



EU Labour Market Dynamics and PES Activity

Report No. 1
Years of crisis 2007-2014

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Table of contents

1.	EXECUTIVE SUMMARY	6
1.1	Background	6
1.2	EU Labour Market Dynamics – main findings	6
1.3	PES activity – main findings	7
1.4	Future direction	7
2.	INTRODUCTION	8
2.1	Background	8
2.2	Methodology and structure	8
3.	CHANGING COMPOSITION OF THE EUROPEAN LABOUR MARKET	10
3.1	Introduction	10
3.2	Changing demographic profile in Europe	10
3.3	Extent of recovery in EU labour market	11
3.4	Prevalence of self-employment	13
3.5	Skills composition of employment	14
3.6	Employment trends of the highly qualified	16
3.7	Displacement of the least qualified	18
3.8	Share of highly qualified workers	19
3.9	Shift from full-time permanent employment	20
3.10	Temporary employment	21
3.11	Part-time employment	22
3.12	Conclusions	24
4.	CHANGING DYNAMICS OF THE EU LABOUR MARKET AND IMPLICATIONS FOR PES	25
4.1	Introduction	25
4.2	Measuring the jobseeker population	25
4.3	Changing composition of jobseekers	25
4.4	Trend in the share of highly qualified jobseekers	27
4.5	Reasons for seeking alternative employment	31
4.6	Understanding the dynamics of the EU labour market	31
4.7	Components of labour market demand	32
4.8	Up-skilling as a PES strategy for job-creation	34
4.9	Occupational composition of labour market transitions	34
4.10	Relationship between job-changers, vacancies and job-creation	36
4.11	Setting realistic PES placement targets	37
4.12	Conclusions	39
5.	LEVEL OF INTERACTION BETWEEN PES AND THEIR CLIENTS	41
5.1	Introduction	41
5.2	PES registrations	41
5.3	Use of PES in job search	41
5.4	Use of PES by young	44
5.5	The use of PES by highly qualified jobseekers	47
5.6	The share of new recruits assisted by the PES in finding work	48
5.7	Occupational profile of new recruits assisted by the PES	50
5.8	PES assistance to selected groups	51
5.9	The relevance of good PES performance on future use of PES	53
5.10	Conclusions	54
6.	USEFULNESS OF LSF DATA TO THE PES	56
6.1	Introduction	56
6.2	Understanding the context in which each PES operates	56
6.3	Learning about the performance of other PES	57
6.4	Monitoring the changing composition of the potential PES client populations	57
6.5	Targeting ALMP more effectively	57
6.6	Setting realistic placement targets	58
6.7	Overall conclusions and future direction	58

EXECUTIVE SUMMARY

Background

This brief report contains analyses of how the main components of the total EU labour market and the labour markets of the individual Member States evolved over the period of the crisis, 2007-2014. It also includes analyses of some of the activities of the EU Public Employment Services (PES); it focuses in particular on the use of the PES by jobseekers and the assistance which the PES provided for different categories of job-finders.

The analyses are based on data from the European Labour Force Survey (LFS), as one of the objectives of this report is to demonstrate in a practical way the extent to which data from the LFS may be useful to each PES in assisting them to understand the dynamics of their own labour market, and in providing them with information on the extent of their interaction with both jobseekers and job-finders.

EU Labour Market Dynamics – main findings

The numbers in employment at the EU level did not change to any significant extent over the period (-1.4 percentage points), but the labour force expanded by just over 2 percentage points (pp) resulting in a substantial increase in the numbers of jobseekers (5 million) who could not find employment.

The report found that while the share of self-employment of all employment did not change significantly over the period, there were major reductions in the numbers of self-employed in some EU countries, but these reductions did not affect the share because there were also major reductions in the number of employees in these countries.

There was a significant change in the occupational composition of employment. The number and share of jobs in the broad group of professional occupations increased significantly. However, the volume of increase was not sufficient to absorb the increasing numbers of highly qualified graduates who were entering the EU labour force over the period. The result was that many highly qualified graduates were obliged to find employment in occupations which are not generally associated with the most highly educated, displacing many low qualified workers in the process as their share of employment contracted significantly over the period.

Furthermore, many of the employment contracts offered to new recruits were either temporary, part-time, or both. By the end of the period under review, most new recruits (51%) entering the EU market were on temporary contracts. The emergence of widespread temporary employment contracts was not peculiar to the crisis period; it was already evident in 2007, but it expanded further during the crisis, reaching around 80% in some EU countries by 2014.

The incidence of part-time employment was not as widespread; part-time employment contracts affected more than half of all new recruits only in Sweden, Luxemburg, the Netherlands and Austria. However, there was a dramatic increase over the period in the incidence of involuntary part-time employment in some EU countries, reaching high levels in Italy (82%), Greece (75%), Romania (73%), and Spain (69%).

The report uses 'transitions' data - produced by Eurostat for the first time in October 2015 - to provide an estimate of both expansion and replacement demand for 24 EU

countries in 2011 and 2014. The analyses show that replacement demand was a major source of jobs in these years, even in EU countries where employment was not expanding.

PES activity – main findings

The report also explores the levels of PES activity. It focuses in particular on the answers to two questions in the LFS; the use of the PES in job-search activities and the assistance provided by the PES to job-finders.

There was a decline in the use of PES by the unemployed over the period (-12pp) and a small increase in their use of private agencies (+4pp).

This decline reflects a number of factors. It was influenced by the reduction in the share of youth in total unemployment. As that share declined, there was an even greater decline in the share of young unemployed using the PES in their job-search activities.

The decline was also linked to the level of registration activity. It occurred in most of the EU countries which experienced a reduction in the share of the unemployed registering with the PES over the period. In contrast, in most of the EU countries which experienced an increase in registration (e.g. Lithuania, Greece and Cyprus), the share of unemployed youth using the PES in their job-search activities increased.

Overall, the share of job-finders who were assisted by the PES (8%) was the same in 2007 as in 2014. However, the share of one particular group who were assisted - the least qualified job-finders - increased slightly in 2014 compared to 2007. Their share increased quite significantly in some specific EU countries, for example Lithuania (+12pp), Slovakia (53pp) and Hungary (24pp).

The report provides a regression analysis which shows that the share of job-finders who were assisted by the PES is positively related to the subsequent use of PES by jobseekers in their job-search activity.

Future direction

The report notes that when the current series of 'transitions' analyses is completed by Eurostat, the results will be very useful to the PES. It will, for example, allow the PES to distinguish between vacancies which are generated by expansion and replacement demand from vacancies which arise from labour turnover.

Another example of the potential usefulness of 'transitions' data is that each PES will be able to compare the employment outcomes for selected groups (e.g. lowly qualified youth), who have been on their jobseeker register, with the employment outcomes of all jobseekers in these selected groups in their labour market.

