

# European Vacancy Monitor

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## Further Information

- European Job Mobility Bulletin
- EU Employment and Social Situation Quarterly Review
- Employment Package

## HIGHLIGHTS

### DEVELOPMENT OF VACANCIES: Seasonal peak does not signal growth

In the fourth quarter of 2012 there were 2.0 million job vacancies (19 countries), 6 per cent less than the same quarter in 2011. In Latvia, Lithuania, Romania and the United Kingdom vacancies grew in number although stayed well below pre-crisis levels. The PES job vacancy inflow declined by -9 per cent (18 countries). Early 2013 data on temporary work agency vacancies (Randstad) showed a year-on-year decline except in the United Kingdom where the number was stable.

*Read more on page 3*

### HIRINGS AND JOB PROSPECTS: Job prospects worsen in most countries

EU27 hirings showed a fall of -4 per cent between the fourth quarters of 2012 and 2011. The ratio of unemployed to hirings deteriorated from 2.0 to 2.3 in the EU27 but decreased sharply in Bulgaria, Estonia, Hungary and Ireland. Low ratios in Austria and Germany reflect low unemployment rates but also high levels of hirings in Denmark and Sweden.

*Read more on page 8*

### OCCUPATIONAL DEMAND: First-time decline in hirings of professionals

Hirings were down in most main occupational groups and fell for the first time since the second quarter of 2010 (by -5 per cent) for 'professionals'. Both employment and hirings grew in certain jobs such as 'nursing and midwifery professionals', 'university and higher education teachers', 'administration professionals' and 'ICT developers'. The PES also registered large increases for some jobs in nursing, teaching and administration.

*Read more on page 11*

### EDUCATIONAL DEMAND: Falling recruitment except for the highest educated

Despite a first fall in the recruitment of professionals, hiring of those with tertiary education increased by +2 per cent and may indicate that more professionals accepted jobs below their qualifications.

*Read more on page 20*

### SPECIAL FOCUS: JOBS IN HEALTHCARE - Growing demand for 'white jobs' in an ageing workforce

Healthcare employees in general and particularly 'nurse and midwifery professionals and assistants' were hired in increasing numbers between 2008 and 2012, with 60 per cent of all hirings in 'personal care and related workers'. In Bulgaria the number of healthcare employees fell between 2008 and 2012, partly due to young health professionals finding employment in other Member States and an older workforce profile (47 per cent aged 50 years or older). While labour mobility is an option to boost labour supply for some countries, training and the reorganisation of work may offer more sustainable solutions.

*Read more on page 21*

- TOP 25 growth in hirings per country on page 26
- TOP 5 growth PES inflow per country on page 33

### TOP 5 growth employees

- Personal care workers in health services
- Software applications developers and analysts
- Administrative and specialised secretaries
- Mining, manufacturing and construction supervisors
- Primary school and early childhood teachers

### TOP 5 growth hirings

- Domestic, hotel and office cleaners and helpers
- Waiters and bartenders
- Client information workers
- Other teaching professionals
- Information and communications technology technicians

### PES TOP 5 growth occupations (vacancy inflow)\*

- Nursing and midwifery associate professionals
- Administrative associate professionals
- Other teaching associate professionals
- Customs, tax and related government associate professionals
- Health professionals (except nursing)

\*8 countries using ISCO-08 included

# INTRODUCTION

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, such as 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 Monitor is a component of the European Commission's endeavour to develop a labour market monitoring system focusing on changes in the demand for skills including contractual arrangements, sector demand, occupational demand, growing occupations, hard-to-fill vacancies (bottleneck occupations) and skills requirements. Monitoring the activities of different recruitment agencies is important because they are at the interface of labour demand and supply, matching vacancies with suitable jobseekers in particular segments of the labour market. Results of the analysis are disseminated on a quarterly basis.

Other initiatives within this project include a second quarterly bulletin, the 'European Job Mobility Bulletin', and a biennial report, the 'European Vacancy and Recruitment Report' (EVRR)<sup>1</sup>. Together with other relevant studies, labour market data and analyses, these form part of the European Commission's "Skills Panorama" launched in December 2012.

## THE EUROPEAN VACANCY MONITOR (EVM)

The key sources of information for the EVM include European and national sources:

the Labour Force Survey (data of recent job hirings for 27 countries) including a breakdown by sector, occupation, educational level and educational fields, as well as the relationship of unemployment to job hirings (a measurement of the tightness of the labour market), the Job Vacancy Statistics (vacancy data for 19 countries) including by sector, PES data for job vacancy inflow and registered unemployed (19 countries), data from a Temporary Work Agency (TWA) (5 countries) and Eurociett, the European Confederation of Private Employment Agencies.

EVM provides regular updates on developments in the following aspects of labour demand:

- Numbers of job vacancies and of job hirings (quarterly)
- Inflow of newly registered vacancies with PES, also by occupational group (quarterly)
- Recruitment demand in TWAs (quarterly)
- Relationship between recruitment demand and supply (quarterly)
- Occupational demand (quarterly)
- Educational level (quarterly)
- Educational field (annually)
- Job vacancies by economic sector (annually)
- Hard-to-fill ("bottleneck") vacancies (annually)

## THE EUROPEAN JOB MOBILITY BULLETIN (EJMB)

The main sources of data analysis for the European Job Mobility Bulletin are

- Job vacancies uploaded by the PES to the European Job Mobility portal (EURES portal)
- The EURES database including a breakdown by sectors, occupations and skills.

The EURES database is currently being revised to increase the coverage of posts. For this reason, the tenth issue of the EJMB is postponed to October 2013.

## THE EUROPEAN VACANCY AND RECRUITMENT REPORT (EVRR)

The biennial report is based upon the data analysis for the European Vacancy Monitor and further national labour market information and studies. In addition to the topics presented in the European Vacancy Monitor, the report focuses on the identification of 'top-growth occupations' with most recent recruits and of 'top bottleneck occupations' in Europe for which employers experience difficulties in filling their vacancies. It also provides an analysis of the development of market shares of recruitment agencies, in particular of PES and of TWAs.

This issue, EVM No. 10, contains a special on 'white jobs', i.e. jobs in healthcare occupations.

In this issue, the charts have been slightly revised in two aspects:

- For a number of charts the presentation has been further refined.
- Methodological boxes were added to explain the relation between hirings and vacancies, hirings and unemployment and between skills levels and main occupational groups.
- In the annex, no EURES top-5 is presented due to the on-going enhancements of the EURES system.

The analysis of the demand for occupations is based on the International Standard Classification of Occupations (ISCO-08 for job hirings and a mix of ISCO-88 and ISCO-08 for PES data). To allow for international comparisons where necessary, some PES data on occupations have been harmonised with ISCO. The analysis of demand by educational level is based on the International Standard Classification of Education (ISCED).

# Part 1

## VACANCIES, HIRINGS AND JOB PROSPECTS

### 1.1 TRENDS IN VACANCIES

#### Seasonal peak does not signal growth in vacancies

The index of job vacancies in the EU 16 countries covered continued to display small fluctuations from quarter to quarter (Chart 1). This has been the case from the beginning of 2011 and largely reflects seasonal peaks and troughs and does not signal any sustained recovery in job vacancies.

Comparing the fourth quarters of 2012 and 2011, the total vacancies index fell from 81 to 77 but the fourth quarter of 2012 was up by six points on the previous quarter (i.e. the third quarter of 2012). In broad terms public and private sector job vacancy indices were still mirroring each other, both moving upwards in the fourth quarter of 2012 after falling in the previous quarter. Movement in the public sector index outpaced that for the private sector, reaching its highest level since the second quarter of 2010, though at 84 still well below the base year.

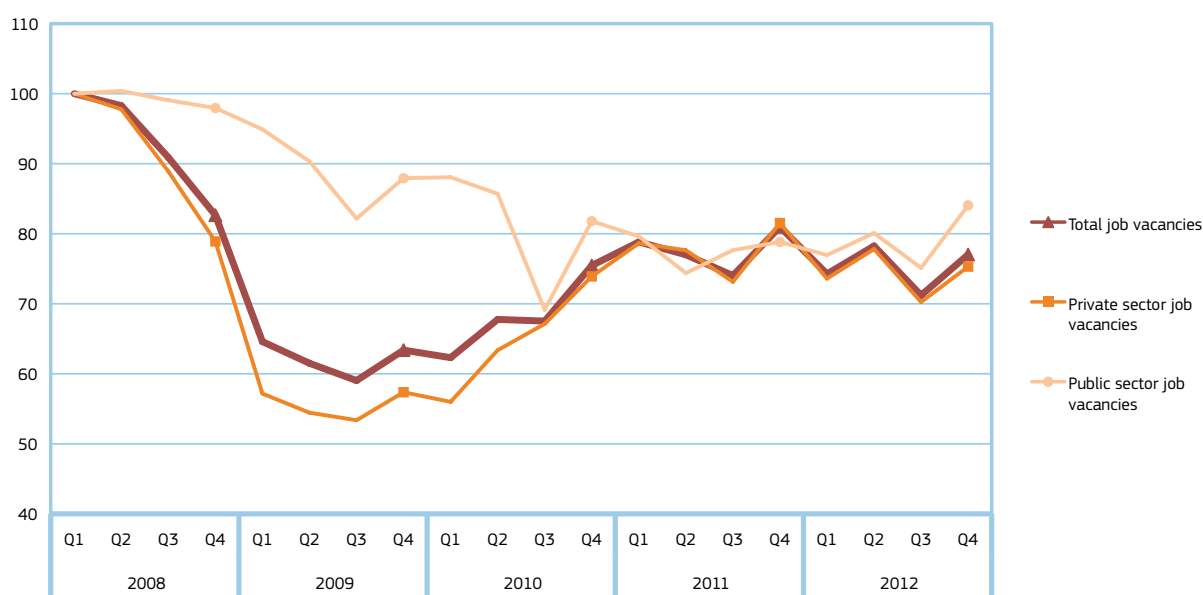
#### Job vacancies (Eurostat Job Vacancy Statistics)

Job vacancies refer to vacant paid posts (i.e. for employees), exclusive of internal vacancies (see Annex A3 for a full definition). Their number is measured by taking stock of the open vacancies at a certain moment of time. Chart 1 shows the changes over the period from the first quarter of 2008 (the base year) to the latest quarter (in this case the fourth quarter of 2012) in index form.

Private sector job vacancies account for most of the total vacancies and are affected by the general economic climate. Here the job vacancies index fell from 82 to 75 between the fourth quarters of 2012 and 2011 but was up by five points on the previous quarter. This is consistent with continuing weak economic conditions in the EU. In the fourth quarter of 2012 real GDP in the EU27 fell by -0.5 per cent on the previous quarter, the largest contraction since early 2009<sup>2</sup>. This contributed to a -0.6 fall in comparison to the previous year with many countries slipping back into negative growth. Most sectors of industry were affected by the decline with the slowdown particularly marked in industry and manufacturing. Only two broad sectors showed some growth between the third and fourth quarters of 2012 (information and communication, and real estate).

In contrast the index of public sector job vacancies increased from 79 to 84 between the fourth quarters of 2012 and 2011 and by a significant nine points on the previous quarter. This improvement is unexpected against the backdrop of continuing austerity measures in many Member States. One explanation could be an increase in replacement demand (for retirements and other reasons). This would largely explain the growth in job vacancies in the education and healthcare sectors in the United Kingdom which has largely driven the overall increase in public sector vacancies in the EU16. In the UK the health sector has to some extent been protected from the funding cuts affecting other areas of public spending and also faces

**Chart 1: Development of job vacancies (total, private, and public sector)**  
Index, 2008Q1 - 2012Q4, 2008Q1 = 100



Source: Eurostat, Job Vacancy Statistics (15 countries) - own calculations. Countries included in the EU15 total: Bulgaria, the Czech Republic, Germany, Estonia, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal (Portugal exclusive public administration), Romania, Slovenia, Slovakia, Sweden, the United Kingdom. A job vacancy is defined as a paid post that is newly created, unoccupied, or about to become vacant. Here, the public sector is defined as the total of four NACE sectors: 1. public administration, 2. education, 3. human health and 4. arts and other services. Due to data limitations, the private sector here is defined as the rest of the economy exclusive agriculture. Agriculture is not in the total either.

Number of job vacancies in 2012Q4 (EU15, in thousands): total: 1,790; in private sector: 1,406; in public sector: 384.

an ageing workforce generating the need for high levels of replacement demand in the future (see Special section on healthcare for more details).

Over the longer term the figures for the fourth quarter of 2012 remain well below the base (first quarter of 2008) at 77 for total job vacancies. The index for the private sector of 75 was halfway between the base value (100) and its lowest point of 53 in the third quarter of 2009. The public sector index has been generally higher and reached 84 in the fourth quarter of 2012. The public sector index was also halfway between the base value and the value of 69 in the third quarter of 2010. Movements in the indices since these low points were reached tend to reflect seasonal fluctuations in demand. For example, in Germany the post summer spike in demand has boosted the EU16 figures for each fourth quarter since 2009. However, the continuing weak economic conditions in the EU are keeping the job vacancies index generally low with little prospect of it reaching the pre-crisis level soon.

### Most countries still registering falls in job vacancies; the United Kingdom and some new Member States continue to be positive exceptions

Overall job vacancies in the 19 European countries covered fell by 6 per cent between the fourth quarters of 2012 and 2011 (Chart 2). This was approximately the same proportion as in the previous reference period (EVM9). Six countries showed increased job vacancies (Latvia, Lithuania, Romania, the United Kingdom and to a smaller extent the Czech Republic and Estonia). The former four also showed increases in the previous reference period (EVM9). Dropping out of the countries with vacancy growth were Austria, Luxembourg and Portugal. The remaining countries saw job vacancies fall by varying degrees between the fourth quarters of 2012 and 2011.

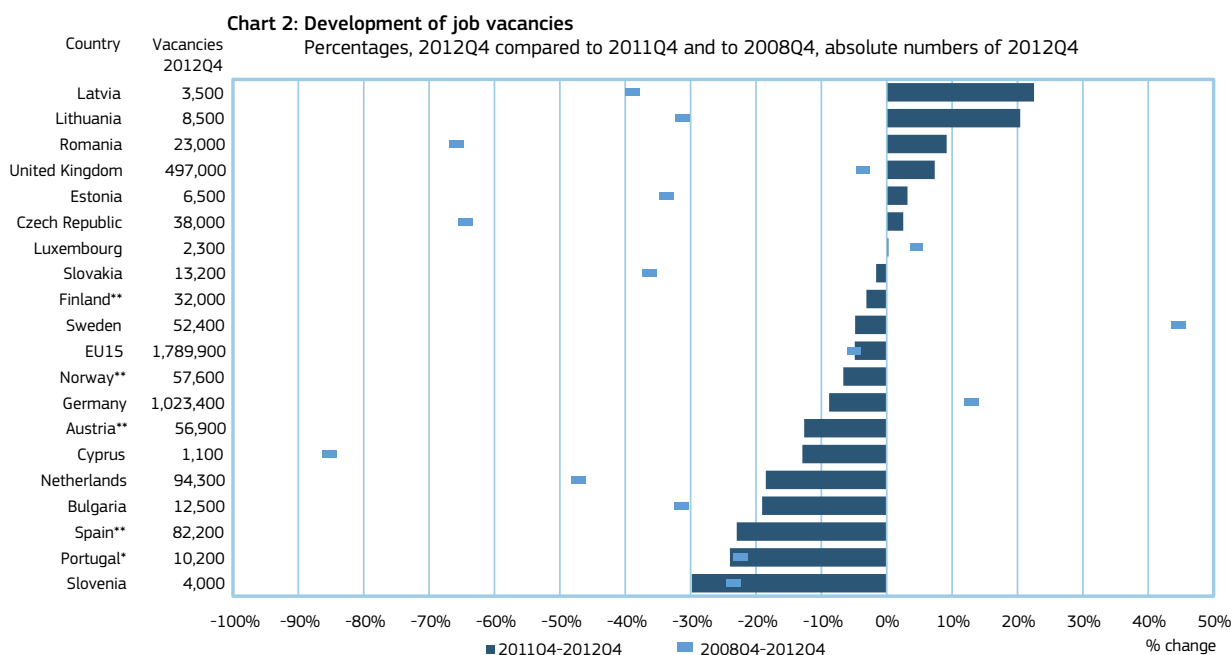
Grouping the full 19 countries according to the level of change in the stock of job vacancies between the four quarters of 2012 and 2011 is summarised below. Six countries showed some growth, though this was significant (i.e. above 5 per cent) only in Latvia.

- Growth (> +5 %) Latvia, Lithuania, Romania, the United Kingdom
- Relatively stable (> -5 % and ≤ +5 %) The Czech Republic, Estonia, Finland, Luxembourg, Slovakia, Sweden
- Decline (≤ -5 %) Austria\*, Bulgaria\*, Cyprus\*, Germany, the Netherlands\*, Norway, Portugal\*, Slovenia\*, Spain\*

*Note: in the countries marked with \*\* the decrease was over 10%.*

Only six countries (five of which are included in the EU16 where JVS data are available) showed some growth in GDP in the fourth quarter of 2012 namely Estonia, Latvia, Lithuania, Poland, Romania and Slovakia. The continued growth of job vacancies in the Baltic States of Latvia and Lithuania reflects their recent surge in economic growth. Lithuania, for example, saw real GDP increase by 0.7 per cent in the fourth quarter of 2012, though this was less than the 1.2 per cent in the previous quarter. In Lithuania trade and administrative services continued to be the strongest growing sectors for vacancies, compared to exceptionally low values in the fourth quarter of 2011. In Latvia it was the ICT sector as in the third quarter of 2012. However in both countries vacancies remained over 30 per cent lower than in 2008 so the recovery has been recent.

Of the other countries showing vacancy growth, in the Czech Republic it was largely due to real estate, and administrative services. In the United Kingdom education and health sustained their positive growth of the third quarter of 2012.



Source: Eurostat, Job Vacancy Statistics - own calculations (19 countries). Countries included in the EU15 total: Bulgaria, Cyprus, the Czech Republic, Estonia, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Romania, Slovenia, Slovakia, Sweden, the United Kingdom. A job vacancy is defined as a paid post that is newly created, unoccupied, or about to become vacant.  
\* For Portugal public administration is excluded.  
\*\* Changes for Austria, Finland, Norway and Spain are only shown for 2011Q4-2012Q4 due to missing values for 2008Q4. The EU15 total for 2011Q4-2012Q4 does not include these three EU-countries and Norway.  
Total number of job vacancies (EU15, in thousands): in 2008Q4: 1,921; in 2011Q4: 1,882; in 2012Q4: 1,790.  
Total number of job vacancies (EUR19 including Norway, in thousands): in 2011Q4: 2,148; in 2012Q4: 2,019

However, the vacancy growth in Estonia was mainly due to the sectors of trade and administrative services (as for Lithuania). In Romania vacancies in healthcare increased. But in the Czech Republic and Romania vacancies were still over 60 per cent below their 2008 values.

