compare the position of the low educated in the labour market, the analysis needs to go one step further, by comparing the proportion of the low educated in hirings with their proportion in employees. If their proportion is much greater in hirings than in employees, this points to particularly high job turnover (since hirings due to expansion can be ruled out given the falls

Chart 7.1 Hirings and employees by educational level per country

Percentages, 2012, 28 countries



Source: Eurostat Labour Force Survey

Countries are sorted on the basis of job hirings with a low educational background.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Low- educated: Primary and lower secondary education (ISCED 1-2)

Medium- educated: Formal upper secondary education (ISCED 3)

High- educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

Number of hirings in 2012 (millions, sum of four quarters): Low, 11.0; Medium, 20.6; High, 10.7.

Average number of employees in 2012 (millions): Low, 34.3; Medium, 89.5; High, 56.7.

in employment). These proportions are 26 compared to 19 at the EU level (resulting in a ratio of 1.4).

The table below shows the percentages of the low educated in hirings and employees, grouped by proportions in hirings above and below the EU average, and it also shows ratios in hirings / employees above and below the EU average of 1.4. It shows that the low educated were hired in 2012 in particularly large proportions compared to both the EU level and to employment in Luxembourg and most of all in Greece suggesting particularly high job turnover of low educated workers in those countries. The low educated were also highly represented among those hired in 2012 in other countries in the south of Europe (Italy, Malta, Portugal and Spain) and in Denmark and the Netherlands, but in these countries this reflected the high proportion of the low educated in employment. The reasons for the high proportions of the low educated in the labour market differ. In the south of Europe a high proportion of the population falls into the low education category. Another factor is that in Denmark and the Netherlands many students in secondary education (who have not yet completed this level) held jobs (see Chapter 9 on youth hirings for more analysis of this point).

Ratios to compare educational compositions of hirings and employees

The low educated are generally better represented in hirings than in employment due to job turnover. A ratio between the two proportions in hirings and in employees expresses this indication of job turnover in one single figure that can be compared between countries. It helps assess whether a high proportion of low educated in hirings (in the middle row) is related to high job turnover (in the middle column).

In the table below, the share of low educated in hirings in Greece is 37 per cent which is above the EU average of 26 per cent. At the same time, the share of low educated in employees is 21 per cent which is much less than the share in hirings, indicating relatively high job turnover of the low educated in Greece: the ratio is 37/21 or 1.8 which is much higher than the EU average of 1.4.

Countries by proportion of the **low educated** in hirings, compared to EU and to employees in the country

	Proportion in hirings greater than 1.4 times the proportion in employees in the country	Proportion in hirings less than 1.4 times the proportion in employees in the country
Above EU average share in hirings: 26%	Greece (37/21), Luxembourg (29/20)	Portugal (54/54), Spain (47/35), Malta (42/44), Italy (38/33), the Netherlands (34/25), Denmark (29/23)
Below EU average share in hirings: 26%	Hungary (25/12), Austria (25/15), Bulgaria (24/10), Sweden (24/15), Germany (23/14), Finland (22/12), Latvia (17/9), Estonia (15/9), Romania (15/8), Slovakia (13/4), Slovenia (13/9), Poland (10/5), the Czech Republic (9/5), Lithuania (7/4)	France (25/22), Belgium (22/20), Cyprus (21/16), Ireland (16/16), the United Kingdom (15/17), Croatia (11/9)

Numbers in brackets: proportion of the low educated in hirings / in employees

In Austria, Finland, Germany, Sweden and the east of Europe, the proportion of the low educated in hirings is less than the EU average. This reflects mostly the established educational systems in these countries, with the majority of the population completing secondary education. In most of these countries, this coincided with a preponderance of low educated workers in precarious employment (Croatia was the exception). Indeed, in these countries, along with Denmark, there was much more quarterly variation in hiring levels of the low educated than was the case for the medium educated, over the period 2008–2012.⁴³ Within this group, the proportions of the low educated was below 10 per cent in the east of Europe (Hungary being the exception) and this reflected the generally low proportions of jobs in 'elementary occupations' in those countries (as explored in Chapter 5). In Belgium, France, Ireland and the United Kingdom and to a lesser extent Cyprus, the proportions of the low educated in hirings and employees were similar, and they were below the EU average.

Highest proportion of medium educated workers in east Europe, Austria and Germany

The medium educated were the largest group in the EU labour market, forming half of both those in employment in 2012 (50 per cent) and those hired in 2012 (49 per cent). The proportions of medium educated workers in hirings were highest in the same countries where relatively few low educated workers were hired in 2012: Austria, Finland, Germany, Sweden and countries in the east of Europe (Chart 7.1). This reflected differences in educational systems and in particular the importance of secondary vocational training in those countries, as well as the great proportions of medium skilled jobs in the east of Europe as discussed in Chapter 5.

⁴³ Both according to the ratio of maximum to minimum hiring levels and according to the ratio of the standard deviation to the average hiring level.

Differences in the proportions of the medium educated in hirings and employees were below ten per cent in all Member States, as shown in the table. Because of the small differences, not much significance can be attached to countries where the proportion of the medium educated in hirings is slightly greater or less than that in employees.

Countries by proportion of the **medium educated** in hirings, compared to EU and to employees in the country

	Proportion in hirings greater than the proportion in employees in the country	Proportion in hirings less than the proportion in employees in the country
Above EU average share in hirings: 49%	Croatia (70/65), Poland (66/62), Lithuania (67/54), Latvia (66/57), Slovenia (64/59), Estonia (60/53), Finland (54/46), Sweden (49/49)	The Czech Republic (73/75), Slovakia (67/75), Romania (64/67), Austria (61/66), Hungary (60/63), Bulgaria (60/61), Germany (56/60)
Below EU average share in hirings: 49%	France (48/43), the United Kingdom (46/43), Denmark (45/43), Belgium (43/39), Ireland (42/36), Cyprus (42/40), Greece (41/41), Malta (39/33), Portugal (26/24), Spain (25/24)	Italy (45/49), the Netherlands (41/43), Luxembourg (36/39)

Numbers in brackets: proportion of the medium educated in hirings / in employees

High educated formed a greater proportion in employees than hirings across EU

In 2012, the high educated had a similar proportion of hirings (25 per cent) as the low educated (26 per cent). However they had a larger share of employees, 35 per cent compared to 19 per cent (Chart 7.1). This is an indication of generally lower labour turnover among the high educated. The proportions of the high educated in hirings and employees were particularly large in Ireland and the United Kingdom, reflecting the high proportions of the high educated in the general population of those countries (as discussed earlier in Chapter 5). Low proportions of the high educated in hirings in Austria, Germany, Italy, Portugal and most countries in the east of Europe, generally reflected below the EU average proportions of the high educated in employment (the three Baltic countries were the exceptions with large proportions of the high educated in employment).

The proportion of the high educated (26 per cent) in hirings was, on average, 0.8 times that of employees (35 per cent), indicating relatively stable jobs of the high educated, at least compared to the medium and low educated in the same country, as tabulated below. In no country was the proportion of the high educated in hirings greater than in employees. On the other hand, proportions of the high educated were particularly low in hirings compared to their proportion in employees in the three Baltic countries, Bulgaria, Finland and Hungary. In the three Baltic countries and Finland this

largely reflects the high proportions of the high educated in employment. However in Bulgaria and Hungary this may be due, in part, to the prevalence of shortages of high skilled workers available on the labour market which, in the case of Bulgaria for example, were identified in the European Vacancy Monitor for professionals in health care (September 2013).⁴⁴

Countries by proportion of the **high educated** in hirings, compared to EU and to employees in the country

	Proportion in hirings greater than 0.8 times the proportion in employees in the country	Proportion in hirings less than 0.8 times the proportion in employees in the country
Above EU average share in hirings: 25%	Ireland (43/48), the United Kingdom (38/41), Cyprus (37/43), Luxembourg (35/42), Belgium (35/41)	Spain (28/41), Sweden (27/36), Denmark (26/34), France (26/35), Greece (25/37), the Netherlands (25/32), Lithuania (25/42)
Below EU average share in hirings: 25%	Romania (21/25), Slovakia (20/21), Portugal (20/23), Malta (19/23), the Czech Republic (18/21), Italy (17/18)	Estonia (25/38), Finland (24/41), Slovenia (23/32), Poland (23/33), Germany (21/27), Croatia (19/26), Latvia (18/35), Hungary (15/26), Bulgaria (15/29), Austria (14/19)

Numbers in brackets: proportion of the high educated in hirings / in employees

7.3 Major occupational groups and educational levels

As discussed above, the medium educated were the largest group of those hired in 2012, forming half of the hirings. The high and the low educated in hirings each accounted for approximately one quarter of those hired. As discussed in the introduction to this chapter, the higher educated were least affected by the crisis. Indeed, in 2012 roughly the same number of hirings was filled with a high educated person as in 2008. The fall in hirings between 2008 and 2012 mostly affected the medium (-13 per cent) and low educated (-22 per cent). The fall in hirings of the medium educated coincided with the fall in hirings among several medium skilled manual occupations. However the larger fall in hirings of the low educated does not correspond to a fall in hirings in low skilled jobs, and suggests that some medium educated accepted jobs below their qualifications. This section discusses the development of the educational mix for the various major occupational groups. For each major occupational group, a small table illustrates the diversity in developments between countries for the largest educational group in hirings within the occupational category.

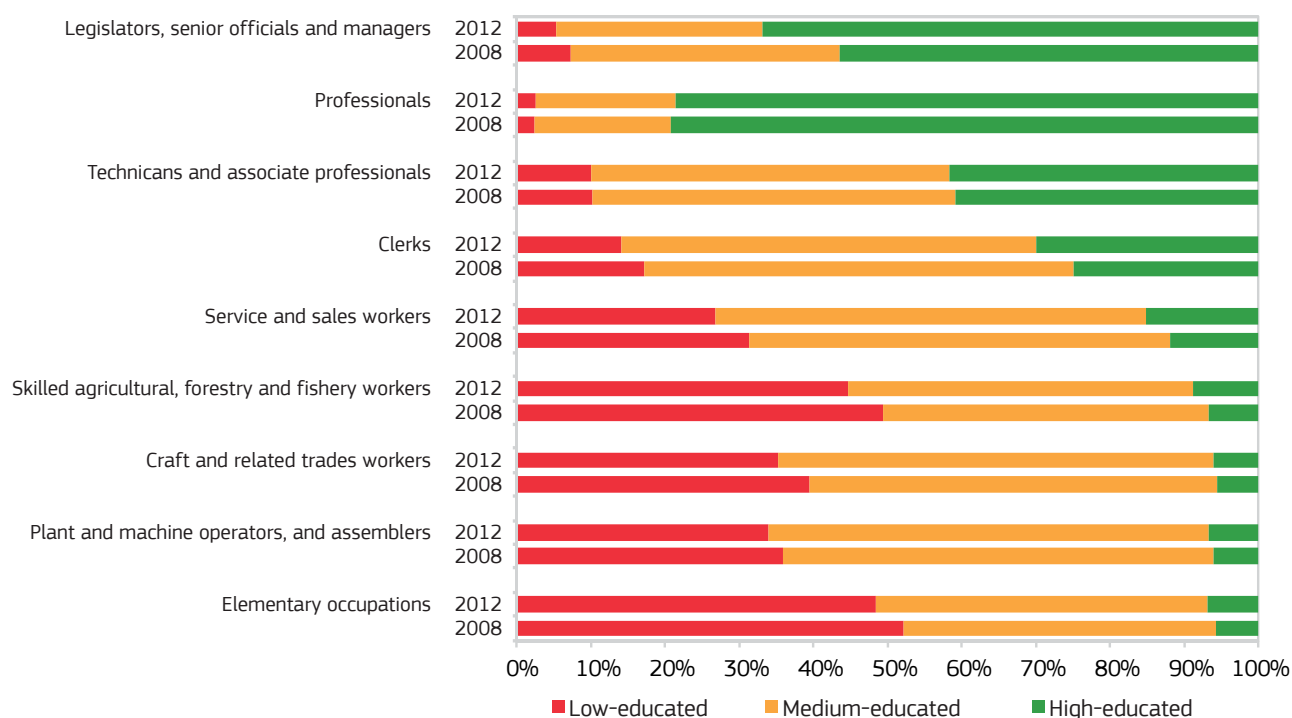
Increasing proportion of high educated hired as legislators, senior officials and managers

Between 2008 and 2012 there was a definite upward shift in the educational requirements for hirings to the occupational group of 'legislators, senior officials and managers' (Chart 7.2). This group includes intermediate managers and shop managers. The high educated were the largest segment within this occupational group with a proportion of 67 per cent in 2012 and this was ten percentage points higher than in 2008. Particularly large proportions of highly qualified 'legislators, senior officials and managers' were hired in 2012 in Denmark, Finland and Spain (see also the table below).

This increased proportion of high educated hirings occurred in the Czech Republic and eight other Member States while in the remaining countries the proportions were relatively static. At the same time, in most countries (with exception of the Netherlands and Sweden), the absolute number of high educated persons hired in this occupational group declined between 2008 and 2012. This means that high educated 'legislators, senior officials and managers' were hired in smaller numbers than before the crisis, but were less affected than the medium educated seeking jobs in these positions.

Chart 7.2 Hirings by educational level per major occupational group

Percentages, 2008 and 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Low educated: Primary and lower secondary education (ISCED 1-2)

Medium educated: Formal upper secondary education (ISCED 3)

High educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

Number of hirings in 2012 (in millions, sum of four quarters): Managers, 0.8; Professionals, 5.0; Technicians and associate professionals, 5.2; Clerical support workers, 4.4; Service and sales workers, 10.2; Skilled agricultural, forestry and fishery workers, 0.6; Craft and related trades workers, 4.9; Plant and machine operators and assemblers, 3.2; Elementary occupations, 8.2.

By educational level (in millions): Low, 11.0; Medium, 20.6; High, 10.7

Countries with changing proportion in 2008-2012 of high educated in hirings of 'legislators, senior officials and managers':

Proportion in 2012 in brackets, EU average 67%

Countries with increasing share	the Czech Republic (70), Denmark (84), Finland (79), Ireland (70), Italy (49), the Netherlands (70), Spain (78), Sweden (65) and the United Kingdom (62)
Countries with decreasing share	no EU country

High educational requirement for professionals peaked in 2008

The proportion of high educated workers hired in the 'professionals' occupational group declined by less than 1 percentage point to 79 per cent in 2012 compared to 2008, and the proportion of medium educated workers increased by around the same figure to 19 per cent. This change can be largely attributed to countries where significantly increased numbers of high educated in the 'professionals' group were hired compared to 2008, but where the hirings of medium educated professionals rose more sharply, namely in Austria, France and Italy and to a lesser extent the Netherlands and Sweden. The impact of these countries outweighed the six countries where the proportion of high educated workers in hirings of professionals increased (see the table below).

Professionals hired in 2012 were particularly highly qualified in Croatia, Greece, Luxembourg, Poland and Spain, and to a lesser extent in Denmark and the United Kingdom. There could be many reasons for such differences, including the mix of economic sectors where professionals work, the degree to which professionals are exempted from routine tasks and the extent to which the experience of older workers counts as qualification. For example, a lower proportion of medical professionals may be employed in a country with a larger share of healthcare in the economy, if those professionals are exempted from administrative tasks. The table below illustrates differences in the proportion of the high educated among professionals between countries, but an analysis of the underlying reasons for this trend goes beyond the scope of this report.

Countries with changing proportion in 2008-2012 of high educated in hirings of 'professionals':

Proportion in 2012 in brackets, EU average 79%

Countries with increasing share	Denmark (83), Finland (69), Germany (73), Poland (90), Spain (94) and the United Kingdom (81)
Countries with decreasing share	Austria (62), Croatia (91), France (71), Greece (92), Italy (75), Luxembourg (90), the Netherlands (73) and Sweden (74)

Hirings of technicians and associate professionals fell less at high educational level

The total number of 'technicians and associate professionals' fell between 2008 and 2012, but they fell less for the high educated among them. Consequently the proportion of the high educated in this group increased by 1 percentage point to a value of 42 per cent in 2012. The medium educated remained the largest group in hirings in this occupational category at 48 per cent in 2012, but this proportion was 1 percentage point less than in 2008. The proportional gain of the high educated in this occupational category means that they weathered the crisis better than the medium educated.

Hirings of medium educated 'technicians and associate professionals' declined particularly sharply in Germany (57 per cent), Italy (53 per cent) and Poland (66 per cent), but the proportions remained well above the EU average in 2012 (see the table below). However in other countries the hirings of the high educated in this occupational category fell more sharply than those of the medium educated, notably in Spain, Sweden and the United Kingdom. The diversity in educational levels and developments between countries may be explained by the degree to which workers with the relevant experience rather than qualifications are hired, on top of the reasons for the diversity in educational levels for 'professionals' (in the 'professionals' group tertiary education is generally required regardless of experience).

Countries with changing proportion in 2008-2012 of medium educated in hirings of 'technicians and associate professionals':

Proportion in 2012 in brackets, EU average 48%

Countries with increasing share	Luxembourg (54), Spain (30), Sweden (46) and the United Kingdom (42)
Countries with decreasing share	Croatia (53), the Czech Republic (66), Greece (48), Germany (57), Italy (53), Latvia (53), the Netherlands (51), Poland (53), Romania (47), Slovenia (69) and Slovakia (49)

Hirings of high educated clerks increased at the expense of both medium and low educated clerks

In the case of 'clerks', the proportion of high educated increased between 2008 and 2012 at the expense of those with both medium and low educational attainments (Chart 7.2). Most hirings in 2012 were of the medium educated with a proportion of 56 per cent, two percentage points less than in 2008. Over the same period, the proportion of high educated hirings for clerks increased from 25 per cent to 30 per cent.

Overall the number of newly hired clerks fell in all countries between 2008 and 2012. However, (with the exception of Cyprus) hirings fell less for high educated workers than for medium educated workers, causing their proportion to increase. This reflects that compared to the private sector, hirings fell less in public sector jobs, particularly in healthcare

(see also Chapter 5), since educational requirements for clerks are usually higher in the public sector. The proportion of high educated clerks hired in 2012 was particularly high and increasing in Spain, reaching 51 per cent in 2012 compared to 39 per cent in 2008, suggesting some increased recruitment of over-qualified candidates.

Countries with changing proportion in 2008-2012 of medium educated in hirings of 'clerks':

Proportion in 2012 in brackets, EU average 56%

Countries with increasing share	Cyprus (56)
Countries with decreasing share	Belgium (41), Croatia (76), the Czech Republic (71), Denmark (62), France (47), Greece (58), Ireland (40), Italy (61), the Netherlands (53), Poland (57), Romania (58), Slovakia (58), Slovenia (62), Spain (32), Sweden (57) and the United Kingdom (47)

High proportions of low educated hired in service and sales in Spain and Portugal

For 'service and sales workers', the medium educated were the largest educational group in hirings with a proportion of 58 per cent in 2012, up marginally from 57 per cent in 2008 (Chart 7.2). The low educated were the second largest educational group representing 27 in this occupational group.

In Luxembourg, Portugal and Spain, the largest educational group in hirings of 'service and sales workers' was the low educated with a proportion of around 50 per cent. The educational requirements to be successfully hired in this occupational group changed across Europe, with an increasing proportion of medium educated workers in hirings in nine countries and a decreasing proportion in seven countries. In just one country, the United Kingdom, the proportion of high education hirings of 'service and sales workers' increased significantly, from 15 per cent in 2008 to 26 per cent in 2012, indicative of an increase in employers recruiting over-qualified staff.

Countries with changing proportion in 2008-2012 of medium educated in hirings of 'service and sales workers':

Proportion in 2012 in brackets, EU average 58%

Countries with increasing share	Austria (65), Belgium (62), Germany (64), Estonia (71), Hungary (82), Ireland (55), Italy (57), Portugal (38) and Slovenia (83)
Countries with decreasing share	The Czech Republic (84), Greece (56), Poland (77), Spain (34), Sweden (57), Slovakia (88) and the United Kingdom (58)

Medium educated persons became the largest group hired as agricultural workers

For 'skilled agricultural, forestry and fishery workers', the proportion of medium educated in hirings increased from 44 per cent in 2008 to 46 per cent in 2012, becoming the largest group and replacing the low educated whose proportion declined from 49 per cent in 2008 to 45 per cent in 2012.

However numbers are too small to indicate changes in individual countries.

Vocational qualification requirements for craft and related trades bolstered hirings of medium educated persons in some countries

The requirement for relevant vocational skills, often endorsed through national qualifications, meant that between 2008 and 2012 hirings of 'craft and related trades workers' remained predominantly of the medium educated (Chart 7.2). Around 59 per cent of the persons hired in 2012 had medium education, up from 55 per cent in 2008, with the low educated forming the next biggest group with 35 per cent, down from 39 per cent in 2008.

In just two countries (Italy and Spain), the large majority of 'craft and related trades workers' hired were low educated, with proportions of between 60 and 65 per cent. In Croatia, the Czech Republic and Slovakia, the proportion of medium educated workers in this occupational group was above 90 per cent in 2012 and this reflects the educational levels required to practise in a particular vocational area.⁴⁵ The total number of hirings in the 'craft and related trades' fell across the EU (with the exception of the Netherlands) but a particularly sharp fall in the hirings of low educated workers between 2008 and 2012 caused the proportion of hirings of the medium educated to increase in the majority of countries.

Countries with changing proportion in 2008-2012 of medium educated in hirings of 'craft and related trades workers':

Proportion in 2012 in brackets, EU average 59%

Countries with increasing share	Bulgaria (69), Croatia (91), Denmark (74), Finland (67), France (59), Germany (65), Italy (38), Slovakia (92), Sweden (66) and the United Kingdom (65)
Countries with decreasing share	Spain (22), the Netherlands (48) and Romania (84)

Little change in the educational mix of hirings for plant and machine operators and assemblers

Analysis of those hired as 'plant and machine operators and assemblers' between 2008 and 2012 showed not much change in the mix of educational levels (Chart 7.2). There was a slight rise of just 1 percentage point in the proportion of hirings with medium education to 59 per cent, though in a few countries (Croatia, Lithuania and Romania) the proportion was above 90 per cent in 2012. The low educated were the second largest group hired with 34 per cent in 2012, down 2 percentage points from 2008.