The report concludes with the recommendation that the Commission should fund further analyses of 'transitions data' as that data becomes available, and use the results to assist the PES develop efficient and effective labour market policies.

1. INTRODUCTION

1.1 Background

This brief report is one of a suite of studies commissioned by the European Commission which are designed to assist the EU Public Employment Services (PES) to contextualise their performance, both in terms of their own labour market and in respect of the performance of other PES. This process of contextualisation provides each PES with insights into their relative performance across a range of quantitative indicators, and an empirical basis on which to introduce policy adjustments where appropriate.

The focus of the report is on the European Labour Force Survey (LFS), and specifically on how data extracted from that survey and analysed in a particular manner may provide useful information to each Public Employment Service on which to benchmark its performance and to learn from the performance of other PES.

While any reference period may be chosen to demonstrate the potential usefulness of LFS data, the period selected for this report are the years 2007-2014; a period which coincided with the emergence of a severe economic recession in Europe, which gave rise to a major expansion in unemployment and posed significant challenges for the European PES.

1.2 Methodology and structure

The methodological approach involves an assessment of how the crisis impacted the EU labour market and in particular the activities of the Public Employment Services. The analyses in chapter 2 is essentially exploratory; to establish what the main developments in the EU labour market are over the period, which warrants more detailed investigation in the proceeding chapters.

The issues that are explored are those that have potential relevance for the activities of each PES. These include the relative change in the magnitude of the numbers and composition of the employed and unemployed and the relative impact on each individual EU country, and the evolution of self-employment and the changing skills and education profile of the workforce and the incidence of 'over-qualification' and temporary and part-time employment.

Chapter 3 focuses on the changing characteristics of the jobseeker population over the period. It explores the implications of these changes for our understanding of the dynamics of the EU labour market during the period 2007-2014, the composition of the components of labour market demand in each EU country, and the relationship between job-creation and vacancies.

Chapter 4 explores the answers obtained from the LFS regarding two specific questions; the use of the PES by both employed and unemployed jobseekers, and the success of the PES in assisting new recruits to find their current job. It contains the results of regression analyses on the relationship between the success achieved by the PES in assisting job-finders and the subsequent use of the PES by jobseekers.

Finally, chapter 5 provides a summary of the ways in which the data from the LFS may be useful to the PES both currently and in the future. Five main themes are explored; understanding the labour market context in which each PES operates; learning from the performance of other PES; monitoring changes in the characteristics of the PES client

populations; more effective targeting of active labour market measures by the PES and setting realistic targets for PES assisted placement performance.

Chapter 5 also contains the overall conclusions of this report and provides indicative guidelines for a future programme of work which anticipates the further development of transitional analyses by Eurostat.

2. CHANGING COMPOSITION OF THE EUROPEAN LABOUR MARKET

2.1 Introduction

In this chapter, we explore the main changes that occurred in the European Labour Market between 2007 – the year prior to the emergence of a severe economic crisis in Europe – and 2014, the last date for which comprehensive information was available at the time of writing this report.

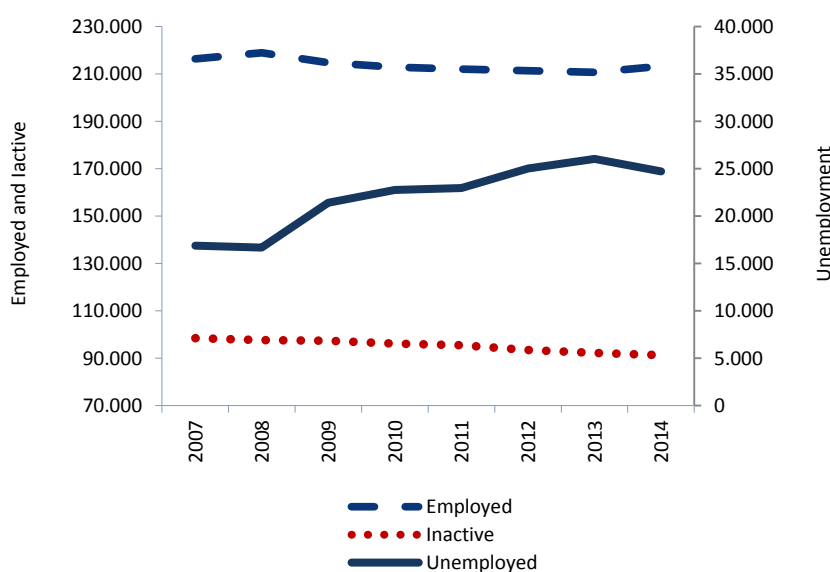
Our exploration is guided by a concern to focus on those aspects of the evolving European labour market which will be of particular interest to policy-makers and those who are engaged on a professional basis in seeking to enhance the efficient functioning of that labour market, in particular the European Public Employment Services (PES).

Following an initial review of the main demographic trends, the analysis focuses on two issues that are pivotal to an understanding of the dynamics of the labour market in Europe during the crisis; the extent of 'over-qualification' and the shift away from full-time, permanent employment.

2.2 Changing demographic profile in Europe

We begin our exploration by considering how the main components of the labour market evolved during the crisis. This is illustrated graphically in Figure 2.1 below. The numbers in employment aged 15-64 reached 213 million in 2014, while those who were unemployed measured 25 million, resulting in a labour force of 238 million. This figure compares to a labour force of 233 million in 2007, but the difference of 5 million between the two periods is made-up exclusively of unemployed persons.

Figure 2.1 EU-28 population aged 15-64 by ILO status (000s)



Source: Analyses of LFS data extracts from Eurostat

In other words, the numbers who were in employment did not change to any significant extent, but more people entered the European labour force over this period when there

were not sufficient additional job-openings being generated to absorb them. This does not mean that only new entrants lost out. On the contrary, as is shown in this analysis, the intense competition for jobs which this situation gave rise to, resulted in many of the employed with the lowest qualifications being displaced.

The population of working age actually declined marginally during the period from 332 million in 2007 to 329 million in 2014. It was the rising activity rate that resulted in the expansion of the labour force.¹ Increased employment is one of the headline targets of the EU 2020 Strategy.

2.3 Extent of recovery in EU labour market

As stated above, there was very little change in the numbers employed in the EU workforce over the period 2007-2014, but the numbers of unemployed expanded significantly. Figure 2.2 below explores the extent to which these movements in employment and unemployment varied between EU countries from the levels which prevailed in the base year 2007 – which is expressed as the value 1. This exploration is done separately for employment and unemployment.