Generally an increase in vacancies coincides with an increase in employment, as was the case for the Czech Republic and the United Kingdom. In Romania employment fell at the start of 2012 and the increases in vacancies (and hirings) only indicates that employment is slowly picking up. In both Estonia and Lithuania the increase in vacancies confirmed employment growth in administrative services. However in both countries employment fell in the trade sector in early 2012 and employment is slowly recovering its previous level. Therefore an increase in vacancies can indicate both employment growth and the start of a period of employment recovery following a decline.

Among the 12 countries with falls in job vacancies between the fourth quarters of 2012 and 2011 more than half were over 10 per cent. Slovenia saw the biggest fall of -30 per cent followed by Portugal (-24 per cent) and Spain (-23 per cent). The other four countries were less affected and ranged from -19 per cent in Bulgaria to -13 per cent in Austria. In the cases of Austria and Portugal, they have shifted from the relatively stable group in the previous reference period to those with significant decline. The Netherlands remained in the group of countries with declines of over 10 per cent with a fall of -18 per cent in the latest period. This was the fifth successive quarter registering an overall fall in vacancies and reverses a brief recovery for the country at the start of 2011. This coincides with continuing strongly negative consumer confidence in the Netherlands<sup>3</sup>.

For the longer term, sustained improvements in job vacancies between the fourth quarters of 2012 and 2008 were evident in just three countries. In Germany growth over period was

15 per cent, in Luxembourg 6 per cent and in Sweden an exceptional 46 per cent growth. For the remaining countries vacancies fell over this longer period ranging from -87 per cent in Cyprus to -6 per cent in the United Kingdom. In fact the United Kingdom was the only country of this group that exceeded the EU15 average of -7 per cent.

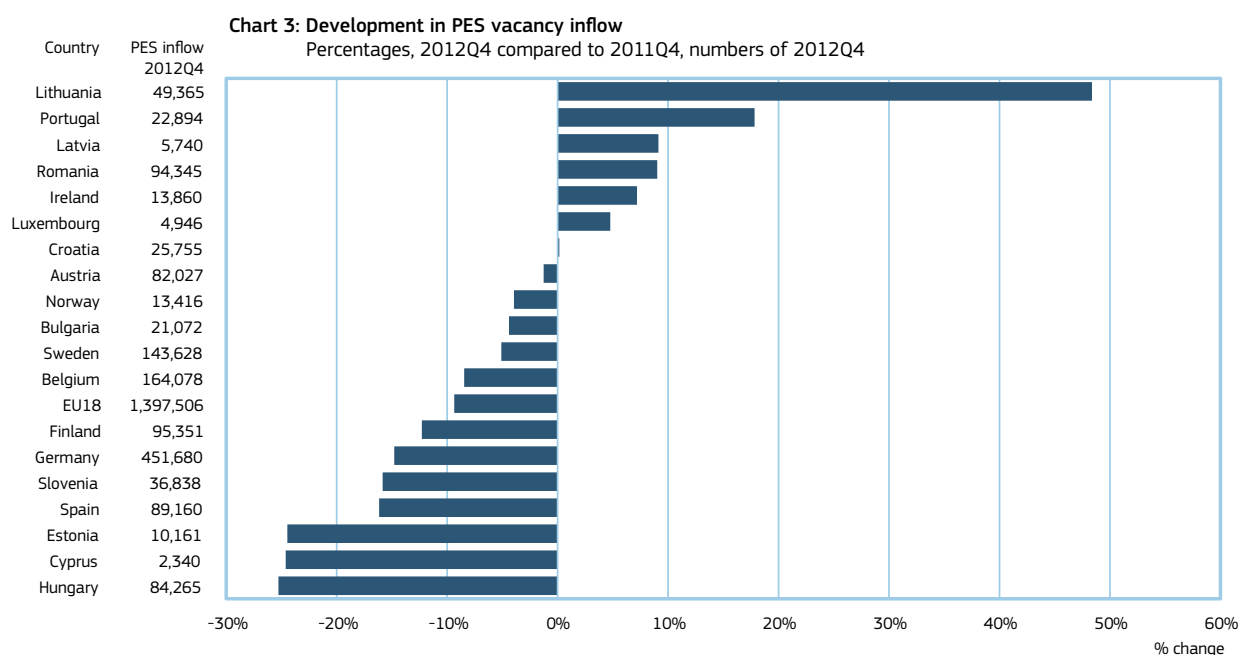
### Continuing weak overall labour demand evident in PES vacancy inflows in most countries

From the PES vacancy inflow data it is clear that labour demand through this recruitment channel remained weak, confirming the above picture for the whole vacancy market (Chart 3). Between the fourth quarters of 2012 and 2011 inflow fell by around -9 per cent for the 18 EU countries where comparable data is available<sup>4</sup>. While this represented a marginal improvement on the -10 per cent fall (for 16 EU countries) reported in EVM9, it confirmed a more durable weak demand scenario.

Six countries (Ireland, Latvia, Lithuania, Luxembourg, Portugal, and Romania) managed some growth in PES vacancy inflows between the fourth quarters of 2012 and 2011 and in Croatia there was no change.

Taking a wider view of growth and stability in PES vacancy inflows, countries are grouped according to year-on-year changes as follows:

- Growth (> + 5 %)                      Ireland, Romania, Latvia, Portugal, Lithuania
- Relatively stable (> -5 % and ≤ +5 %)      Sweden, Norway, Croatia, Luxembourg, Bulgaria, Austria
- Decline (≤ -5 %)                      Hungary, Cyprus, Estonia, Spain, Slovakia, Germany, Finland, Belgium



Source: PES - own calculations (19 countries). Austria, Belgium, Bulgaria, Croatia, Cyprus, Germany, Estonia, Finland, Hungary, Ireland, Lithuania, Latvia, Norway, Luxembourg, Portugal, Romania, Spain, Sweden and Slovenia.  
PES inflow refers to new job vacancies which have been registered in a certain quarter.  
Total PES inflow (EU18 excl. Norway, in thousands): in 2011Q4: 1,542; in 2012Q4: 1,398.  
Total PES inflow (EUR19 inc. Norway, in thousands): in 2011Q4: 1,556; in 2012Q4: 1,141.

This shows that in addition to the seven countries with some growth or no change in PES vacancy inflows, a further four countries (Austria, Bulgaria, Norway and Sweden) had a relatively stable situation.

Of the six countries with some growth, Lithuania stands out from the rest with a change of 48 per cent between the fourth quarters of 2012 and 2011 confirming a similar scale of change shown in EVM9. Economic growth continues to be strong in that country and has contributed to a relative shortage of qualified labour in some fields. As a result, employers have been using all available recruitment channels to secure their labour needs. Another factor in Lithuania has been the promotion of PES services to employers and this contributed to the higher vacancy notification rate. The Latvian economy has also continued to grow and generate an increased inflow of PES vacancies. However, the increase of 9 per cent between the fourth quarters of 2011 and 2012 is less than half the increase recorded between the third quarters of 2012 and 2011.

In the case of Portugal the 18 per cent increase in PES vacancy inflows between the fourth quarters of 2012 and 2011 reverses a decline in the previous reference period. The turnaround is unexpected given the continuing economic difficulties in that country with continuing negative GDP growth. Some of the increase in vacancy notifications may be due to employers facing skills shortages following increased emigration during the crisis. This may also help explain the situation in Romania and Ireland. Romania has moved from a position of no change in EVM9 to an increase in PES vacancy inflow of 9 per cent in the latest year-on-year figures. Ireland appears in the chart for the first time and showed a 7 per cent growth in PES vacancies.

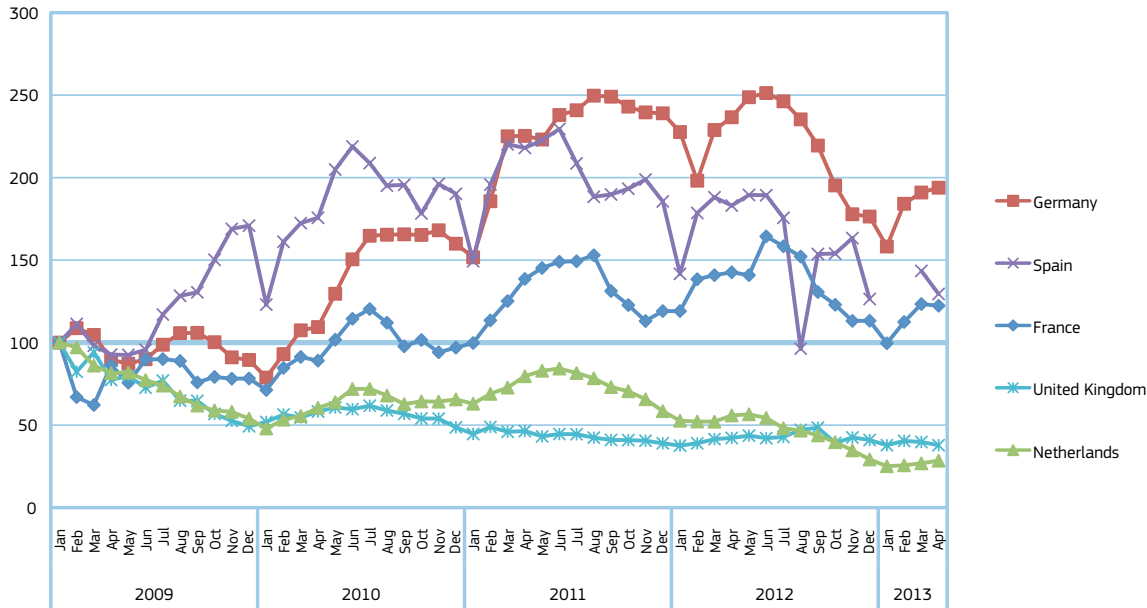
Among the 12 countries with declining PES vacancy inflows between the fourth quarters of 2012 and 2011, eight had

falls in excess of -5 per cent. Hungary, Cyprus and Estonia recorded the biggest falls of 25 per cent, 25 per cent and 24 per cent respectively. While Cyprus and Hungary were in a similar position in the previous reference period, the position of Estonia has deteriorated. However, Spain had the worst decline in EVM9 (-45 per cent) but this lessened to around one-third of that level (-16 per cent) in the latest figures. In contrast, the situation has deteriorated in Belgium, Finland, Germany and Slovenia with bigger year-on-year declines in PES vacancy inflows. This is consistent with faltering economic growth in these Eurozone countries. Of the four, only Germany maintained a positive growth in real GDP in the fourth quarter of 2012, though at 0.4 per cent it was down by -0.6 per cent on the previous quarter.

**Partial recovery in demand for temporary agency workers in the first quarter of 2013**

In the first four months of 2013 compared to the end of 2012 demand for temporary agency workers increased in three of the five countries covered by the Randstad figures (Chart 4). The biggest increase was in Germany where the index moved up by 18 points between December 2012 and April 2013. France also registered a sizeable increase of 9 points while those for Spain<sup>5</sup> and the Netherlands were lower at 4 and 3 points respectively. Much of this increase is seasonal, since in each of the first four months of 2013 the Randstad vacancies were less than or equal to the same month of 2012 in all five countries. For the last quarter of 2012, the Randstad figures confirm the development in Germany, the Netherlands and Spain (Chart 2). However, the growth in the UK vacancies overall does not translate to the Randstad figures since most of them was in the public sector. Randstad tends to operate mostly vacancies in the private sector.

**Chart 4: Development of job vacancies in temporary work agencies (Randstad)**  
Index, January 2009 - April 2013, January 2009 = 100



Source: Randstad (5 countries). The index is based on the number of open vacancies published by the subsidiaries of the Randstad Group on the internet. Randstad only publishes job vacancies that cannot be filled directly from the available pool of candidates. The figures are based on daily measurements of the number of open job vacancies. Number of Randstad vacancies April 2013: France: 7,202; Germany: 7,919; the Netherlands: 2,954; Spain: 926; the United Kingdom: 6,962. For Spain, January and February 2013 were left out due to extremely low values.

The very latest figures for the first four months of 2013 suggest some positive signs in the demand for temporary workers in three of the five countries. In France, Germany and Spain their indices reached their lowest points for at least 12 months in January 2013 before all increased significantly for the subsequent two months (February and March) though only Germany maintained this development into April.

Assessed over the 52 months covered by the figures it is clear that these short-term shifts in the index are characteristic of similar changes throughout the period. This volatility is particularly evident in France, Germany and Spain where all three countries' indices have remained above the baseline for some time. Germany, for example, has seen the index peak recently at 251 in June 2012 before falling back to a low of 158 in January 2013. Similarly for France the index also peaked in the same month as Germany (though much lower at 158) before falling back to 100 at the beginning of 2013. A similar situation obtained in Spain, peaking at 190 a month before in May 2012 but falling to 100 in the same month as Germany and France.

For the Netherlands and the United Kingdom the longer term developments continue to show persistent low levels of demand for temporary agency staff. The figures for the latest four months of 2013 have done nothing to lift the indices for both countries towards the baseline. For the Netherlands the index in April 2013 (at 28) remained more or less where it was in December 2012 despite some month-by-month increases in between. For the United Kingdom the figure of 38 in April 2013 was well below that of 41 in December 2012 and confirmed a fairly static level of demand for temporary agency staff.

As reported in EVM9, the Randstad figures cover only a small part of the total temporary work agency market and so are not necessarily indicative of overall changes in the demand for such workers. However, in the absence of more comprehensive data they do provide a useful barometer of change in the labour market. Their key strengths are they are relatively up-to-date and demand for temporary workers tends to be closely linked to movements in economic activity with the minimum of time lag.

The extent of temporary working varies greatly among the EU27 and that covered by the temporary agencies forms only a small part of the total. In the fourth quarter of 2012 temporary employees as a percentage of all employees ranged from lows in Romania, Latvia and Lithuania of between 1.5 and 2.6 per cent, to highs of 20.4 to 26.5 per cent in Portugal, Poland and Spain. Among the largest Member States the proportions of temporary employees also varied from 6.4 per cent in the United Kingdom to 14.1 per cent in Germany. These differences reflect such factors as the extent of labour market flexibility and the treatment of certain groups of employees (see below).

In the latest EU Employment and Social Situation report<sup>6</sup> there is special coverage of youth and temporary jobs, comparing different traditions in countries. In particular it contrasts the situation in Germany with that in Spain. In Germany most young people on temporary contracts are in education or training and on recognised contracts such as apprenticeships. In Spain most of the young people are on temporary contracts because they cannot find a permanent job and this has been a significant factor in the large increase in youth unemployment in that country since the crisis. However other countries such as Denmark, Poland and the United Kingdom have different bases for temporary contracts. The article concludes that temporary contracts are potentially crucial for the transition probabilities for young people towards more secure employment.

## 1.2 TRENDS IN HIRINGS AND JOB PROSPECTS

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

For job hirings LFS data are used on employees in a 'reference week' who had started working for an employer at the most three months earlier – 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. Eurostat uses the neutral term "time since job started". Job hirings reflect completed recruitment even if no formal vacancies had been posted.

### Hirings holding up in some countries but decline in most

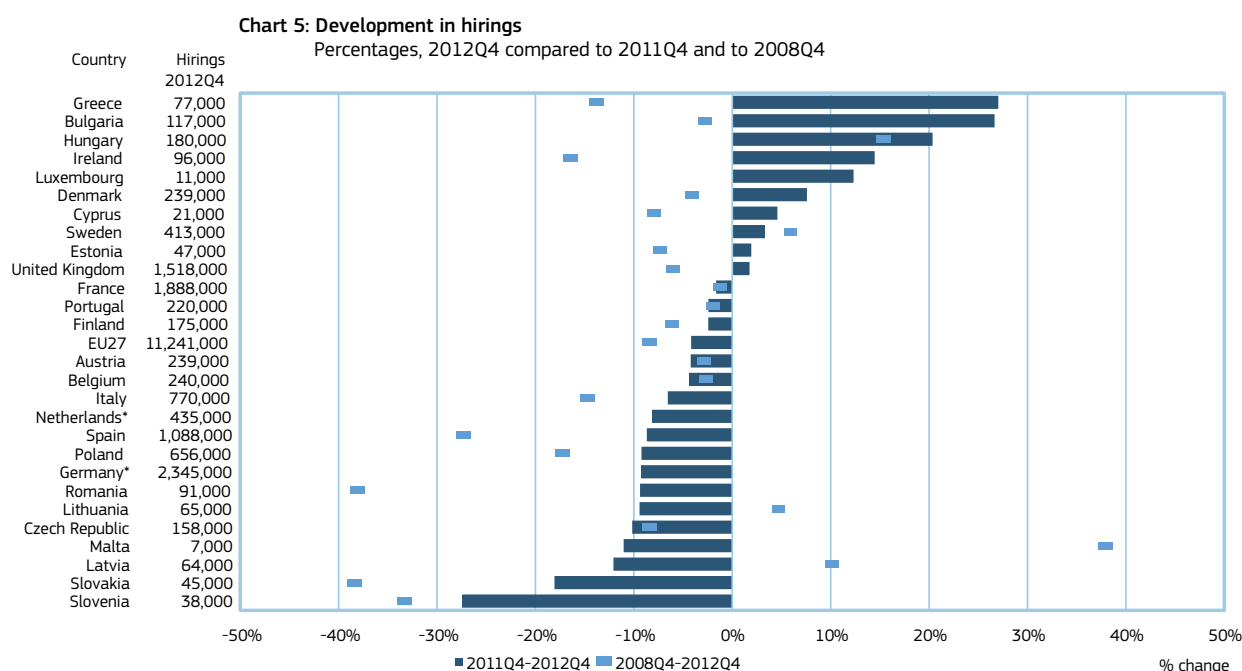
Overall short-term developments in hirings in the EU27 showed a fall of approximately -4 per cent between the fourth quarters of 2012 and 2011 (Chart 5). Around half (14) countries saw changes in hirings better than the EU27 average and of these, ten were positive (Bulgaria, Cyprus, Denmark, Estonia, Greece, Hungary, Ireland, Luxembourg, Sweden and the United Kingdom). The remaining 13 countries had falls in the number of hirings over the period as summarised below.