⁴⁵ For example see Act No 184/2009 Coll. in Slovakia and others referred to in

As for *'craft and related trades workers'*, the low educated were the largest group of *'plant and machine operators and assemblers'* in Italy (58 per cent) and Spain (62 per cent), perhaps indicating that in these countries there is less emphasis on formal vocational qualification in this occupational group. The proportion of low educated workers in this group was also relatively high in Belgium (44 per cent) and the Netherlands (50 per cent), most likely due in part to the high numbers employed as assemblers and packers handling imported goods (much of which is *entrepôt*) in the major ports of Antwerp, Amsterdam and Rotterdam.

Countries with changing proportion in 2008–2012 of **medium educated** in hirings of *'operators and assemblers'*:

Proportion in 2012 in brackets, EU average 59%

Countries with increasing share	the Czech Republic (88), Hungary (72), Romania (90), Slovenia (81) and the United Kingdom (60)
Countries with decreasing share	Belgium (53), France (54), Italy (40), Latvia (77), the Netherlands (40), Poland (82), Slovakia (83) and Spain (28)

Increasing proportion of medium educated persons hired in *'elementary' jobs*

A decline in the proportion of the low educated hired between 2008 and 2012 and a rise in the proportion for the medium educated (Chart 7.2) suggests that some of those traditionally recruited to *'elementary occupations'* were *'squeezed out'*. The low educated were still the biggest proportion of hirings in 2012, with a proportion of 48 per cent, but this was four percentage points down on the 2008 figure. The medium educated were the second largest group with a proportion of 45 per cent in 2012, two percentage points up on 2008.

Hungary and the Netherlands were the only Member States where hirings of the medium educated in *'elementary occupations'* did not increase. The increased proportion of the low educated hirings in Hungary may be attributable to jobs created in public works. Malta, the Netherlands, Portugal and Spain were the only countries where the proportion of low education hirings was above 65 per cent of total hirings. In east European countries such as Croatia, the Czech Republic and Latvia, the medium educated were generally the largest group in hirings in *'elementary occupations'* and along with the United Kingdom, the decreasing proportions of low educated workers in hirings may be indicative of some over-qualified recruitment by employers.

Countries with changing proportion in 2008–2012 of **low educated** in hirings of *'elementary jobs'*:

Proportion in 2012 in brackets, EU average 48%

Countries with increasing share	Hungary (55) and the Netherlands (66)
Countries with decreasing share	Bulgaria (50), Croatia (22), the Czech Republic (23), Denmark (62), Finland (41), France (44), Greece (63), Italy (61), Latvia (27), Slovenia (37), Spain (67), Sweden (44) and the United Kingdom (30)

7.4 Conclusions

At the EU level, 50 per cent of both the people hired and the people employed are medium educated. The low educated are slightly more represented in hirings than in employment (26 per cent compared to 19 per cent), while the high educated are slightly more represented in employment than hirings (31 per cent compared to 25 per cent).

This is an indication that job turnover is slightly higher for the low educated than for the high educated. Higher than EU average proportions of the low educated generally reflect differences in the population, with particularly high percentages in the south of Europe. Specific job turnover of the low educated is indicated mostly in Greece and Luxembourg and least in Belgium, France, Ireland and the United Kingdom.

For the medium educated, there is no sign of specific job turnover in any country. Higher than EU average proportions of the medium educated in Austria, Germany and the east of Europe should be attributed to the educational system which more than in other countries focuses on preparing medium qualified young people for the labour market.

The lower job turnover of the high educated is indicated for most countries. Again, differences in the proportions of the high educated are attributed to educational systems, with the highest proportions in Ireland and the United Kingdom. Particularly low percentages of the high educated in hirings in Bulgaria and Hungary may reflect shortages in the labour market, which in turn may be related to high educated people seeking jobs in the west of Europe.

Within major occupational groups, the demand for higher educated professionals in Europe levelled off in 2012 at 79 per cent of all hirings in this occupational group. However in some countries the growth in the proportion of those with high educational attainment continued above this level and this may reflect some incidence of over-qualification. For the other major occupational groups, the proportions of hirings with high education were lower but increasing, and this was particularly true for the group *'legislators, senior officials and managers'*. The proportion of medium educated workers in the combined hirings in high skilled jobs declined between 2008 and 2012, partly caused by a shift in hirings from *'technicians and associate professionals'* to *'professionals'*, and partly because more high educated specialists rather than medium educated workers were hired in the group of *'technicians and associate professionals'*. Nevertheless in 2012 one third of all hirings in high-skilled jobs involved a medium educated worker.

In each of the medium skilled major occupational groups (except *'skilled agricultural, forestry and fisher workers'*) between 55 and 60 per cent of those hired in 2012 had medium education, with substantially higher proportions in some countries (above 90 per cent in some east European countries) for *'craft and related trades workers'* and *'plant and*

machine operators and assemblers'. In some other countries (for example Portugal and Spain), around half of those hired into these two skilled manual jobs, as well as those hired as *'service and sales workers'*, were low educated.

For *'elementary occupations'*, the low educated still formed the largest group in 2012, with a proportion of 48 per cent, but this was down by four percentage points on 2008. Low and decreasing proportions in some countries may be a further indication of the low educated being squeezed out of their traditional jobs by those with medium (and high) educational attainment.

The proportion of medium educated workers in employee numbers in 2012 was above the EU average of 50 per cent in Austria, France, Germany and all east European countries, reflecting in general the vocational education systems in these countries. As a consequence, the proportion of the low educated employees in these countries was below the EU average of 19 per cent, although in some of the same countries the proportions of low education in hirings were close to the EU average of 26 per cent. The relative volatility of hirings at low educational level compared to the medium educational level in these countries suggests that the low educated face a more precarious position in the labour market, where medium qualified workers tend to be in greater demand.

8 Contractual arrangements and occupations

8.1 Introduction

The principal focus of this chapter is examining the development of recruitment demand and hirings in terms of contractual arrangements (i.e. temporary work, work for TWA and part-time work) for each main occupational group. There is then a comparison with hiring rates on the basis that will help show whether any increase in the rates applied to temporary, TWA and part-time contractual arrangements are due to increased job turnover in the same jobs or additional jobs being created.

Chapter 3 explored the variety of contractual arrangements and their development in general. It concluded that hirings on temporary and part-time employment contracts increased in 2012 compared to 2008, but that most temporary and part-time employment contracts were involuntary in the sense that workers would ideally have preferred permanent and full-time employment contracts. The prevalence of involuntary employment may result in newly hired workers continuing to look for a better job. Precarious employment also increases the risk of them returning to unemployment when their contract expires, and the previous two chapters indicated that high job turnover is prevalent mostly among the low educated and in low-skilled jobs. Combining these results suggests that differences in job turnover may be explained by the use of contractual arrangements.

This chapter goes on to explore the major occupational groups that were particularly affected by the growth in more flexible employment arrangements, thus enabling employment services and those involved with the development of employment policy to be aware of the type of jobs which are associated with the more precarious forms of employment contract. Three types of contractual arrangements and one overarching indicator are analysed for the nine major occupational groups as follows:

- the proportion of hirings with temporary contracts
- the proportion recruited via temporary work agencies (TWA)
- the proportion with part-time contracts
- the proportion of recently started jobs.

In particular, the chapter investigates the hypothesis that the relatively high levels of turnover in *'elementary occupations'* and the high turnover for low educated workers (see Chapters 5 and 7) reflects the prevalence of atypical employment contracts among those occupational groups and education levels.

The analysis in this chapter is based on the LFS, but also on some findings in the 2014 edition of the Economic Report of CIETT.⁴⁶ According to this report, in most European countries less than 20 per cent of the TWA worker assignments in 2012 lasted less than one month. However, France and Luxembourg were the notable exceptions, where respectively 92 per cent (France) and 97 per cent (Luxembourg) of the TWA assignments lasted less than one month. In addition, the proportion of workers employed through a TWA was relatively high in 2012 in those two countries.⁴⁷ LFS data on TWA assignments are generally not reliable at country level, but French data, due to the high number of TWA assignments and the size of the labour market, does allow for this sort of analysis.

8.2 Hirings starting with a temporary contract

Across most occupations over half of all hirings were on temporary contracts

In 2008 just over half of all hirings involved a temporary contract for all major occupational groups with the exception of *'legislators, senior officials and managers'* (Chart 8.1). By 2012 the proportion of temporary contracts in hirings had increased further in all major occupational groups except *'skilled agricultural and fishery workers'*. The proportions of temporary contracts in hirings were between 50 and 65 per cent in six out of the nine major occupational groups. For *'skilled agricultural and fishery workers'* and for *'elementary occupations'* the proportions exceeded 70 per cent in 2012.

Elementary occupations – high and still increasing use of temporary contracts

The low skills occupational group referred to as *'elementary occupations'* is one of two groups (the other being *'skilled agricultural and fishery workers'*) where more than 65 per cent of the workers hired in 2008 were on temporary contracts. The *'elementary occupations'* group also experienced the highest increase of any occupational groups in the use of temporary contracts, rising from 66 per cent in 2008 to 71 per cent in 2012.

46 CIETT (2014), Economic Report, 2014 Edition (based on data of 2012/2013), eurociett.eu/fileadmin/templates/ciETT/docs/Stats/Economic_report_2014/CIETT_ER2013.pdf

47 Also in Spain a majority (73 per cent) of TWA worker assignments lasted less than one month, but in this country relatively few workers were hired via a TWA according to CIETT

Hirings on temporary contracts in *'elementary occupations'* were highest in those countries where the use of temporary employment contracts was normal practice, such as Croatia, France, the Netherlands, Poland, Portugal, Slovenia, Spain and Sweden (Chart 3.7). In most of these countries, temporary contracts were not used more for hirings in *'elementary occupations'* than for other occupational groups. This suggests that occupational characteristics were not the main reason for employers' preference for the high use of temporary contracts, but instead it may reflect factors such as variations in seasonal work, or regulations in employment protection. The largest differences in the use of temporary contracts between *'elementary occupations'* and other occupations were in east European countries. In Poland, 93 per cent of the hirings in *'elementary occupations'* were on temporary contracts, compared to the Polish average of 86 per cent, and in Slovenia this was 89 per cent in *'elementary occupations'* compared to an average of 80 per cent. This may be explained by the relative importance of industry in the east of Europe, since industrial businesses, and therefore the demand for labour in industry, are very sensitive to the business cycle. In any case, workers in low-skilled jobs in the east of Europe tended to have more precarious employment positions compared to medium to high skilled workers in the same country.

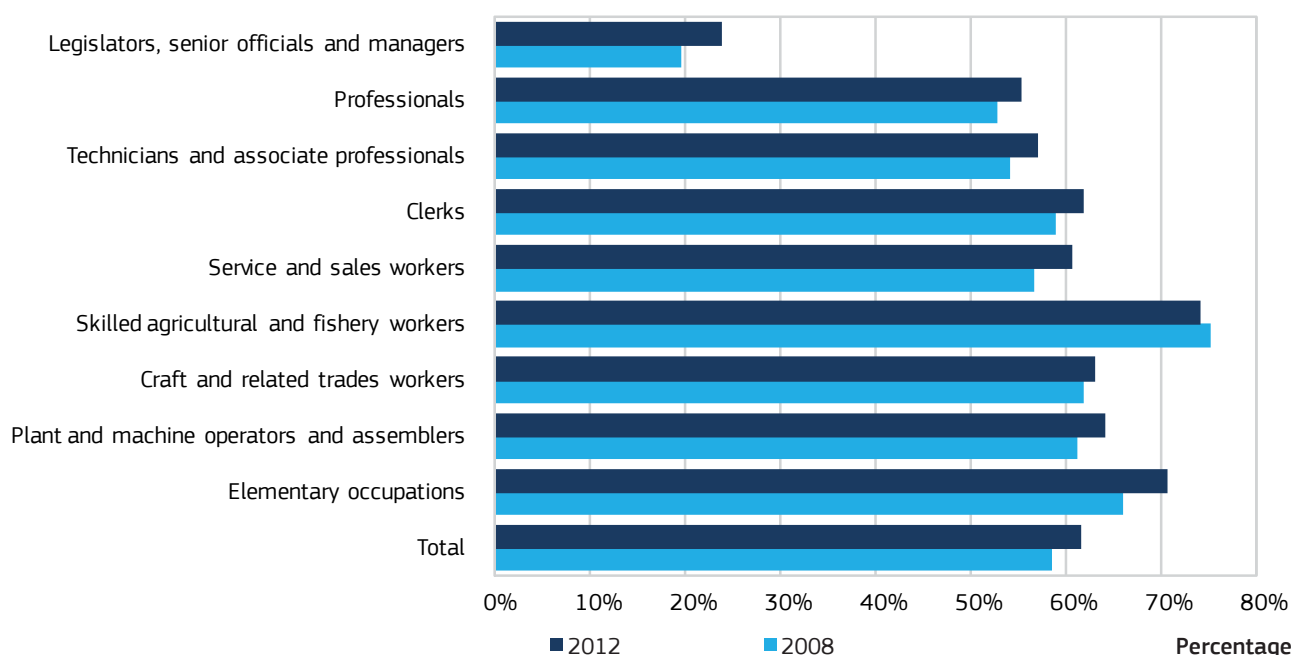
Between 2008 and 2012 an increasing incidence of temporary contracts centred on those countries where they were already common practice for the particular occupational group, not only for *'elementary occupations'* but also for other major occupational groups. When combined with signs of high and increasing labour turnover, this suggests that temporary contracts have become established practice in some countries and so they tend to give no guarantee of a permanent contract even when the employee performs satisfactorily in their job. The table below shows the proportions of temporary hirings in *'elementary occupations'* in 2012 in relation to the **71 per cent EU hirings average** for this group.

Above EU average	Poland (93), Spain (90 ↑), Slovenia (89), Croatia (89), Sweden (89↑), France (88↑), Slovakia (84), the Netherlands (82 ↑), Portugal (81 ↑), Hungary (80 ↑), the Czech Republic (80 ↑), Finland (73)
Below EU average	Greece (70), Italy (69), Bulgaria (67), Cyprus (64), Ireland (56), Luxembourg (56), Latvia (55 ↑), Lithuania (54), Belgium (51), Germany (48 ↓), Romania (47), Estonia (45), the United Kingdom (37), Malta (31), Austria (29), Denmark (27)

↑ means increasing share compared to 2008, ↓ means decreasing share

Chart 8.1 Share of temporary contract hirings per major occupational group

Percentages of total hirings per major occupational group, 2012 and 2008, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Operators and craft workers – similar proportions in temporary hirings

For hirings of ‘plant and machine operators and assemblers’ and ‘craft and related trades workers’, employers used temporary contracts in proportions that were similar to the average for all occupations in 2012. The exception was Bulgaria where 25 per cent of the persons hired in this occupational group began their job with a temporary contract compared to a 44 per cent average for other occupational groups in that country.

The use of temporary contracts in hirings for ‘plant and machine operators and assemblers’ changed little between 2008 and 2012, with a slight increase in proportions in Germany and Italy, and a slight decrease in proportions in France and Spain. However, for ‘craft and related trades workers’ the use of temporary contracts in hirings increased in half of the countries where temporary contracts were already common practice in 2008, in particular in France, Poland and Spain. The decreasing proportions in France and Spain for ‘plant and machine operators and assemblers’ suggests that the increase for ‘craft and related trades workers’ in the same countries may reflect the persistence of weak prospects for the construction sector in those countries. The table below shows the proportions of temporary hirings for ‘plant and machine operators and assemblers’ in 2012 in relation to the **55 per cent** EU average for this group.

Above EU average	Spain (86 ↓), Poland (86), France (84 ↓), Portugal (80), Sweden (79), Slovenia (79), the Netherlands (79), Italy (73 ↑), Croatia (65), the Czech Republic (65), Finland (61)
Below EU average	Belgium (53), Slovakia (52), Ireland (48), Germany (47 ↑), Greece (47), Luxembourg (46), Hungary (46), Estonia (40), Cyprus (38), Latvia (34), Lithuania (30), the United Kingdom (29), Austria (28), Bulgaria (25), Denmark (21), Malta (21), Romania (16)

↑ means increasing share compared to 2008, ↓ means decreasing share

The table below shows the proportions of temporary hirings for ‘craft and related trades workers’ in 2012 in relation to the EU average for this group of **57 per cent**.

Above EU average	Spain (93 ↑), France (85 ↑), Poland (85 ↑), Portugal (79), the Netherlands (76 ↑), Slovenia (72), Croatia (66), Sweden (66), Italy (65 ↑), Finland (60), Luxembourg (59), the Czech Republic (57 ↑)
Below EU average	Greece (53), Germany (51 ↓), Slovakia (49), Hungary (44), Ireland (44), Bulgaria (41), Belgium (40), Malta (36), Austria (35), Estonia (35), Cyprus (31), Lithuania (30), Latvia (26), Denmark (25), Romania (24), the United Kingdom (23)

↑ means increasing share compared to 2008, ↓ means decreasing share

Skilled agricultural workers – high levels of seasonal hirings

For ‘skilled agricultural and fishery workers’, the proportion of temporary contracts in hirings was highest among the major occupational groups at 75 per cent in 2008 and only slightly less at 74 per cent in 2012. This can to some extent be attributed to a high level of seasonal work in agriculture and fishing leading to the temporary hiring of skilled workers. However, skilled workers are less susceptible to seasonal shifts in employment than unskilled workers in this sector, and earlier analysis in this report (Chapter 5) concluded that a very high proportion of (unskilled) ‘agricultural, forestry and fishery labourers’ in the EU were workers hired for just one season at a time. Limitations on sample size for this occupational group mean that data showing individual country proportions are not available.

Service and sales workers – high use of temporary contracts in some countries

The proportion of ‘service and sales workers’ hired using a temporary employment contract is in general slightly below the average for all occupations at the EU level, though it is very high and increasing in some countries. In 2012 Poland, Slovenia and Spain had the largest proportions with 88 per cent, 89 per cent and 93 per cent respectively. Between 2008 and 2012 the most significant increases were in the Czech Republic (from 46 per cent to 65 per cent) and the Netherlands (from 58 per cent to 75 per cent). In the Netherlands, an analysis of administrative data showed that in sectors such as trade, hospitality and culture, while no more employees were hired on temporary contracts (between 2008 and 2010), the same employees were hired increasingly often in various jobs with temporary contracts, confirming increasing job turnover in this occupational group.⁴⁸ The table below shows the proportions of temporary hirings for ‘service and sales workers’ in 2012 in relation to the EU average for this group of **61 per cent**.

Above EU average	Slovenia (93), Spain (89 ↑), Poland (88), Sweden (86 ↑), Portugal (85), the Netherlands (75 ↑↑), Croatia (73), France (69 ↑), Italy (68 ↑), Finland (66), the Czech Republic (65 ↑↑), Luxembourg (63)
Below EU average	Slovakia (59), Greece (57), Belgium (55), Germany (50), Ireland (49), Hungary (43), Bulgaria (40), Austria (40), Cyprus (35), Denmark (31), Estonia (29), the United Kingdom (26), Malta (24), Romania (23), Latvia (18), Lithuania (17)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point, ↓ means decreasing share

48 Heyma, A. and S. van der Werff (2013), De sociaaleconomische situatie van langdurig flexibele werknemers (the socioeconomic situation of long-term flexible workers), rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2013/07/08/seo-rapport-de-sociaaleconomische-situatie-van-langdurig-flexibele-werknemers/rapport-flexibel.pdf

Clerks – temporary contracts more common in some countries than others

In 2012, in most countries, the proportion of *'clerks'* hired on temporary contracts was just under the average for all occupational groups. The exceptions were Ireland, the Netherlands and the United Kingdom, each with around 5 percentage points or more above the average. In the case of the United Kingdom, while the proportion of temporary hirings overall was comparatively low (30 per cent of all hirings in 2012), temporary hirings of *'clerks'* at 38 per cent was above the average for that country. The relatively greater use of temporary hirings for clerks in the United Kingdom may be due to the relative difficulty in dismissing public sector workers compared to other workers. According to the 2008 "State of the Public Service" report of the OECD, the proportion of the United Kingdom civil service that came within the general employment framework with secure contracts is close to 100 per cent, compared to between 80 and 95 per cent for other countries in the EU (figures of 2006).⁴⁹ Also, in the three Baltic countries, and Bulgaria, Malta and Romania, the low shares of clerks hired on temporary contracts also pointed to relatively secure positions.

In some countries (such as France, Germany, Italy, the Netherlands, Poland and Spain), the increased use of temporary contracts may be an indication that between 2008 and 2012 this type of secure public sector job was becoming less common. The strongest increases of temporary hirings of *'clerks'* were in Italy and the Netherlands and, according to informal sources, in these two countries government ministries created agencies that were allowed to hire workers without civil servant status. In Italy, public sector workers were also hired on an individual project basis and so these workers did not get the benefits of civil servant status. In the Netherlands (and to some extent Belgium), Temporary Work Agencies were often used for the recruitment of clerks. In Greece and Portugal the declining proportions of temporary hirings of *'clerks'* were probably due to falling demand in the private sector, which was more affected by the crisis than the public sector. The table below shows the proportions of temporary hirings for *'clerks'* in 2012 in relation to the **62 per cent** EU average for this group.