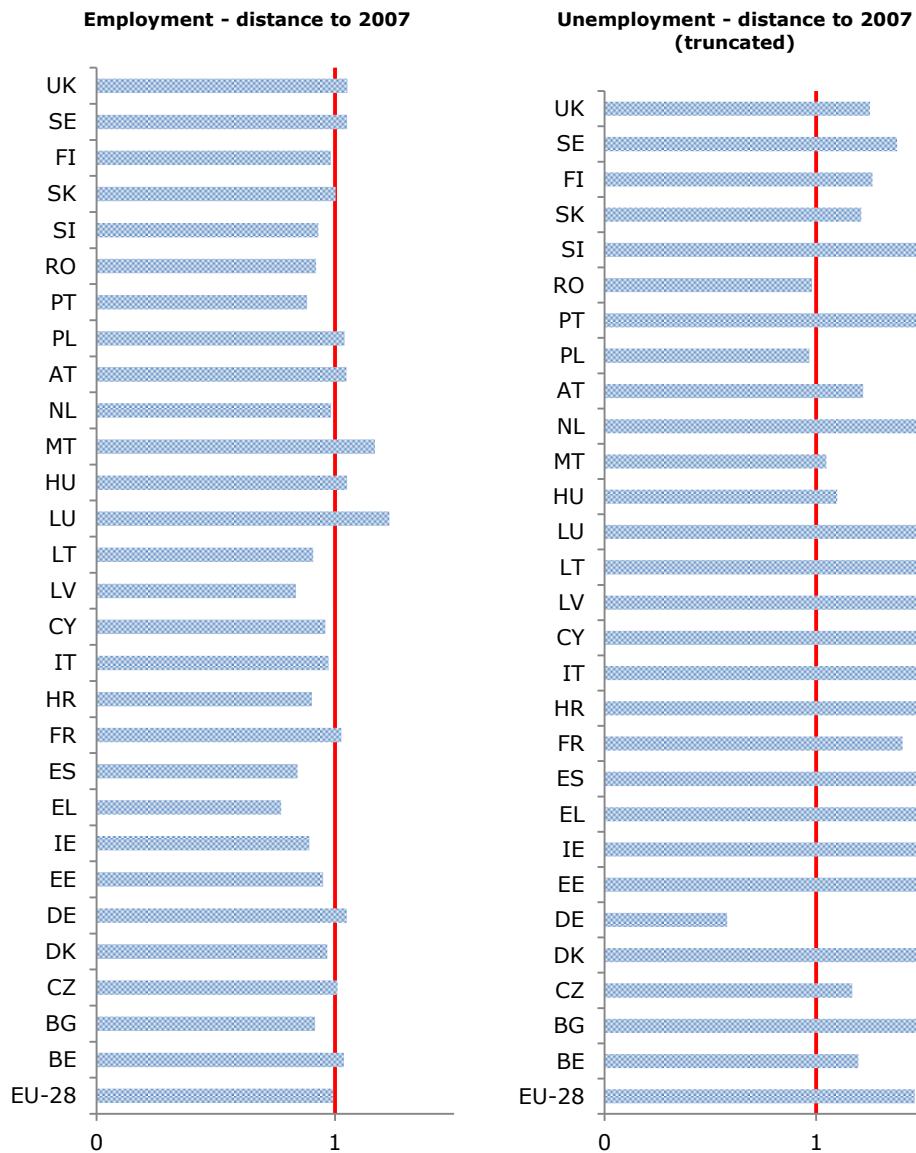
Absolute figures are used because the Public Employment Services are interested in the actual size of the population of those who are potential clients of their services, rather than simply the employment or unemployment rate.

There are two conclusions that are immediately evident from Figure 2.2. Firstly, there has been considerable variation in the experiences of different EU countries. Secondly, this variation was most pronounced in respect of movements in unemployment rather than employment.

In the case of employment, by 2014 most EU countries were at or beyond the employment levels which prevailed in 2007. The exceptions were the relatively new Member States of Romania, Bulgaria, Portugal, Spain, Lithuania, Latvia, Italy, Ireland, Greece and Estonia. Countries that exceeded their 2007 employment levels in 2014 include the UK, Sweden, Germany, France, Belgium, Denmark, Hungary, Poland and Austria - but not to any significant extent. Both Luxemburg and Malta exceeded the 2007 levels, but the employment figures are rather small because of the relatively small size of their labour markets.

¹ The activity rate rose gradually towards the end of the period from 72% in 2007 to 75% in 2014

Figure 2.2 Employment and unemployment in 2014 as a distance to 2007 (2007=1)



Source: Analyses of LFS data extracts from Eurostat

The situation with regard to unemployment is very different. In almost all cases, the numbers of unemployed recorded in 2014 exceeded the 2007 levels. In fact, for most countries the numbers were significantly above the 2007 levels (i.e. the bar charts in Figure 2.2 are truncated).

However, some EU countries managed to retrieve the situation somewhat in the latter part of the period and the numbers of unemployed by 2014 had moved back closer to the levels which prevailed in 2007. The performance of the UK, the Czech Republic and Hungary are striking in this context, but only one country, Germany, had significantly less unemployed in 2014 than in 2007.²

The situation of Austria is surprising. While the numbers of unemployed had dropped below the base year levels by the mid-point of the observed period (i.e. 2010),

² Malta had exactly the same numbers unemployed in 2007 and 2014.

unemployment expanded significantly thereafter suggesting that the reasons underpinning the growth of unemployment in Austria might be somewhat different from the reasons pertaining to most other European countries.

The situation in Germany warrants particular mention. By 2010, Germany has actually reduced the numbers of unemployed below the 2007 level, and this reduction continued apace. By the end of the period, the numbers unemployed in Germany were less than 60% of the levels which pertained in 2007³.

2.4 Prevalence of self-employment

Confronted by an insufficient volume of job-openings, it might be expected that many jobseekers would consider self-employment as a viable option. The data from Eurostat show that this was not the case. The numbers of self-employed remained more or less constant at 32 million throughout the period, while there was a reduction of 1 million in the number of family workers between 2007 and 2014.