- Growth (> +5 %) Bulgaria, Cyprus, Denmark, Greece, Hungary, Ireland, Luxembourg
- Relatively stable (> -5 % and ≤ +5 %) Austria, Belgium, Estonia, Finland, France, Portugal, Sweden, and the United Kingdom
- Decline (≤ -5 %) Czech Republic, Germany, Italy, Malta, Latvia, Lithuania, the Netherlands, Poland, Romania, Slovakia, Slovenia, Spain

The ten countries with growth in hirings represented a mixed group with some Northern Member States such as Denmark, Sweden and the United Kingdom alongside countries more severely affected by the crisis such as Bulgaria, Greece, Hungary and Ireland. Furthermore this latter group of countries occupied the top four places for the percentage change. In Greece, for example, hirings increased by 27 per cent between the fourth quarters of 2012 and 2011 and Bulgaria was not far behind. In Denmark the increase was a more modest 8 per cent and in the United Kingdom and Estonia just 2 per cent. In the case of these two countries (and to some extent Denmark as well) some of the improvement in hirings can be attributed to their comparatively flexible labour markets. However the better hirings performance of those countries most affected by the crisis such as Bulgaria and Greece are more difficult to account for. One factor could be employers responding to pent-up demand for labour with recruitment being suppressed during the worse period of the crisis. If this is correct, the upturn in hirings could be early signs of increased recruitment activity in these countries, though the trend needs to be sustained before this can be confirmed.

Among the 13 countries with short-term falls in hirings, most are grouped within the range -2 per cent (Finland, France and Portugal) to -12 per cent (Latvia). Two countries exceed this range by substantial margins. In Slovakia the fall in hirings was -18 per cent and in Slovenia -27 per cent.

Examined over the longer term, just six Member States showed continued growth in hirings between the fourth quarters of 2008 and 2012. Again this was a diverse mix of mostly



Source: LFS - own calculations (27 countries).

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

\* For the Netherlands and Germany no comparison is made with 2008Q4 because the LFS non-response in 2008-2010 job start data is very high and compromises the calculation of the percentage change.

\*\* The change in hirings 2008Q4-2012Q4 is +95% for Luxembourg and is outside the range of the graph.

Numbers of job hirings (EU27, in thousands): in 2008Q4: 12,443; in 2011Q4: 11,731; in 2012Q4: 11,241.



### Box: Comparing vacancies and hirings indicators

Comparing the direction of short-term developments of hirings with job vacancies (Chart 2) shows that countries can fall into one of three categories as illustrated below.

Short-term changes in vacancies (JVS) and hirings (LFS) indicators	Countries affected (18)
Both vacancies and hirings positive	Estonia, Luxembourg and the United Kingdom
Both vacancies and hirings negative	Austria, Finland, Germany, the Netherlands, Portugal, Slovakia, Slovenia and Spain
Vacancies and hirings opposite	Bulgaria, Cyprus, Czech Republic, Latvia, Lithuania, Romania, Sweden

The analyses contained herein attempts to provide an in-depth insight into job-opportunities in the European labour market using a range of data sources on vacancies and related concepts (e.g. hirings). These data sources are often based on different definitions and survey methods. For example, the data on hirings (LFS) is gathered over a three month period from households; the vacancy data (JVS) in contrast is gathered from enterprises in a single day.

For this reason, the trend indicated by these different methods may vary even between the same quarters (e.g. the single day trend might be declining while the three month trend may be rising in a given country).

Other factors could also cause divergence. For example, in certain countries, the chronic shortage of IT professionals can cause vacancies to increase and job hirings to decline.

It is nevertheless useful to analyse both datasets as they provide useful information on how sectors and occupations are performing in terms of the provision of job-openings.

smaller countries – Hungary, Latvia, Lithuania, Luxembourg, Malta and Sweden. The percentage change over this four year period ranged from 6 per cent in Lithuania to 95 per cent in Luxembourg. Of the six countries only three also had positive growth in hirings for the latest short-term period, indicating a sustained growth for just Hungary, Luxembourg and Sweden.

### Increasing unemployment and falling hirings both contributed to a fall in overall job prospects

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

Job prospects continued to deteriorate in the fourth quarter of 2012 according to the ratio of the unemployed to hirings. For the EU27 the ratio increased to 2.28 compared to 2.14 in the third quarter of 2012 and 2.02 in the fourth quarter of 2011 (Chart 6). Both increases in unemployment (up by 7.9 per cent in absolute numbers between the fourth quarters of 2012 and 2011) and falls in job hirings (down by 4.2 per cent over the same period) contributed to the overall deterioration in the ratio. Seven Member States (Denmark, Estonia, Greece, Hungary, Ireland and the United Kingdom) saw their ratios fall between the fourth quarters of 2012 and 2011 suggesting some small improvement of job prospects in these countries.

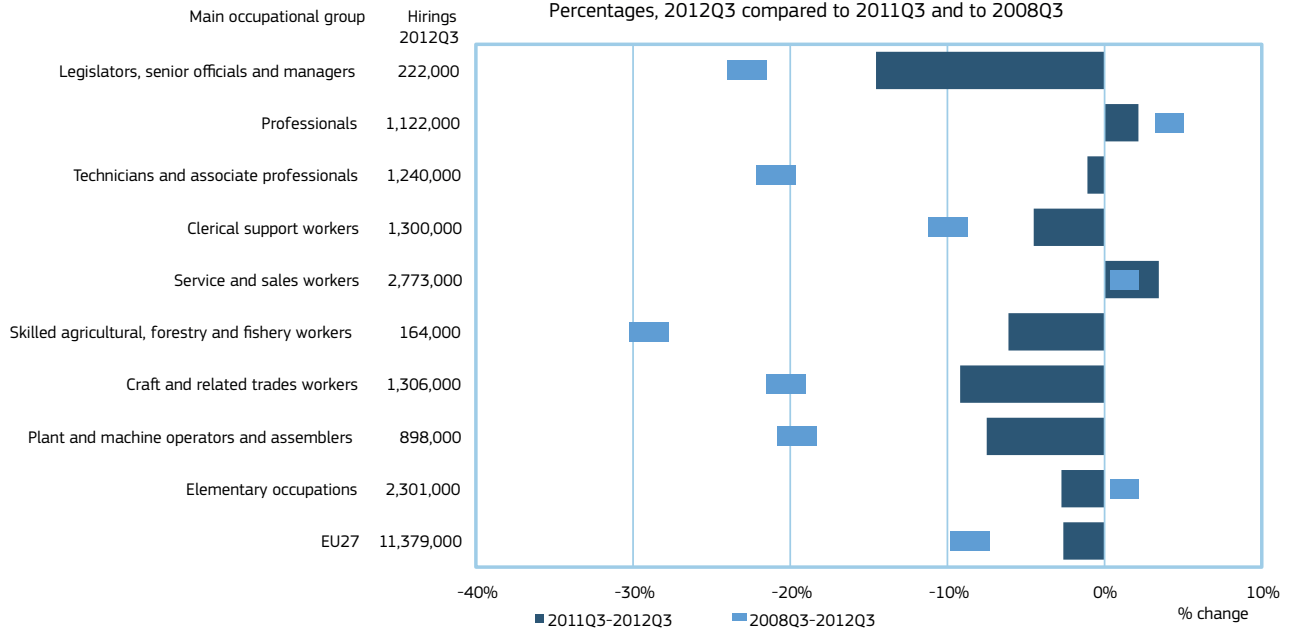
Countries are grouped by their ratios for the latest quarter below. There were just four countries with ratios of 1.0 or below and of the four, only Denmark saw a lower ratio than

in the fourth quarter of 2011. Compared to those countries with ratios of 1.0 or under in the previous reference period (EVM9) Austria, Denmark and Sweden are in both periods, with Germany joining the group in the latest quarter but Finland and the Netherlands slipping out. As in the previous period, the countries with ratios of below 2.0 are all Northern EU Member States with the exception of Malta.

- Ratio of 1.0 or under\*: Austria, Germany, Denmark, Sweden
- Ratio of over 1.0 and to 2.0: Belgium, Estonia, Finland, France, Luxembourg, Malta, the Netherlands, United Kingdom
- Ratio of over 2.0 to 3.0: Cyprus, Czech Republic, Hungary, Lithuania, Latvia, Poland, Slovenia
- Ratio of 3.0 and over: Bulgaria, Greece, Ireland, Italy, Portugal, Romania, Slovakia, Spain

\* A ratio of under 1.0 would seem to indicate a shortage of labour supply (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 job seekers are unemployed – in fact most vacancies are filled by those already in work and who change job without a period of unemployment.

**Chart 6: Development in hirings by main occupational group (ISCO)**  
Percentages, 2012Q3 compared to 2011Q3 and to 2008Q3



Source: LFS data by ISCO 1 digit level - own calculations (26 countries, 27 for total). Ireland is included in the total but not in the breakdown by main occupational group due to partial non-response on ISCO for 2011Q3. Total is inclusive Ireland, armed forces and non-response (together 150,000). From 2011, the ISCO-08 classification is used in the LFS, in 2008 the ISCO-88 classification was used.  
Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

Seven Member States (Bulgaria, Denmark, Estonia, Greece, Hungary, Ireland and the United Kingdom) saw their ratios fall between the fourth quarters of 2012 and 2011, though mostly by modest amounts. The biggest falls were in Ireland (down by 0.68), Bulgaria (down by 0.59) and Hungary (down by 0.47).

In the fourth quarter of 2012 eight countries had ratios of 3.0 or more. Of these, a ratio of over 16.0 stands out for Greece and was almost double the next highest ratio for Slovakia at 8.7. However, the ratio for Greece was fairly stable compared to the fourth quarter of 2011 whereas that for Slovakia showed a significant increase from 6.9 to 8.7. Four more countries in the group (Italy, Portugal, Romania and Spain) with the highest ratios saw year-on-year increases in their ratios, while Bulgaria and Ireland saw lower ratios.

Over the longer term the EU27 ratio of hirings to unemployed increased from 1.40 in the fourth quarter of 2008 to 2.28 in the same quarter of 2012. This was driven by the majority of countries seeing increases in their ratios, though most were relatively small. The exceptions were Greece and Cyprus which saw their ratios almost quadruple over the period and Slovenia and Spain where rates tripled. Only three countries (Germany, Luxembourg and Malta) had lower ratios in the fourth quarter of 2012 compared to the same quarter in 2008.

# Part 2 OCCUPATIONS

## 2.1 RECRUITMENT DEMAND FOR OCCUPATIONS

### Decline in hirings includes professionals for the first time

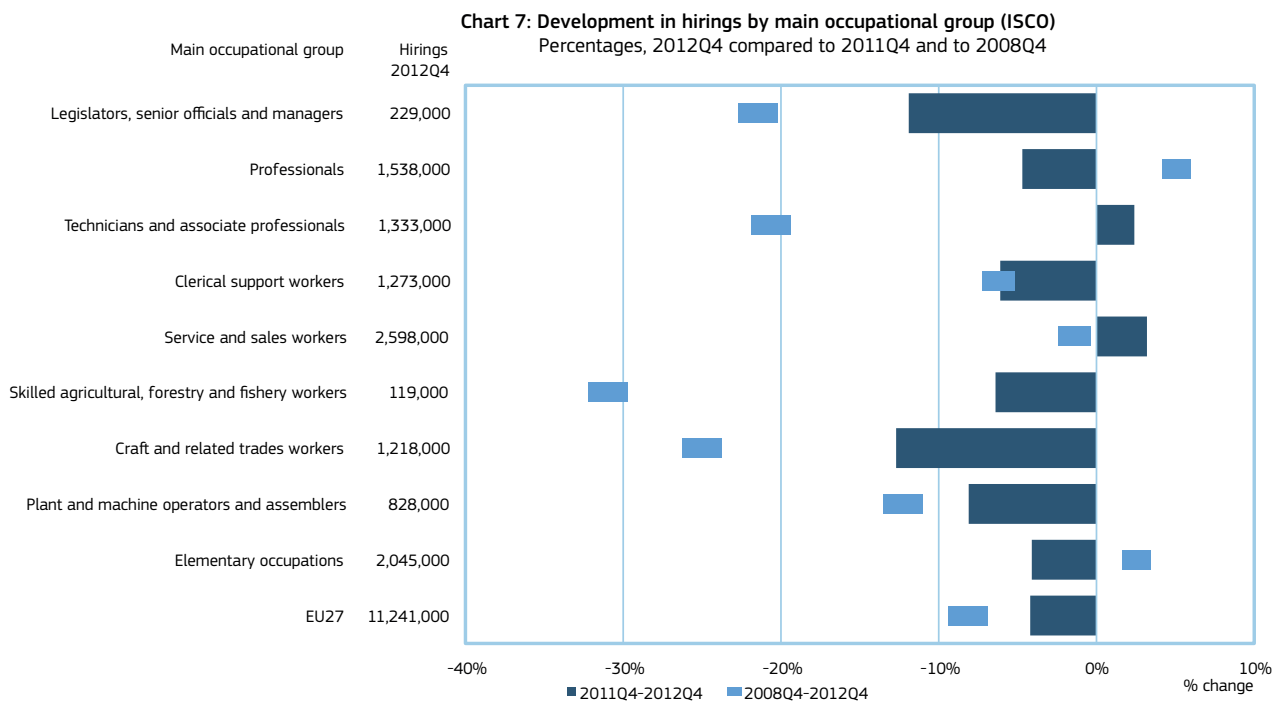
Changes in the number of hirings showed that overall demand for labour in the EU27 continued to decline (Chart 7). Between the fourth quarters of 2012 and 2011 hirings fell by -4 per cent which was marginally worse than the -3 per cent fall in the previous reference period (EVM9). Hirings were down in all but two occupational groups and fell for the first time since the second quarter of 2010 for 'professionals'. The fall in the 'professionals' group was significant and at -5 per cent it effectively reversed the 2 per cent increase in the previous period. It was offset to some extent by an increase in another high-skilled group, 'technicians and associate professionals' which grew by 2 per cent reversing a negative situation in the previous period. The other group that showed some growth (of 3 per cent), 'service and sales workers', has a more consistent record with a similar sized increase in the previous period.

Among the seven broad occupational groups with falls in hirings between the fourth quarters of 2012 and 2011, the biggest falls were in 'craft and related trades workers' (down 13 per cent) and 'legislators, senior officials and managers' (down 12 per cent). This represents a slightly worse situation for the former and slightly better for the latter when compared to the previous reference period.

Between the fourth quarters of 2012 and 2008 hirings in the EU27 fell by 10 per cent but within this broad figure there

are significant variations. 'Skilled agricultural, forestry and fishery workers' showed the largest medium-term fall with -32 per cent, though this occupational group is relatively small, accounting for just over one per cent of all hirings in the fourth quarter of 2012. The occupational group with the largest proportion of all hirings was 'service and sales workers' accounting for almost one in four of all hirings. Whatever the underlying reasons, the continued increase in hirings for 'service and sales workers' has come close to undoing the decline between 2008 and 2011. The 'elementary' occupations group accounted for around 18 per cent of all hirings in the fourth quarter of 2012 and increased by just 4 per cent over the longer term despite a fall in the short term by -4 per cent. In this case comparatively high labour turnover may explain the hirings figures rather than incremental recruitment.

The recovery in hirings of 'technicians and associate professionals' in the current quarter was against the longer term development and relate to healthcare, administration and supervision in manufacturing and construction (see Chart 8 further below). Between the fourth quarters of 2012 and 2008 hirings for this occupational group fell by -22 per cent. This was exceeded by another high-skilled group, 'legislators, senior officials and managers' which fell by -23 per cent. However 'craft and related trades workers' exceeded this with a fall of -27 per cent with 'plant and machine operators and assemblers' down by 14 per cent. These developments tend to show that since the crisis hirings have varied for all the main skills levels and there is no clear sign of any polarisation in



Source: LFS data by ISCO 1 digit level - own calculations (27 countries). Total is inclusive armed forces and non-response (together 60,000).

From 2011, the ISCO-08 classification is used in the LFS, in 2008 the ISCO-88 classification was used. Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

terms of the overall demand for labour. This is to some extent confirmed by a recent Eurofound study<sup>7</sup> which concluded that job polarisation tended to be restricted to the wage structure even during the crisis. Furthermore, recent shifts (2011-12) were less polarising with greater growth in higher paid jobs, less pronounced decline in mid-paid jobs and relatively greater decline in lower paid jobs.

## High-skilled occupations dominate the Top 25 for employee growth

### Top 25 occupational growth

The top 25 occupations are determined by comparing numbers per ISCO category (at 3-digit level) of the third quarter of 2012 compared to the same quarter of 2011. Occupations are ranked by absolute growth rather than percentage change to avoid the numerically smallest occupations always ending on top, or using arbitrary minimum thresholds for selecting larger occupations. To provide a more comprehensive picture of the development of skills demand, this section provides following top 25 occupations:

1. growth in employment (where are increasing numbers of workers needed?)
2. growth in hirings (where are hirings increasing, including those to replace workers leaving employment?)
3. most recent hirings (where recruitment demand is high even if not increasing)

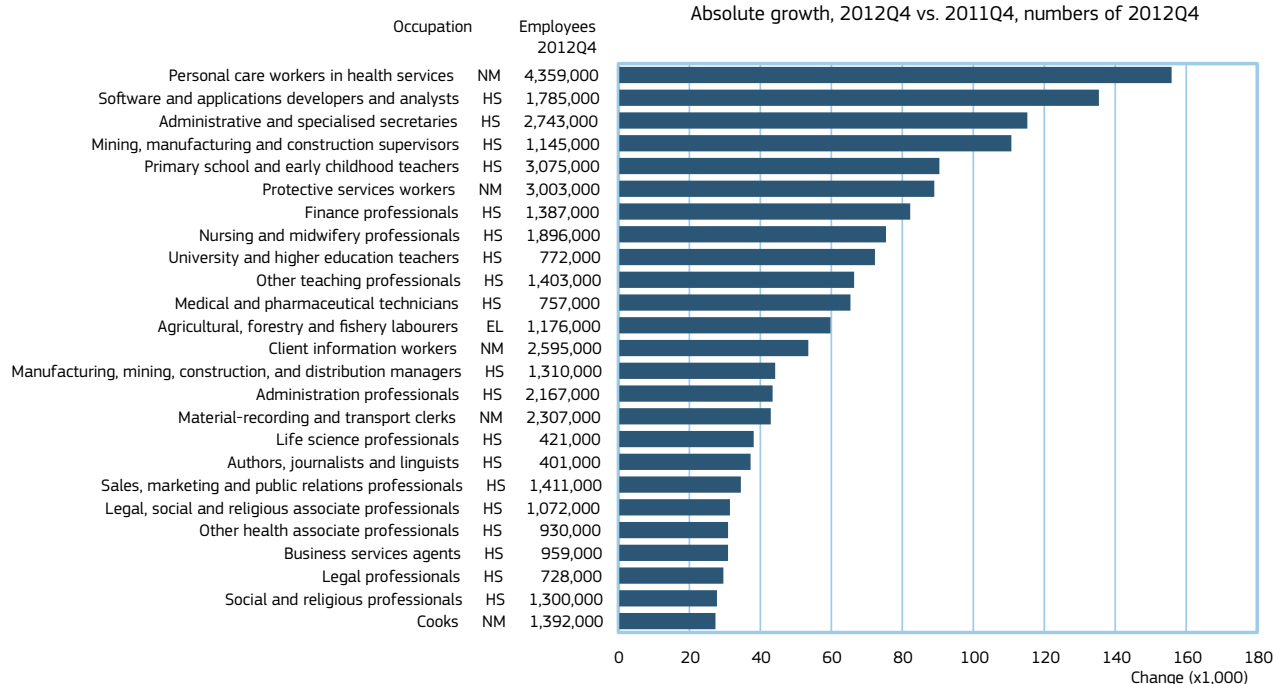
In the charts four skills groups are distinguished. These are related to the main occupational groups as indicated in the blue text box:

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<sup>8</sup>

For some time the high-skilled occupations have dominated the Top 25 in terms of growth in employee numbers (Chart 8). The change between the fourth quarters of 2012 and 2011 shows this to have reached the highest proportion yet with 19 of the Top 25 occupations falling into the high-skilled category. This compares with 15 in the previous reference period (EVM9) and reinforces the durability in the demand for higher skilled labour. Of the remaining six occupations in the Top 25 for employee growth, five were skilled non-manual (the same number as in the previous quarter's figures) and one elementary (compared to three in the previous quarter. There were no skilled manual occupations in the Top 25 whereas there were two in the previous quarter.