Above EU average	Spain (89 ↑), Poland (88 ↑), Slovenia (84), Portugal (84 ↓), the Netherlands (79 ↑), Sweden (78 ↓), France (78 ↑), Italy (72 ↑), Finland (71), Croatia (66)
Below EU average	The Czech Republic (56), Germany (54 ↑), Ireland (52), Greece (50 ↓), Luxembourg (47), Hungary (46), Slovakia (44), Belgium (44), Cyprus (41), the United Kingdom (38), Austria (36), Denmark (34), Estonia (32), Bulgaria (26), Romania (24), Malta (22), Lithuania (16), Latvia (10)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point,
↓ means decreasing share

Professionals and technicians – temporary hirings increasingly common

For the two high skilled occupational groups of *'technicians and associate professionals'* and *'professionals'* the incidence of temporary hirings increased between 2008 and 2012 as this form of employment contract became more common, though still less common than for the medium and low- skilled jobs. In the Netherlands and Italy, temporary contracts in hirings of *'technicians and associate professionals'* gained the most ground, as was the case for *'professionals'* in Denmark, though in that country most hirings in the *'professionals'* group started with a permanent contract.

The countries where temporary hirings in these two occupational groups were most common are the same as those where temporary hirings were common practice in general. The lower proportion of temporary hirings in these two groups at the EU level is, in fact, mostly due to particularly low proportions in the Baltic countries, and also in Bulgaria, Malta and Romania.

It is difficult to identify the precise reasons why the proportion of temporary hirings in these two high skilled occupational groups increased in specific countries. From the analysis earlier in this report, there is little reason to assume that employers were more reluctant to hire professionals, since the number of employees in this group increased in most countries. A more general explanation may be that if the supply of high educated people continues to increase, there is less reason for employers to offer permanent contracts and the proportion of temporary contracts may be expected to increase as a result.

The table below shows the proportions of temporary hirings for *'professionals'* in 2012 in relation to the **EU 55 per cent** average for this group.

Above EU average	Portugal (89 ↑), Spain (82 ↑), Poland (81), Slovenia (76), Croatia (75), Italy (73 ↑), the Netherlands (67 ↑), France (67 ↑), Finland (64), Sweden (64 ↑), Cyprus (58)
Below EU average	Belgium (54), Greece (54), Germany (51 ↓), the Czech Republic (50), Austria (45), Ireland (43), Denmark (41 ↑↑), Luxembourg (39), Slovakia (32), the United Kingdom (31), Hungary (31), Bulgaria (18), Estonia (18), Latvia (15), Malta (14), Romania (12), Lithuania (12)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point,
↓ means decreasing share

⁴⁹ OECD (2008), The State of the Public Service,

oecd.org/gov/pem/thestateofthepublicservice.htm

The table below shows the proportions of temporary hirings for *'technicians and associate professionals'* in 2012 in relation to the EU average for this group of **57 per cent**.

Above EU average	Spain (85 ↑), Poland (80), Portugal (78), Croatia (75), Slovenia (73), the Netherlands (71 ↑↑), France (71 ↑), Italy (70 ↑↑), Finland (69), Sweden (63 ↑)
Below EU average	the Czech Republic (54), Germany (51 ↓), Luxembourg (46), Ireland (44), Austria (40), Greece (39), Hungary (37), Belgium (34), Slovakia (33), the United Kingdom (28), Latvia (28), Denmark (26), Cyprus (25), Bulgaria (24), Estonia (20), Malta (14), Romania (9), Lithuania (9)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point,

↓ means decreasing share

Legislators, Senior Officials and Managers – hired with a permanent contract if at all

For *'legislators, senior officials and managers'*, the hiring rate was the lowest of all occupational groups in almost all EU countries (based on the hirings and employee data presented in Chapter 5), and therefore the lowest overall at EU level (24 per cent) as well. Taken together, these findings confirm that employers seek to retain people as *'legislators, senior officials and managers'* for as long as possible, and this further explains why labour hoarding is particularly strong in this group. These employees will tend to be the last to be dismissed even when there is less work and, conversely, there is less need to recruit new workers in this group when business improves. The one exception is the Netherlands where in 2012 an exceptionally high proportion (51 per cent) of hirings were on a temporary contract.

8.3 Temporary work agency placements

Regulation on TWA duration need not limit the number of TWA hirings

According to a recent OECD review⁵⁰, a key advantage of agency workers to the employer is the ability to adjust labour supply quickly and without severance costs. Therefore, it would be expected that in the EU, based on LFS data, one in ten workers were hired through a temporary work agency (TWA) (Chart 8.1). But in actual fact, there were large differences between countries in hirings done through a temporary work agency. The OECD review went on to conclude that TWA work tends to be regulated differently in different countries, although the EU Directive on Temporary Agency Work sets out a general framework for the regulation of TWA for Member States.⁵¹ In the Nordic countries, and also in Italy, for example, there is no restriction on the cumulative duration of TWA

assignments. However, in Belgium, France, Luxembourg and some countries in the east of Europe (the Czech Republic, Slovakia, and Slovenia), legislation limits the cumulated duration of TWA assignments. While this restriction limits the duration of the period during which the user firm may hire one TWA worker, the firm may replace one TWA worker with another. In reality, hirings via TWA are highest in Belgium, France and Luxembourg despite the limitation on the duration of contracts.

One in four operators hired via a temporary work agency – most hired in France

For *'plant and machine operators and assemblers'* one in four people hired in 2012 in the EU (excluding Germany and the United Kingdom) were TWA placements (Chart 8.2). In France, this percentage was over twice as high (at 55 per cent), while the percentage was just 10 per cent in the rest of the 26 EU countries.⁵²

Another three occupational groups in France, *'craft and related trades workers'*, *'elementary occupations'*, and *'clerks'* had high proportions of TWA hirings in 2012 at 49 per cent, 37 per cent and 23 per cent respectively. Again, these figures are much higher than the average in the 26 EU countries covered, which were 6 per cent (*'craft and related trades workers'*), 7 per cent (*'elementary occupations'*) and 8 per cent (*'clerks'*). Many of these occupations would be for workers deployed in industry and construction to cover the short-term needs of employers (for example to cover peaks in workload or to cover for employee absence) which could account for the high turnover.

In two other countries, the Netherlands and, to a lesser extent, Belgium, *'clerks'* had high proportions of TWA hirings in 2012. As noted earlier in this chapter, this may reflect greater security of tenure for civil servants, and the creation of agencies which may recruit workers on atypical contracts.

In France, the use of TWA hirings increased between 2008 and 2012 for *'craft and related trades workers'* and for *'elementary occupations'*, and it decreased for *'plant and machine operators and assemblers'* and it was more or less stable for the other occupational groups. In this way, the high (and for two occupations increasing) use of TWAs in the recruitment of low to medium skilled manual jobs confirms that many workers in France have relatively precarious employment. Numbers of TWA hirings were too low to allow analysis of trends in other EU countries.

50 OECD (2013) Protecting jobs, enhancing flexibility: A new look at employment protection legislation in OECD Employment Outlook 2013
http://dx.doi.org/10.1787/emp_outlook-2013-6-en

51 EU Directive on Temporary Agency Work (2008/104/EC),
ec.europa.eu/social/main.jsp?catId=706&langId=en&intPageId=207

52 26 countries are examined because Germany and the United Kingdom had to be excluded due to high non-response to the question on TWA work. Of those, only France had a combination of a high penetration rate, a high proportion of assignments shorter than one month (according to CIETT data) and a large labour market, and as a result, France is the only country for which numbers of TWA hirings can be analysed with a minimum degree of reliability.

Chart 8.2 Share of temporary work agency job hirings per major occupational group

Percentages of total hirings per major occupational group, 2012 and 2008, 26 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Germany and the United Kingdom are excluded because of high non response in TWA job hiring data.

Hirings of managers, professionals and service and sales workers through Temporary Work Agencies are rare

Contrary to the situation for low and medium skilled manual jobs (*'elementary occupations'*, *'plant and machine operators and assemblers'*, *'craft and related trades workers'*) and *'clerks'*, for the other major occupational groups the proportion of TWA hirings in France were not much different from the generally low and decreasing percentages at the EU level. This means that for these other major occupational groups, TWAs did not contribute significantly to job turnover in any EU country. Exceptionally, the role of TWAs was slightly higher at the EU level (excluding Germany and the United Kingdom) for hiring *'technicians and associate professionals'*. This was mainly due to Belgium, France and the Netherlands where 13 per cent, 15 per cent and 14 per cent respectively of the *'technicians and associate professionals'* were recruited through a TWA in 2012.

8.4 Hiring for part-time jobs

Chapter 3 confirmed that high - and increasing - levels of involuntary part-time work were evident from the start of the crisis. On average in the EU, 32 per cent of the hirings in 2012 were for part-time work, compared to 28 per cent in 2008 (Chapter 3, see also Chart 8.3 below). This section discusses the major occupational groups where part-time working was most common and where it increased between 2008 and 2012.

Part-time contracts increasingly common in *'service and sales'* and in elementary jobs

In two major occupational groups, over 40 per cent of those hired in 2012 started in a part-time job (Chart 8.3): *'service and sales workers'* (48 per cent compared to 45 per cent in 2008) and *'elementary occupations'* (44 per cent compared to 37 per cent in 2008). Also *'plant and machine operators and assemblers'* saw increasing part-time working where the proportion of part-time hirings increased from 11 per cent in 2008 to 16 per cent in 2012. However, because part-time hirings in this occupational group remain relatively rare, the increase of part-time working does not necessarily indicate an overall trend of reduced job security.

Chart 8.3 Share of part-time job hirings per major occupational group

Percentages of total hirings per major occupational group, 2012 and 2008, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Elementary and 'service and sales' jobs: part-time hirings common in western Europe and increasing in southern Europe

In 2012, only in countries in the west and south of Europe (with the exception of Slovakia) were more than one third of those hired in 'elementary occupations' or as 'services and sales workers' on a part-time contract. The highest proportions of part-time hirings were in the Netherlands and Sweden, but the strongest increases between 2008 and 2012 were (in addition to the Netherlands) in the south of Europe, in Italy, Portugal and Spain.

As already stated (see Chapter 3), most of the large increases in part-time working in the south of Europe were involuntary. It is likely that this also applies to those hired part-time in 'elementary jobs' and 'service and sales workers' because part-time hirings in these two occupations were relatively high and increasing. The high proportions of part-time work in the Netherlands, Sweden and Denmark are partially explained by a high proportion of student jobs in those countries (see also Chapter 9). For the Netherlands another explanation is the high employment rate of women, where the incidence of part-time working is largely due to an attempt to combine work and family life.

The table below shows the proportions of part-time hirings for 'elementary occupations' in 2012 in relation to the 44 per cent EU average for this group.

Above EU average	The Netherlands (84 ↑), Sweden (68 ↑), Germany (66 ↑), Denmark (59 ↑), Slovakia (55), Ireland (54), the United Kingdom (50), Belgium (45), Luxembourg (45)
Below EU average	Austria (43), Italy (42 ↑), Finland (41), Spain (38 ↑), France (37 ↓), Portugal (36 ↑), Slovenia (32), the Czech Republic (31), Malta (25), Greece (25), Hungary (22), Poland (21), Lithuania (19), Estonia (18), Romania (13), Bulgaria (13), Latvia (13), Cyprus (11), Croatia (4)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point,

↓ means decreasing share

The table below shows the proportions of part-time hirings for 'service and sales workers' in 2012 in relation to the 48 per cent EU average for this group.

Above EU average	The Netherlands (84 ↑), Sweden (67 ↑), Ireland (66), the United Kingdom (62 ↓), Denmark (60 ↑), Malta (58), Belgium (55), Germany (54 ↓), Austria (51)
Below EU average	Spain (46 ↑), Italy (45 ↑), France (42 ↑), Finland (41), Slovenia (39), Luxembourg (29), Portugal (29 ↑), the Czech Republic (24), Hungary (24), Poland (23), Cyprus (19), Estonia (18), Lithuania (18), Greece (18), Slovakia (17), Latvia (12), Romania (5), Bulgaria (4), Croatia (3)

↑ means increasing share compared to 2008, ↑↑ by more than 10 % point,

↓ means decreasing share

Operators and craft workers – part-time work uncommon

For *'plant and machine operators and assemblers'* only 16 per cent of the people hired in 2012 had a part-time job, and the corresponding figure for *'craft and related trades workers'* was 11 per cent. These percentages were more than twice as high in Ireland and the Netherlands for both occupational groups. Because part-time work in these medium skilled manual jobs is so rare, high and increasing shares of involuntary part-time work are not indicators of a precarious position in the labour market. This is further confirmed by the fact that the proportion of part-time hirings in these two occupations did not increase in any country between 2008 and 2012, though it was also rare for the proportion of part time hiring to come down. The two exceptions were a one percent decline for *'plant and machine operators and assemblers'* in Germany, and also a one percent decline for *'craft and related trades workers'* in Italy.

For *'skilled agricultural and fishery workers'* the share of part-time hirings was 26 per cent and so it was higher than the other medium skilled manual jobs, but the overall numbers of hirings are too low to differentiate between individual countries.

The table below shows the proportions of part-time hirings for *'plant and machine operators and assemblers'* in 2012 in relation to the **16 per cent** EU average for this group.

Above EU average	The Netherlands (47), Ireland (34), Sweden (30), the United Kingdom (23), Germany (21 ↓), Luxembourg (20), Austria (19)
Below EU average	Italy (15), France (15), Spain (15), Finland (14), Belgium (14), Denmark (14), Malta (11), Cyprus (10), Slovenia (9), Slovakia (8), Hungary (7), Portugal (7), Lithuania (6), Poland (5), Estonia (5), the Czech Republic (3), Latvia (3), Greece (3), Romania (2), Bulgaria (1), Croatia (0)

↑ means increasing share compared to 2008, ↓ means decreasing share

The table below shows the proportions of part-time hirings for *'craft and related trades workers'* in 2012 in relation to the **11 per cent** EU average for this group.

Above EU average	The Netherlands (27), Ireland (25), Cyprus (23), Greece (18), Sweden (16), Portugal (15), Germany (13), Spain (12), the United Kingdom (12), Italy (11 ↓), Hungary (11)
Below EU average	Slovakia (9), Luxembourg (9), Finland (9), Austria (8), Slovenia (8), Belgium (7), France (7), the Czech Republic (6), Lithuania (6), Malta (6), Poland (6), Latvia (5), Bulgaria (5), Estonia (4), Denmark (3), Romania (1), Croatia (0)

↑ means increasing share compared to 2008, ↓ means decreasing share

Clerks, technicians and professionals – part-time hirings vary across Europe

For *'clerks'* and *'technicians and associate professionals'*, the proportion of part-time hirings was only above one third in some countries in the west and south of Europe (though not all countries were affected). In addition in Estonia, the proportion

of part-time hirings was 30 per cent for *'clerks'* and 37 per cent for *'professionals'*. There were no extreme developments in the proportion of part-time hirings between 2008 and 2012, with only small upwards or downwards movements in the three occupational groups. Overall, there is no basis for linking trends in part-time hirings to high and increasing involuntary part-time hirings for *'clerks'*, *'technicians and associate professionals'* or *'professionals'*.

The table below shows the proportions of part-time hirings for *'clerks'* in 2012 in relation to the **31 per cent** EU average for this group.

Above EU average	The Netherlands (63 ↑), Sweden (50 ↓), Denmark (45), Austria (38), Germany (36 ↓), Ireland (35), Luxembourg (35), Spain (34 ↑), Malta (31), the United Kingdom (31 ↑)
Below EU average	Estonia (30), Italy (29 ↑), France (26 ↓), Lithuania (25), Finland (25), Slovenia (25), Belgium (22), the Czech Republic (21), Cyprus (18), Hungary (16), Portugal (16), Greece (13), Slovakia (13), Poland (11), Latvia (9), Romania (6), Croatia (3), Bulgaria (0)

↑ means increasing share compared to 2008, ↓ means decreasing share

The table below shows the proportions of part-time hirings for *'technicians and associate professionals'* in 2012 in relation to the **23 per cent** EU average for this group.

Above EU average	The Netherlands (52 ↑), Sweden (30 ↓), Spain (29 ↑), Ireland (28), Austria (28), Germany (27 ↓), Denmark (25 ↓), Malta (25), Finland (23), the United Kingdom (23)
Below EU average	Italy (19), France (18), Luxembourg (17), the Czech Republic (17), Cyprus (16), Belgium (15), Slovenia (15), Poland (14), Lithuania (13), Hungary (13), Estonia (13), Greece (12), Latvia (11), Portugal (10), Bulgaria (6), Slovakia (5), Romania (3), Croatia (0)

↑ means increasing share compared to 2008, ↓ means decreasing share

The table below shows the proportions of part-time hirings for *'professionals'* in 2012 in relation to the **27 per cent** EU average for this group.

Above EU average	The Netherlands (47 ↑), Estonia (37), Spain (37), Sweden (37 ↑), France (33), Austria (33), Cyprus (32), Germany (31), the Czech Republic (27), Greece (27)
Below EU average	Denmark (26 ↑), Belgium (25), Italy (24 ↑), Luxembourg (22), Portugal (22), Finland (21), Ireland (20), Slovenia (19), Poland (19), Latvia (18), Lithuania (17), the United Kingdom (17), Slovakia (15), Hungary (13), Malta (11), Bulgaria (5), Croatia (2), Romania (0)

↑ means increasing share compared to 2008, ↓ means decreasing share

For *'legislators, senior officials and managers'* the proportion of part-time hirings at the EU level increased slightly from 9 per cent in 2008 to 11 per cent in 2012. The numbers of hirings are too small to differentiate between countries for this occupational group, but from the low overall proportion it can be concluded that part-time hirings do not indicate high and increasing involuntary part-time work for this occupational group.

8.5 Proportion of 'recently started' jobs

This section explores the occupational groups where the proportion of 'recently started jobs' was particularly high, or even increased between 2008 and 2012. Where this has happened, a high and increasing job turnover is likely, especially if it is confirmed by the three indicators on contractual arrangements discussed earlier in this chapter. A recently started job is defined as having started within the previous three months at the time of the LFS interview (see Chapter 3). On average, for all occupations 23 per cent of the jobs in 2012 fell into the 'recently started' category compared to 26 per cent in 2008 (Chart 8.4). The general decline of this proportion can be attributed to the overall weaker economy in 2012, compared to 2008.

Over one in three service and sales, agriculture and elementary jobs were new in 2012 – but fewer than in 2008 (except for elementary jobs)

In the three major occupational groups of '*elementary occupations*', '*skilled agricultural and fishery workers*' and '*service and sales workers*', the proportion of recently started jobs was more than one third of the average number of jobs in 2012. For '*elementary occupations*', the hiring rate also increased between 2008 and 2012, which confirms previous indications of high and increasing job turnover in this occupational group. For the latter two occupational groups, the proportion of recently started jobs was just above

one third in 2012, but it had been a few percentage points higher in 2008. Therefore, indications of high job turnover are confirmed for '*agricultural and fishery workers*' and '*service and sales workers*' but no further increase in job turnover is apparent during the reference period. As discussed in previous chapters, the high job turnover in these two groups is partly seasonal, with summer peaks in agriculture, and December peaks in the retail trade.

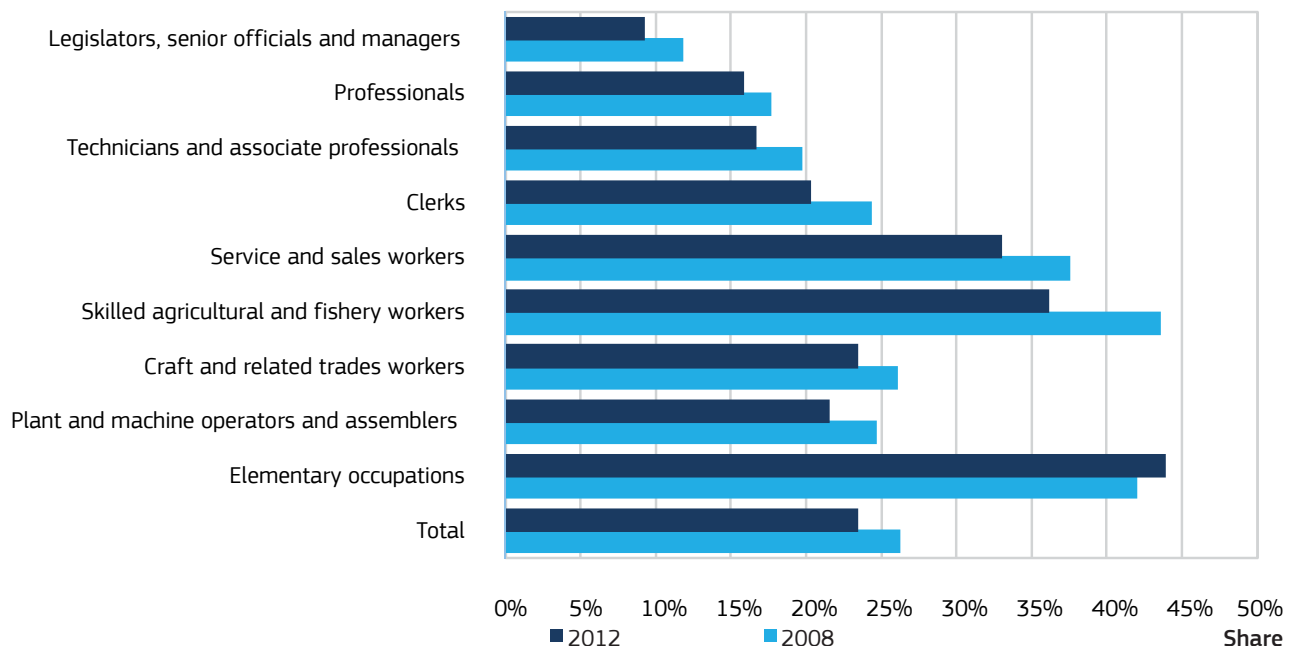
Elementary jobs – higher proportion of recently started jobs in 2012 reflected weak labour market position

The proportion of recently started jobs in '*elementary occupations*' in 2012 was high and it was increasing compared to 2008 in various countries, suggesting that part of increasing job turnover in this category was due to the relatively weak labour market position of unskilled workers. The proportion of recently started jobs in this category was highest in the Nordic countries (Denmark, Finland and, above all, Sweden), the three Baltic countries, and Bulgaria, Spain, Hungary and France. In many of these countries the increases are largely explained by the seasonality of work with demand peaking in the summer. In the Nordic countries and also in the Netherlands, part of the high proportion of recently started jobs is due to student jobs (see also Chapter 9).