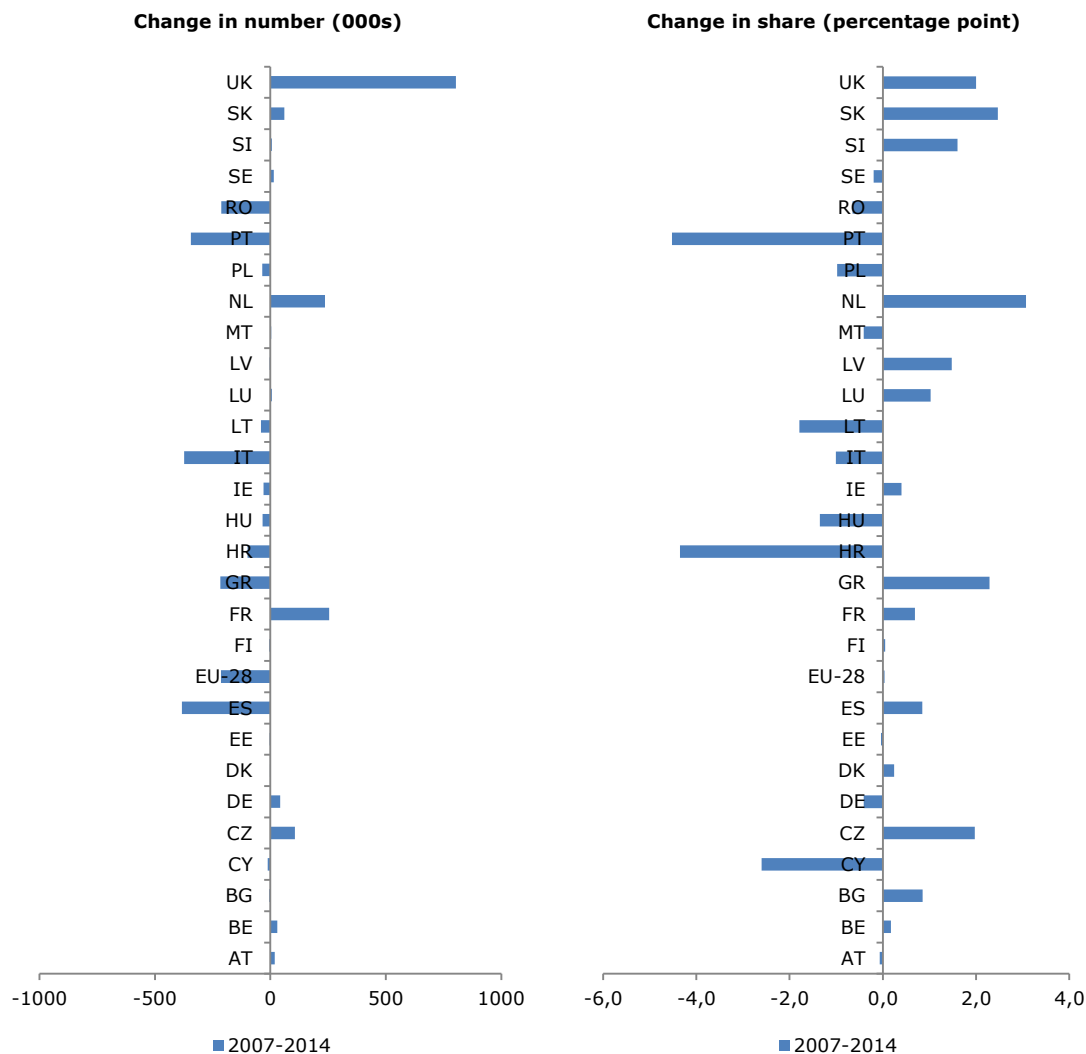
One of the interesting aspects of the dynamics of the EU labour market over this period is how the change in self-employment impacted the employment and unemployment levels. We have seen in Figure 2.2 how the UK managed to retain and indeed slightly increase its overall employment levels over the period. This was at least partly due to the fact that the UK added close to 800,000 to its self-employed population over the period, from 3.8 million in 2007 to 4.5 million in 2014.

As shown in Figure 2.3 below, most countries either maintained or increased their share of the self-employed among the total employed. The increase in the share was also reflected in most cases in an increase in the numbers of self-employed. To this extent, self-employment played a useful role in assisting individual EU countries to maintain their employment levels over the period; most countries experiencing a modest increase sufficient to stem what would otherwise have been very significant increases in unemployment.

However, in the case of a number of individual EU countries, the data on the 'share' is seriously misleading as shown by the comparison with the numbers of self-employed in Figure 2.3.

In Italy for example, there was almost 400,000 less self-employed over the period, but despite this significant loss of self-employed jobs, the self-employed maintained their share of total employment because there was also a loss of almost 1 million employee jobs.

³ Germany continues to be an excellent example of how well conceived active labour market interventions can reduce the impact of a deteriorating labour market. See for example; 'the impact of the crisis on employment and the role of labour market institutions'; Werner Eichorst, Veronica Escudero, Paul Marx, Steven Tobin; ILO and International Institute for Labour Studies, 2010.

Figure 2.3 Change in number and share of self-employed 15-74, 2007-2014

Source: Analyses of LFS data extracts from Eurostat (% shares)

Similarly, there was also 400,000 less self-employed in Spain, but the share of self-employment increased because there was also a very large loss of 2.7 million employee jobs during the period.

Focusing exclusively on the share of self-employed may mask the fact that many of the countries that experienced significant increases in unemployment over this period were also encountering major problems in their entrepreneurial sector. For example, Romania, Greece and Spain all experienced a significant contraction in their self-employed populations, but this is not apparent from the analysis of shares.

It should be noted that in response to the recession, a share of unemployed returned to farming as self-employed (e.g., Poland, Romania, Greece, etc.), despite the long term trend of decline in agricultural employment in general.

2.5 Skills composition of employment

Data on the skills composition of employment is useful to the Public Employment Services, because one of their key functions is to assist jobseekers in finding employment. While many employers notify their vacancies to their local Public

Employment Services and state the type of skills they are seeking, these vacancies are estimated to only constitute a relatively small share of the total vacancies market.⁴ Information on the skills composition of employment is useful in ensuring that vocational training and up-skilling programmes are aligned with labour market demand.

In the Labour Force Survey, the best proxy of skills is provided by a cross tabulation of occupations by education level at the highest level of granularity, which is statistically robust. Such a cross-tabulation is to some extent implicit in the occupation code ISCO 08 used in the survey. Thus, those employed in professional occupations would commonly be considered to require a tertiary qualification, while at the other end of the continuum, those working in elementary occupations might be considered not to require any formal qualifications.

It is generally agreed that these types of occupational classification systems are not sufficiently detailed to provide an understanding of the range of competences required in different occupations. The European Commission has in recent years been engaged in developing a new classification system – ESCO – which may provide detailed information on the competences required in different occupations.⁵

However, as this report is specifically focused on demonstrating the usefulness of LFS data for the Public Employment Services, the analysis focuses on the LFS proxy of skills, namely occupations by highest level of education attained. For that reason, the next two sub-sections focus on the occupations and qualifications composition of the workforce over the period 2007-2014.