In terms of broad types of job the group with the biggest share of employees in the Top 25 was in health-related occupations. Here four occupations (*'personal care workers in health services', 'nursing and midwifery professionals', 'medical and pharmaceutical technicians' and 'other health associated professionals'*) accounted for 20 per cent of the total. Next were jobs in education where three occupations (*'primary school and early childhood teachers', 'university and higher education teachers', and 'other teaching professionals'*) took 13 per cent of employees. This was closely followed by jobs in administration with 12 per cent but for only two



occupations ('administrative and specialised secretaries' and 'administrative professionals').

Comparing the changes in the Top 25 occupations by growth in employee numbers, six high-skilled occupations were new to the list as follows: 'primary school and early childhood teachers', 'authors, journalists and linguists', 'legal, social and religious associate professionals', 'other health professionals', 'business services agents', and 'social and religious professionals'. The following three occupations dropped out of the Top 25: 'business services and administration managers', 'engineering professionals (excluding electrotechnology)', and 'telecommunications and broadcasting technicians'. The incoming occupations would tend to be mostly employed in the services sector and a large proportion of them in the public sector (particularly in education and health). By contrast the outgoing occupations would mostly be employed in industry and the private sector. This would correspond with the continuing decline in employment in industry (down by almost 10 per cent in the EU27 over the past five years) whereas public sector services have been less badly affected<sup>9</sup>.

Both the latest quarter's figures and the previous reference period had five skilled non-manual occupations in the Top 25 for employee growth and the following four were common to both: 'personal care workers in health services', 'protective services workers', 'client information workers', and 'material-recording and transport clerks'. The additional occupation was 'cooks' whereas 'other sales workers' slipped from the ranking. Again many of the employees in these occupations would be employed in the service sector though would also be found in other sectors in less concentrated numbers.

The two skilled manual occupations falling from the latest Top 25 were 'other craft and related workers' including occupations such as underwater divers, product testers and pest

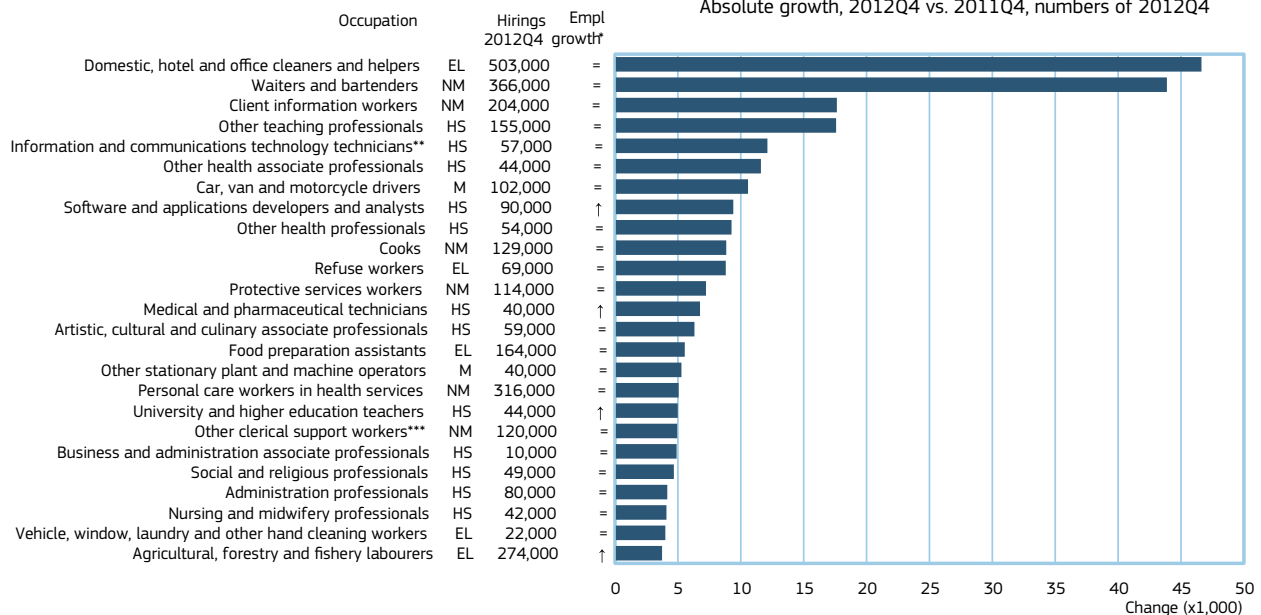
controllers, and 'animal producers'. The elementary occupation 'agricultural, forestry and fishery labourers' was common to both periods and has appeared in the Top 25 for some time. This consistent demand may be due to the regular recruitment of seasonal workers on short-term contracts. Two elementary occupations dropped from the ranking: 'manufacturing labourers' and 'domestic, hotel and office cleaners and helpers'.

### High-skilled jobs also continue to dominate the Top 25 occupations with growing hirings

The Top 25 occupations with the greatest growth in hirings between the fourth quarters of 2012 and 2011 were again dominated by high-skilled jobs taking 12 of the 25 places (Chart 9). Skilled non-manual occupations took a further 6 places, with skilled manual two and elementary five. Compared to the previous reference period (EVM9) there is evidence of a degree of polarisation in the skills mix with more high-skilled in the latest quarter's figures (12 compared to 10) and more elementary (5 compared to 3).

Only two broad occupational groups recorded any growth in hirings between the fourth quarters of 2012 and 2011, 'technicians and associate professionals' and 'services and sales workers' (Chart 7). Examining further the sorts of occupations that fall into these groups, among the high-skilled there was a concentration in three occupations: 'information and communications technology technicians', 'software and applications developers and analysts', and 'medical and pharmaceutical technicians'. In the skilled non-manual 'services and sales workers' group the main occupations included were: 'waiters and bartenders', 'protective services workers', 'other sales workers', 'shop sales persons', and 'childcare workers and teachers' aides'. Employment in all these occupations would tend to be spread across the public and private sectors.

Chart 9: Top 25 growth occupations (ISCO-08) - hirings  
Absolute growth, 2012Q4 vs. 2011Q4, numbers of 2012Q4



Source: Eurostat, LFS data by ISCO-08 3 digit level - own calculations (26 countries). Germany is excluded due to changes of coding occupations in 2012. Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier. Occupations are indicated with broad skills levels: EL = Elementary (ISCO 9); M = Skilled manual (ISCO 6-8); NM = Skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3). \* Year-on-year change employees: ≤ -5% (↓); > -5% and ≤ +5% (=); > +5% (↑). \*\* Full occupation name: Information and communications technology operations and user support technicians. \*\*\* Exclusive UK due to apparent inconsistencies in coding various clerical occupations into ISCO-08.

Where there has been **growth in both hirings and employee numbers** this tends to suggest the incidence of incremental jobs growth in addition to that for replacement demand. The following occupations (many in education, ICT and white jobs) appeared in both the Top 25 for hirings growth and Top 25 for employee growth between the fourth quarters of 2012 and 2011:

- **High-skilled (9 occupations)** – ‘other teaching professionals’, ‘other health associate professionals’, ‘software and applications developers’, ‘other health professionals’, ‘medical and pharmaceutical technicians’, ‘university and higher education teachers’, ‘social and religious professionals’, ‘administrative professionals’, and ‘nursing and midwifery professionals’;
- **Skilled non-manual (4 occupations)** – ‘client information workers’, ‘cooks’, ‘protective services workers’ and ‘personal care workers’;
- **Skilled manual (no occupations)**;
- **Elementary (1 occupation)** – ‘agricultural, forestry and fishery labourers’.

The list is dominated by high-skilled occupations confirming the more robust demand for this type of labour. Among all the skills groups the occupations would be predominantly employed in the public sector and especially education and healthcare. Some occupations are more transferable across sectors, such as ‘software and applications developers’ and ‘administrative professionals’ in the high-skilled jobs and ‘client information workers’ in the skilled non-manual category.

### Only one Top 25 occupation with most numerous hirings showed growth in hirings and employees, the others mostly reflected labour turnover

As in previous reference periods, the occupations with the most numerous job hirings in the EU27 were skilled non-manual, elementary and to a lesser extent skilled manual (Chart 10). They represent significant employment opportunities for job seekers though many will be precarious jobs with features such as temporary contracts, part-time hours or low pay. The top three also remained the same

**Chart 10 Top 25 occupations with most recent hirings**

With ranking, indication of employee growth, and numbers of 2012Q4

Ranking	Occupations (ISCO-08, 3-digit level)	Skills level	Employee y-o-y change*	Hirings y-o-y change*	2012Q4 job hirings
1	Shop salespersons	NM	=	=	649,000
2	Domestic, hotel and office cleaners and helpers	EL	=	↑	503,000
3	Waiters and bartenders	NM	=	↑	366,000
4	Personal care workers in health services	NM	=	=	316,000
5	Agricultural, forestry and fishery labourers	EL	↑	=	274,000
6	Child care workers and teachers' aides	NM	=	=	268,000
7	Building frame and related trades workers	M	↓	↓	235,000
8	Transport and storage labourers	EL	=	↓	218,000
9	Manufacturing labourers	EL	=	=	207,000
10	Primary school and early childhood teachers	HS	=	=	206,000
11	Client information workers	NM	=	↑	204,000
12	Mining and construction labourers	EL	↓	↓	183,000
13	Food preparation assistants	EL	=	=	164,000
14	Other teaching professionals	HS	=	↑	155,000
15	Secondary education teachers	HS	=	↓	150,000
16	Sales and purchasing agents and brokers	HS	=	=	149,000
17	Heavy truck and bus drivers	M	=	↓	142,000
18	Cooks	NM	=	↑	129,000
19	Other clerical support workers**	NM	=	=	120,000
20	Cashiers and ticket clerks	NM	=	↓	119,000
21	Protective services workers	NM	=	↑	114,000
22	Physical and engineering science technicians	HS	=	↓	113,000
23	Other sales workers	NM	=	=	110,000
24	Sheet and structural metal workers, moulders and welders, and related workers	M	↓	=	107,000
25	Car, van and motorcycle drivers	M	=	↑	102,000
	<b>Total top 25***</b>				<b>5,303,000</b>
	<b>Total ***</b>				<b>8,897,000</b>

Source: Eurostat, LFS data by ISCO-08 3 digit level - own calculations (26 countries).

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

\* ↓ decrease ≤ -5%; «=» change > -5% and ≤ +5%; ↑ increase > +5%;

\*\* UK is excluded for this occupation due to apparent inconsistencies in coding various clerical occupations into ISCO-08.

\*\*\* Total exclusive Germany

comprising *'shop salespersons'*, which grew the most, followed by *'domestic, hotel and office cleaners'*, and *'waiters and bartenders'*. Combined these three occupations accounted for over one-in-three of all the Top 25 hirings in the fourth quarter of 2012.

Seven occupations registered significant growth in hirings (of over 5 per cent) between the fourth quarters of 2012 and 2011 as follows: *'domestic, hotel office cleaners and helpers'*, *'waiters and bartenders'*, *'client information workers'*, *'other teaching professionals'*, *'cooks'*, *'protective services workers'* and *'car, van and motorcycle drivers'*. But only one occupation, *'agricultural, forestry and fishery labourers'*, also registered a significant increase in employment at the same time. This tends to indicate that there was little sign of any recovery in incremental recruitment in the quarter's figures.

## 2.2 PES VACANCY INFLOW BY OCCUPATION

### PES vacancy inflows fell in all main occupational groups except for managers

The overall inflow of PES job vacancies in the EU18 countries covered fell by around 9 per cent between the fourth quarters of 2012 and 2011 (Chart 3). Examination of the occupational mix underlying this change shows that just the smallest group, *'legislators, senior officials and managers'*, grew (Chart 11). This also was the only occupational group with an increased PES vacancy inflow in the previous reference period, on both occasions around 8 per cent.

Of the remaining eight occupational groups where PES vacancy inflows fell between the fourth quarters of 2012 and 2011, *'professionals'* registered the smallest fall (of just -1 per cent). This group was closely followed by *'service workers and shop and market sales workers'* (down -2 per cent). Compared to the hirings figures (Chart 7) the fall in PES vacancies for the professionals groups was consistent in direction with the fall in hirings, though the former was much larger than the latter (-6 per cent compared to -1 per cent). For *'service workers and shop and market sales workers'* the hirings and PES vacancy inflow changes went in opposite directions. For this occupational group hirings increased by 2 per cent while the PES vacancies fell by -2 per cent.

A similar divergence in hirings and PES vacancies obtained for *'technicians and associate professionals'*. In this occupational group between the fourth quarters of 2012 and 2011 hirings increased by 2 per cent but PES vacancies fell by -5 per cent. These differences in the indicators are likely to be the result of a smaller proportion of the total vacancies in these occupational groups being notified to PES, with employers choosing to use other recruitment channels.

Among all the main occupational groups the largest fall in PES vacancy inflow was in *'skilled agricultural and fishery workers'*. This fell by -20 per cent between the fourth quarters of 2012 and 2011 and was particularly affected by developments in Spain. The particularly sharp fall in vacancies in Spain partly

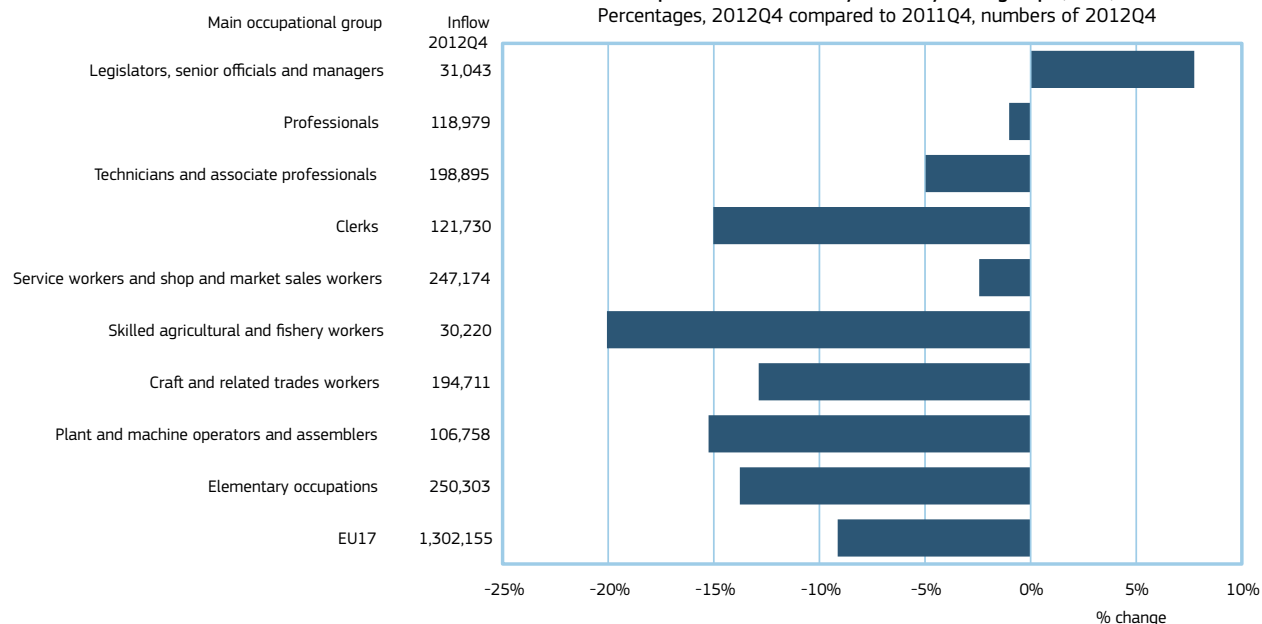
reflects a shift from skilled to unskilled agricultural workers, confirmed by a significant increase in vacancies for the latter group. It is also confirmed by developments in hirings where *'agricultural, forestry and fishery labourers'* have consistently been in the Top 25 for both employee and hirings growth. It was the only occupation in the Top 25 to register substantial year-on-year growth (above 5 per cent) in the latest figures (Chart 10).

### High skilled occupations also dominate the Top 25 for growth in PES vacancy inflows

The Top 25 occupations for growth in PES vacancy inflows are presented in two separate charts reflecting the availability of comparable country information according to the different versions of the International Standard Classification of Occupations (ISCO). Chart 12 covers eight countries using ISCO-88 (Austria, Belgium, Cyprus, Germany, Finland, Lithuania, Portugal and Sweden) while Chart 12b covers six countries using ISCO-08 (Croatia, Estonia, Spain, Ireland, Latvia and Slovenia). The latter group comprises mostly small Member States and even in the first group there are notable big country absences such as France, Italy and the United Kingdom. Germany dominates the first group but the top five growth occupations are quite similar in other countries, whereas Spain dominates the second group with quite distinct growth occupations.

In the first group of eight countries 16 of the Top 25 occupations for growth in PES vacancy inflows are high-skilled (Chart 12). For the remainder four are skilled non-manual, four skilled manual and one elementary. Compared to the previous reference period the dominance of high-skilled occupations is of a similar scale (15 compared to 16) with three skilled non-manual occupations compared to four in the latest quarter. There was one more skilled manual occupation in the latest quarter's figures but just one elementary occupation against four in the previous reference period.