However, given that half of all jobs were started recently and the proportion of recently started jobs was 10 percentage points or higher in 2012 than in 2008, this suggests that high

Chart 8.4 Recently started jobs as a proportion of all jobs by major occupational group

Percentages of total employees per major occupational group, 2012 and 2008, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

job turnover was mostly due to the weakening positions of workers on the labour market. Such a high increase in the proportion of recently started jobs was concentrated in a number of countries across Europe, namely the three Baltic countries, and also Bulgaria, France, the Netherlands and Portugal. In the Baltic countries, a likely reason is that total employment was very volatile over this period (as is evident from comparing Charts 1.2 and 1.3 in Chapter 1). In Hungary, the creation of temporary low-skilled jobs with financial incentives is a likely reason. In France and the Netherlands, the high and increasing proportion of recently started jobs points to recruiting jobs on short notice to meet peaks in production. This is particularly evident for France (as discussed above). For Bulgaria and Portugal, the high increase in the proportion of recently started jobs in 'elementary occupations' was probably due to their weak position in the labour market.

The table below shows the proportions of recently started jobs for 'elementary occupations' in 2012 in relation to the **44 per cent** EU average for this group.

Above EU average	Sweden (84 ↑), Finland (74), Latvia (68 ↑↑), Spain (63), Hungary (63 ↑↑), France (59 ↑↑), Denmark (54 ↓), Lithuania (53 ↑↑), Bulgaria (52 ↑↑), Estonia (47 ↑↑), Poland (47)
Below EU average	The Netherlands (41 ↑↑), Austria (40), the Czech Republic (40 ↑), Germany (38), Slovenia (37 ↓↓), Portugal (37 ↑↑), Cyprus (36), the United Kingdom (34), Italy (30 ↓), Croatia (29), Greece (29), Belgium (28), Slovakia (28), Ireland (27 ↓), Malta (24), Luxembourg (24 ↑), Romania (17 ↓)

↑ and ↓ mean increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

↑↑ and ↓↓ mean by at least 10 per cent

Operators – average and stable proportions of recently started jobs in most countries though down overall compared to 2008

For 'plant and machine operators and assemblers', the proportions of recently started jobs in 2012 did not deviate by more than seven percentage points either way from the average of 22 per cent in most countries, and did not change much between 2008 and 2012 in any country. Exceptions were Finland, Sweden and France where slightly above 40 per cent of jobs were 'recently started' jobs, and six countries in the east and south of Europe where proportion of recently started jobs was below 15 per cent. In France, the strong role performed by temporary work agencies in the labour market contributed to the high job turnover rate for operators, while for Finland and Sweden, a high job turnover was indicated for all occupational groups. In summary, the proportion of recently started jobs does not indicate particularly high job turnover for this occupational group except in these three countries (Finland, Sweden and France).

The table below shows the proportions of recently started jobs for 'plant and machine operators and assemblers' in 2012 in relation to the **22 per cent** EU average for this group.

Above EU average	Sweden (42), Finland (41), France (41 ↓), Denmark (29), Austria (27), Estonia (25), Cyprus (24), Latvia (24), Lithuania (23), Belgium (22 ↓), Germany (22), Spain (22 ↓)
Below EU average	Ireland (21), the United Kingdom (21), the Netherlands (21), Slovenia (20), Hungary (20), Poland (20), Malta (17), Portugal (17), Luxembourg (16), the Czech Republic (16), Italy (14), Croatia (13), Bulgaria (12), Greece (11), Slovakia (10 ↓), Romania (5)

↑ and ↓ means increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008

Craft workers – recently started jobs around the average though down on 2008

For 'craft and related trades workers', the proportion of recently started jobs in 2012 was highest in France, and probably reflects the high level of TWA work in that country. The proportion of recently started jobs was also highest in the Nordic countries and the three Baltic countries and, in addition, in Spain, Ireland and Portugal, where the construction sector was relatively hard hit by the crisis. In Latvia and Luxembourg, the proportion of recently started jobs increased rapidly and was likely to be due to the volatility of employment in the construction sector in these countries. Overall, this suggests that job turnover among craft workers was high in many countries across Europe, but did not generally increase compared to 2008.

The table below shows the proportions of recently started jobs for 'craft and related trades workers' in 2012 in relation to the **23 per cent** EU average for this group.

Above EU average	France (46 ↑), Denmark (41), Latvia (38 ↑↑), Finland (38), Estonia (37 ↑), Spain (34 ↓), Sweden (31 ↓), Ireland (28 ↑), Lithuania (28), Portugal (27 ↑), Cyprus (25), Austria (24), Belgium (24), Poland (24 ↓)
Below EU average	Luxembourg (22 ↑↑), Germany (22), Hungary (22), the Netherlands (22), Italy (19), Slovenia (18), the United Kingdom (18), Malta (16 ↑), Greece (15), Bulgaria (14 ↓), the Czech Republic (14), Croatia (10 ↓), Slovakia (8), Romania (5)

↑ and ↓ mean increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

↑↑ and ↓↓ mean by at least 10 per cent

For 'skilled agricultural and fishery workers' on average slightly over one in three jobs during 2012 were recently started (36 per cent). The proportions varied significantly between countries, ranging from approximately 10 per cent in Slovakia to 90 per cent in Finland. The proportions also varied annually but this is not surprising given the seasonal nature of some skilled agricultural work. Because of the high volatility of seasonal hirings in different years and the relatively small numbers, the proportions of recently started jobs are not tabulated by country for this occupational group.

Service and sales workers – higher than average recently started jobs but down on 2008

Apart from *'elementary occupations'*, the group of *'service and sales workers'* was the only other occupational group where proportions of recently started jobs reached above 50 per cent in 2012 in some countries, namely Denmark, Finland and Sweden. In ten more countries the proportion of recently started jobs was one third or higher in 2012. However, while the proportion of recently started jobs increased for *'elementary occupations'* compared to 2008, the proportion of recently started jobs decreased in the majority of countries for *'service and sales workers'*. The strongest declines in the proportion of recently started jobs for *'service and sales workers'* were in Denmark, Slovenia and Spain, although the proportion of recently started jobs was still at, or above, the EU average. Part of the reason was the proportion of workers in hirings in the public sector increased, for example *'personal care workers in health services'*, where job turnover is typically lower than in private sector jobs such as for example *'cashiers and ticket clerks'*. The conclusion is that job turnover was high in many countries, but it did not increase compared to 2008.

The table below shows the proportions of recently started jobs for *'service and sales workers'* in 2012 in relation to the **33 per cent** EU average for this group.

Above EU average	Sweden (69), Finland (53), Denmark (51 ↓↓), Cyprus (42), Estonia (42 ↑), Spain (39 ↓↓), France (37), Austria (37), Latvia (35), Poland (33 ↓), Slovenia (33 ↓↓), Belgium (33), Germany (33)
Below EU average	The Netherlands (31), Italy (31), Portugal (31), Ireland (30 ↓), the United Kingdom (30 ↓), Luxembourg (27 ↑), Bulgaria (25), Lithuania (25 ↓), Malta (24), the Czech Republic (24), Croatia (23), Hungary (22), Greece (18), Slovakia (12 ↓), Romania (10 ↓)

↑ and ↓ means increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

↑↑ and ↓↓ mean by at least 10 per cent

Clerks – average proportion of recently started jobs but fewer than in 2008

In 18 EU countries, the proportion of recently started jobs for *'clerks'* ranged no more than seven percentage points either side of the EU average in 2012, and the proportion of recently started jobs declined in 13 countries compared to 2008. The recently started jobs were highest in the three Nordic countries with proportions of one third or slightly above, and in Estonia which was the exception, with a rapidly increasing proportion of recently started jobs for *'clerks'*. As for service workers, a less steep decline in public sector employment may have cushioned the growth in overall job turnover.

The table below shows the proportions of recently started jobs for *'clerks'* in 2012 in relation to the **20 per cent** EU average for this group.

Above EU average	Sweden (41 ↓), Estonia (37 ↑↑), Finland (35), Denmark (33 ↓), France (27), Austria (25), Poland (24 ↓), the Netherlands (23), Luxembourg (23 ↓), the United Kingdom (23), Slovenia (22 ↓↓), Germany (21), Latvia (20), Belgium (20)
Below EU average	Ireland (19 ↓), Cyprus (19 ↓↓), Hungary (18), Portugal (18), Spain (18 ↓↓), Malta (17 ↓), Lithuania (17 ↓), the Czech Republic (15), Bulgaria (12 ↓), Italy (12 ↓), Slovakia (10 ↓), Croatia (10), Greece (9), Romania (5)

↑ and ↓ means increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

↑↑ and ↓↓ mean by at least 10 per cent

Technicians and professionals – proportion of recently started jobs around the average but down on 2008

For both *'technicians and associate professionals'* and *'professionals'*, the proportion of recently started jobs was at similar low percentages as the EU level, at 17 per cent and 16 per cent respectively. The percentages of recently started jobs were slightly higher at between 23 and 30 per cent in Denmark, Finland and Sweden. At the other extreme, the proportions of recently started jobs were below 10 per cent in Greece and a number of east European countries, in particular Croatia, Romania and Slovakia. Across Europe, the proportion of recently started jobs increased only for *'professionals'* in Luxembourg. While it went down in some countries including Denmark, the Netherlands and Spain for both occupational groups, the proportion of recently started jobs was stable between 2008 and 2012 in most countries for both *'technicians and associate professionals'* and for *'professionals'*.

The table below shows the proportions of recently started jobs for *'technicians and associate professionals'* in 2012 in relation to the **17 per cent** EU average for this group.

Above EU average	Finland (30), Sweden (29), Denmark (23 ↓), Latvia (22), France (22), Spain (20 ↓), Malta (20), Austria (20), Ireland (18 ↓), Estonia (18), Germany (17), the Netherlands (17 ↓)
Below EU average	The United Kingdom (16), Lithuania (16), Belgium (15), Slovenia (15), Portugal (15), Luxembourg (13), Poland (13 ↓), Hungary (13), Bulgaria (12), the Czech Republic (10), Cyprus (10 ↓↓), Italy (10), Greece (7), Slovakia (6), Croatia (6), Romania (5)

↑ and ↓ means increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

↑↑ and ↓↓ mean by at least 10 per cent

The table below shows the proportions of recently started jobs for *'professionals'* in 2012 in relation to the **16 per cent** EU average for this group.

Above EU average	Denmark (28 ↓), Sweden (27), Finland (25), Cyprus (23), Germany (21), Estonia (19), Ireland (19), Austria (19), Belgium (18), Portugal (17), Malta (17), the Netherlands (16 ↓), Spain (16 ↓), France (16)
Below EU average	The United Kingdom (15), Luxembourg (14 ↑), Italy (13), the Czech Republic (13), Slovenia (12 ↓), Latvia (11 ↓), Poland (11), Croatia (10), Hungary (10), Lithuania (9), Slovakia (9), Bulgaria (9), Greece (7), Romania (5)

↑ and ↓ means increasing and decreasing share of recently started jobs by at least 5 per cent point compared to 2008,

Only 9 per cent of the jobs for *'legislators, senior officials and managers'* in 2012 were 'new' in the sense of having started within three months prior to the LFS interview. Numbers are too low to differentiate between most countries, but the highest proportions in this group were in Finland and Sweden (13 per cent). These low percentages across the whole of the EU were partly caused by the tendency for significant numbers of managers to be promoted from within the organisation without recourse to the labour market, but also they reflect low job turnover. These percentages confirm the conclusion from the year-by-year developments in Chapter 5 that labour hoarding effectively reduced the impact of the crisis on employment, but also reduced the need to step up recruitment after the crisis.

8.6 Conclusions

Three indicators of contractual arrangements and a fourth overarching indicator of job turnover were analysed for the nine major occupational groups to assess:

1. the occupations that were affected by high and increasing job turnover;
2. the proportions of hirings with temporary contracts through TWAs;
3. the incidence and nature of part-time employment contracts;
4. the proportion of recently started jobs.

For *'elementary occupations'*, all indicators pointed to high and increasing job turnover in 2012 compared to 2008 for a variety of reasons. For Croatia, France, Poland, Spain, Slovenia and Sweden around 90 per cent of hirings in this group began with temporary contracts, with increasing proportions in France, Spain and Sweden compared to 2008. In the same countries, the proportion of temporary contracts were also very high for *'plant and machine operators and assemblers'* and *'craft and related trades workers'*, though they were at similar proportions in 2008. For France and Luxembourg, this is partly due to the high penetration of TWAs and workers placed for less than one month. For *'skilled agricultural and fishery workers'* high job turnover was also indicated, and can be attributed to the seasonality of the work, with 75 per

cent temporary hirings compared to around 100 per cent for *'agricultural labourers'* (Chapter 5).

For *'service and sales workers'*, three of the four indicators pointed to high turnover in Spain and Sweden, with the exception of TWA work. The proportion of temporary hirings was around 90 per cent in both countries, as well as in Poland and Slovenia. The Nordic countries had high proportions of new jobs in this occupational group, but part of this was due to seasonality and the importance of student jobs.

For *'clerks'*, the indicators for job turnover were generally about average in 2012, and they decreased compared to 2008, and this was probably due to an increasing proportion of public sector hirings where job turnover is generally lower than in the private sector. For the high skilled jobs, all four indicators pointed to a generally low job turnover. In the case of *'legislators, senior officials and managers'*, only 9 per cent had been hired up to three months earlier, of which 24 per cent were hired with a temporary contract, just two per cent were hired through a temporary work agency, and 11 per cent were hired on a part-time contract.

The high job turnover in *'elementary occupations'* and *'service and sales workers'* indicates that workers in these occupations are hired when they are needed to cover peaks in the workload, and they are made redundant to save labour costs when the workload is less. The downside is that workers may be offered limited opportunities for their skills development. In some countries, this also applies to medium skilled manual workers in industry and construction, who have acquired their skills during their initial training, but they still face the risk of reduced income due to high job turnover.

9 Trends in demand for young staff

9.1 Introduction

In general, young workers (defined as 15-29 years old in this report) are hired in larger proportions than average reflecting the extent to which they seek their first job and make their early career moves. Even in 2008, before the financial crisis, the hiring and the unemployment rate of young people were both twice the average rates (see Chapter 3 above). The most relevant question is not 'which were the occupations where youth hirings were high?', because youth hirings were high for all occupations, but 'which were the occupations where youth hirings were increasing?', as these occupations may represent new additional job opportunities at a time of high youth unemployment (although increasing job turnover cannot be ruled out as factor).

This chapter explores those occupations where young people were hired in increasing numbers. Where occupations see both total employment and youth hirings increase, it is an indication that those occupations offer good career prospects to young workers. If the opposite is true, then this implies increasing competition among qualified young jobseekers for the available jobs.

The incidence of jobseekers accepting employment positions below their level of qualification is in general high for young workers as they seek to get 'a foothold on the ladder' in the labour market and start earning. However, it can also result in accentuating the difficulties encountered by lower qualified young job-seekers, who may be squeezed out of the recruitment market.

Another aspect of youth hirings is that some of the young workers are students looking for a job, either as a part-time job in the evenings, weekends or summer months, or as an apprentice or trainee forming part of their education or work experience. These jobs do not necessarily mark the start of their career in those occupations (with the possible exception of traineeships and apprenticeships). But even where students only look for a job to augment their student income, this has wider implications for the labour market because the students compete with low-skilled jobseekers who seek such jobs as their main source of income. The two types of student employees cannot be separated within the LFS data, but nevertheless, a study of student jobs is, by itself, quite revealing about the labour market for young workers.

Starting with youth hirings by major occupational group, and then concentrating on the top 25 occupations where youth hirings have increased, this chapter concludes by analysing the educational level of young people who were recently hired, both including and excluding students.

9.2 Youth hirings by major occupational group

Youth hirings recovered partially in services and sales, elementary, and professional occupations

In 2009 young people were hired in lower numbers across the board for all major occupations, but by 2010 youth hirings had partially recovered for '*elementary occupations*' and many medium skilled occupations (Chart 9.1). Comparing 2010 with 2008, prospects for young people had developed least unfavourably for '*skilled agricultural and fishery workers*', '*service and sales workers*' and '*elementary occupations*'. For '*service and sales workers*' and '*elementary occupations*' in particular, youth hirings continued to recover in 2011 and then stabilised in 2012. The development of youth hirings in these two occupations was in line with overall developments in hirings (Chart 5.1 in Chapter 5), as hiring almost recovered to pre-crisis levels.

At first sight, the group '*professionals*' was the only major occupational group where youth hirings ended above the pre-crisis levels of 2008 (at an index value of 109). This was similar to the hirings of '*professionals*' in general (Chart 5.1). However all of this apparent increase in youth hirings took place in 2011, the year of a change in the ISCO occupational classifications. Nevertheless, youth hirings in the '*professionals*' category was more or less stable in both 2010 and 2012, and in 2009 '*professionals*' hirings fell least of all the occupational groups after '*skilled agricultural and fishery workers*'. At the very least, it can still be concluded that youth hirings in the '*professionals*' category developed at least less unfavourably than other types of jobs.

For the two other high skilled major occupational groups, young jobseekers had more difficulty finding employment. In 2012, the index of youth hirings for '*technicians and associate professionals*' ended at 74 (compared to the base value of 100 in 2008), and for '*legislators, senior officials and managers*' at 54. For hirings in general, the index for '*technicians and associate professionals*' ended at 80, and for '*legislators, senior officials and managers*' it ended at 66 (Chapter 5).

Chart 9.1 Development in youth hirings for nine major occupational groups

Index, 2008-2012, 2008=100, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Youth hirings refer to employees, in the age group of 15-29, who were employed in a 'reference week' and had started working for their employer at most three months earlier. Hirings are the total number in a year (sum of four quarters). Absolute values of youth hirings 2012 (x1,000): Legislators senior officials and manager, 191; Professionals, 2,473; Technicians and associate professionals, 2,583; Clerks, 2,419; Service and sales workers, 6,081; Skilled agricultural, forestry and fishery workers, 239; Craft and related trades workers, 2,127; Plant and machine operators and assemblers, 1,200; Elementary occupations 3,467.

Apart from these two high skilled major occupational groups, youth hirings for other occupational groups developed more or less in line with general hirings. Youth hirings of 'plant and machine operators and assemblers' and 'craft and related trades workers' showed the same sensitivity to the business cycle (Chart 9.1) as hirings in those occupational groups in general (Chart 5.1 in Chapter 5). The comparison of these charts further shows that the hiring of young 'clerks' was affected by the crisis and the austerity measures following the same pattern as the overall level of hirings.

One of three youth hirings were as services and sales workers

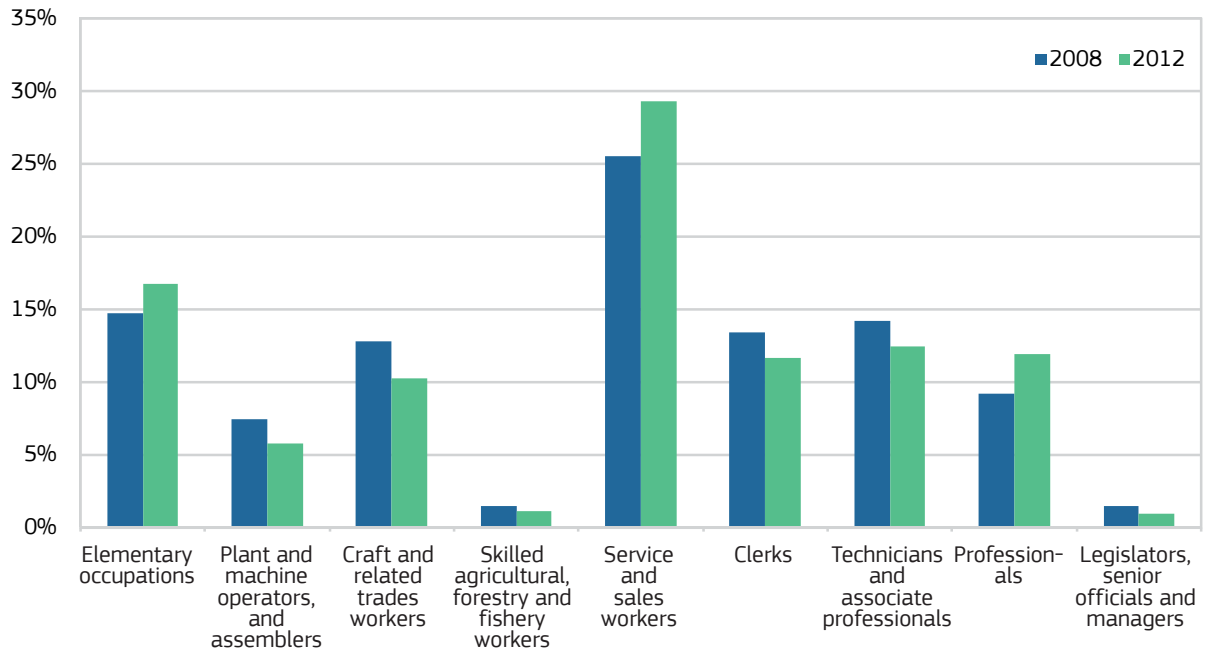
The relatively high levels of hirings in the 'service and sales workers' group is even more reflected in the levels of youth hirings (Chart 9.2). In fact, 'service and sales workers' which includes jobs such as waiters, personal care workers and shop assistants, accounted for 29 per cent of all youth hirings in 2012. The second largest proportion of youth hirings, at just 17 per cent, was for 'elementary occupations'. Young people also were hired more often as 'service and sales workers' than the average of 24 per cent across all ages (Chart 5.2 in Chapter 5). In ten countries, more than one third of youth hirings were in the category of 'service and sales workers', including four countries in the south of Europe (Cyprus, Greece,

Italy and Spain), and six other countries scattered across Europe (Bulgaria, Croatia, Denmark, Ireland, Sweden and the United Kingdom). In the south of Europe, this reflected the dependence of young workers on employment as 'service and sales workers' (see also EVM 12⁵³). In Denmark and Sweden, summer peaks in hirings in this occupational group were an indication that many jobs may have been temporary, as were the December peaks in the United Kingdom (jobs in shops for Christmas period). In the other countries (Bulgaria, Croatia and Ireland), the dependence of young workers on hirings in this occupational group possibly also reflected the extent of the crisis.