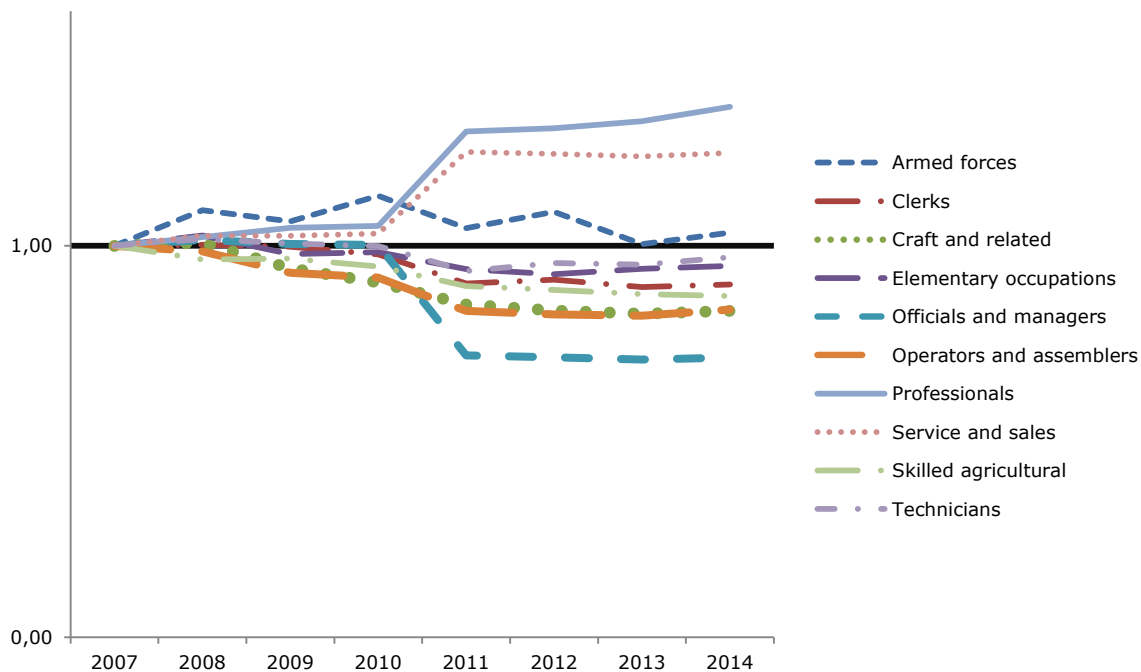
Figure 2.4 below shows the changing composition of employment by broad occupational group over the period 2007-2014. The occupational composition of employment reflects three interacting influences: the scale effect, the industry effect and the occupation effect. The first refers to the impact of overall economic growth on the numbers employed in each occupation. The second refers to the impact of the changing sector composition of employment on the share of employment in different occupations, while the third refers to the impact of changing skill requirements in each specific sector and would include for example the extent to which the diffusion of new technologies are affecting changing skill needs.⁶

Given the absence of full shift-share analysis, it is not possible to identify the factors which gave rise to the specific composition of employment by occupation in the EU labour market during the crisis. However, it is probable that the implosion in the construction sector in many EU countries was a major factor in the reduction of 5 million in the numbers employed in the craft and related trades occupations, and to a lesser extent in the reduction of 3 million in the numbers of employed operators and assemblers.

⁴ A rather rough estimate of the PES share of the vacancy market can be made by expressing the numbers of vacancies notified annually to the PES as a share of total annual number of job-finders.

⁵ The ESCO system is available at <https://ec.europa.eu/esco>

⁶ The shift share analysis is used in for example the recent CEDEFOP forecasts of employment by occupation in Europe.

Figure 2.4 Change in employment by occupational level (2007=1)

Source: Analyses of LFS data extracts from Eurostat

Similarly, it is probable that the reduction of 6 million in the employment of legislators, senior officials and managers and the reduction of 1 million in the employment of clerks was at least partly the result of the moratorium on public sector recruitment, which was imposed by governments in many EU countries for at least part of the period under review. The contraction in the numbers employed in elementary occupations was modest at 1 million.

As shown in the analyses to date, there was very little change in the total numbers in employment over the period. Therefore, this cumulative employment loss of 16 million over the period must have a counterbalance gain of a similar magnitude.

The major winners were the professional group of occupations, where the numbers employed expanded by 10 million and the sales and service occupations, where the numbers in employment were 7 million higher than in 2007. The numbers of employed technicians and associate professionals did contract, but not to any significant extent. The numbers recorded at the end of the period were only 1 million, or 3% less than in the base year.

The sales and services occupations, however, unlike professional occupations or occupations in the associate professional and technical group of occupations, are generally associated with low productivity. Thus, the expansion in employment in the EU labour market during this period was by no means confined to highly skilled jobs.

2.6 Employment trends of the highly qualified

Figure 2.5 below shows the change in the share of the highly educated (i.e. those with ISCED level 5 and higher) among employed 15+ by broad occupational group for two specific years, 2007 and 2014. Not surprisingly, the share of such highly qualified workers in professional occupations did not change as the share was already at 84% in the base year.

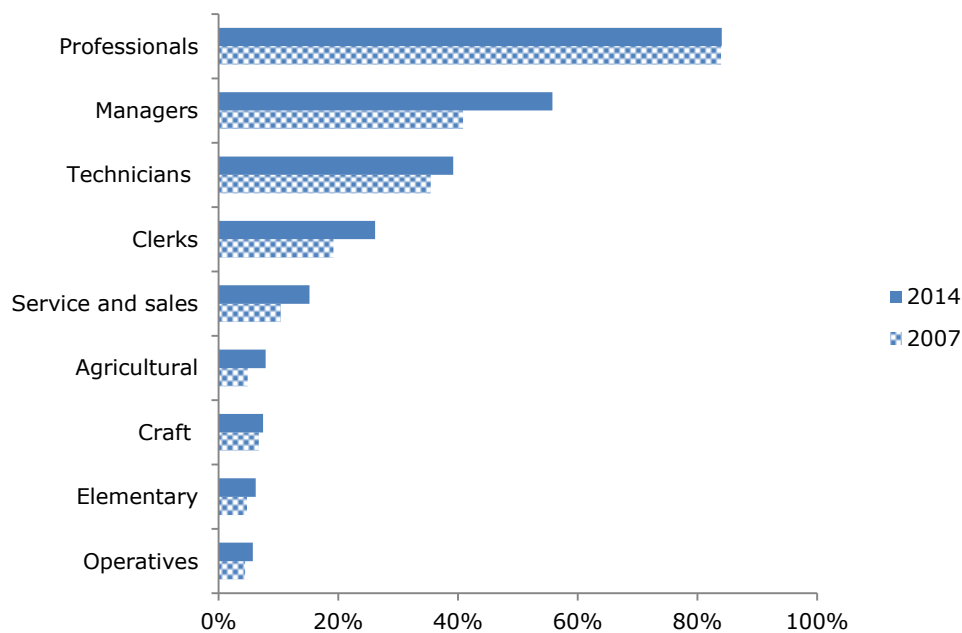
Jobs in professional occupations tend to be permanent and full-time, and typically have a higher age profile and a higher retirement age than jobs in other occupations. Thus, it is relatively difficult to dislodge workers employed in these occupations – and this applies equally to the 16% who did not possess the higher education qualifications associated with working in the EU labour market in professional occupations in 2007.