**Chart 11: Development in PES vacancy inflow by main group (ISCO)**  
Percentages, 2012Q4 compared to 2011Q4, numbers of 2012Q4



Source: PES by ISCO, 1-digit, 17 countries, own calculations. Countries included (with ISCO-88 or ISCO-08 classification between brackets): Austria (88), Belgium (88), Bulgaria (08), Cyprus (88), Croatia (08), Estonia (08), Germany (88), Hungary (08), Ireland (08), Latvia (08), Lithuania (88), Luxembourg (88), Portugal (88), Romania (08), Slovenia (08), Spain (08) and Sweden (88). Compared to EVM9, UK (08) is excluded due to a new system of vacancy registration in November 2012.

Reflecting hiring patterns (see Chart 8) the biggest increases by far were in the two high-skilled occupations of *'nursing and midwifery associate professionals'* and *'administrative associate professionals'* and both would be mostly employed in the public sector. Other occupations in the top five where public sector employment predominates included *'other teaching professionals'*, *'customs, tax and related government and associate professionals'* and *'health professionals'*. It suggests that vacancies in the public sector are holding up better than would be expected from the austerity measures applied in many countries, though some countries remain relatively unaffected. For example the increased inflow for *'nursing and midwifery associate professionals'* can be largely traced to Sweden whereas the increasing inflow for *'administrative associate professionals'* is observed across most countries. The comparatively high numbers are also likely to be affected by the higher notification rate in the public sector where it is often a requirement to inform the PES of any vacancies the public sector agencies may have.

The occupation with the most numerical inflow of PES vacancies in the fourth quarter of 2012 was *'shop sales persons and demonstrators'* accounting for around one in three of all vacancies. This is a complete contrast to the situation in the previous reference period (EVM9) where *'personal care and related workers'* dominated and *'shop sales persons and demonstrators'* did not appear in the Top 25 PES growth occupations at all. It shows that short-term changes in vacancy notifications can cause significant movements in and out of the Top 25 growth occupations for PES vacancy inflow.

High-skilled occupations are also the main skills group in the Top 15 for the absolute growth in PES vacancies inflow for the smaller group of six countries (Chart 12b). However, this is to a lesser extent than for the group of eight countries. Less than half (seven) of the total occupations are high-skilled, with four skilled non-manual and one skilled manual and with elementary occupations (at three) taking a higher portion.

Almost half the total increase in the PES vacancies inflow between the fourth quarters of 2012 and 2011 was accounted for by Spain so this country strongly influences the results. Here the inflow was dominated by vacancies for *'mining and construction labourers'*. At the same time the notifications for all types of construction related craft workers declined in Spain, suggesting that the increase in construction vacancies was more likely attributable to new public works than to a recovery of the private construction sector.

Another elementary occupation, *'agricultural, forestry and fishery labourers'* was in second place in the Top 15 ranking though with around one quarter of the PES vacancy inflow of the first-placed occupation. This occupation has appeared consistently in not only the PES vacancy charts but also in hirings and employee growth. It suggests a persistent demand for workers in this occupation due to fluctuating seasonal needs and is likely to apply to all countries to varying degrees but particularly to Spain.

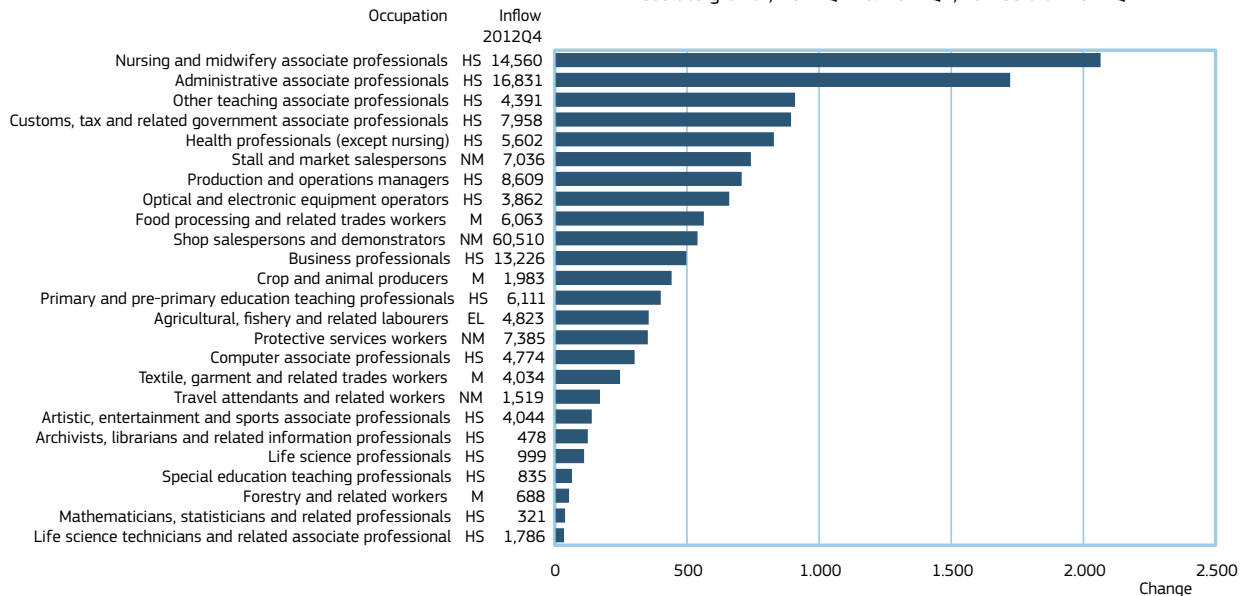
The highest placed high-skilled occupation was *'creative and performing artists'* though accounting for just 3.4 per cent of the total inflow in the fourth quarter of 2012. That demand via PES grows in the last quarter of 2012, might be related to the start of the new theatre and entertainment season.

### Skills varied for Top 25 occupations by absolute inflows of PES vacancies

Compared to the predominance of high-skilled occupations shown in the PES vacancy growth, in absolute numbers the mix of skills in the Top 25 is more evenly distributed (Chart 13). For the eight countries shown, there were seven high-skilled, seven skilled non-manual, eight skilled manual and three elementary occupations. This is the same combination of skills as in the previous reference period (EVM9) and the same occupations within each skills group but what has changed is the ranking.



**Chart 12: Top 25 growth occupations (ISCO-88) - PES vacancy inflow**  
Absolute growth, 2012Q4 vs. 2011Q4, numbers of 2012Q4



Source: PES by ISCO-88, 3-digit - own calculations; 8 countries included: Austria, Belgium, Cyprus, Germany, Lithuania, Luxembourg, Portugal and Sweden.  
PES inflow refers to new job vacancies which have been registered in a certain quarter.  
Occupations are indicated with broad skills levels: EL = Elementary (ISCO 9);  
M = Skilled manual (ISCO 6-8); NM = Skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

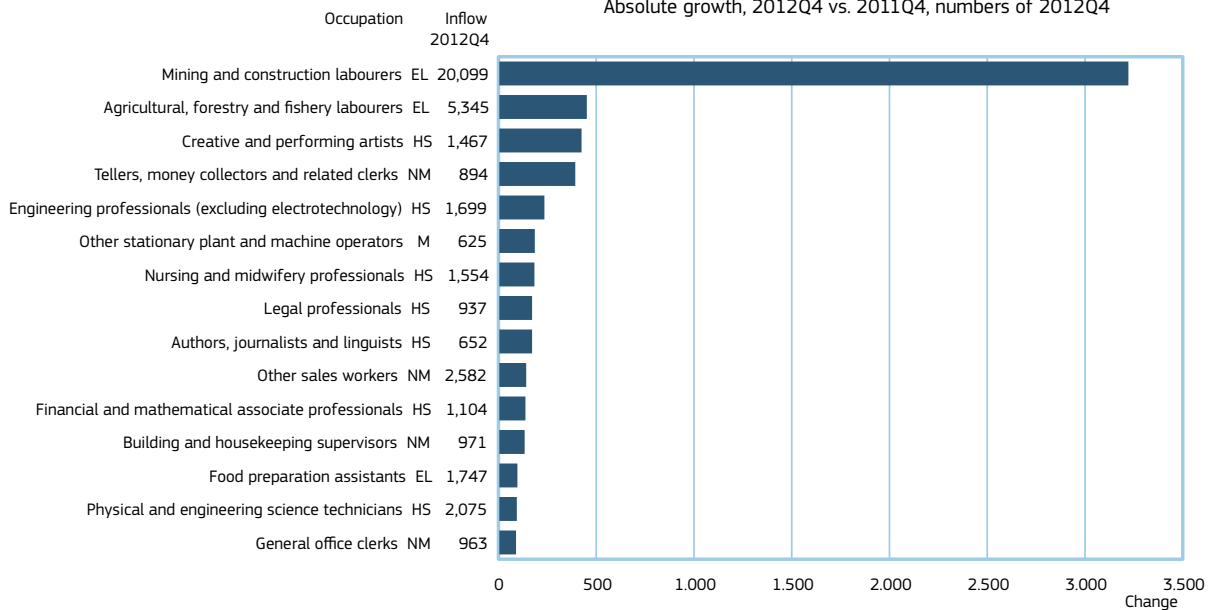
For example, the top three occupations in terms of PES vacancy inflow in the fourth quarter of 2012 were the same but have switched positions. In the latest period 'finance and sales associate professionals' replaced 'shop salespersons and demonstrators' at the top, the latter slipping to third position.

demonstrators', 'domestic and related helpers, cleaners and launderers', 'other personal services' and 'business professionals') saw no change over the period and the remainder all fell.

Only two of the Top 25 occupations saw a significantly higher (more than 5 per cent) inflow in the fourth quarter of 2012 compared to 2011: 'administrative associate professionals' and 'nursing and midwifery professionals', both high-skilled occupations. Four occupations ('shop sales persons and

Among the eight countries covered, Germany accounted for almost half of the total PES vacancy inflow in the fourth quarter of 2012. While the highest numbers are found in Germany, the top ranked occupations are fairly similar across all eight countries. For example, 'shop salespersons and demonstrators' ranked in the top five across all countries

**Chart 12b: Top 15 growth occupations (ISCO-08) - PES vacancy inflow**  
Absolute growth, 2012Q4 vs. 2011Q4, numbers of 2012Q4



Source: PES by ISCO-08, 3-digit - own calculations; 6 countries included: Croatia, Estonia, Spain, Ireland, Latvia and Slovenia.  
PES inflow refers to new job vacancies which have been registered in a certain quarter.  
Occupations are indicated with broad skills levels: EL = Elementary (ISCO 9);  
M = Skilled manual (ISCO 6-8); NM = Skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3).

Chart 13 Top 25 occupations with highest recent PES vacancy inflow

Occupations (ISCO-88, 3-digit level)	Skills level	Change compared to 2011Q4 *	2012Q4 PES inflow
1 Shop salespersons and demonstrators	NM	=	60,510
2 Finance and sales associate professionals	HS	↓	53,825
3 Housekeeping and restaurant services workers	NM	↓	52,256
4 Personal care and related workers	NM	=	50,686
5 Manufacturing labourers	EL	↓	43,397
6 Domestic and related helpers, cleaners and launderers	EL	=	34,147
7 Material-recording and transport clerks	NM	↓	30,001
8 Motor vehicle drivers	M	↓	27,377
9 Other office clerks	NM	↓	26,564
10 Machinery mechanics and fitters	M	↓	26,509
11 Physical and engineering science technicians	HS	↓	24,370
12 Building finishers and related trades workers	M	↓	24,012
13 Electrical and electronic equipment mechanics and fitters	M	↓	20,172
14 Architects, engineers and related professionals	HS	↓	18,659
15 Transport labourers and freight handlers	EL	↓	17,436
16 Administrative associate professionals	HS	↑	16,831
17 Secretaries and keyboard-operating clerks	NM	↓	15,207
18 Nursing and midwifery associate professionals	HS	↑	14,560
19 Other personal services workers	NM	=	14,010
20 Metal moulders, welders, sheet-metal workers, structural-metal preparers, and related trades workers	M	↓	13,627
21 Business professionals	HS	=	13,226
22 Painters, building structure cleaners and related trades workers	M	↓	12,898
23 Computing professionals	HS	↓	12,878
24 Building frame and related trades workers	M	↓	11,848
25 Agricultural and other mobile plant operators	M	↓	10,694
<b>Total top 25</b>			<b>645,700</b>
<b>Total</b>			<b>920,959</b>

Source: PES by ISCO-88, 3-digit - own calculations; 8 countries included: Austria, Belgium, Cyprus, Germany, Lithuania, Luxembourg, Portugal, Sweden.  
 EL = Elementary (ISCO 9), M = skilled manual (ISCO 6-8); NM = skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3).  
 \* ↓ decrease ≤ -5%; «=» change > -5% and ≤ +5%; ↑ increase > +5%;

with the exceptions of Cyprus and Luxembourg, where most vacancies were notified for 'agricultural labourers' (Cyprus) and 'housekeeping and restaurant services workers' (Luxembourg).

For the smaller group of six countries the skills mix among the Top 25 occupations for the PES vacancy inflow in the fourth quarter of 2012 is similar to the group of eight countries (Chart 13b). There are six high-skilled, eight skilled non-manual, seven skilled manual and four elementary occupations represented but the mix and ranking of occupations differs. Three occupations saw an increase in inflow in the fourth quarter of 2012 compared to 2011, two of them elementary and one skilled non-manual. This contrasts to the changes in the group of eight countries (Chart 13) where the two occupations that increased were high-skilled.

Chart 13b Top 25 occupations with highest recent PES vacancy inflow

Occupations (ISCO-08, 3-digit level)	Skills level	Change compared to 2011Q4*	2012Q4 PES inflow
1 Mining and construction labourers	Elementary	↑	20,099
2 Market gardeners and crop growers	Skilled M	↓	19,676
3 Building frame and related trades workers	Skilled M	↓	10,133
4 Shop salespersons	Skilled NM	=	7,486
5 Domestic, hotel and office cleaners and helpers	Elementary	↓	5,779
6 Sales and purchasing agents and brokers	High	↓	5,488
7 Personal care workers in health services	Skilled NM	↓	5,481
8 Agricultural, forestry and fishery labourers	Elementary	↑	5,345
9 Manufacturing labourers	Elementary	↓	4,808
10 Waiters and bartenders	Skilled NM	↓	3,735
11 Primary school and early childhood teachers	High	=	3,448
12 Protective services workers	Skilled NM	=	3,127
13 Sheet and structural metal workers, moulders and welders, and related workers	Skilled M	↓	2,927
14 Other clerical support workers	Skilled NM	↓	2,698
15 Social and religious professionals	High	↓	2,616
16 Other sales workers	Skilled NM	↑	2,582
17 Client information workers	Skilled NM	↓	2,582
18 Building finishers and related trades workers	Skilled M	↓	2,549
19 Heavy truck and bus drivers	Skilled M	↓	2,539
20 Other teaching professionals	High	↓	2,507
21 Cooks	Skilled NM	↓	2,401
22 Electrical equipment installers and repairers	Skilled M	↓	2,341
23 Secondary education teachers	High	↓	2,152
24 Physical and engineering science technicians	High	=	2,075
25 Machinery mechanics and repairers	Skilled M	=	1,981
<b>Total top 25</b>			<b>126,555</b>
<b>Total</b>			<b>181,514</b>

Source: PES by ISCO-08, 3-digit - own calculations; 6 countries included: Croatia, Estonia, Spain, Ireland, Latvia and Slovenia.  
 EL = Elementary (ISCO 9), M = skilled manual (ISCO 6-8); NM = skilled nonmanual (ISCO 4-5); HS = high-skilled (ISCO 1-3).  
 \* ↓ decrease ≤ -5%; «=» change > -5% and ≤ +5%; ↑ increase > +5%;

# Part 3 EDUCATIONAL REQUIREMENTS

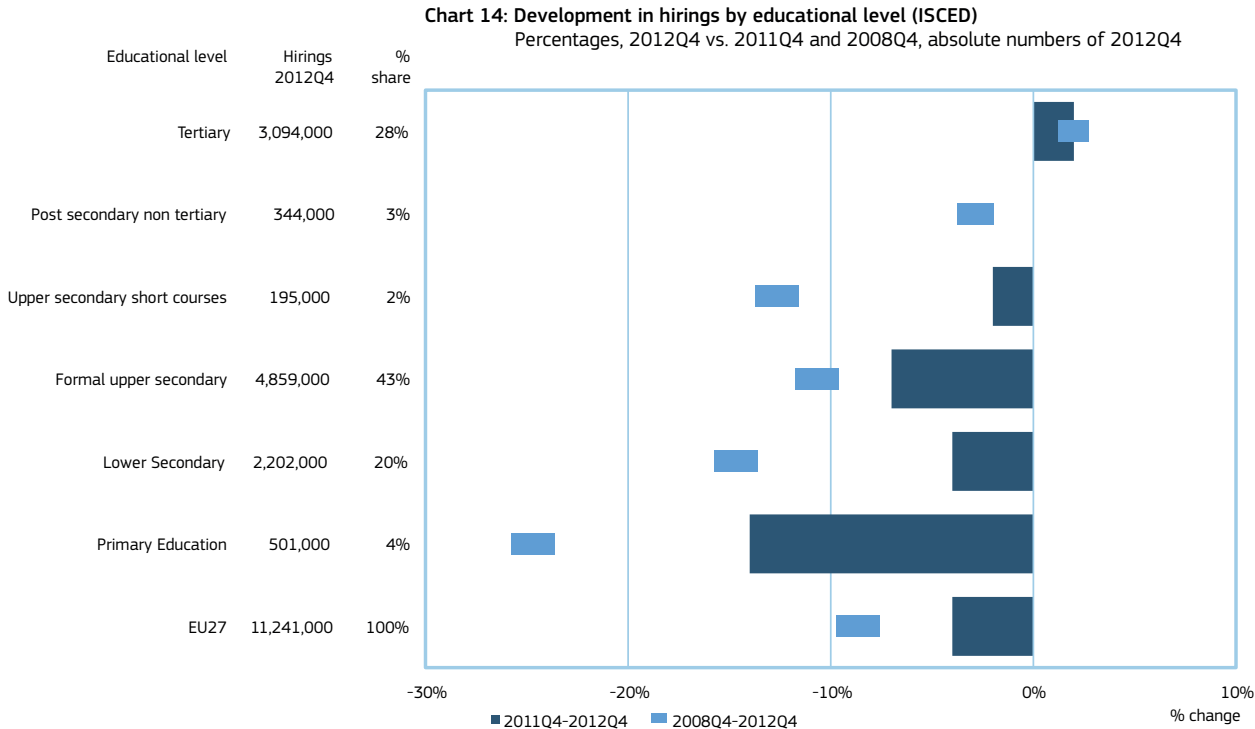
## Recruitment continues to fall for all but those with the highest educational level

The short-term trend in hirings by educational level confirmed the better employment prospects for those with tertiary education (Chart 14). Between the fourth quarters of 2012 and 2011 this was the only level to show an increase (by 2 per cent). This continued the development observed in the previous reference period (EVM9) though at a lower level of increase. Hirings of those with post-secondary non-tertiary education have fared less well, falling to no change in the latest period following modest growth between the third quarters of 2012 and 2011.