Young people were hired as 'plant and machine operators and assemblers', 'skilled agricultural and fishery workers' or 'legislators, senior officials and managers' proportionately less than in the hirings as a whole. Apart from these three occupational groups and 'service and sales workers', youth hirings were generally evenly spread among the five other major occupational groups, so the only group of occupations that young jobseekers should especially seek out is 'service and sales workers'.

Chart 9.2 Shares of youth hirings for the nine major occupational groups

Percentages of total youth hirings, 2008 and 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Youth hirings refer to employees, in the age group of 15-19, who were employed in a 'reference week' and had started working for their employer at most three months earlier. Hirings are the total number in a year (sum of four quarters).

Absolute values of youth hirings 2012 (in thousands): Legislators senior officials and manager, 191; Professionals, 2,473; Technicians and associate professionals, 2,583; Clerks, 2,419; Service and sales workers, 6,081; Skilled agricultural, forestry and fishery workers, 239; Craft and related trades workers, 2,127; Plant and machine operators and assemblers, 1,200; Elementary occupations 3,467.

Youth hiring fell economy-wide in some countries

General developments in the labour market clearly affected the hiring of young workers as well as total hirings. Between 2008 and 2012 the slump in youth hirings was worst in Ireland, Slovenia and in the south of Europe. In many southern European countries (Cyprus, Greece, Italy, Portugal and Spain), youth hirings fell significantly between 2008 and 2012 in several major occupational groups (Chart 9.3, red cells). Young jobseekers in Ireland, Poland and Slovenia were affected in a similar way by the crisis.

In some countries in the northern half of Europe (for example France and Sweden), increases in youth hirings in 'professionals' and 'service and sales workers' largely offset decreases in other occupational groups. In Austria, the increase in these two occupational groups resulted in stable youth hirings overall between 2008 and 2012. In Denmark and the United Kingdom, the downturn in youth hirings was partly cushioned by an increase in youth hirings for 'professionals'.

Southern Europe and Ireland saw largest falls in youth hirings

Contrary to the general pattern where the hiring of 'professionals' increased in all EU countries between 2008 and 2012, youth hirings in this occupational group declined in two countries, namely Italy and Spain. For 'technicians and associate professionals' and for 'clerks', youth hirings fell significantly in all of southern Europe (including Greece, Italy, Portugal, Spain). While youth hiring for 'technicians and associate professionals' fell by as much as -60 per cent or more in Greece, it fell equally strongly for young 'clerks' in Cyprus (and Ireland), and for both of these groups in Spain.

For 'service and sales workers', developments in youth hirings varied across Europe, but again the worst affected countries were, as expected, Greece, Ireland and Spain which all experienced a slump in youth hirings of around -30 per cent between 2008 and 2012. The dependence of young workers on these occupations therefore only increased, because youth hirings in other occupations fell even more strongly.

Chart 9.3 Developments in youth hirings by major occupational group

2012 compared to 2008, 26 countries

Green cells indicate increasing hirings, red cells indicate decreasing hirings, blank cells indicate no significant change.

	Legislators, senior officials and managers	Professionals	Technicians and associate professionals	Clerks	Service and sales workers	Skilled agricultural and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations	Total
Austria		*					*		*	
Belgium		*			*		*	*		-10%
Bulgaria										-20%
Croatia		*	*	*	*		*	*		*
Cyprus			*							-15%
Czech Republic	*				*	*		*	*	*
Denmark								*		-20%
Estonia										+20%
Finland		*			*			*		-10%
France										-10%
Germany **										
Greece		*		*				*		-45%
Hungary										+10%
Ireland							*	*	*	-35%
Italy										-25%
Latvia		*								-25%
Lithuania										-30%
Luxembourg										> 100%
Malta				*						
Netherlands **										
Poland					*			*		-25%
Portugal										-20%
Romania										-35%
Slovakia										-35%
Slovenia		*	*	*	*		*	*	*	-45%
Spain						*				-45%
Sweden										-1%
United Kingdom										-15%
EU (26 countries)										

Source: Eurostat, Labour Force Survey, and EVRR calculations

Youth hirings refer to employees, in the age group of 15-29, who were employed in a 'reference week' and had started working for their employer at most three months earlier. Hirings are the total number in a year (sum of four quarters).

* Indicates limited reliability of the change.

** Germany and the Netherlands are excluded due to a very high LFS non-response rate on the job start date in 2008.

For 'craft and related trades workers' and for 'plant and machine operators and assemblers' youth hirings did not increase in any EU country between 2008 and 2012, and the worst affected countries with falls of around -60 per cent or more were Greece ('craft and related trades workers') and Spain (both occupational groups).

For 'elementary occupations', youth hiring fell between 2008 and 2012 in some countries, which reflected general labour market developments. In Spain in particular, the number of young people hired for 'elementary occupations' fell by -40 per cent. However, youth hirings were increasing in certain other countries and the previous chapter concluded this was explained by high and increasing job turnover in 'elementary occupations' (notably in the Czech Republic, France and Hungary). Finland and Sweden were two other countries with high job turnover in this category, and the slump in youth hirings was limited to just 10 per cent in both of these countries.

Youth hirings of 'legislators, senior officials and managers' were generally too low to differentiate between countries. Ireland and its larger neighbour the United Kingdom were the only two countries where youth hirings changed statistically significantly, with falls of more than -50 per cent in both countries.

9.3 Top 25 growth occupations in youth hirings

The **Top 25 growth** occupations are calculated by comparing annual numbers of hirings per ISCO category (at 3 digit level) for 2012 with annual numbers for 2011.

Occupations are ranked by absolute growth rather than percentage change to avoid the numerically smallest occupations always ending on top, or the use of arbitrary minimum thresholds to select larger occupations.

In the charts four skills groups are distinguished. These are related to the main occupational groups as indicated in the table below:

Skills Level	Main occupational groups (ISCO 1 digit)
Highly skilled (HS)	Legislators, managers, professionals and technicians
Skilled non-manual (NM)	Clerks and service/sales workers
Skilled manual (M)	Agricultural, craft and trade workers, machine operators
Elementary (EL)	Labourers, elementary service/sales workers

Source: Cedefop (the European Centre for the Development of Vocational Training), <http://www.cedefop.europa.eu>

Top growth in youth hirings for various non-manual skilled jobs

Youth hirings increased by 360,000 between 2011 and 2012 in the top 25 growth occupations in the 27 EU countries covered (Chart 9.4). More than half of these hirings were accounted for by an increase of 205,000 among the following eight non-manual skilled occupations combined:

- Hospitality: 'waiters and bartenders', 'cooks'
- Clerks: 'numerical clerks', 'other clerical support workers', 'client information workers', 'general office clerks'
- Health care: 'personal care workers in health services'
- Other: 'protective services workers'.

Set against a 570,000 fall in total youth hirings, this underlines the importance of non-manual skilled occupations in providing job opportunities for young jobseekers in the aftermath of the crisis.

Among the non-manual skilled jobs, those related to food services and clerical support provided the largest counterweights to the general decrease in youth hirings in 2012. The increasing importance of these jobs for young jobseekers were evident for 'waiters and bartenders' and 'cooks' (83,000 youth hirings combined) as well as for 'numerical clerks', 'other clerical support workers', 'client information workers' and 'general office clerks' (78,000 youth hirings combined).

High-skilled young jobseekers increasingly hired in health care and ICT

Eleven high-skilled jobs featured in the top 25 growth occupations for youth hirings in 2012, with an aggregate growth of 90,000 hirings. These high skilled jobs, however, accounted for a smaller increase (one quarter) of youth hirings among the top 25 compared to more than one half for non-manual skilled jobs. Only in two fields did youth hirings increase by more than 10,000 in 2012 – namely health care ('nursing and midwifery associate professionals', 'medical doctors', 'medical and pharmaceutical technicians' and 'veterinary technicians and assistants') and ICT ('software and applications developers and analysts' and 'ICT operations and user support technicians'). Together these occupations accounted for an increase of 52,000 youth hirings in high-skilled health care jobs, and an increase of 14,000 in high-skilled ICT jobs.

The concentration of increasing youth hirings in high-skilled jobs in health care and ICT is in line with total hirings (Chapter 5). However the analyses in Chapter 5 also identified administration professionals and teaching professionals among the top hirings, but this was not reflected in the youth recruitment figures (Chart 9.4). For teaching professionals, most of the increase in total hirings was for 'university and higher education teachers' (Chapter 6), possibly reflecting higher participation in education as a consequence of more difficult

labour markets in Europe. In administration, it is striking that youth hirings increased mostly in clerical positions, while total hirings increased mostly for 'administration professionals' (Chapter 6). This may indicate that young jobseekers accept clerical jobs while continuing to look for better jobs, or hoping to get promoted to administration professionals at a later time. Lack of reliable data and the change in the classification of occupations in 2011 prevent further exploration of this issue. However, given the opposite developments for total hirings and youth hirings for professionals in administration and teaching, it remains equally possible that youth hirings were exceptionally low in 2012, or exceptionally high in 2011.

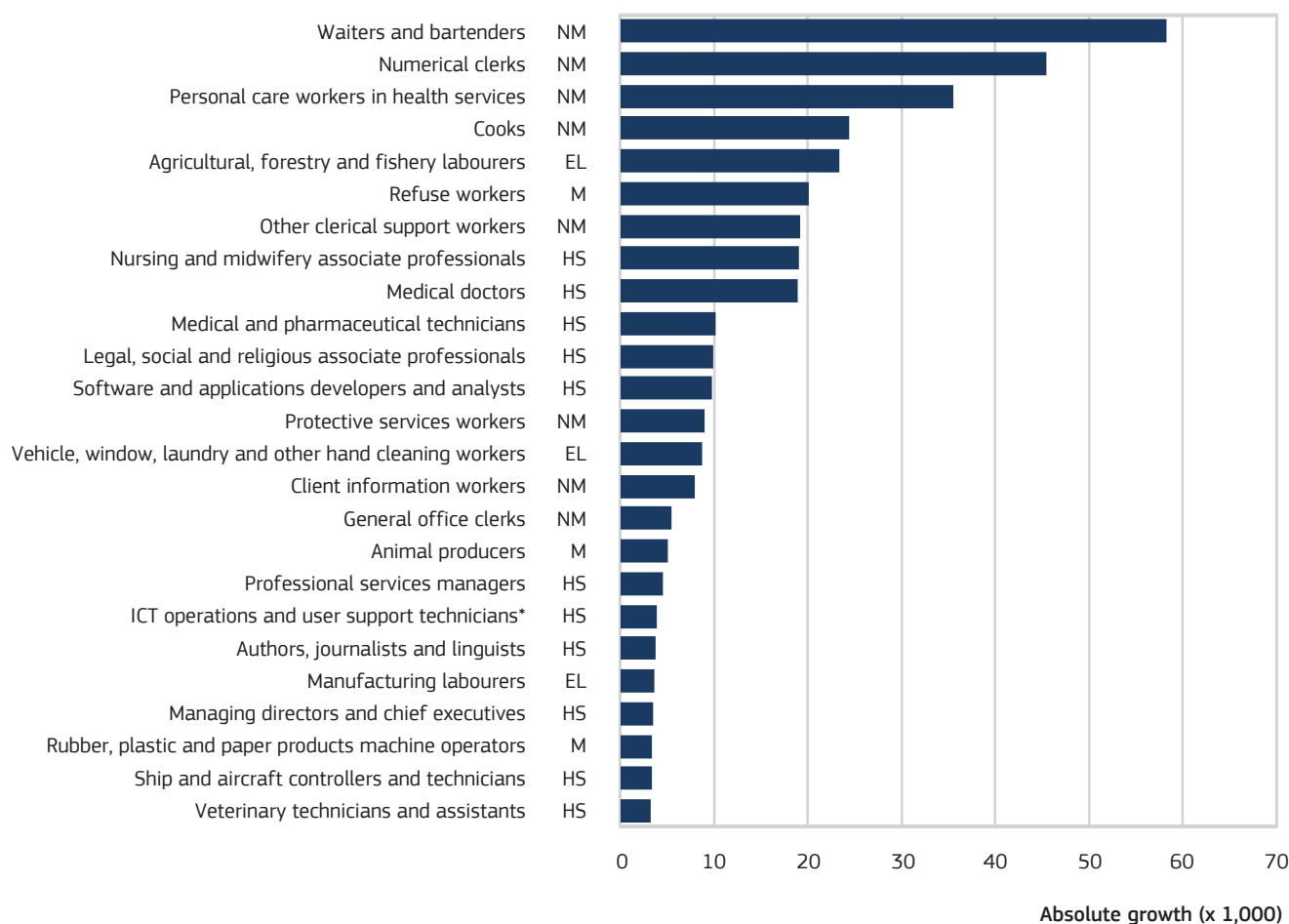
9.4 Youth hiring by educational level

The crisis hit the young, low educated jobseekers the hardest

Low educated young people were hired in much lower numbers in 2009 than in 2008, with a slump of -23 per cent (Chart 9.5). Apart from two quarters in 2010, they continued to be hired in smaller numbers when equivalent seasons are compared. As a result, youth hirings of the low educated were -46 per cent lower in the first quarter and -31 per cent lower in the second quarter of 2013, when compared to the same quarters in 2008. These falls were larger than the total decline in hirings of the low educated, which experienced falls of -38 per cent (first quarter of 2013) and -22 per cent (second quarter of 2013). These results imply that low educated youth were the worst affected by the crisis, both compared to young people

Chart 9.4 Top-25 growth occupations in youth hirings

Absolute growth, 2011-2012, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany is excluded due to a change of ISCO coding between 2011 and 2012.

Youth hirings refer employees, in the age group of 15-29, who were employed in a 'reference week' and had started working for their employer at most three months earlier. Hirings are the total number in a year (sum of four quarters).

* Information and communications technology operations and user support technicians

EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

with better qualifications and compared to the low educated people aged 30 and older.

Youth hirings of medium educated below pre-crisis levels

For the medium educated youth, hirings developed in almost the same pattern as total youth hirings. This is not surprising given that the medium educated youth represented roughly half of total youth hirings - 8.8 million compared to 17.2 million total youth hirings (figures of 2012). In 2009, the number of hirings of medium educated young people was on average -19 per cent compared to 2008. In 2010 and 2011, hirings of the medium educated youth recovered partially, before falling back to roughly the 2009 levels in 2012 and 2013, resulting in -30 per cent and -16 per cent fewer hirings of the medium educated youth in the first and third quarter of 2013 compared to the same quarters in 2008. These falls were slightly worse than the fall in total hirings of medium

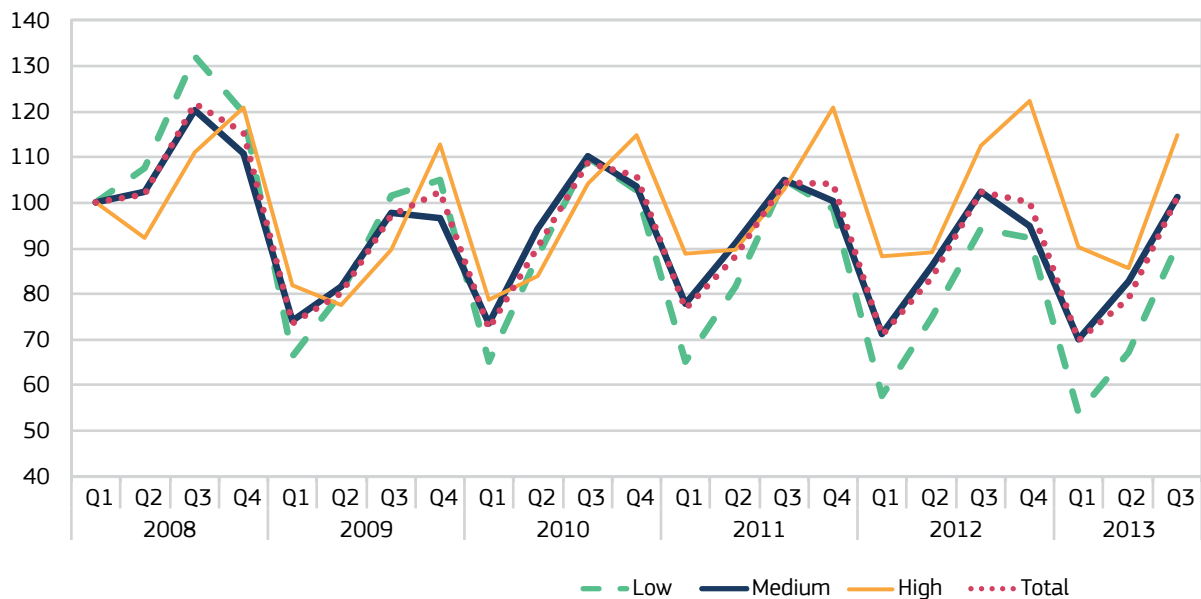
educated people (-24 per cent and -13 per cent in the first and third quarter of 2013 respectively). These results imply that medium educated young jobseekers were affected by the crisis, but not to a significantly greater extent than other jobseekers.

Post-summer peaks of high educated youth hirings returned to pre-crisis levels

High educated young jobseekers were affected slightly less in 2009 compared to young jobseekers with lesser qualifications (-15 per cent), and in later years hirings of young high educated people returned to the pre-crisis numbers of 2008 in the summer (third and fourth quarter), but not in the winter. These developments were largely the same as the total hirings of the high educated. This implies that a high level of education offers the most protection against weaker job prospects in a crisis, particularly for young people.

Chart 9.5 Timeline of youth hirings for three different educational levels

Index, 2008Q1 - 2013Q3, 2008Q1=100, 27 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

France is excluded due to high non-respons in 2013Q1-2013Q3 job start data.

Youth hirings: employees, in the age group of 15-29, who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Low educated: Primary and lower secondary education (ISCED 1-2)

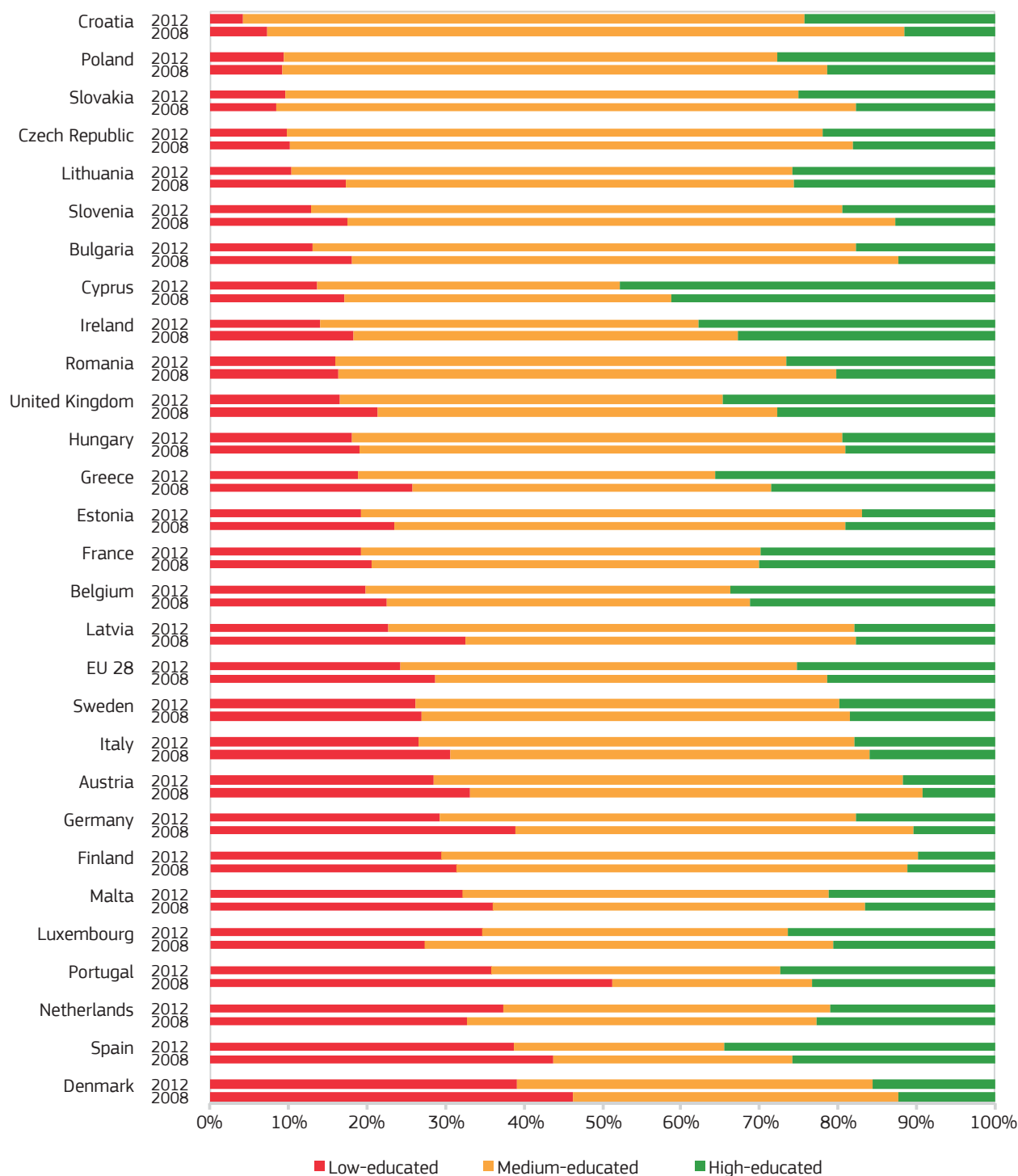
Medium educated: Formal upper secondary education (ISCED 3)

High educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

Absolute values hirings 2013Q3 (in millions): Lower educated, 4.3; Medium educated, 8.8; Higher educated, 4.1.