As a consequence, a considerable number of the almost 13 million additional highly educated jobseekers who entered the EU workforce over the period had to seek employment in other occupations.

However, their prospects of finding jobs were severely curtailed by two factors. Firstly, employment was contracting in those occupations, which might be considered to be the obvious alternative choice of work for those with high educational qualifications – the associate professional and technical occupations. Secondly, many occupations both within the technical group of occupations and in the crafts and related trades and, to a lesser extent, in the operatives and assemblers (e.g. nurses, civil engineering technicians, tool-makers, welders, carpenters, drivers of heavy plant, etc.) require specialised vocational skills rather than tertiary education qualifications.

As a consequence, as shown in Figure 2.5 below, many highly qualified workers found employment as managers (many of whom as shop and restaurant managers), clerks or sales persons.

It is recognised though, that the shift towards higher education level in all occupational groups is also partly due to the better education profile of new entrants compared to retirees.

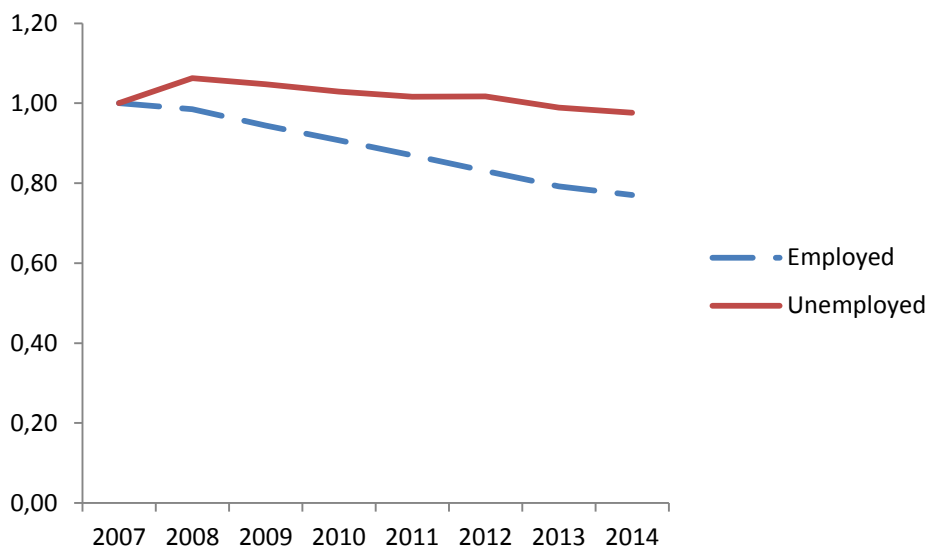
Figure 2.5 Share of highly educated in employment by occupation group

Source: Analyses of LFS data extracts from Eurostat

2.7 Displacement of the least qualified

The recruitment of highly qualified workers into an EU workforce that was not expanding to any significant extent invariably resulted in a displacement of those with lower qualifications. Figure 2.6 shows the extent to which the share of the least qualified in the European labour force changed over the period under review.

The graph shows that their share in the European workforce declined significantly over the period by approximately 25%. In numerical terms, there were 13 million less persons with the lowest qualifications in the EU workforce at the end of the period than there were in the base year – coincidentally precisely the same magnitude as the increase in the number of the highest qualified.

Figure 2.6 Change in share of low qualified (2007=1)

Source: Analyses of LFS data extracts from Eurostat

However, despite the fact that the numbers of unemployed with the lowest qualifications expanded significantly over the period, from approximately 6 million in 2010 to 8.7 million in 2014, and the unemployment rate went from 10.6% to 18.5%, their share of the total unemployed, although recording an initial spike in 2008, did not subsequently increase to any significant extent for the rest of the period. On the contrary, this sub-population of the unemployed gradually increased their share and by 2014, their share was equivalent to that observed in the base year.

Thus, the increase in the share of highly qualified workers in the EU workforce, over the period 2007-2014, was the result of three interacting influences. Firstly, there was an increase of 13 million in the number of highly qualified workers who entered the EU workforce over the period. Secondly, there was an expansion of 10 million jobs in the professional group of occupations and finally, there was a displacement of the least qualified workers in other jobs, including jobs in the broad elementary and operatives group of occupations which are not generally associated with the employment of the highest qualified workers.

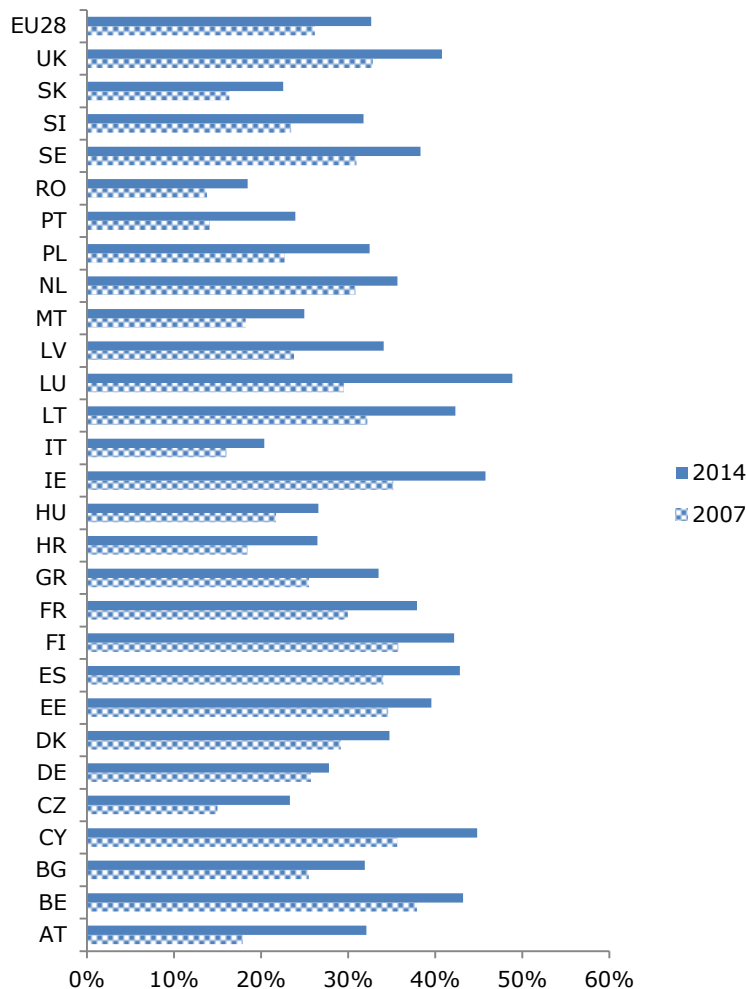
The latter phenomenon is sometimes referred to as 'over-qualification' and the analysis suggests that some level of over-qualification occurred during the crisis, although the significant expansion of jobs in the professional group of occupations was a major factor in limiting the movement of highly qualified workers into low skilled occupations.