For all other educational levels there were falls in hirings between the fourth quarters of 2012 and 2011. Those with primary education were worst affected with a fall of around -14 per cent compared to -13 per cent in the previous period, though this is a relatively small group numerically. The biggest group numerically was those with formal upper secondary education accounting for 43 per cent of all hirings in the fourth quarter of 2012. This group had the second highest negative change of -8 per cent which was worse than the previous reference period. Those with upper secondary short courses form the smallest group for hirings at just 2 per cent of the total. Hirings also fell for this group, though at -2 per cent it was much lower than the -16 per cent fall between the third quarters of 2012 and 2011.

The longer term developments in hirings show that the demand for those with tertiary education has remained positive throughout the period between the fourth quarters of 2012 and 2008. Over the same period post-secondary non-tertiary has slipped into negative change alongside the other educational levels.

The apparent growth in the demand for recruits with higher educational levels to some extent fits with the trends observed in the skills profile of job vacancies, with the higher representation of higher skilled occupations. However, some of the increase may be due to employers taking advantage of a greater supply of higher educated jobseekers, some of who may fill jobs not necessarily commensurate with their educational level (over-qualified). Interest in the plight of qualified young people entering the labour markets has been intensifying. Reuters recently reported that both the scale and extent of the problem for young people in Europe may be under-estimated. Young people who do find a job can also face the dual problem of being overqualified and under-employed with just a few hours work per week. This can have the effect of setting back their career development, motivation and ability to be financially independent with implications for prolonged welfare support<sup>10</sup>.



Source: Eurostat, LFS - own calculations (27 countries).  
Exclusive 46,000 non-response on educational level (0.4%) for the educational levels.  
In the EU27 non-response is included.  
Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

## Part 4 SPECIAL FOCUS: WHITE JOBS

Previous issues of the EVM have identified occupations in the healthcare sector as among those with the most consistent growth in terms of employment and hirings. Furthermore, the EVRR (2012) identified some healthcare occupations as difficult to fill at the EU level. This combination of growing labour demand and a constrained labour supply poses a challenge for meeting the needs of a sector expected to be a main generator of employment opportunities over the foreseeable future.

The healthcare sector covers the provision of health and social care to the population and comprises a range of occupations and skills levels<sup>11</sup>

- 'Health professionals' form a large group and include doctors, nurses, midwives, pharmacists and dentists.
- 'Modern health associate professionals' include physiotherapists, dieticians, opticians and medical technicians, etc, working directly with patients.

The healthcare sector also indirectly supports jobs in a range of activities including those providing services ranging from catering and cleaning to health insurance and R&D. The social care sector includes residential and daily care provision and associated administrative and support staff.

The demand for healthcare services in the EU continues to grow through the combined effects of an ageing population and advances in technology and treatments. Alongside these, expectations of service quality and more emphasis on preventative care is likely to change certain work activities and the organisation of them<sup>12</sup>. Developments in the provision of healthcare have created a need for increased skills levels for both existing workers and new entrants and this trajectory is expected to continue in all countries<sup>13</sup>. According to the same

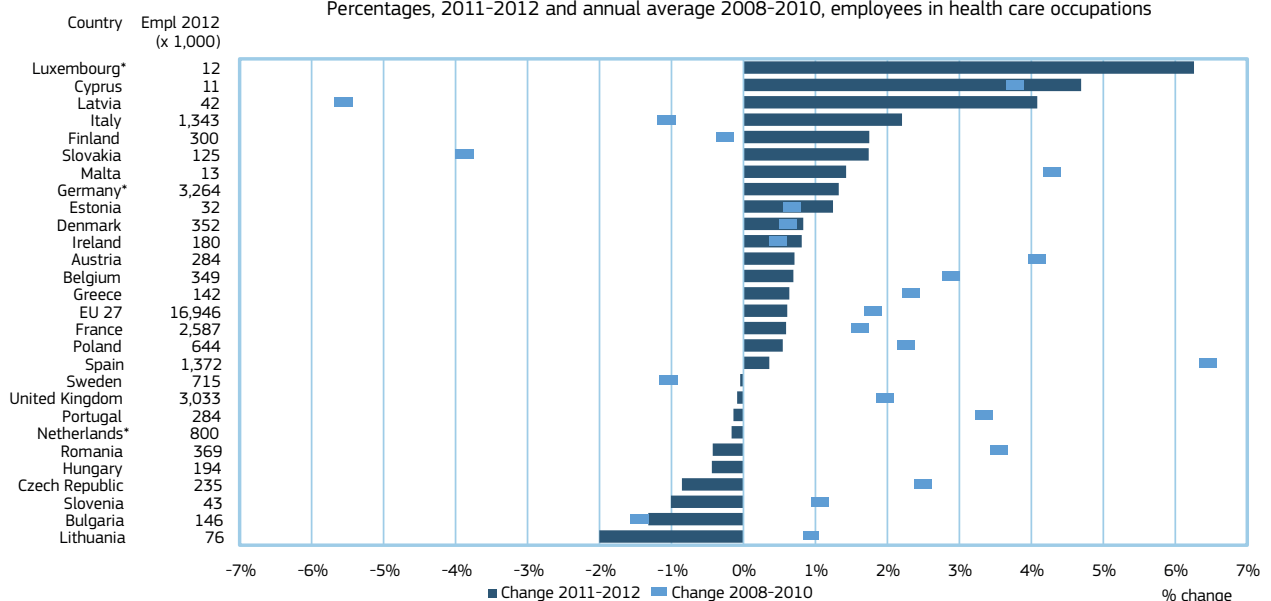
source, healthcare services are mostly provided by the public sector, though there is a stronger presence of the private sector particularly in the provision of residential and daily care services.

Despite austerity measures, employment in white jobs continued growing over the past two years, although at a slower pace. As a result difficulties in filling vacancies for white jobs seem to have become less urgent<sup>14</sup>. Opinions seem to differ whether work in healthcare can be organised more efficiently to reduce the need for additional workers. But in situations of an ageing workforce a decreasing supply of new workers can also contribute to shortages. In the older Member States in particular recruitment to some occupations (such as nursing and midwifery) has been difficult and often only satisfied through immigrant labour (more fully discussed under Chart S4 below). Where this recruitment takes place within the EU, the newer Member States are often the labour source and this can lead to increased labour supply problems in these countries.

### Employees in healthcare still growing but at a slower pace and falling slightly in some countries

The healthcare sector is an important source of employment with around one in every ten employees in the EU directly working in the sector, ranging from 5 per cent in Latvia and Poland to 14 per cent in Denmark and Finland and even 17 per cent in Sweden. The larger Member States employ significant proportions of all those working in healthcare. In 2012 over 10 million or three in every five employees in the EU27 were

**Chart S1: Development in health care employees, 2008-2010 (ISCO-88) and 2011-2012 (ISCO-08)**  
Percentages, 2011-2012 and annual average 2008-2010, employees in health care occupations



Source: Eurostat, LFS - own calculations (27 countries). Occupations included are (ISCO codes in brackets):  
Health professionals and nursing and midwifery professionals (ISCO-88 222,223 and ISCO-08 22)  
Health associate professionals and technicians (ISCO-88 322 and 323 and ISCO-08 32)  
Personal care and related workers (ISCO-88 513 and ISCO-08 53).

\* For Germany and the Netherlands no comparison is made with 2008Q4 because the LFS non-response in 2008-2010 job start data is very high and compromises the calculation of the percentage change. For Luxembourg the annual average growth in 2008-2010 was +14% and is not shown.

concentrated in France, Germany, Italy and the United Kingdom (Chart S1). In particular Germany and the United Kingdom accounted for 32 per cent and 30 per cent respectively of this total. It is also one of the few sectors that continued to grow in employment terms throughout the crisis. Between 2008 and 2012 the EU27 annual average rate of growth in employees was almost 2 per cent, though the latest figures show a slowing down with just 0.6 per cent in 2012.

Between 2011 and 2012 employment in the healthcare sector grew in 17 Member States. Three countries had rates of increase well above the rest. In Luxembourg the increase was 6 per cent, in Cyprus 5 per cent and Latvia 4 per cent. The remaining 14 countries with growth were all at 2 per cent or below.

The number of employees fell in ten Member States between 2011 and 2012. The most affected were the six newer Member States of Bulgaria, Czech Republic, Hungary, Lithuania, Romania and Slovenia, though in all cases the falls were less than 2 per cent. Four older Member States (the Netherlands, Portugal, Sweden and the United Kingdom) slipped slightly into negative growth though well below one per cent for each. Aside from the United Kingdom, the other largest Member States recorded some growth with 2 per cent in Italy and 1 per cent each in France and Germany.

Over the longer term, employees in the healthcare sector grew in 21 Member States. Between 2008 and 2010 the increase ranged from 1 per cent in Denmark, Estonia, Lithuania and Slovakia, to 7 per cent in Spain and 14 per cent in Luxembourg. In the largest Member States (information on Germany is not available – see notes to Chart S1) the number of employees grew by 2 per cent each in France and the United Kingdom but fell by -2 per cent in Italy.

Among the six Member States where employment fell over the period 2008 to 2010, only Bulgaria recorded falls in

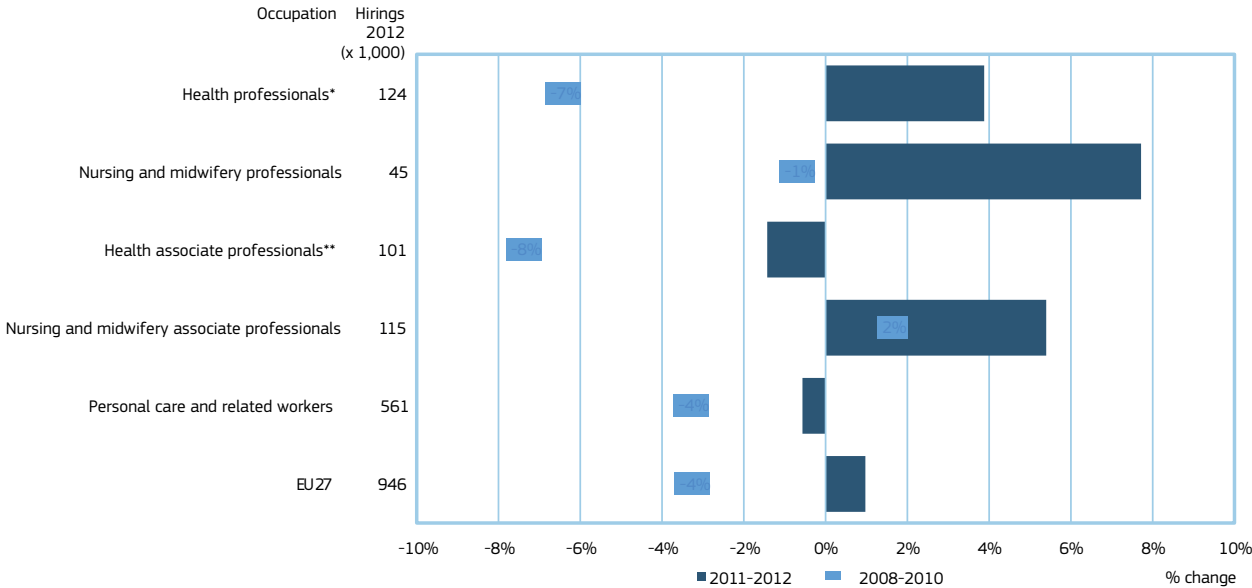
both the short and medium-term figures (-1 per cent and -2 per cent). For two Member States there were significant turnarounds between the medium and short-term figures. In Latvia a decline of -6 per cent in employees between 2008 and 2010 became a 4 per cent increase in 2011-2012. Similarly in Slovakia the medium-term decline of -4 per cent became an increase of 2 per cent in the short-term. Explaining this transformation in employment is not straightforward. Some of the change may be due to previous labour shortages in healthcare occupations easing as migrants returned home. Another factor may be an easing in austerity measures releasing more spending on healthcare. However, the continuous decline in healthcare employees in Bulgaria suggests extended difficulties in that country.

**Increased hirings in white jobs confirms growing labour demand**

Hirings in healthcare occupations in the EU27 increased by around 1 per cent between 2011 and 2012 (Chart S2) though with some variation across the five sub groups. The sub groups with most favourable developments were 'nursing and midwifery professionals' and 'associate professionals'. This effectively reversed a decline in the number of hirings between 2008 and 2010, despite a high level of employment growth (Chart S1). It suggests that the sector had a higher retention of workers before 2010, partly because of fewer job opportunities elsewhere.

The total number of hirings in the EU27 in 2012 reached almost one million. Of this total the labour intensive occupational group of 'personal care and related workers' accounted for almost three in every five healthcare jobs. In the new ISCO-08 classification since 2011 this sub group includes child care workers, as opposed to the old ISCO-88 classification. For this reason, developments in 2008-2010 and 2011-2012 are shown separately. A further three occupational

**Chart S2: Development in health care hirings, 2008-2010 (ISCO-88) and 2011-2012 (ISCO-08)**  
Percentages, 2011-2012 and annual average 2008-2010, by occupational group



Source: Eurostat, LFS - own calculations (27 countries).  
 \* Health professionals except nursing and midwifery professionals  
 \*\* Health associate professionals and technicians except nursing and midwifery associate professionals  
 Job hirings: employees who were employed in a 'reference week' and had started working for their employer at most three months earlier.

groups ('health professionals', 'health associate professionals' and 'nursing and midwifery associate professionals') had roughly similar proportions of hirings. The smallest group, 'nursing and midwifery professionals' amounted to 5 per cent of the total hirings. However, with a trend towards more integrated care where health and social care needs are brought closely together, the distinctions between occupational groups will become more blurred, with implications for skills development.

Three occupations had increased hirings led by 'nursing and midwifery professionals' and 'nursing and midwifery associate professionals'. The third occupational group with increase hirings was 'health professionals' (including a wide range of professions such as medical doctors, paramedics, veterinarians, dentists, pharmacists, occupational health professionals, physiotherapists, nutritionists, audiologists and optometrists), with an increase of similar size to the nursing and midwifery groups. In both occupational groups where hirings fell ('personal care and related workers' and 'health associate professionals') the decreases were relatively small.

However, the medium-term figures show a somewhat different scenario. Between 2008 and 2010 aggregate hirings of the five main healthcare occupations fell by -4 per cent. All but one of the groups registered falls ranging from -1 per cent in 'nursing and midwifery professionals' to -8 per cent in 'health associate professionals'. Adding these figures with those for 2011-2012 shows that hirings fell throughout the period for 'health associate professionals' and 'personal care and related workers'. The only occupational group of the five to show increased hirings between 2008 and 2010 was 'nursing and midwifery associate professionals' which rose by 2 per cent. This occupation was the only one that had positive growth in hirings throughout the period 2008 to 2012. Together with nurses where recent growth appears to have undone the preceding decrease in hirings, job prospects therefore look most promising for nurse assistants.

## Older workers in EU healthcare sector slightly above average ... especially in Bulgaria and the Baltic States

With growing demand for healthcare in the EU, the overall supply of labour becomes crucial if labour needs are to be met in the future. The age structure of the workforce is an important factor in future replacement demand as existing workers take retirement. An ageing workforce can be the result of a number of factors including low labour turnover, and low recruitment of young workers. It can also be caused by younger workers leaving the occupation or taking their skills to work in another country.

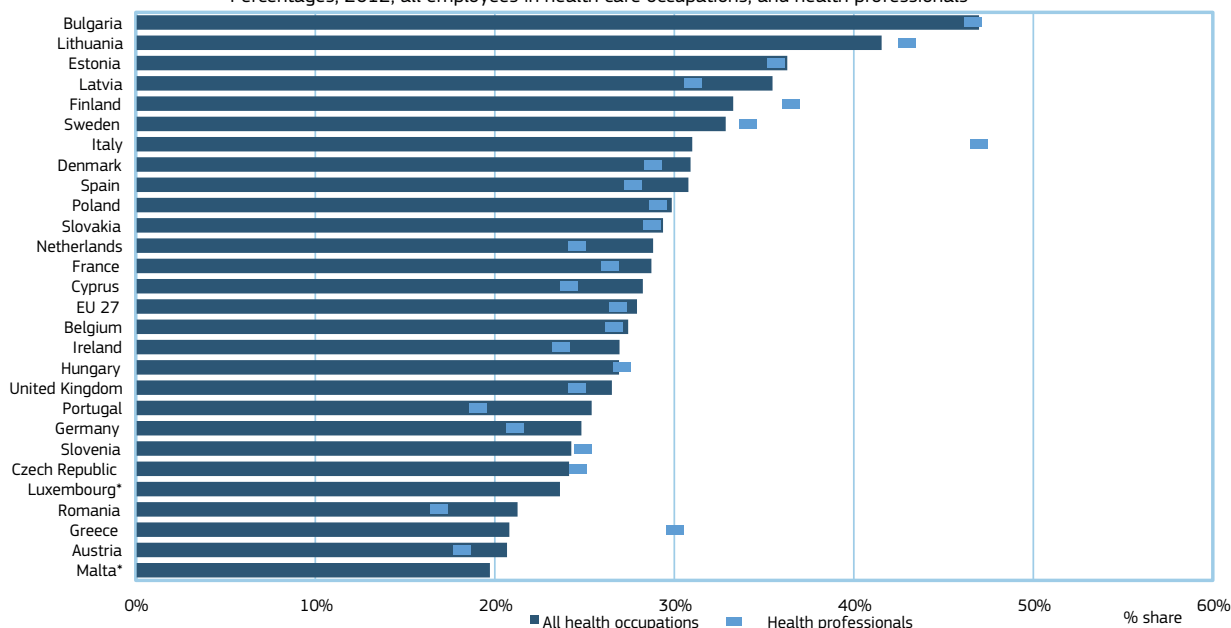
Older workers aged 50-64 represented around 28 per cent of all employees in the EU healthcare sector in 2012 (Chart S3). This was only slightly above the 26 per cent proportion in all occupations in the EU27. However, the situation varied between individual Member States.