Chart 9.6a Youth hirings by educational level

Percentage, 2008 and 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Countries are sorted on basis of 2012 hirings with a low educational level.

Low educated: Primary and lower secondary education (ISCED 1-2)

Medium educated: Formal upper secondary education (ISCED 3)

High educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

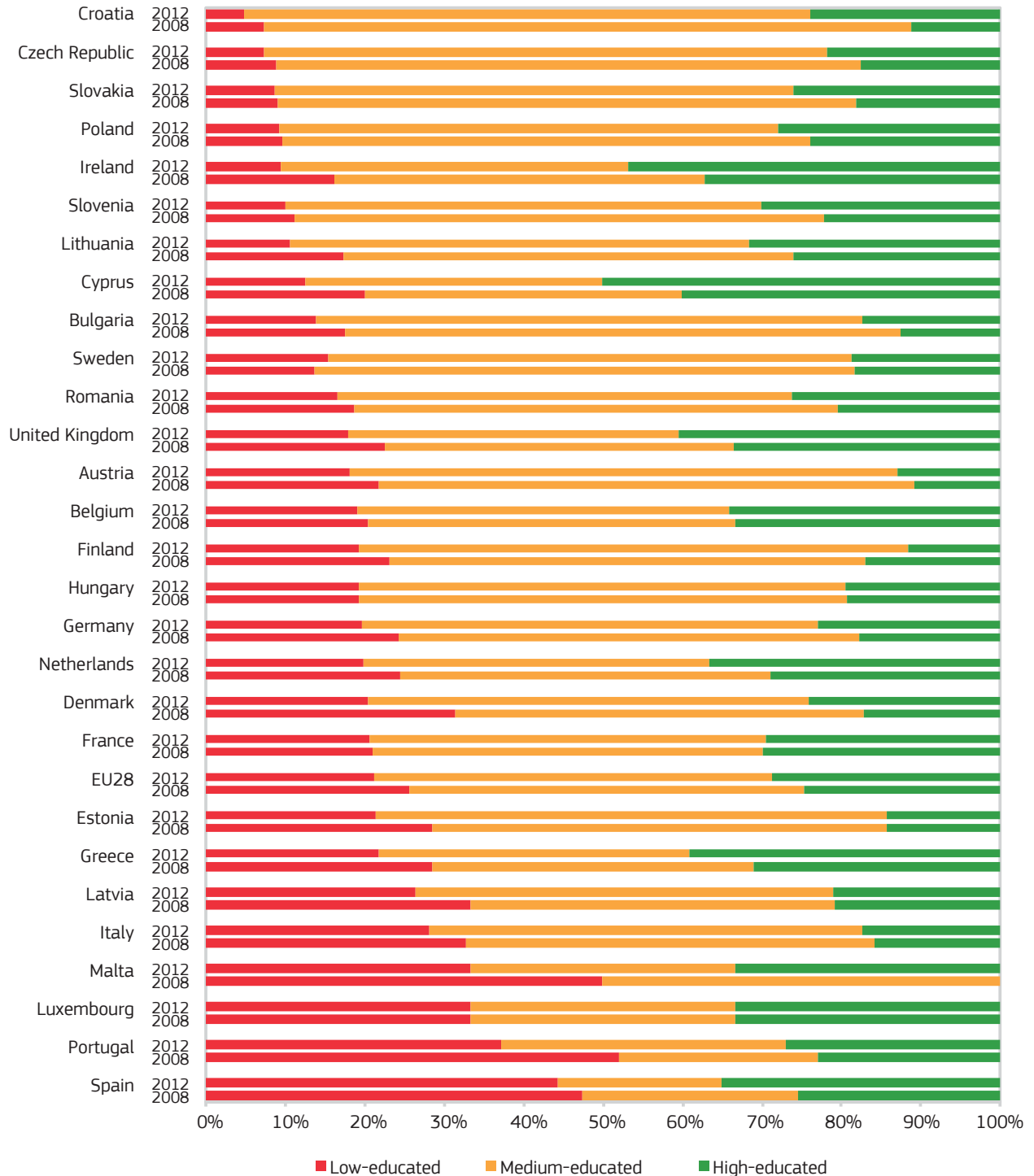
Absolute values of youth job hirings by educational level in 2012 (millions, sum of four quarters):

Low, 5.1; Medium, 10.6; High, 5.3.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Chart 9.6b Youth (excluding students and apprentices) hirings by educational level

Percentage, 2008 and 2012, 28 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Countries are sorted on basis of 2012 hirings with a low educational level.

Low educated: Primary and lower secondary education (ISCED 1-2)

Medium educated: Formal upper secondary education (ISCED 3)

High educated: Upper secondary short courses, post secondary non-tertiary and tertiary education (ISCED 4-6).

Absolute values of youth job hirings (exclusive students and apprentices) by educational level in 2012 (millions, sum of four quarters): Low, 3.2; Medium, 7.5; High, 4.3.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

High proportions of low educated in youth hirings in both Nordic and southern European countries

In 2012, the proportion of the low educated in youth hirings was highest in Denmark, the Netherlands, Portugal and Spain (Chart 9.6a). In Finland, Sweden and Italy, the proportion of the low educated in youth hirings was also above the EU average. In contrast, in the east of Europe, the low educated formed the lowest proportions of total youth hirings. This reflected their relatively low share of the population. However in Austria and Germany, the share of the low educated among hirings was greater than the EU average despite the fact that in Eastern Europe most young people attained at least medium level qualification. This dissimilarity in hirings of the low educated in Austria and Germany on the one hand, and the countries in the east of Europe on the other hand, are explained by a difference in student jobs, as discussed below.

Statistics show low educated youth hirings in Nordic countries reflect availability of student and apprentice jobs

Some of the differences in the educational composition of youth hirings across Europe are explained by hybrid forms of study and education, such as students complementing their study income with jobs in the evenings, the weekends or during the summer holidays, and also students working in an apprentice or trainee position as part of their study. In northern Europe, it is common for students in secondary schools to also carry out casual work during their studies, and for vocational students to combine school with paid work.

When students are excluded from youth employment statistics, the proportion of the low educated in youth hirings in Denmark and the Netherlands were no longer the highest in Europe in 2012, instead they were at the EU average (Chart 9.6b). Given the data on the high turnover of 'elementary jobs' in these two countries (and also in Finland and Sweden), the majority of these students probably also had low-skilled jobs rather than medium-skilled apprentice jobs. Nevertheless, the availability of secondary school students for low-skilled jobs in these countries has wider labour market implications, because it probably makes finding a stable job more difficult for less educated jobseekers. Similarly, the proportion of the low educated in employment in Austria and Germany is no longer slightly above the EU average when students are excluded, in fact it is slightly below the EU average. For Austria and Germany, there were no strong indications of high and increasing job turnover in 'elementary jobs' and student jobs were more likely to consist of medium-skilled apprentice jobs.

The exclusion of students (Chart 9.6b) also indicates the low educated who are not attending school are hired in the greatest proportions in the south of Europe (except Cyprus) and in the Baltic countries (except Lithuania). For the south of Europe, this is in line with the high proportion of low educated people in the general population (in general, people aged less

than 30), while for Estonia and Latvia, the high job turnover amongst the low educated youth is a more likely explanation for their relatively high share of hirings.

Two out of three young people hired in east Europe had a medium education

Of the young people hired in 2012, around or above 60 per cent had a medium level of education in most of the 11 countries in the east of Europe (Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia, Chart 9.6a). On average in these 11 countries, 65 per cent of both young persons and persons above the age of 30 had a medium education.

The proportion of medium educated in youth hirings was similarly high in Austria (60 per cent), Finland (61 per cent) and slightly less in Germany and Sweden. In these four countries, the medium educated were slightly more represented in youth hirings than in the total hirings: on average 57 per cent in the youth hirings compared to 55 per cent in total hirings.

When students are excluded from the sample, the proportions of the medium educated do not change much in the east of Europe but they do increase in Austria and Finland (both 69 per cent), Germany (57 per cent) and Sweden (66 per cent). This difference in the figures 'with' students and 'without' students suggests that students of higher education caused the difference in those countries; since they would point out that they only have completed medium education so far.

Although there were more student jobs in Austria, Finland, Germany and Sweden than in the east of Europe, the domination of the medium educated young people in hirings in these countries (and also in the east of Europe as well) can largely be explained by the high proportion of the population who successfully completed a medium education.

High educated young people were hired more often across Europe

Looking at changes in the educational composition of youth hirings between 2008 and 2012, hirings declined less than average for the high educated youth who were hired in increasing proportions in all but three EU countries: Estonia, Finland and the Netherlands. Although youth hirings declined in most countries (as shown earlier in Chart 9.2), the hirings declined less for the high educated young people in most countries. Even in Estonia, Finland and the Netherlands, where the proportion of high educated young people in hirings was lower than in 2008, this did not indicate weaker employment opportunities. In 2012 greater numbers of high educated young people were hired in each of these countries compared to 2008. In fact, the diminishing share of the high educated young people in Estonia, Finland and the Netherlands reflected the increasing job turnover noted in the previous chapter. In Finland and the Netherlands, this affected the low educated while in Estonia it affected the medium educated.

Contrasting the increasing proportions of the high educated in youth hirings, the low educated youth were hired in lower proportions in 2012 compared to 2008 in most EU countries, reflecting their weakening position in the labour market. The exceptions were Luxembourg and the Netherlands where the lower educated youth were hired in increasing proportions. However, in both countries this was probably due to increasing job turnover in 'elementary occupations' (via increasing numbers of temporary agency jobs in Luxembourg and general temporary employment contracts in the Netherlands) and did not reflect the improving position of the low educated youth in the labour markets in the Netherlands and Luxembourg.

Extreme changes in the educational composition of youth hirings between 2008 and 2012 may provide an indication of increasing job competition. In all situations, this would need to be confirmed by additional data, ideally on the educational level of job-finders according to their occupation, but data limitations do not allow such a detailed analysis. Nevertheless, some changes in the educational composition were very extreme.

In Estonia, Latvia, Lithuania and Portugal, medium educated young people were hired in significantly higher proportions mostly at the expense of the low educated young jobseekers. In the three Baltic countries, this suggests that the medium educated young jobseekers were accepting jobs below their qualification level. This was more extreme in Portugal where the proportion of the medium educated youth in hirings increased by 11 percentage points, and the proportion of the low educated youth that were hired fell by -15 percentage points.

In Cyprus, Greece, Slovenia and Spain, the high educated were hired at the expense of both the medium and low educated. In five eastern European countries (Croatia, the Czech Republic, Poland, Romania and Slovakia), the high educated gained relatively in youth hirings, but gained more at the expense of the medium educated than the low educated. However, the changes in these countries were less pronounced than the changes for the low and medium educated youth in the three Baltic countries and Portugal. The differences were not so pronounced as to conclude increasing competition between people with different educational levels for the same jobs. The most notable difference among these five countries was in Croatia where the proportion of high educated in youth hirings was an exceptionally low 12 per cent in 2008, but this increased to the EU average of 24 per cent in 2012.

9.5 Conclusions

For young workers seeking their first job and making career moves, it is encouraging that the group '*professionals*' offered stable or increasing employment opportunities at the EU level. Excluding Germany for technical reasons, between 2008 and 2012, increasing youth hirings in the '*professionals*' occupational group partially offset declining youth hirings in

other occupations in Austria, Denmark, France, Sweden and the United Kingdom. Within the group of young '*professionals*', the highest increases in the EU were in the fields of healthcare and ICT, which was in line with increasing employment and hirings in the total labour market (including those beyond the age of 30). However, the general increase in job hirings for administration and teaching professionals did not result in more youth hirings. In the case of administration, the reason for this is that young workers were recruited increasingly as clerks rather than as professionals.

In terms of volumes and development of youth hirings, the occupational group '*service and sales workers*' offered the most opportunities for young jobseekers in the period between 2008 and 2012. These jobs, however, are generally not noted for offering career opportunities. The proportion of this occupational group in youth hirings increased both in northern and southern Europe, but against different backgrounds. In Austria, France and Sweden, increasing youth hirings in this occupational group partially counterbalanced decreasing youth hirings in other occupations. In Greece and Spain, however, the hirings of '*service and sales workers*' decreased significantly. Nevertheless, because hirings decreased even more for other occupations, young jobseekers in these countries depended increasingly on medium skilled jobs for '*service and sales workers*'.

The '*elementary jobs*' group is also relevant in terms of volumes of youth hiring, but any increase in these hiring levels can largely be attributed to countries where job turnover in this occupational group increased, and so it did not correspond to increasing levels of employment.

The proportion of low educated young people in hirings – including students – was the highest in Denmark, closely followed by the Netherlands. This was caused in general by students supplementing their study income with a low-skilled part-time job, increasing the difficulty for low educated people to find a job as their main source of income.

The relatively high volumes of hirings of low educated young jobseekers in the south of Europe (Greece, Italy, Portugal, and Spain) reflected the relatively high share of the low educated in the population. In Portugal, a significant share of the low educated young people in hirings appears to have been replaced by medium educated young people over the period under review.

In general, the higher the educational level the better the chances of finding a job, and this was particularly the case for young jobseekers.

10 Development of occupational demand and market profile of Public Employment Services

10.1 Introduction

The role of public employment services (PES) in the notification and filling of job vacancies is explored in this chapter. As discussed in earlier chapters, the availability of comparable job vacancy inflows from PES is limited to a selection of countries and a limited timeline, with 18 countries over the period 2010-2013 (third quarter) offering the most reliable series.

As a consequence of the limitations of the data from PES, most of the analysis in the chapter uses LFS information on hirings. Strictly this measures the number of those filling jobs over the reference period of the LFS with some involvement of the PES. The LFS has the distinct advantage of covering all Member States over a long timeline (2008-2012), and it also allows a detailed review of such factors as educational profile, age group and major occupational groups. However, owing to the size of the LFS sample, analysis of the data by country is not possible. The relevant questions in the LFS survey used in this and the next chapter are given in the box below.

The LFS contains two relevant questions⁵⁴:

- Has the PES contributed to the finding of your current job?
- Is your current job a temporary agency work job?

The percentage of job-finders (= job hirings) that respond in the affirmative to these questions is used to indicate the roles of the PES and the TWA. It should be noted however, that the PES and the TWA are not necessarily mutually exclusive; PES and TWA may forward their notified vacancies to each other.

Examining the changes in PES involvement in filling vacancies over time will be influenced by changes in the type and range of services offered in each country.

10.2 General developments in recruitment with PES involvement

Recovery of vacancies notified to PES in Latvia and Lithuania – slump in notifications in Cyprus and Slovakia

Between the first quarter of 2010 and third quarter of 2013, the inflow of PES job vacancies in the 18 Member States covered was relatively flat with most of the variation in inflow being due to seasonal factors, although developments were more positive in Latvia and Lithuania and worse in Cyprus and Slovakia (Chart 10.1). The seasonal variation peaked at 30 per cent above the base value in the second quarter of 2011, but the PES inflow ended in the second quarter of 2013 at roughly the same level as the second quarter of 2010. This corresponds with a period of relatively flat economic growth and employment in the EU (see Chapter 1, especially Chart 1.1) which suggests that the inflow of PES vacancies was a reflection of the prevailing economic condition.

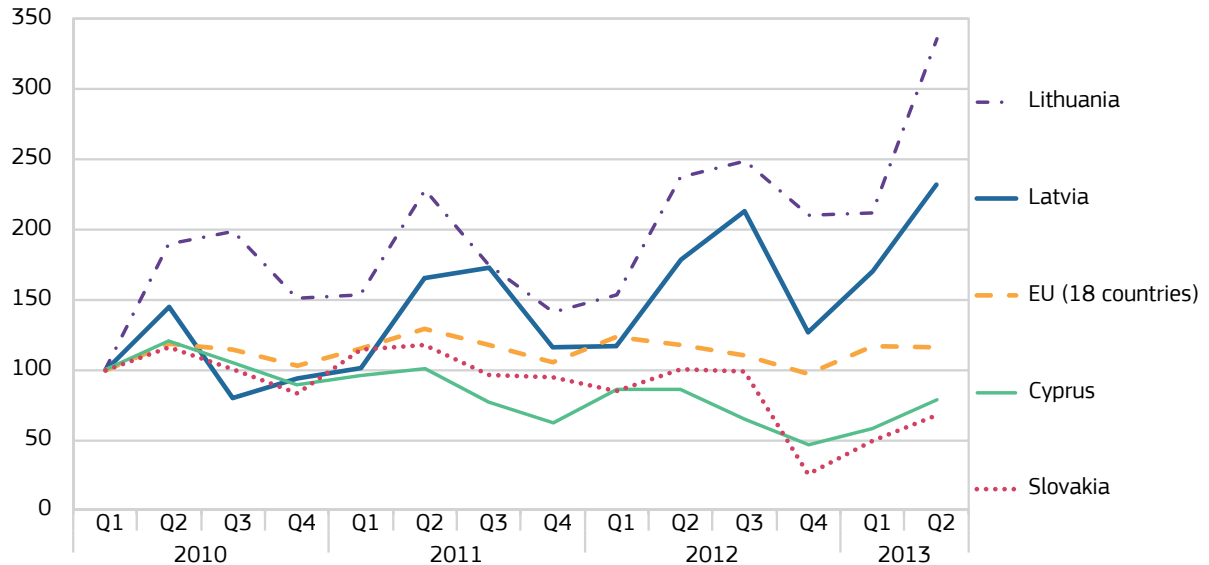
The two Baltic countries of Latvia and Lithuania illustrate the significant upward growth in PES vacancies from around the end of the fourth quarter of 2012, registering much bigger increases than during the previous periods from the first quarter of 2010 (see Annex Table A1.13 for further the quarterly changes). The index for Lithuania in particular reached above 300 by the second quarter of 2013, around 100 points above that for Latvia. Continuously strong economic growth and shortage of qualified labour in some fields encouraged employers to use all available recruitment channels, including PES services, to secure their labour needs⁵⁵. But these two countries were not alone in registering significant upward shifts in PES vacancy inflows. The third Baltic Member State, Estonia, also showed very strong growth, and to a lesser extent, Bulgaria, Hungary and Ireland also showed strong growth. Among the other countries, some of the older Member States saw relatively small increases. For example there was little change in Austria, Belgium, Germany and the United Kingdom which is consistent with the flat-lining of their economies during the period.

⁵⁴ These questions are from the Eurostat Guidelines to National Statistical Offices. The exact wording differs per country.

⁵⁵ EC (2013), European Vacancy Monitor issue No 10, September 2013

Chart 10.1 Development of PES vacancy inflow

Index, 2010Q1 - 2013Q2, 2010Q1 = 100, 18 countries



Source: National PES and EVRR calculations.

Countries included: Austria, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Germany, Hungary, Ireland, Latvia, Lithuania, the Netherlands, Portugal, Romania, Slovakia, Spain and Sweden.

The chart shows four countries with the highest (Slovakia and Cyprus) and lowest (Latvia and Lithuania) development in vacancy inflow, as well as the average of the 18 EU countries with available data.

Absolute values vacancy inflow 2013Q2 (in thousands): Slovakia, 8.4; Cyprus, 3.9; EU18, 1,595.3; Latvia, 10.5; Lithuania, 79.1.

This positive development was not evident in some other countries especially in those particularly adversely affected by the crisis. For example, in Cyprus and Slovakia the inflow of PES vacancies began to decline in 2012 after relatively small changes around the base level. Declines in PES notifications appear to have started earlier in Cyprus, with a gradual downward trajectory until around the end of 2012 after which there was some modest recovery. For Slovakia the pattern over the whole period, but particularly from around the middle of 2012, was more volatile, falling sharply in the fourth quarter of 2012 before recovering to some extent over the first two quarters of 2013.

PES profile roughly equal for hirings of jobseekers below and above age 30

The LFS data allows an analysis of the role of PES in assisting job-finders and this gives an approximation of the share of PES in the overall job-finding activity. For the EU28 in aggregate the PES average share of all hirings was 9 per cent over the period 2008-2012, increasing (marginally) at for both younger and older jobseekers (Chart 10.2a). The fact that not more than ten per cent of vacancies are filled with the help of the PES reflects many things. First of all, more job-finders moved from employment to starting a new job than from unemployment to starting a new job: an unemployment rate of between 10 and 20 per cent means that 80 to 90 per cent

are employed. So even if all hypothetically all unemployed find a job, an average job turnover rate of 25 per cent implies that more job-finders were employed than unemployed at the time of hiring. Second, not all vacancies are notified to the PES, but on average one in three, as documented in the previous issue of this report. Third, competition for job openings notified to the PES can be fiercer than for jobs through the personal network, since the former are public so many unemployed can apply for the same job, reducing the chance of success of an individual unemployed.