2.8 Share of highly qualified workers

As shown in Figure 2.7 below, the increase in the share of highly qualified workers in the EU workforce by 2014 was evident in every single EU country. The extent of the increase was strongly related to the share of young persons with tertiary education entering the workforce. Interestingly, four of the seven EU countries that had the highest share of highly qualified workers aged 15-64 in 2014 (Luxemburg, Lithuania, the United Kingdom

and Belgium), also had the highest share of highly qualified workers between the ages of 25-29 years.⁷

Figure 2.7 Share of highly qualified workers in employment (15-64)



Source: Analyses of data extracts from Eurostat

2.9 Shift from full-time permanent employment

There is anecdotal evidence that the years of crisis in Europe have been associated with a move away from full-time permanent employment, and a rise in the share of persons who are employed in jobs for which they are over-qualified.

The results of the analysis in Figure 2.5 above is consistent with a growth in over-qualification as highly qualified workers are not generally associated with employment, in for example, elementary or operative occupations.

However, the evidence for a shift away from permanent, full time employment is more nuanced. The trends in temporary and part-time employment over the period are analysed below.

⁷ There are specific reasons why Cyprus and Ireland - while being among the seven EU countries with the highest shares among the total employed - do not feature among the highest shares of 25-29 years old. These reasons are related to the difficult employment situation which prevailed in these countries over the period, and which prolonged the duration of participation in education and also gave rise to graduate emigration.

2.10 Temporary employment

An initial perusal of the data from the Eurostat database does not seem to support the hypothesis of a widespread incidence of temporary employment in the EU labour market. The numbers employed on temporary contracts over the period 2007-2014 actually declined, from 26.4 million in 2007 to 25.5 million in 2014. The share declined from 17% to 14% because the total number of employees remained more or less constant at 182 million throughout the period.

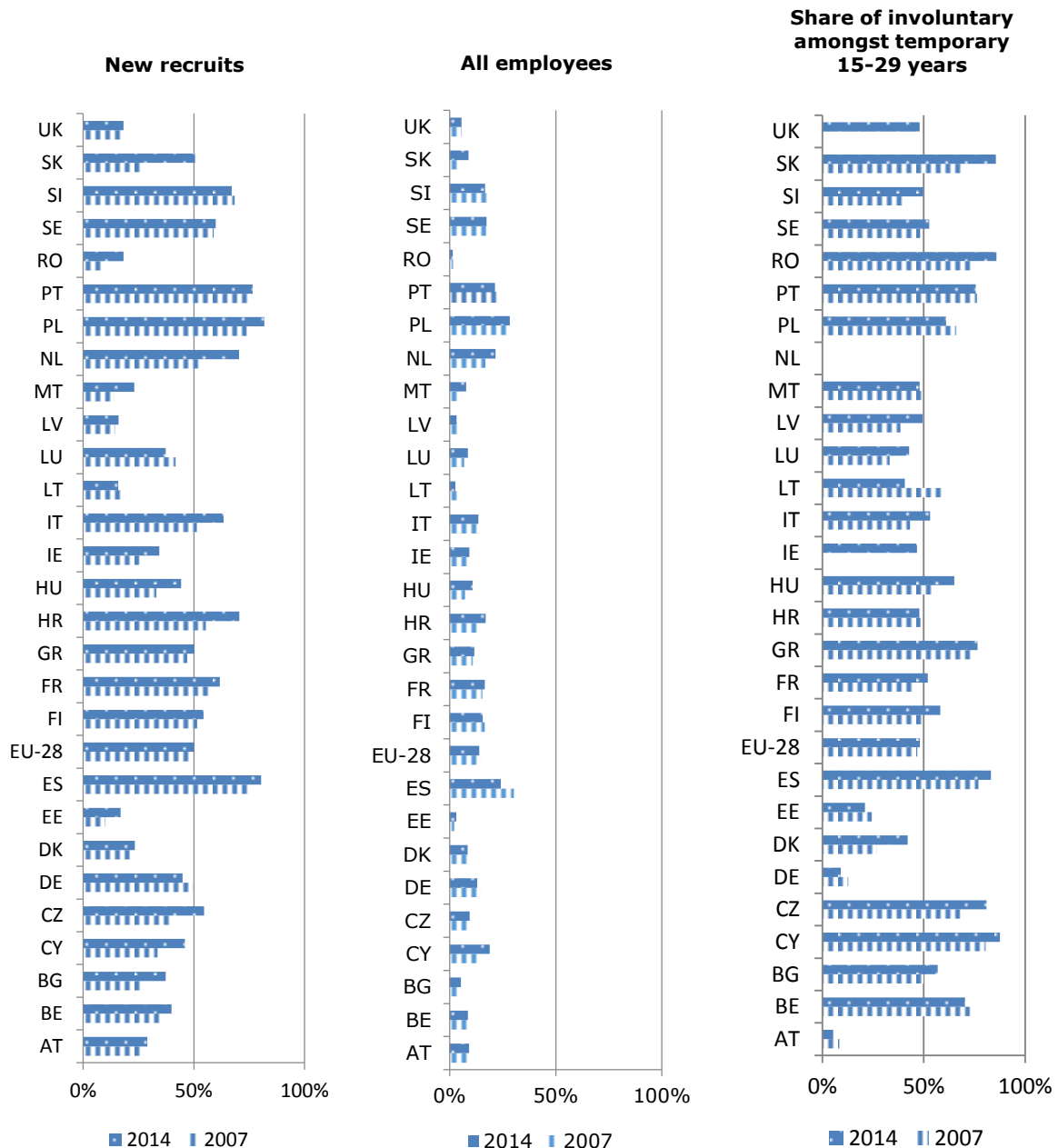
However, when we focus only on the population of employed who were in their current job for less than a year (i.e. new recruits), the share of temporary contracts among all employee contracts increases significantly.