Over half (14) of Member States had shares of older workers higher than the EU27 average of 28 per cent. Most were grouped within the range  $\geq 23$  and  $< +33$  per cent of the average as shown below.

- Significantly lower than EU27 average ( $< 23$  %) Austria, Greece, Malta, Romania
- Relatively similar to EU27 average ( $\geq 23$  % and  $< +33$  %) Belgium, Cyprus, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and the United Kingdom
- Significantly greater than EU27 average ( $\geq +33$  %) Bulgaria\*, Estonia, Finland, Latvia, Lithuania\*, Sweden

Note: in the countries marked with "\*" the difference was over 10%.

Chart S3: Share of older workers (aged 50-64) in health care  
Percentages, 2012, all employees in health care occupations, and health professionals



Source: Eurostat, LFS - own calculations (27 countries). Based on the ISCO-08 classification, health care personnel includes health professionals (ISCO 22), health associate professionals and technicians (ISCO 32) and personal care and related workers (ISCO 53).  
\* For Luxembourg (17%) and Malta (11%) the share of older health professionals has limited reliability and is not presented in the chart.

For six countries (mostly northern Europe plus Bulgaria) the proportions were significantly higher with Bulgaria and Lithuania having by far the highest proportions of older workers in healthcare. In three of these countries (Bulgaria, Lithuania and Sweden – see Chart S1) employee numbers also fell between 2011 and 2012. For Bulgaria and Sweden the higher than average ageing workforce structure coincides with a prolonged fall in employee numbers.

For most countries the proportion of older workers in 2012 was similar for 'healthcare professionals' and all health care occupations. In a few Member States the differences are quite pronounced. In Italy, around 48 per cent of 'health professionals' is aged over 50 compared to 31 per cent of the overall healthcare workforce. In Greece the overall workforce is comparatively young with just 21 per cent aged over 50, though this rises to 31 per cent for 'health professionals'. This is a crucial group for the provision of healthcare comprising the highest skills levels such as doctors and consultants, all with long lead times for qualifying so increasing the supply is a long-term (and costly) commitment. This can lead to employers in these countries turning to immigration as a way of boosting the supply of skills (more on this below under Chart S4).

In Germany and the United Kingdom where, combined, some 60 per cent of healthcare staff in the EU27 are working, had below average shares of older workers in 2012 (27 per cent and 25 per cent respectively) whereas they were above average in France and Italy (29 per cent and 31 per cent respectively). In all four countries employee numbers in health care have increased overall between 2008 and 2012 suggesting a growing need for expansion recruitment. This suggests that in those countries, either high numbers of younger workers are trained for white jobs, or that high numbers of younger non-nationals are working in white jobs thus keeping the average age low (more fully discussed under Chart S4).

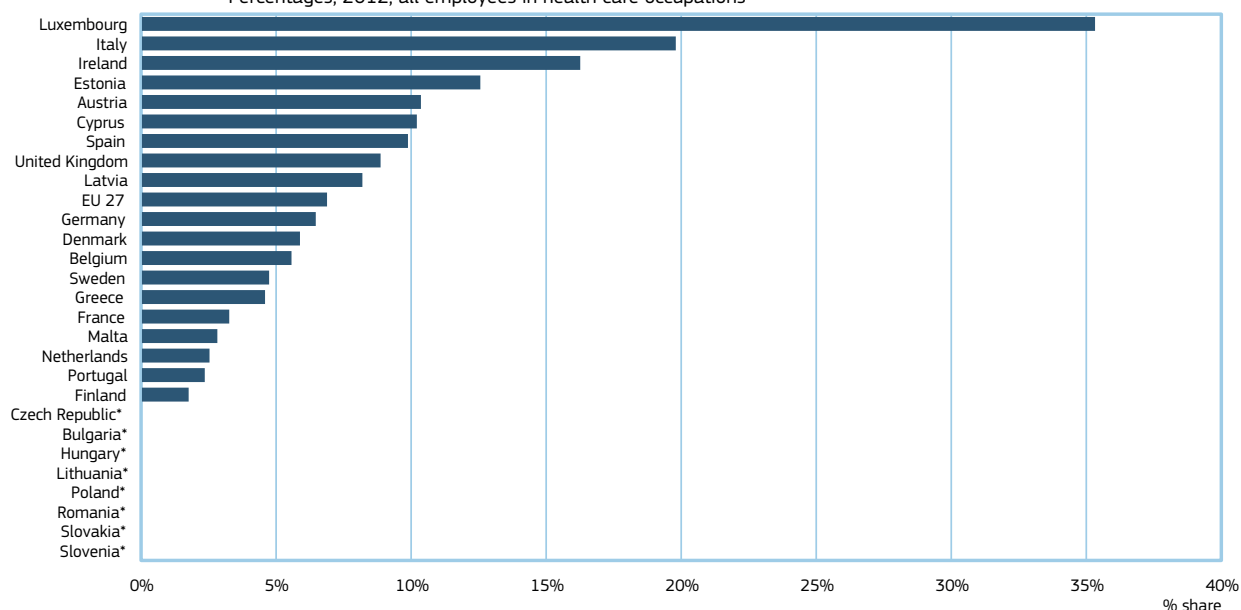
## Non-nationals in healthcare are an important source of skilled labour ... but mostly employed in the older Member States

Employers in the healthcare sector in some EU Member States partly rely on labour mobility and immigration to meet their labour needs, though according to the LFS data the shares are not very high in most countries. In 2012 around 7 per cent of healthcare employees in the EU27 were non-nationals (Chart S4). Nine countries had proportions above the average ranging from 8 per cent in Latvia to 35 per cent in Luxembourg. The case of Luxembourg was exceptional with the nearest country being Italy with 20 per cent. The remaining countries had proportions of non-nationals below the EU27 average, ranging from 6 per cent in Germany to virtually none in seven Member States, all newer ones (Bulgaria, Czech Republic, Hungary, Lithuania, Poland, Romania, Slovakia and Slovenia).

The distribution of non-national employees according to whether they were from the EU or outside was 3 per cent and 4 per cent respectively for the EU27 but with significant variation among Member States<sup>15</sup>. In those countries with high percentages of non-nationals such as Italy and Ireland, roughly equal proportions of EU non-nationals and non-EU nationals were employed. But in Luxembourg with the highest overall share of non-national in healthcare, the vast majority were from other EU Member States.

Administrative data in the United Kingdom indicate higher numbers of non-nationals in healthcare than the Labour Force Survey. The United Kingdom has a long history of recruiting from abroad for the National Health Service. Here the main source of non-national labour at all skills levels has been the former colonial countries in the Indian Sub-Continent, sub-Saharan Africa and the Caribbean. For example, according to one source, in 2011 staff in one part of healthcare provision<sup>16</sup> (hospital and community health services) comprised 64 per cent that qualified in the United Kingdom, 28 per cent in non-EEA countries and just 7 per cent from EEA countries<sup>17</sup>. By contrast, in Germany recruitment has been focused more on neighbouring EU Member States such as the Czech Republic, Latvia, Lithuania and Poland.

**Chart S4: Share of non-nationals in health care**  
Percentages, 2012, all employees in health care occupations



Source: Eurostat, LFS - own calculations (27 countries). Based on ISCO-08, health care personnel includes health professionals (ISCO 22), health associate professionals and technicians (ISCO 32) and personal care and related (ISCO 53).

\* For the Czech Republic the share of non-nationals is 1% (limited reliability) and for Bulgaria, Hungary, Lithuania, Poland, Romania, Slovakia and Slovenia the share of non-nationals of employees in health care occupations is less than 1%.



# Part 5 TOP OCCUPATIONS PER COUNTRY

## 5.1 TOP 10 GROWTH OCCUPATIONS PER COUNTRY - EMPLOYEES

### How to read the table

The top 10 absolute growth occupations of employees (based on the Eurostat Labour Force Survey, 2011Q4-2012Q4) is presented for 22 countries and the EU26. For each top growth occupation, the number of employees in the fourth quarter of 2012 is shown together with the change compared to the fourth quarters of 2011. The occupations are based on the ISCO-08 classification of occupations, at 3-digit level.

Occupations are not presented as a top growth occupation if the growth is an "outlier". An outlier is defined if growth is +60% or higher and (1) if employment is twice as high or low as in neighbouring quarters, or (2) if the number of job hirings is zero or negligible.

Changes with a \* indicate numbers with limited reliability. If less than 10 occupations are presented, this does not necessarily mean that employment has increased in less than 10 occupations, but that no significant increase could be identified for 10 occupations. When employment would expand again in the future, it is to be expected that significant growth can be identified for 10 occupations in all or perhaps nearly all countries.

Germany is excluded due to changes of coding occupations in 2012 and is not included in the EU26 total either. For Estonia, Latvia, Lithuania and Malta no significant growth occupations could be identified, which reflects the negative development in the labour market overall in these countries. These four countries are included in the EU26 but no listing is presented for these individual countries.

### Top 10 growth occupations per country

EU26	Employees	Change
1 Domestic, hotel and office cleaners and helpers	503,000	+46,600
2 Waiters and bartenders	366,000	+43,900
3 Client information workers	204,000	+17,600
4 Other teaching professionals	155,000	+17,600
5 ICT technicians	57,000	+12,100
6 Other health associate professionals	44,000	+11,600
7 Car, van and motorcycle drivers	102,000	+10,600
8 Software, applications developers and analysts	90,000	+9,400
9 Other health professionals	54,000	+9,300
10 Cooks	129,000	+8,800

Austria	Employees	Change
1 Other health associate professionals**	50,700	+24,800
2 Administrative and specialised secretaries	121,900	+19,500
3 General office clerks	176,500	+18,200
4 Administration professionals	27,800	+12,700
5 Waiters and bartenders	81,600	+12,400
6 Child care workers and teachers' aides	34,600	+10,500
7 Building finishers and related trades workers	71,300	+8,500
8 Protective services workers	41,400	+8,300
9 Finance professionals	40,800	+8,300
10 Numerical clerks	69,700	+7,900*

\*\*Part of the increase is due to a coding issue, but after correction other health associate professionals are still a top-10 growth occupation in Austria.

### Top 10 growth occupations per country

Belgium			Bulgaria				
	Employees	Change		Employees	Change		
1	Personal care workers in health services	122,400	+35,100	1	Protective services workers	143,600	+12,400
2	Numerical clerks	104,000	+24,900	2	Software, applications developers and analysts	17,400	+8,200*
3	Administrative and specialised secretaries	93,600	+22,800	3	Business services agents	15,000	+7,500*
4	Machinery mechanics and repairers	64,400	+20,700	4	Agricultural, forestry and fishery labourers	29,700	+5,800*
5	Manufacturing and construction supervisors	66,100	+18,800				
6	Other clerical support workers	88,300	+17,000				
7	Software, applications developers and analysts	55,000	+16,700				
8	Material-recording and transport clerks	110,700	+14,500				
9	Other teaching professionals	60,000	+14,400				
10	Business services and administration managers	61,800	+12,100				

### Top 10 growth occupations per country

Cyprus			Czech Republic				
	Employees	Change		Employees	Change		
1	Secretaries (general)	10,400	+6,300	1	General office clerks	57,200	+12,600
2	Cashiers and ticket clerks	7,600	+3,700	2	Primary school and early childhood teachers	66,300	+12,500
3	Physical and engineering science technicians	4,100	+1,900	3	Personal care workers in health services	54,100	+8,600
4	Domestic, hotel and office cleaners and helpers	33,800	+1,800	4	Sales, marketing and development managers	26,900	+6,900
5	Waiters and bartenders	7,900	+1,300*	5	Engineers (exclusive electrotechnology)	41,400	+6,900
6	Sales and purchasing agents and brokers	8,000	+1,200*	6	Physical and engineering science technicians	167,100	+6,600
7	Food preparation assistants	3,400	+1,200*	7	Professional services managers	29,800	+5,600
8	Other teaching professionals	2,100	+1,100*	8	Sales and purchasing agents and brokers	82,700	+5,600
9	Machinery mechanics and repairers	3,700	+1,100*	9	Managing directors and chief executives	18,200	+5,500
10	Professional services managers	2,800	+1,100*	10	Nursing and midwifery professionals	52,100	+5,500

### Top 10 growth occupations per country

<b>Denmark</b>		<b>Employees</b>	<b>Change</b>
1	Administration professionals	63,600	+14,100
2	Shop salespersons	104,900	+10,000
3	Building and housekeeping supervisors	33,300	+6,200*
4	Finance professionals	49,500	+6,200*
5	Agricultural, forestry and fishery labourers	16,700	+6,100*
6	Financial, mathematical associate professionals	54,000	+6,000*
7	Authors, journalists and linguists	21,100	+5,500*
8	Car, van and motorcycle drivers	17,000	+4,300*
9	Numerical clerks	27,900	+4,200*
10	Physical and engineering science technicians	78,200	+4,200*

<b>Finland</b>		<b>Employees</b>	<b>Change</b>
1	Sales, marketing, public relations professionals	39,200	+12,300
2	Manufacturing and construction supervisors	23,100	+7,900
3	Other teaching professionals	34,600	+7,700
4	Transport and storage labourers	39,700	+6,100
5	Sales and purchasing agents and brokers	48,000	+4,600
6	Finance professionals	27,800	+4,300
7	Process control technicians	10,600	+3,700*
8	Regulatory government associate professionals	20,000	+3,500*
9	Manufacturing labourers	6,100	+3,500*
10	Material-recording and transport clerks	19,900	+3,400*

### Top 10 growth occupations per country

<b>France</b>		<b>Employees</b>	<b>Change</b>
1	Nursing and midwifery professionals	225,800	+57,900
2	Protective services workers	331,500	+35,300*
3	Engineers (excluding electrotechnology)	568,300	+34,800*
4	Process control technicians	309,900	+30,700*
5	Mining and construction labourers	337,900	+27,200*

<b>Greece</b>		<b>Employees</b>	<b>Change</b>
1	Administrative and specialised secretaries	52,100	+10,900
2	Finance professionals	50,400	+5,800
3	Cooks	30,900	+5,100
4	Nursing and midwifery professionals	14,100	+4,900*
5	Other health associate professionals	13,400	+4,200*
6	Other elementary workers	10,500	+2,700*
7	Business services, administration managers	12,500	+2,600*
8	Engineers (excluding electrotechnology)	24,800	+2,600*
9	Food and related products machine operators	14,400	+2,200*
10	Cashiers and ticket clerks	17,200	+2,200*

### Top 10 growth occupations per country

<b>Hungary</b>		<b>Employees</b>	<b>Change</b>
1	Agricultural, forestry and fishery labourers**	45,600	+25,900
2	Financial, mathematical associate professionals	91,600	+10,000
3	Shop salespersons	192,100	+10,000
4	Other stationary plant and machine operators	41,700	+9,100
5	Material-recording and transport clerks	50,700	+7,800
6	Protective services workers	110,000	+6,300
7	Social and religious professionals	41,400	+6,300
8	Personal care workers in health services	18,500	+6,100
9	Software, applications developers and analysts	28,700	+5,900
10	Machinery mechanics and repairers	56,400	+5,700

<b>Ireland</b>		<b>Employees</b>	<b>Change</b>
1	Mining and construction labourers	31,700	+6,200
2	ICT professionals	39,700	+4,700
3	Finance professionals	36,300	+4,400
4	Nursing and midwifery professionals	58,400	+4,200
5	Sales and purchasing agents and brokers	28,500	+3,400
6	Numerical clerks	31,900	+3,300
7	Physical and engineering science technicians	19,700	+3,200
8	Other clerical support workers	53,800	+3,200
9	Secondary education teachers	29,900	+2,900
10	Shop salespersons	130,900	+2,900

\*\* Work in this occupation is highly seasonal. As a result, growth of employees in this occupation is not necessarily structural.

### Top 10 growth occupations per country

<b>Italy</b>		<b>Employees</b>	<b>Change</b>
1	Personal care workers in health services	546,200	+89,200
2	Material-recording and transport clerks	469,100	+66,600
3	Manufacturing and construction supervisors	150,300	+55,900
4	General office clerks	684,400	+48,400
5	Other elementary workers	333,000	+37,600
6	Transport and storage labourers	200,300	+33,700
7	Other health associate professionals	216,700	+21,500
8	Sales, marketing, public relations professionals	77,700	+18,700
9	Waiters and bartenders	348,800	+17,600
10	Other teaching professionals	127,400	+16,700

<b>Luxembourg</b>		<b>Employees</b>	<b>Change</b>
1	Finance professionals	15,300	+4,200
2	Financial, mathematical associate professionals	10,100	+2,100
3	Administration professionals	9,400	+1,700
4	Authors, journalists and linguists	4,700	+1,400
5	Other teaching professionals	3,800	+1,100

### Top 10 growth occupations per country

Netherlands		
	Employees	Change
1	Software, applications developers and analysts	99,100 +26,500
2	Legal, social, religious associate professionals	181,600 +22,200
3	Sales and purchasing agents and brokers	86,600 +21,500
4	Numerical clerks	79,200 +15,500
5	Nursing and midwifery professionals	82,200 +13,800
6	Personal care workers in health services	291,700 +11,900
7	Medical doctors	50,800 +10,500
8	Other teaching professionals	44,000 +10,500
9	Client information workers	139,300 +10,100
10	Architects, planners, surveyors and designers	45,900 +10,000

Poland		
	Employees	Change
1	Car, van and motorcycle drivers	182,300 +40,800
2	Administration professionals	268,000 +26,600
3	Domestic, hotel and office cleaners and helpers	345,700 +17,300*
4	Medical doctors	78,800 +14,600*
5	Metal processing and finishing plant operators	62,200 +12,200*
6	Manufacturing and construction supervisors	54,000 +11,600*
7	Mining and mineral processing plant operators	145,200 +10,400*
8	Numerical clerks	96,100 +8,800*
9	Social and religious professionals	78,800 +8,500*
10	Manufacturing, mining, construction, and distribution managers	162,900 +8,400*

### Top 10 growth occupations per country

Portugal		
	Employees	Change
1	Administrative and specialised secretaries	101,200 +22,000
2	Secondary education teachers	106,200 +15,900
3	Nursing and midwifery professionals	57,400 +9,900

Romania		
	Employees	Change
1	Shop salespersons	378,900 +89,700
2	Finance professionals	89,400 +27,600
3	Manufacturing labourers	119,900 +18,600
4	Heavy truck and bus drivers	172,900 +17,100
5	Electrical equipment installers and repairers	153,200 +15,300
6	General office clerks	67,400 +13,600
7	Painters, building structure cleaners and related trades workers	40,000 +9,900*
8	Mobile plant operators	47,600 +9,900*
9	Electronics and telecommunications installers and repairers	24,500 +9,800*
10	Rubber, plastic and paper products machine operators	30,500 +9,300*