This general upward trend in the proportion of job hirings assisted by the PES is also evident across the age range of those reporting the use of PES in finding their job (Chart 10.2a). There was little difference between the proportions of young people aged 15-29 (at 8 per cent) and those aged 30 and over (at 9 per cent), whereas (as the Job Mobility in Europe report points out) there was a greater likelihood that a young person will feature in overall new recruits. In fact in only four countries (Belgium, Croatia, Poland and Romania) did young people have a greater share than older age groups and for the remaining countries the lower shares were likely to be due to a number of factors. For example, in many countries specialised youth employment services offer careers advice, job preparation and job search support, and the growth of active measures under the Youth Guarantee need not always involve traditional PES services. Another factor may be the

Chart 10.2a PES profile in self-reported job hirings by age group, 2008 - 2012

Percentages, 2008-2012, 22 countries

Age group	Average PES share 2008 - 2012	Trend
15-29	8%	↑
30+	9%	↑
Total	9%	↑

Source: Eurostat, Labour Force Survey and EVRR calculations.

Finland, France, Germany, Luxembourg, Malta and Slovenia are excluded due to high non-response in PES job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Trend increase/decrease: share in 2012 is at least 2% points higher/lower than in 2008.

greater likelihood that young people turned to the internet as their main job search vehicle, extending beyond job vacancy websites to using social media to trawl for opportunities.

The growing importance of the internet as a tool for job search was highlighted in a report by Green et al (2012)⁵⁶ which identified that even in 2009 around four in five jobseekers in Britain were using the internet alongside other methods. However the authors also highlighted the apparent inequalities in the use of the on-line job vacancy sites. They found that most users were already in employment (and were searching for an alternative job) and the incidence of use was strongly influenced by age (a higher proportion of younger people used them) and educational level (usage increased with higher educational levels). The concern is, therefore, that the most disadvantaged in the labour market do not have equal access to this growing source of jobs information. The PES in the Netherlands arrived at similar conclusions in 2012.⁵⁷

Important role of some PES in helping jobseekers above age 50 find jobs

The role of the PES in helping find jobs goes beyond the obvious role of managing job vacancies and extends to job matching and the operation of active measures. However, their role varies from country to country, and according to the Job Mobility Laboratory,⁵⁸ the success of their role depends on factors such as the extent of regulation⁵⁹, the perception of PES in the local labour market, and the extent of their

collaboration with private employment agencies where they can form a significant part of the jobs market mechanism. The Job Mobility Laboratory report estimates that in 2012 fewer than one in ten (9.4 per cent) of those finding a job did so with the assistance of the PES. Furthermore, this varies from the highest proportions (above 15 per cent) in Croatia, Finland, Hungary, and Luxembourg, to less than 3 per cent in Cyprus, Italy and Spain (Chart 10.2b). In some countries, such as for example in Bulgaria, the Netherlands and Lithuania, this understates the role of the PES where the PES shares the notified vacancies with private employment agencies, perhaps in particular for the young workers in those countries, as well as Denmark and Ireland.

What is also striking is the high proportion of jobs found with PES involvement by jobseekers above the age of 50 in various countries, mostly in the east of Europe, but also Ireland and the Netherlands. Given the generally cautious approach of employers to recruiting workers, this may reflect perhaps more reluctance to recruit applicants above the age of 50 without PES involvement, than eagerness to recruit them with PES involvement.

Low educated depend more on PES finding jobs than high educated

Traditionally, the PES tend to handle more low to medium-skilled vacancies and this is confirmed by the data which shows that those with low education accounted for a 11 per cent share of all hirings at that level, with medium educated at 9 per cent (Chart 10.3). High educated accounted for the significantly smaller share of 7 per cent. In reality, employers increasingly post vacancies on internet sites and on social media, and PES and private agencies alike are to an increasing extent integrating these sources into their supply of vacancies. Other reasons for the higher proportion of low to medium educated workers finding job with PES involvement may include the relatively high unemployment rates of the low and medium educated, and a relatively high job turnover (and possibly repeat unemployment) of these people.

56 Green A E, Li Y, Owen D, and De Hoyes M (2012) Inequalities in the use of the internet for job search: Similarities and contrast by economic status in Great Britain, *Environment and Planning*, Volume 44/10, pp. 2744-2358. envplan.com/abstract.cgi?id=a452

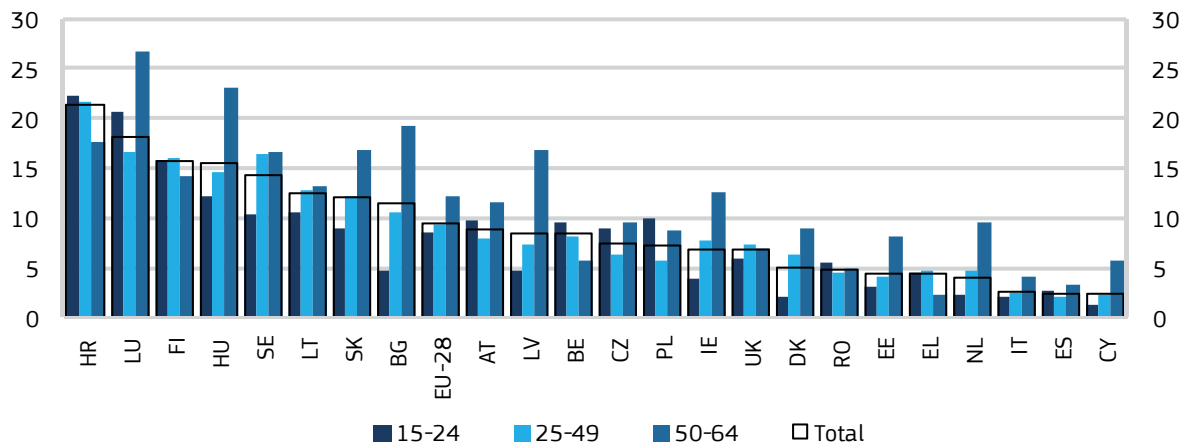
57 UWV Werkbedrijf (2012), *Vacatures in Nederland 2011 (Job Vacancies in the Netherlands 2011)*, werk.nl/werk_nl/arbeidsmarktinformatie/publicaties/thematische-publicaties/vacatures-in-Nederland-2011

58 Job Mobility Laboratory (2014): *Mobility in Europe 2013 (EC, DGEMPL)*. To be published.

59 The Job Mobility Laboratory (2014) report, *ibid*, states that in theory nine EU Member States (Belgium, the Czech Republic, Finland, Hungary, Luxembourg, Poland, Romania, Slovenia and Sweden) legally require employers to notify all vacancies to their national PES, though in practice this is not usually enforced.

Chart 10.2b PES involvement in job placement by age

2012, percentage of recent recruits (= job hirings), 23 countries



Source: European Commission (2014). Mobility in Europe 2013

Chart 10.2a PES profile in self-reported job hirings by educational level, 2008 - 2012

Percentages, 2008-2012, 22 countries

Level of Education	Average PES share 2008 - 2012	Trend
Low	11%	↑
Medium	9%	↑
High	7%	↑
Total	9%	↑

Source: Eurostat, Labour Force Survey and EVRR calculations.

Finland, France, Germany, Luxembourg, Malta and Slovenia are excluded due to high non-response in PES job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Trend increase/decrease: share in 2012 is at least 2% points higher/lower than in 2008

Low educated: ISCED 1-2 (primary and lower secondary)

Medium educated: ISCED 3 (upper formal secondary)

High educated: ISCED 4-6 (upper secondary short courses, post-secondary non-tertiary, and tertiary)

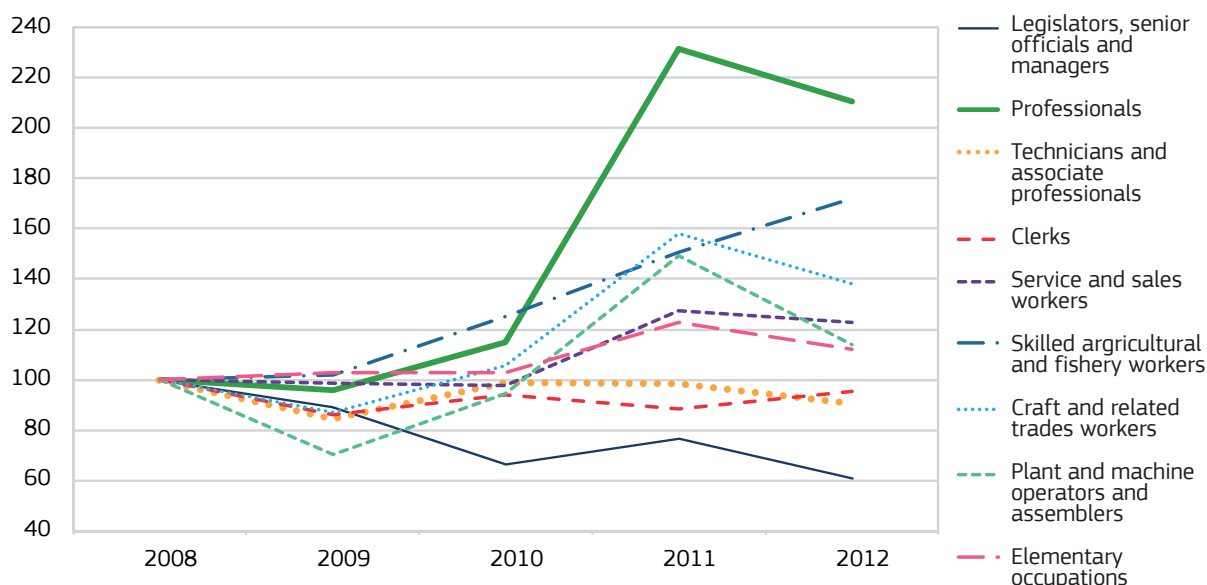
Share of PES highest in jobs with high job turnover – sales and services and elementary occupations

Looking in greater detail at the developments in job hirings by major occupational groups, it is possible to track the involvement of the PES for the aggregate of 22 Member States (Chart 10.4). This clearly shows that for some occupational groups the hirings with PES involvement changed little between 2008 and 2012, particularly for 'clerks', and 'technicians and associate professionals'. Considering the decline in total hirings in these two occupational groups (Chart 5.1 in Chapter 5), the PES became proportionally more involved in assisting these hirings.

The hirings with PES involvement increased for 'service and sales workers', 'plant and machine operators and assemblers' and 'elementary occupations'. These are the traditional mainstay of PES activities, accounting for higher than average shares of PES activity. For example, in the second quarter of 2012 these three occupational groups combined covered almost two-thirds of all vacancy inflow to PES in the EU according to national PES data (18 countries covered) and of these, 'elementary occupations' came out the highest with 22 per cent (see Annex Table A2.6). The strongest increase in hirings with PES involvement was observed for 'professionals', although part of this is due to the change in classification of occupations in 2011.

Chart 10.4 Development PES job hirings for nine main occupational groups

Index, 2008 - 2012, 2008 = 100, 22 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Finland, France, Germany, Luxembourg, Malta and Slovenia are excluded due to high non-response in PES job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute numbers of total (sum of four quarters) PES hirings 2012 (x1,000): Managers, 29; Professionals, 271; Technicians and associate professionals, 201; Clerical support workers, 310; Service and sales workers, 550; Skilled agricultural, forestry and fishery workers, 71; Craft and related trades workers, 305; Plant and machine operators, and assemblers, 183; Elementary occupations, 675.

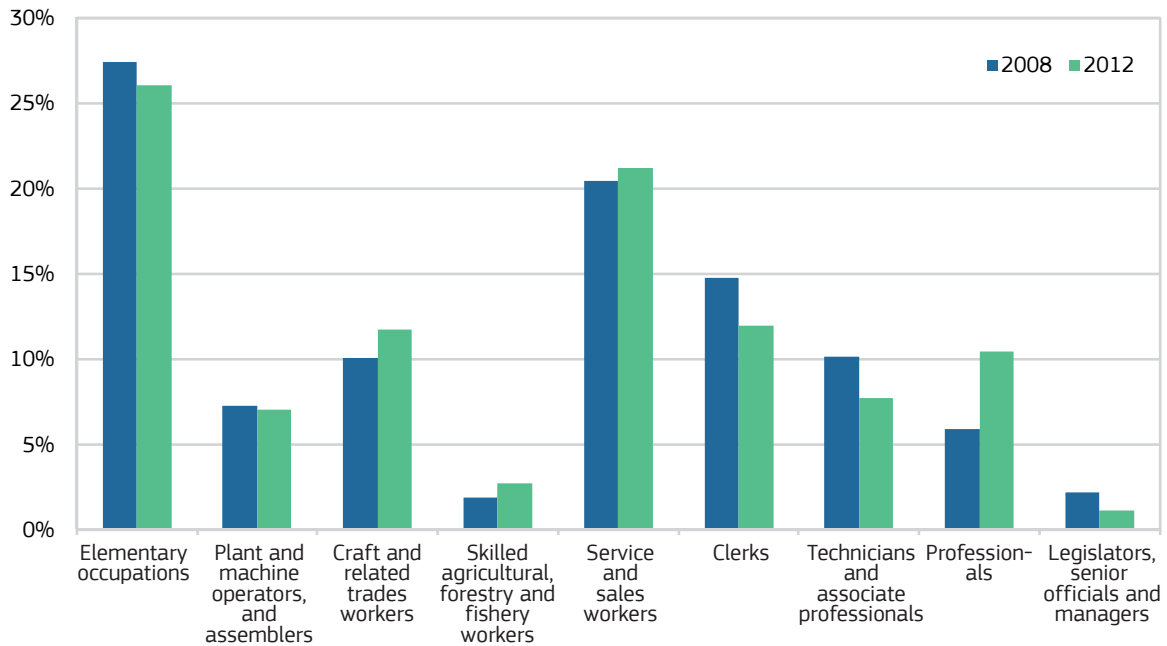
The relatively high use of PES in the case of some occupational groups will be due in large part to the higher turnover rates associated with low skills occupations and some employers will have established links to their PES to cope with this regular churn. However, the role of PES in servicing the needs of these lower skilled occupations is not universal.

In the second quarter of 2013 the relative proportions of major occupational groups above or below the EU average is summarised in the table below. It is clear from this data that some PES mostly helped find lower skilled. This is at its clearest in Hungary with 53 per cent of the vacancies notified for the second quarter 2013 being for '*elementary occupations*', followed by Cyprus (40 per cent) and Spain (37 per cent). Part of this may be due to job turnover in these occupations as noted earlier. Also it is striking that the proportion of high skilled occupations in vacancies notified to the PES is among the lowest in the EU in those countries (Hungary, Cyprus and Spain). This may reflect a perception of employers in those countries that appropriately qualified and experienced candidates may not be available through the PES.

To some extent, the types of vacancy notified to the PES will not only be based on the effectiveness of the service in helping employers fill them, but also the relative efficiency of other methods. Jobs for '*professionals*', for example, are more likely to be specialised and so may benefit from a more targeted recruitment activity, perhaps using specialist journals, websites or head-hunters. Nevertheless, a high proportion of jobs of professionals were found with PES involvement in Croatia, Sweden and Ireland, and for technicians and associate professionals in Germany, Luxembourg, the Netherlands and Sweden.

Chart 10.5 Shares of PES job hirings for nine major occupational groups

Percentages of total PES job hirings, 2008 and 2012, 22 countries



Source: National PES and EVRR calculations.

Finland, France, Germany, Luxembourg, Malta and Slovenia are excluded due to high non-response in PES job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute numbers of total (sum of four quarters) PES hirings 2012 (x1,000): Managers, 29; Professionals, 271; Technicians and associate professionals, 201; Clerical support workers, 310; Service and sales workers, 550; Skilled agricultural, forestry and fishery workers, 71; Craft and related trades workers, 305; Plant and machine operators, and assemblers, 183; Elementary occupations, 675.

Occupational Group (EU average proportion)	At or below EU average (proportion in %)	Above EU average (proportion in %)
Legislators, senior officials and managers (2 per cent)	Croatia (0), Spain (0), Austria (1), Cyprus (1), Germany (1), Hungary (1), Latvia (1), Portugal (1), Estonia (2), Lithuania (2), Slovakia (2), Slovenia (2), Sweden (2)	Ireland (4), Luxembourg (4), Netherlands (5), Romania (5)
Professionals (8 per cent)	Estonia (3), Latvia (3), Austria (4), Portugal (4), Spain (4), Hungary (5), Romania (6), Slovakia (6), Germany (7), Lithuania (7), Cyprus (8)	Luxembourg (9), Netherlands (9), Slovenia (10), Croatia (19), Sweden (20), Ireland (28)
Technicians and associate professionals (13 per cent)	Cyprus (5), Hungary (5), Lithuania (6), Ireland (7), Latvia (7), Spain (7), Estonia (8), Portugal (8), Romania (8), Croatia (10), Slovakia (11), Slovenia (10), Austria (12)	Germany (16), Luxembourg (21), Netherlands (23), Sweden (24)
Clerks (7 per cent)	Lithuania (2), Slovenia (4), Spain (4), Cyprus (5), Romania (5), Hungary (5), Austria (6), Ireland (6), Netherlands (6), Slovakia (6), Sweden (6), Croatia (7)	Latvia (10), Portugal (10), Estonia (11), Germany (12), Luxembourg (15)
Service workers and shop and market sales workers (18 per cent)	Netherlands (10), Hungary (11), Romania (11), Slovenia (12), Spain (12), Germany (14), Luxembourg (14), Lithuania (15), Latvia (17)	Estonia (21), Slovakia (21), Portugal (23), Croatia (26), Austria (29), Sweden (30), Cyprus (31), Ireland (32)
Skilled agricultural and fishery workers (3 per cent)	Croatia (0), Cyprus (0), Ireland (0), Romania (0), Slovenia (0), Austria (1), Estonia (1), Germany (1), Slovakia (1), Sweden (1), Hungary (2), Lithuania (2), Luxembourg (2), Netherlands (2), Latvia (3)	Portugal (6), Spain (23)
Craft and related trades workers (18 per cent)	Ireland (5), Sweden (5), Cyprus (9), Croatia (11), Spain (11), Hungary (12), Estonia (18), Luxembourg (14)	Latvia (20), Romania (20), Portugal (20), Austria (22), Lithuania (23), Germany (24), Netherlands (24), Slovakia (26), Slovenia (36)
Plant and machine operators and assemblers (9 per cent)	Cyprus (2), Spain (2), Croatia (4), Ireland (4), Luxembourg (4), Austria (5), Slovenia (9), Sweden (6), Hungary (7), Portugal (8), Latvia (9)	Germany (10), Netherlands (12), Lithuania (13), Estonia (14), Romania (14), Slovakia (17)
Elementary occupations (22 per cent)	Sweden (7), Netherlands (8), Slovakia (10), Ireland (13), Germany (14), Luxembourg (16), Slovenia (16), Austria (20), Portugal (20), Estonia (21), Croatia (22)	Latvia (29), Lithuania (30), Romania (31), Spain (37), Cyprus (40), Hungary (53)

Source: LFS (Annex A2.6)

Chart 10.6 Top 10 occupations in PES profile in job hirings

Percentages, 2011-2012, 22 countries

Ranking	Occupation (ISCO-08, 3-digit)	Average PES share 2011-2012	Change of the share
1	Refuse workers	44%	↓
2	Forestry and related workers	24%	↓
3	Market gardeners and crop growers	19%	↑
4	General office clerks	17%	=
5	Textile, fur and leather products machine operators	17%	↑
6	Garment and related trades workers	16%	=
7	Wood treaters, cabinet-makers and related trades workers	16%	↓
8	Building and housekeeping supervisors	15%	=
9	Manufacturing labourers	14%	↓
10	Regulatory government associate professionals	14%	↑
Total		10%	=

Source: Eurostat, Labour Force Survey and EVRR calculations.

Finland, France, Germany, Luxembourg, Malta and Slovenia are excluded due to high non-response in PES job start data. Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Only occupations with more than 8,000 total PES hirings in 2012 are taken into account.

Change: ↑ and ↓ indicate an increase or decrease of at least 2 per cent point in 2012 compared to 2011

Sector specific vacancies predominate in PES-assisted hirings

Within the broad occupational groups it is possible to do a limited analysis of the occupations that greatly rely on the PES to fill jobs. In this respect one occupation stands out (Chart 10.6). The PES were involved in 44 per cent of the hirings of 'refuse workers' on average in 2011 and 2012 which was well ahead of the occupation with the next highest share, 'forestry and related workers' with 24 per cent, though both had seen their shares decline over the year but they involved relatively small PES inflow volumes (this is also implicit from their absence in any country in Annex AC4 on PES data by occupation). The occupations where PES had a high market share were roughly the same as reported in the EVRR 2012.

The other eight occupations included a predominance of fairly sector-specific jobs such as 'market gardeners and crop growers', 'textile, fur and leather products machine operators', 'wood treaters, cabinet makers and related trades workers' and even 'manufacturing labourers'. Most of these workers are likely to be employed in the private sector. In fact, among the top 10, the only occupation in addition to refuse workers that is likely to be mostly employed in the public sector was 'regulatory government associate professionals' with the PES share at around 14 per cent, and this had increased slightly over the year.

10.3 Conclusions

The change in the inflow of PES vacancies for the 18 EU countries covered was relatively flat between the first quarter of 2010 and third quarter of 2013, although the period ended above the base quarter. Countries with PES vacancy growth above the average were mostly newer Member States, especially the three Baltic countries, whereas some older EU Member States tended to have more modest increases, or they showed little change at all. Countries such as Cyprus and Slovakia had significant falls in PES vacancy inflows reflecting the persistence of economic difficulties.

A range of factors influences the relative role that PES have in placing people, including the extent of regulation, perceptions of PES (by employers and jobseekers), and collaboration with other placement activities. On average in the EU, the PES helped fill just under one-in-ten of all jobs, with a slightly higher share of jobs requiring low to medium levels of education than those requiring high education. Between 2008 and 2012, the proportions of hirings with PES involvement increased in all three categories. Figures for PES involvement varied between countries from the highest (above 15 per cent) in Croatia, Finland, Hungary and Luxembourg, to below 3 per cent in Cyprus, Italy and Spain. The PES shares were broadly similar for younger and older people being hired. This means that young jobseekers were under-represented in PES-assisted hiring because they are over-represented in all hirings. The increasing use of the internet in filling vacancies

may disadvantage some jobseekers – particularly the less educated – and the PES has a role in ensuring equal access for all jobseekers to internet and social media sources.