### Top 10 growth occupations per country

<b>Slovakia</b>		<b>Employees</b>	<b>Change</b>
1	Numerical clerks	41,900	+14,800
2	Material-recording and transport clerks	69,100	+12,900
3	Protective services workers	62,800	+12,100
4	Shop salespersons	132,000	+10,500
5	Regulatory government associate professionals	23,400	+7,500
6	Physical and engineering science technicians	57,600	+7,200
7	Primary school and early childhood teachers	60,300	+6,500
8	Building finishers and related trades workers	23,300	+6,500
9	Metal workers**	34,600	+5,700
10	Other craft and related workers	15,800	+5,600

<b>Slovenia</b>		<b>Employees</b>	<b>Change</b>
1	Heavy truck and bus drivers	21,000	+4,500*
2	Secretaries (general)	25,800	+3,500*
3	Sales, marketing, public relations professionals	8,400	+3,100*
4	Transport and storage labourers	6,100	+3,000*
5	Textile, fur, leather products machine operators	10,000	+3,000*
6	Building finishers and related trades workers	10,500	+2,500*
7	Electrotechnology engineers	7,800	+2,400*
8	Waiters and bartenders	15,900	+2,100*
9	Mobile plant operators	9,200	+2,000*
10	Shop salespersons	46,500	+1,900*

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

### Top 10 growth occupations per country

<b>Spain</b>		<b>Employees</b>	<b>Change</b>
1	Manufacturing labourers	182,500	+35,200
2	Agricultural, forestry and fishery labourers	380,600	+15,000
3	Administration professionals	160,000	+14,600
4	Numerical clerks	260,900	+12,300
5	Other teaching professionals	147,600	+11,400
6	Other stationary plant and machine operators	66,800	+9,900
7	Other elementary workers	68,200	+9,700
8	Engineers (excluding electrotechnology)	146,900	+8,700
9	Manufacturing, mining, construction, and distribution managers	44,000	+8,200
10	Legal professionals	88,400	+7,700*

<b>Sweden</b>		<b>Employees</b>	<b>Change</b>
1	Business services agents	59,900	+6,900
2	Administration professionals	98,700	+6,700
3	Sports and fitness workers	31,700	+6,400
4	Building and housekeeping supervisors	54,900	+6,300
5	Administrative and specialised secretaries	100,100	+5,800
6	Cooks	41,300	+4,800
7	Numerical clerks	66,900	+4,300
8	Manufacturing and construction supervisors	17,300	+4,300
9	Building finishers and related trades workers	47,500	+3,800*
10	Material-recording and transport clerks	47,300	+3,300*

### Top 10 growth occupations per country

	United Kingdom	Employees	Change
1	Administrative and specialised secretaries	732,200	+125,600
2	Client information workers	796,200	+112,000
3	Protective services workers	511,900	+76,300
4	Business services and administration managers	454,400	+59,600
5	Primary school and early childhood teachers	404,200	+49,200
6	Manufacturing, mining, construction, and distribution managers	627,300	+48,700
7	Medical and pharmaceutical technicians	135,800	+48,700
8	Social and religious professionals	238,000	+47,400
9	Transport and storage labourers	569,600	+45,000
10	Retail and wholesale trade managers	308,900	+43,400

## 5.2a TOP 5 GROWTH OCCUPATIONS PER COUNTRY – PES INFLOW ISCO 88

Top 5 absolute growth PES inflow (2011Q4-2012Q4), inflow of 2012Q4, 8 countries, ISCO-88 3-digit

<b>Austria</b>		
	<b>Inflow</b>	<b>change</b>
1 Physical, engineering science technicians	3,767	+895
2 Finance and sales associate professionals	2,767	+355
3 Protective services workers	377	+217
4 Cashiers, tellers and related clerks	1,625	+216
5 Wood treaters, cabinet-makers and related trades workers	1,673	+208

<b>Belgium</b>		
	<b>Inflow</b>	<b>change</b>
1 Administrative associate professionals	4,818	+1,111
2 Domestic and related helpers, cleaners and launderers	10,613	+666
3 Optical and electronic equipment operators	2,625	+574
4 Machinery mechanics and fitters	5,346	+552
5 Production and operations managers	2,497	+429

<b>Cyprus</b>		
	<b>Inflow</b>	<b>change</b>
1 Agricultural, fishery and related labourers	682	+130
2 Metal workers **	120	+54
3 Precision workers in metal and related materials	52	+45*
4 Ships deck crews and related workers	17	+16*
5 Machinery mechanics and fitters	57	+10*

<b>Germany</b>		
	<b>Inflow</b>	<b>change</b>
1 Shop salespersons and demonstrators	20,966	+1,264
2 Customs, tax and related government associate professionals	7,219	+879
3 Nursing, midwifery associate professionals	6,955	+504
4 Artistic, entertainment and sports associate professionals	1,570	+257
5 Administrative associate professionals	6,620	+165

<b>Lithuania</b>		
	<b>Inflow</b>	<b>change</b>
1 Manufacturing labourers	6,033	+2,372
2 Motor vehicle drivers	4,431	+2,031
3 Shop salespersons and demonstrators	4,380	+1,595
4 Business professionals	2,287	+962
5 Domestic and related helpers, cleaners and launderers	2,171	+845

<b>Luxembourg</b>		
	<b>Inflow</b>	<b>change</b>
1 Client information clerks	166	+91
2 Secretaries and keyboard-operating clerks	323	+86
3 Housekeeping, restaurant services workers	482	+86
4 Building frame and related trades workers	195	+56
5 Protective services workers	69	+42*

<b>Portugal</b>		
	<b>Inflow</b>	<b>change</b>
1 Crop and animal producers	1,737	+420
2 Agricultural, fishery and related labourers	500	+361*
3 Manufacturing labourers	2,139	+344
4 Client information clerks	695	+317
5 Metal workers **	683	+306

<b>Sweden</b>		
	<b>Inflow</b>	<b>change</b>
1 Nursing, midwifery associate professionals	5,845	+2,611
2 Other teaching associate professionals	1,711	+961
3 Messengers, porters, doorkeepers and related workers	1,402	+795
4 Stall and market salespersons	6,878	+762
5 Health professionals (except nursing)	3,099	+660

\*: the increase is less than +50 or more than +200%, which are indicators that the top growth occupation could be partly determined by incidental recruitment efforts. These occupations are definitely interesting to follow up, but care needs to be taken with regard to their future potential.

\*\* : Metal moulders, welders, sheet-metal workers, structural-metal preparers, and related trades workers.



## 5.2b TOP 5 GROWTH OCCUPATIONS PER COUNTRY – PES INFLOW ISCO 08

Top 5 absolute growth PES inflow (2011Q4-2012Q4), inflow of 2012Q4, 8 countries, ISCO-88 3-digit

<b>Croatia</b>		<b>Inflow</b>	<b>change</b>
1	Social and religious professionals	1,401	+640
2	Engineers (excluding electrotechnology)	625	+284
3	Physical, engineering science technicians	636	+211
4	Financial and mathematical associate professionals	396	+211
5	Sales and purchasing agents and brokers	1,069	+187

<b>Estonia</b>		<b>Inflow</b>	<b>change</b>
1	Mining and construction labourers	380	+296*
2	Tellers, money collectors and related clerks	506	+275
3	Other health professionals	190	+173*
4	Building and housekeeping supervisors	290	+140
5	Protective services workers	283	+106

<b>Ireland</b>		<b>Inflow</b>	<b>change</b>
1	Protective services workers	820	+435
2	Personal care workers in health services	1,727	+300
3	Nursing and midwifery professionals	338	+226*
4	Other sales workers	1,302	+187
5	Other stationary plant, machine operators	240	+57

<b>Latvia</b>		<b>Inflow</b>	<b>change</b>
1	Shop salespersons	614	+286
2	Tellers, money collectors and related clerks	151	+117*
3	Heavy truck and bus drivers	203	+84
4	Transport and storage labourers	134	+84*
5	Other clerical support workers	135	+72

<b>Slovenia</b>		<b>Inflow</b>	<b>change</b>
1	Other elementary workers	624	+213
2	Building finishers and related workers	1,285	+98
3	Other sales workers	264	+96
4	Assemblers	313	+74
5	Other stationary plant, machine operators	115	+73*

<b>Spain</b>		<b>Inflow</b>	<b>change</b>
1	Mining and construction labourers	18,096	+3,554
2	Agricultural, forestry and fishery labourers	4,887	+1,046
3	Shop salespersons	3,265	+308
4	Sales, marketing, development managers	237	+163*
5	Engineers (excluding electrotechnology)	417	+126

\*: the increase is less than +50 or more than +200%, which are indicators that the top growth occupation could be partly determined by incidental recruitment efforts. These occupations are definitely interesting to follow up, but care needs to be taken with regard to their future potential.

\*\*: Metal moulders, welders, sheet-metal workers, structural-metal preparers, and related trades workers.

# ENDNOTES

- 1 <http://ec.europa.eu/social/main.jsp?catId=955&langId=en>
- 2 Figures are from Eurostat and reported in 'EU Employment and Social Situation – Quarterly Review' (June 2013). Available at: <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=1923&furtherNews=yes>
- 3 See for example [www.tradingeconomics.com/netherlands/consumer-confidence](http://www.tradingeconomics.com/netherlands/consumer-confidence)
- 4 This is the first quarter where PES based data is no longer available for the United Kingdom following the introduction of an on-line job matching system.
- 5 For Spain there were no figures available for the months of January and February 2013. However there is no indication that this break in the series affected the later figures for March and April.
- 6 *EU Employment and Social Situation*, June 2013. Available at: <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=1923&furtherNews=yes>
- 7 Eurofound (2013) *Employment polarisation and job quality in the crisis* (European Jobs Monitor 2013). <http://www.eurofound.europa.eu/pubdocs/2013/04/en/1/EF1304EN.pdf>
- 8 Cedefop (2010), *Skills Supply and Demand in Europe, Medium-Term Forecast up to 2020* <http://www.cedefop.europa.eu/EN/publications/15540.aspx>
- 9 As reported in *EU Employment and Social Situation*, June 2013. Ibid.
- 10 Reuters (2013) *Insight: Educated with a dead-beat job – the unseen legacy of Europe's crisis*. Available at: <http://www.reuters.com/article/2013/06/25/us-eu-youth-underemployment-insight-idUSBRE95005N20130625>
- 11 European Commission (2012) *Commission Staff Working Document on an Action plan for the EU Health Workforce*. [http://ec.europa.eu/dgs/health\\_consumer/docs/swd\\_ap\\_eu\\_healthcare\\_workforce\\_en.pdf](http://ec.europa.eu/dgs/health_consumer/docs/swd_ap_eu_healthcare_workforce_en.pdf)
- 12 European Commission (2010). *Skills investment in 'white jobs' is a must*. <http://ec.europa.eu/social/main.jsp?catId=370&langId=en&featuresId=112&furtherFeatures=yes>
- 13 In an analysis of the social care sector Eurofound stated that the sector was 'characterised by rising employment, increasing skills and a growing absorption of GDP' in all countries. Eurofound (2012) *White jobs? Employment potential of the care sector* <http://www.eurofound.europa.eu/areas/labourmarket/jobcreation/article1.htm>.  
See also an earlier thorough analysis of the sector: Eurofound (2006) *Employment in social care in Europe* <http://www.eurofound.europa.eu/pubdocs/2005/125/en/1/ef05125en.pdf>
- 14 Comparison of the *Manpower Talent Shortage Surveys* of 2012 and 2013 confirms this.
- 15 The LFS data on the distribution of healthcare employees between EU and non-EU should be treated with caution due to limitations of sample size when broken down in this way.
- 16 The figures are for England only as healthcare provision is a delegated responsibility to each of the four home countries.
- 17 UK Commission for Employment and Skills (2012) *Sector skills insights: Health and social care* (Evidence Report 52) <http://www.ukces.org.uk/assets/ukces/docs/publications/evidence-report-52-sector-skills-insights-health-and-social-care.pdf>

# ANNEX A1 ABBREVIATIONS

## Country abbreviations

AT	Austria	IT	Italy
BE	Belgium	LV	Latvia
BG	Bulgaria	LT	Lithuania
CY	Cyprus	LU	Luxembourg
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	The Netherlands
EE	Estonia	NO	Norway
ES	Spain	PL	Poland
FI	Finland	PT	Portugal
FR	France	RO	Romania
DE	Germany	SK	Slovakia
GR	Greece	SI	Slovenia
HU	Hungary	SE	Sweden
IE	Ireland	UK	United Kingdom

## Other abbreviations

EJMB	European Job Mobility Bulletin
EVM	European Vacancy Monitor
EVR	European Vacancy and Recruitment Report
EURES	EUropean Employment Services
ISCED	International Standard Classification of Education (1, 2 = primary, lower secondary, 3, 4 = upper, post-secondary, 5 and 6 = tertiary education)
ISCO	International Standard Classification of Occupations
NACE	Classification of Economic Activities in the European Community
JVS	Job Vacancy Statistics (EUROSTAT)
LFS	Labour Force Survey (EUROSTAT)
PES	Public Employment Services
Q1	First quarter of the year
TWA	Temporary Work Agency

# ANNEX A2 DEFINITIONS AND CONCEPTS

## Educational field (LFS, Eurostat)

Data on job hirings by educational field are provided by Eurostat based on the Labour Force Survey (LFS). Contrary to data by educational level, data by educational field are not available on a quarterly base, but on an annual base only. Also, data by educational field are only available for those with medium or upper educational levels: formal “upper secondary education” or higher. The classification of educational field is based on an international standard. This standard is the two-digit ISCED-97 classification to which Eurostat adds a third digit level for a more flexible system. The LFS data by educational field are generally presented at the one-digit ISCED-97 aggregate level. Only for science, mathematics and computing, and military and defence, the LFS data are presented at a more detailed level.

## GDP (National accounts, Eurostat)

Gross Domestic Product (GDP) in volumes, not seasonally adjusted. Measured in millions of euro, chain-linked volumes, reference year 2005 (at 2005 exchange rates). Source: Eurostat.

## Job vacancies (JVS, Eurostat)

The official definition of a job vacancy is included in Article 2 of Regulation (EC) No 453/2008 and is used by EUROSTAT:

*“A job vacancy shall mean a paid post that is newly created, unoccupied, or about to become vacant:*

- a) 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*
- b) which the employer intends to fill either immediately or within a specific period of time.*

*A vacant post that is only open to internal candidates is not treated as a ‘job vacancy’.”*

The stock of job vacancies is the number of job vacancies measured at a certain point in time.

## Job hirings (LFS, Eurostat)

Job hirings refer to employees who were employed in a ‘reference week’ of that quarter and have started working for their employer job in the month, or, at most, three months earlier than the month of the ‘reference week’. The calculation of job hirings is based on the tenure variable in the quarterly Eurostat Labour Force Survey. Job hirings exclude the self-employed since a job vacancy is defined as a vacant post for an employee (see definition above). The number of job hirings is used as a reliable proxy indicator of the number of hirings and has the following strength:

Job hiring data are flow data that cover all who found a job over a three-months period, while the Eurostat job vacancy data (JVS) only covers the number of vacancies available at a point of time. As a result job hiring data tend to be significantly

higher. Besides, job hiring data are available for all EU27 countries.

## Newly registered job vacancies (national PES)

The number of newly registered job vacancies (the inflow) is the sum of new job vacancies registered by the PES in a certain period of time and it is a flow figure rather than a point in time estimate (stock). Inflow is used because for the PES, comparisons of stocks would suffer from differences in national policies for closing registered vacancies. For example, the stock will be higher if vacancies are closed after six months compared to one month. 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.

## Stock, inflow and outflow (concepts)

A ‘stock’ number is a statistical term measuring a variable at a certain moment in time. For example, the number of job vacancies available in Germany at 1 January 2011. A ‘flow’ number is measured in a period of time. For example, the ‘inflow’ is the number of new vacancies in the first six months of January. If the stock and flow move in opposite directions, this usually indicates a change in the duration. For example if the stock of job vacancies increases and the number of job hirings decreases, this indicates that it takes longer on average to fill vacancies, other things being equal.

## Unemployed to job hirings ratio (LFS, Eurostat)

The relationship between the total number of unemployed and the total number of job hirings is used as an indicator of the degree of ‘tightness’ of the labour market. In this case the number of job hirings is used as a proxy for the number of filled vacancies. A relation of the stock or the inflow of job vacancies to unemployment would be theoretically preferable, as this ratio would also include vacancies that are not filled. However, no data on the inflow is available at all, and data on the number of job vacancies is not available for all EU27 countries.

## Methodological notes on the job vacancy statistics (JVS) of Eurostat

Data on the stock of job vacancies are collected by the national statistical offices in almost all EU countries. In some countries they are collected by the Ministry of Labour. Most countries collect the data by means of surveys, except Luxembourg, the Czech Republic and Slovenia which collect the data by means of administrative data. Also, the sampling unit is the enterprise in most countries, but the local unit in nine countries: Denmark, France, Finland, Germany, Spain, the Netherlands, Poland, Portugal and Sweden. In those nine countries, enterprises are not approached at the corporate level, but a sample of local

branches is approached to fill in the survey. These differences need to be born in mind when comparing stocks of vacancies between countries.

Another major difference between countries is that in some countries data are not collected for certain sectors or small companies. No data are collected for the agriculture sector in ten countries: Austria, Cyprus, Denmark, Spain, France, Greece, Ireland, Italy, Portugal and UK. For the other countries, the number of agriculture vacancies comprises 1% of all vacancies or less in most West European countries, 2% in Germany and between 2% and 3% in new Member States. Agriculture is excluded from the analysis for international comparability and because the impact of agriculture on the total level is small.

For the public administration, data on job vacancies are not collected in five countries: Denmark, France, Greece, Italy, Poland. In Denmark and Italy and data for the public sector including education and healthcare are not collected at all. Portugal collects data on public administration vacancies since 2012Q1, so for public administration in Portugal no historical comparison is yet possible. Because no total numbers of vacancies are published at all for France, Italy and Poland, these three countries are excluded.

To represent vacancy developments as fully as possible, Chart 1 presents all available data inclusive the whole public sector (NACE O to S) where possible, exclusive the whole public sector for Denmark and exclusive public administration only for Portugal (and Greece). In Spain, vacancy data for the public administration started to be collected in 2010Q1 creating a break in the series. For this reason, Spain is excluded from any analysis of JVS data preceding 2010Q1.

For small enterprises, defined as having less than 10 employees, no job vacancy data are collected in France, Italy and Malta. France only collects it on an annual basis. For this reason, these three countries are left out of the analysis.

But the most important note is that differences between countries may originate from differences in sampling units (corporate versus local) or sources used (administrative versus survey).