For the mainstay of the types of occupations handled by PES, in particular *'service and sales workers'* and *'elementary occupations'*, the hirings with PES involvement increased slightly between 2008 and 2012. Some of these occupations have high turnover and employers might build up a relationship with their PES to meet these recurring labour needs. There was considerable variation between countries in terms of the occupational composition of hirings with PES involvement, with a few countries appearing to focus particularly on assisting low educated jobseekers.

11 Development of occupational demand and market profile of Temporary Work Agencies

11.1 Introduction

In this chapter, the recent key developments in Temporary Work Agencies (TWA) placements are explored using data from two main sources. Firstly the regular statistics from the European Confederation of Private Employment Agencies (Eurociett) are used to plot developments in the numbers of TWA workers over the period 1996–2012, though this is only for a maximum of 16 countries at the most. Secondly, to gain a wider perspective covering all Member States the LFS (Eurostat Labour Force Survey) is used to examine the profile of TWA workers in terms of their educational level, their age group and the major occupational groups in which they found employment.

TWAs form a specific part of the recruitment market offering employers a degree of flexibility in meeting their labour needs and offering jobseekers the opportunity to find temporary employment. The latest Annual Report⁶⁰ from the International Confederation of Private Employment Agencies (Ciett) shows that 2013 marked the strongest growth in TWAs since the start of the recession in 2008. The report also outlined some other important characteristics of the TWA workforce such as the fact that it is predominantly young (61 per cent aged under 30), less than one-third were employed before taking up temporary agency work, and over two-thirds find permanent full-time work after they leave TWAs. These figures are based on a world-wide assessment and so they will vary between countries. But what is clear is that the TWAs often provide a transition for those moving between education and unemployment enabling them to get to the workplace. This is particularly true for young people, although in some countries such as the Netherlands, the TWA also mediate for student jobs.

11.2 General developments in recruitment through TWA

Recent TWA development reflects hesitant recruitment market

The value of TWA statistics in providing a reasonably reliable short-term indicator of economic change has been recognised for some time. Ciett claims that the data *'continues to display an inverse relationship between unemployment levels in the EU and the amount of agency work being carried out'*⁶¹. This relationship has been consistent over time with the number of agency working hours falling as unemployment increases. A similar (though proportional) relationship occurs with GDP (Chart 11.1). This also indicates that hirings via TWA were sensitive to the business cycle, contrasting with hirings via PES which were resilient to the business cycle (see also the European Vacancy and Recruitment Report 2012, Chapter 5).

This tracking of TWA hiring activity with GDP trends is also evident in the development of GDP and TWA workers over a long period (Chart 11.1) for between 14 and 16 EU countries (depending on the time period). In this group of countries, GDP continued to grow from 1996 to 2007 before the financial and economic crisis took hold in 2008 and pulled GDP down. GDP then resumed its upward trend reaching its pre-crisis level in 2012. Over the whole of this period, TWA workers moved in the same direction with the minimum time lag, though it is interesting to note that the fall in 2009 was much steeper than that for GDP, which underlines both the depth of the recession and the fall in employer confidence. At the end of the period, employer 'lack of' confidence appeared to underline the flat-lining of TWA workers between 2011 and 2012, despite the perceptible increase in GDP.

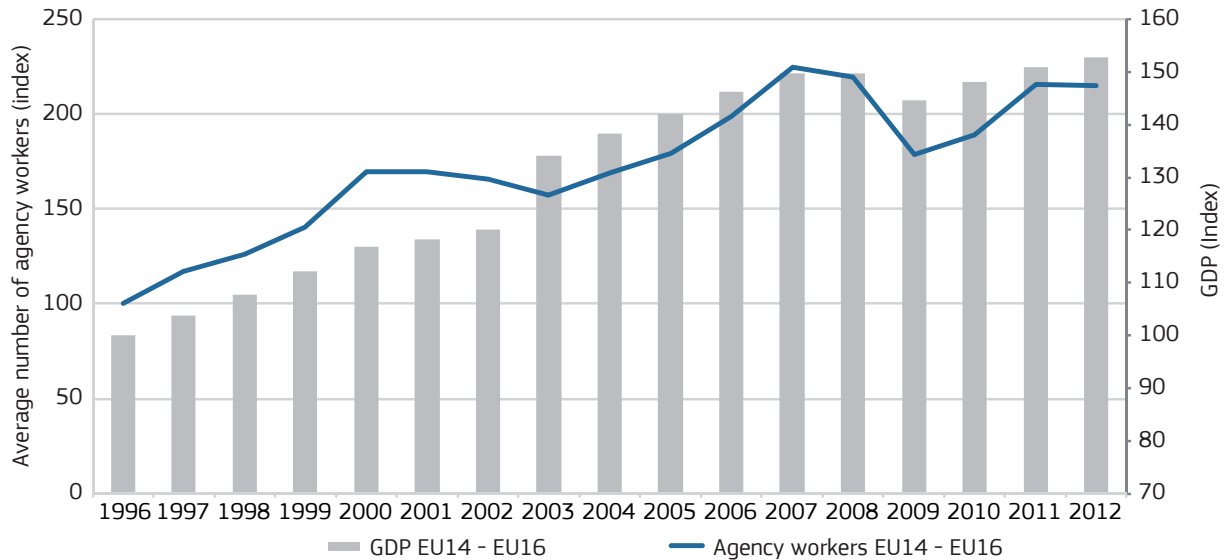
60 Ciett (2014) Economic Report,

ciett.org/fileadmin/templates/ciett/docs/Stats/Economic_report_2014/CIETT_ER2013.pdf

61 Ciett (2014) *ibid*, p22

Chart 11.1 Development of GDP and of number of agency workers

Index 1996-2012, 1996=100, 16 countries



Source: Eurociett and EVRR calculations, Eurostat National Accounts.

14 countries (1996-2002): Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland, and the United Kingdom

16 countries (2003-2012): 14 countries mentioned above and Italy and Poland.

The average daily number of agency workers or Full Time Equivalent (FTE) is the total number of hours worked by all agency workers in a country over a period of one year divided by the average number of hours worked over a period of one year by a worker with a fulltime job with an open-ended contract.

GDP: Chainlinked volumes, in euros of reference year 2005, not seasonally adjusted.

Absolute values 2012: Average number of agency workers, 3.7 million; GDP, 20.9 trillion euro.

Chart 11.2 TWA profile in self-reported job hirings by educational level, 2008 - 2012

Percentages, 2008-2012, 26 countries

Level of education	Average TWA share 2008 - 2012	Trend
Low	11%	=
Medium	11%	=
High	7%	=
Total	9%	=

Source: Eurostat, Labour Force Survey

Germany and the United Kingdom are excluded due to high non-response in TWA job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Trend increase/decrease: share in 2012 is at least 2%-points higher/lower than in 2008.

Low educated: ISCED 1-2 (primary and lower secondary)

Medium educated: ISCED 3 (upper formal secondary)

High educated: ISCED 4-6 (upper secondary short courses, post-secondary non-tertiary, and tertiary)

TWA hirings account for around one in ten of all hirings

On average over the period 2008-2012, the TWAs accounted for around 10 per cent of all hirings (Chart 11.2) which is close to the 9 per cent for PES (Chart 10.2). Exploring the LFS data further it is evident that there were also similarities between the TWA and PES shares with respect to educational level. Their shares were the same for the low educated (both at 11 per cent) and the high educated (both at 7 per cent), but for the medium education level they deviated from one another. In the PES this was 9 per cent, but for the TWAs this rose to 11 per cent.

The Ciett data allows some further analysis of the educational levels of TWA workers in a number of EU countries (see Table below) of all TWA workers for 2012. There were substantial differences in the educational profiles of TWA workers between countries. In France, Luxembourg and to a lesser extent Spain, the high proportions of low educated TWA workers reflected, in part, a relatively high job turnover because assignments were less than one month's duration for over 90 per cent of the total TWA assignments in France and Luxembourg, and 73 per cent in Spain. These findings are in line with high hiring rates of TWA workers (Chapter 8 of this report). As noted in Chapter 8, these countries limit the maximum duration of one TWA worker assignment, perhaps causing employers to replace one TWA worker with another.

Country	Low education	Medium education	High education
Austria	10	40	50
Bulgaria	10	40	50
Czech Republic	50	42	8
Estonia	10	60	30
Finland	18	67	15
France	59	22	19
Greece	14	49	37
Luxembourg	60	30	10
Netherlands	35	46	19
Spain	45	39	16
Sweden	7	48	45

Source: Ciett, Economic Report 2013, page 37

In contrast the biggest proportions for TWA-assisted hirings in Estonia, Finland, the Netherlands and Sweden were for medium educated workers. Part of the explanation is the relatively high proportion of students in higher education in these countries who have their highest attained education to date categorised at medium level among the agency workers. This share was 25 per cent in the Netherlands⁶², and the same explanation is likely to be applicable to Finland and Sweden because large numbers of tertiary-level students had temporary jobs there in 2012 (Chapter 9 of this report). The proportions of high educated TWA workers were highest in Austria, Bulgaria, Greece and Sweden.

62 ABU (2009), Instroom uitzendkrachten (the inflow of TWA workers), abu.nl/feiten-cijfers/onderzoeken

Chart 11.3 TWA profile in self-reported job hirings by age group, 2008 - 2012
Percentages, 2008-2012, 26 countries

Age group	Average TWA share 2008 - 2012	Trend
15-29	10%	=
30+	10%	=
Total	10%	=

Source: Eurostat, Labour Force Survey and EVRR calculations.

Germany and the United Kingdom are excluded due to high non-response in TWA job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Trend increase/decrease: share in 2012 is at least 2%-points higher/lower than in 2008.

Equal market profiles of TWA for jobseekers below and above age 30

Drawing on the LFS data, the proportion of self-reported hirings via a TWA at 10 per cent were the same for both young people (aged 15-29) and workers aged 30 and over (Chart 11.3). This is slightly above the proportions for PES (Chart 10.3 in Chapter 10). The similarity between the shares for the different age groups for TWA workers in the hirings data reflect the fact that nearly half of all jobs (both TWA and in general) were filled by people under the age of 30 (Chapter 9).

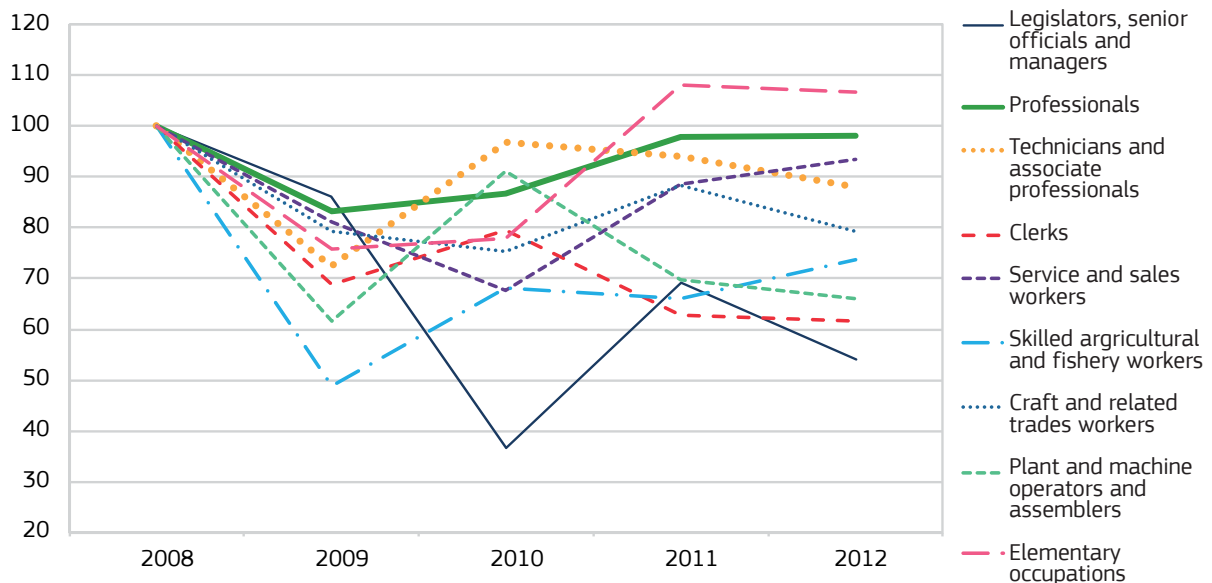
Around 60 per cent of those hired through TWA were below aged 30

As reported earlier, TWA jobs represent an important source of employment for young people particularly those making the transition from education to the labour market. In most countries, around 60 per cent of TWA hirings in 2012 were for workers below the age of 30. This proportion was much higher in Finland, and it was lowest in Luxembourg, Italy and Spain and Germany.

Country	< age 30 (in %)	≥ age 30 (in %)
Finland	88	12
Czech Republic	65	35
Romania	65	35
Slovakia	64	36
Greece	63	37
Netherlands	62	38
Slovenia	61	39
Estonia	60	40
United Kingdom	57	43
Bulgaria	55	45
Belgium	54	46
Hungary	53	47
Latvia	52	48
Sweden	46	54
France	45	55
Germany	39	61
Italy	39	61
Spain	39	61
Luxembourg	32	68

Chart 11.4 Development in hirings via TWA for nine major occupational groups

Index, 2008 - 2012, 2008 = 100, 26 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany and the United Kingdom are excluded due to high non-response in TWA job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute numbers of total (sum of four quarters) TWA hirings 2012 (x1,000): Managers, 10; Professionals, 88; Technicians and associate professionals, 278; Clerical support workers, 291; Service and sales workers, 307; Skilled agricultural, forestry and fishery workers, 33; Craft and related trades workers, 502; Plant and machine operators, and assemblers, 562; Elementary occupations, 858.

TWA workers mostly in low and medium skilled jobs

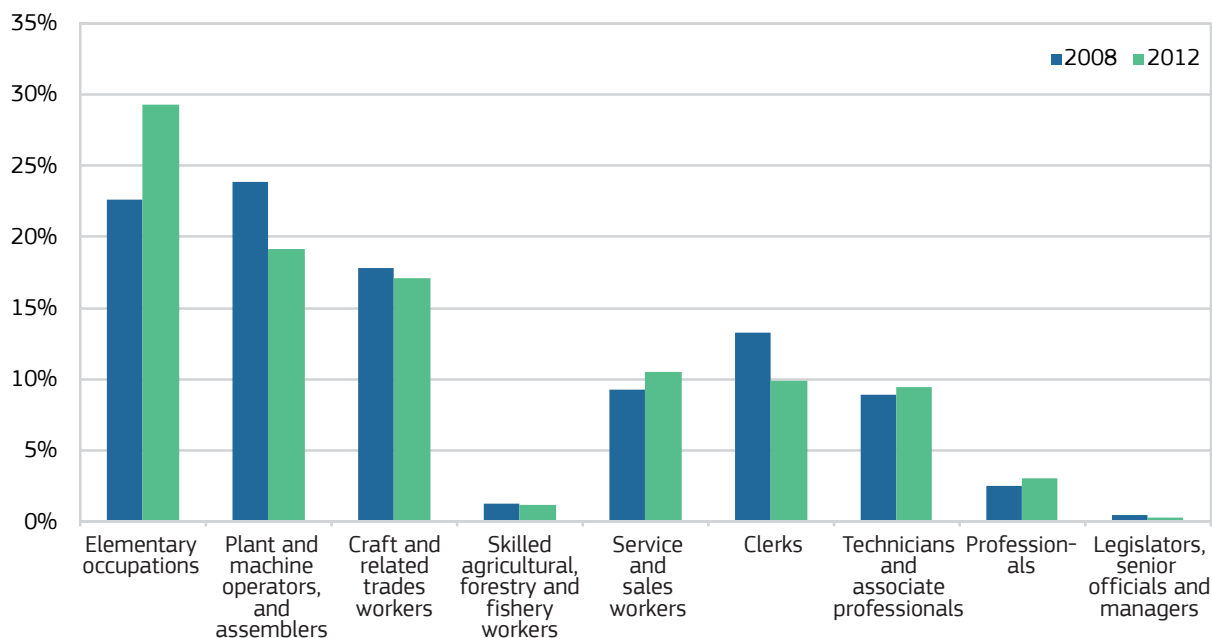
The profile of TWA workers by education level showed that there was a predominance of those with low to medium levels and so it would be expected that this translates into a similar profile for skills. The developments in TWA hirings (Germany and the United Kingdom excluded, as in Chapter 8) for the major occupational groups over the period 2008-2012, shows that *'elementary occupations'* experienced the most consistent and strongest growth, and it was the only occupational group ending the period above the base year (Chart 11.4). The other occupational group showing significant recovery (particularly from 2009) was *'service and sales workers'*, though this also reached its lowest point on the index (at around half the base year value) in the depths of the crisis. These two occupations generally require low to medium skills. Hirings in *'elementary occupations'* in general, however, were mainly due to increased job turnover (Chapter 8). Furthermore, the increasing TWA hirings did not contribute to employment growth, though they might have prevented a worse decline

in employment. In contrast *'clerical support workers'*, *'plant and machine operators and assembler'* and *'craft and related workers'*, showed little sign of recovery towards the end of the reference period, reflecting the sensitivity of TWA hirings to the business cycle.

TWA workers in higher level skilled occupations had mixed fortunes over the period 2008-2012. The *'professionals'* group fell below the base year early on and remained there for the rest of the period whereas *'legislators, senior officials and managers'* fared much worse, bottoming out with an index of below two-fifths the base year value in 2010 before registering some recovery in 2011 but falling back again in 2012. These developments are in contrast with those of the PES where the high skilled occupations were the better performers over the same period. It underlines the relative importance of TWA jobs in low to medium skilled work (see also Chart 11.5).

Chart 11.5 Shares of TWA job hirings for nine major occupational groups

Percentages of total TWA job hirings, 2008 and 2012, 26 countries



Source: Eurostat Labour Force Survey and EVRR calculations.

Germany and the United Kingdom are excluded due to high non-response in TWA job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Absolute numbers of total (sum of four quarters) TWA hirings 2012 (x1,000): Managers, 10; Professionals, 88; Technicians and associate professionals, 278; Clerical support workers, 291; Service and sales workers, 307; Skilled agricultural, forestry and fishery workers, 33; Craft and related trades workers, 502; Plant and machine operators, and assemblers, 562; Elementary occupations, 858.

Hirings via TWA dominate the operator jobs market

According to the averages for 2011-2012, those occupations that featured most prominently in TWA hirings were manual jobs (Chart 11.6). The Top 10 occupations had remarkably high shares of all manual hirings ranging from 44 per cent for 'food and related products machine operators' to 30 per cent for 'rubber, plastic and paper products machine operators' and 'process control technicians' and much of this can be traced to France where these workers were placed successively on very short assignments (of less than one month). Many of the Top 10 occupations were related to process operations where demand can fluctuate, but the skills required to work effectively are highly specific (such as operating a particular machine). In such circumstances the flexibility afforded by the TWAs gives them an advantage for this particular recruitment market, and it is therefore no surprise to see those occupations widely represented in the Top 10.

11.3 Conclusions

TWAs are a specific part of the recruitment market, helping to meet the needs of employers for flexibility, and the needs of many young jobseekers looking for temporary employment. TWA working time data has consistently provided a reliable economic indicator due to its sensitivity to the business cycle.

On average, the TWAs account for around one in every ten hirings and this proportion is the same for young people and people aged 30 and over. With regard to the low educated, 11 per cent were hired through both TWA and the PES, while the share of the high educated was also similar at 7 per cent for each recruitment channel. For the medium educated, the TWAs accounted for a higher share at 11 per cent compared to 9 per cent of PES. For most individual countries, around 60 per cent of the TWA workers were aged below 30, though this was much higher in Finland (88 per cent), while it was below 40 per cent in Luxembourg, Italy and Spain and Germany.

Chart 11.6 **Top 10 occupations in TWA profile in job hirings, 2011 - 2012**
Percentages, 2011-2012, 22 countries

Ranking	Occupation (ISCO-08, 3-digit)	Average TWA share 2011-2012	Change of the share
1	Food and related products machine operators	44%	=
2	Metal processing and finishing plant operators	39%	↓
3	Manufacturing labourers	39%	=
4	Wood processing and papermaking plant operators	37%	↑
5	Chemical and photographic products plant and machine operators	36%	↓
6	Metal workers*	34%	=
7	Transport and storage labourers	32%	↑
8	Assemblers	31%	↓
9	Rubber, plastic and paper products machine operators	30%	↑
10	Process control technicians	30%	=
Total		10%	=

Source: Eurostat, Labour Force Survey and EVRR calculations.

Germany and the United Kingdom are excluded due to high non-response in TWA job start data.

Job hirings refer to employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Only occupations with more than 8,000 total TWA hirings in 2012 are taken into account.

Change: ↑ and ↓ indicate an increase or decrease of at least 2 per cent point in 2012 compared to 2011

* Sheet and structural metal workers, moulders and welders, and related workers

Over the period 2008-2012, the TWA workers were hired in significantly increasing numbers in low to medium skilled occupations such as 'elementary occupations' and 'service and sales workers'. Part of this may reflect the increasing job turnover in these occupations observed for a number of countries in Chapter 8. The more detailed occupational analysis shows that the Top 10 for TWAs are dominated by process and operator jobs in a range of manufacturing industries, of which a high proportion can be traced to France.

To conclude, the labour market in 2013 was still affected by the effects of the crisis. As long as employers remain hesitant to recruit the numbers of workers that were made redundant earlier, the capacity of both PES and TWAs to combat unemployment remains limited. Despite the many similarities between PES and TWAs, the main distinction remains that the TWAs always mediate to more flexible forms of employment. How this affects the functioning of the labour market, and in particular job turnover, depends on the national regulation in place.

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