The trend in the share of temporary contracts of all employees at the EU level is reflected in the trends in the individual EU countries. Specifically, there are no significant increases or reductions recorded over the period. As shown in Figure 2.8, there were minor increases recorded in Slovakia, Poland, France, Germany, Austria, Hungary, Cyprus, Croatia, Belgium, and the Netherlands. Minor reductions in the share occurred in Slovenia, Spain, Portugal and Denmark.

The share of temporary contracts among new recruits was already quite high at the beginning of the period. There were 30.1 million new recruits in the EU workforce in 2007, of whom 14.4 million were on temporary contracts - equivalent to a share of 48% of the contracts of all new recruits. The number of new recruits had contracted to 25.6 million by 2014, but the number on temporary contracts only declined to 12.8 million – creating a share which is just above 50%. Thus by the end of the period, most new recruits to the EU workforce were on temporary contracts.

The EU countries which experienced the highest shares of temporary contracts included Slovenia, Slovakia, Sweden, Portugal, Poland, the Netherlands, Croatia, Spain, Italy, and the Czech Republic. However, in most cases, the share was already close to the 2014 level at the beginning of the period. Only Italy, Slovakia, the Netherlands and Croatia recorded significant increases.

Arguably, it is the experiences of new recruits that act as a pointer to future developments in the labour market. For that reason, the labour market experiences of this group are analysed in considerable detail in the following chapters.

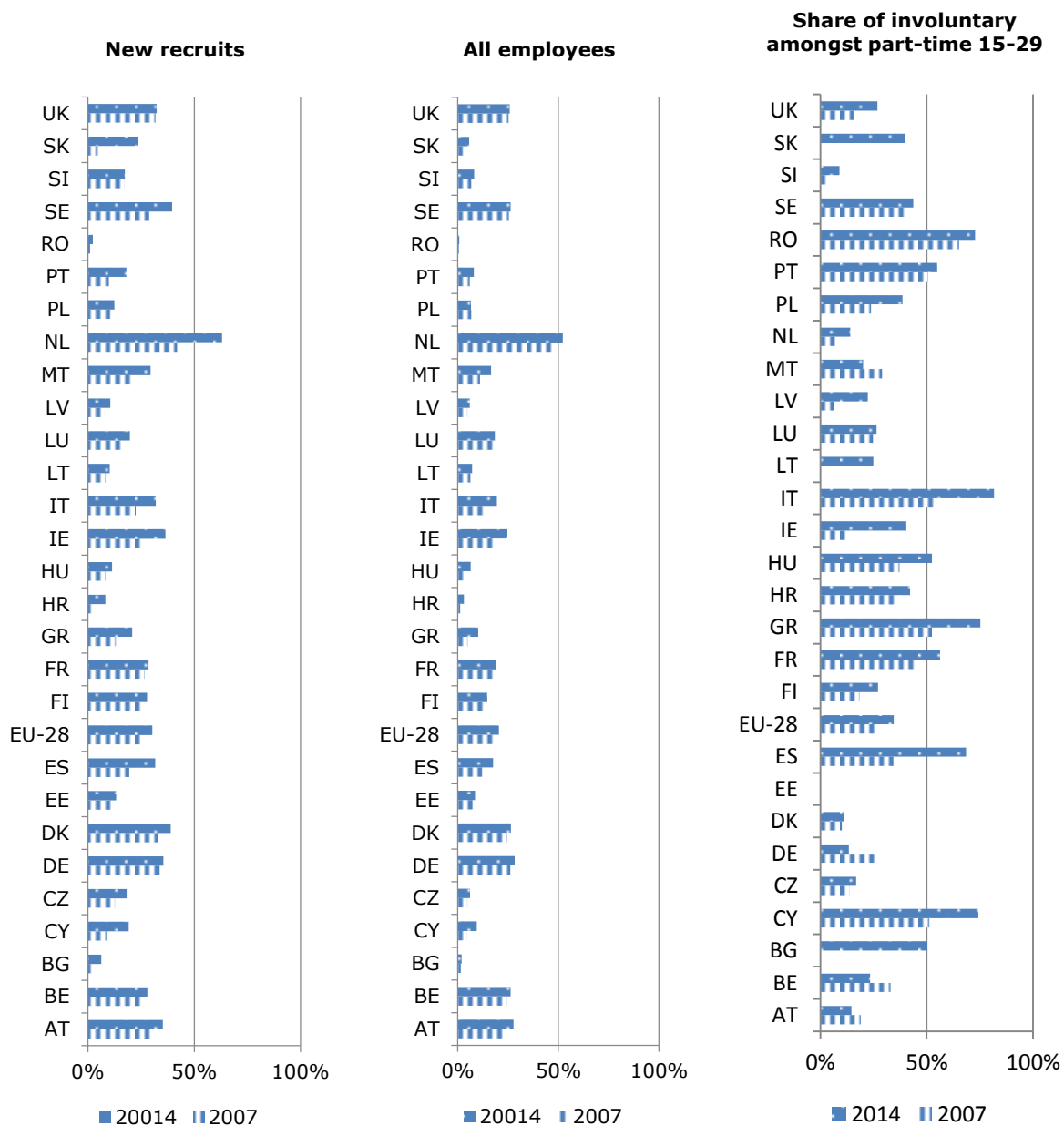
Figure 2.8 Share of temporary employment

Source: Analyses of data extracts from Eurostat

Using the age-cohort 15-29 years as a proxy of new recruitment, the third graph in Figure 2.8 shows that the great majority of 'new recruits' on temporary contracts in 2014 in Slovakia (86%), Romania (86%), Cyprus (88%), Spain (83%) and the Czech Republic (81%) wanted a permanent job but could not find one. Furthermore, the share of those on involuntary temporary contracts increased significantly since 2007 in Romania (13pp), the Czech Republic (13pp), Hungary (11pp) and Slovenia (10pp).

2.11 Part-time employment

The share of temporary contracts, when it is combined with the share of part-time employment, provides a further insight into the extent to which the EU labour market has moved away from full-time permanent employment. The share of part-time employee contracts of all employee contracts, both for all employees and for new recruits, is shown in Figure 2.9.

Figure 2.9 Share of part-time employment

Source: Analyses of data extracts from Eurostat

It is evident from the graph that the incidence of part-time employee contracts is not as extensive as the incidence of temporary contracts. However, the share is increasing in every EU country for new recruits. The shares climbed above 50% in 2014 in the case of the Netherlands, while the share was over 35% in Denmark, Ireland, Sweden and Germany by the end of the period.

It is recognised that part-time employment does not always indicate under-employment, given that a share of part-time employment is voluntary.

Again using the age-cohort 15-29 years as a proxy of new recruits, the third graph in Figure 2.9 shows the extent to which those on part-time contracts wished to be working on a full-time contract.

The figures show that the share of those on part-time contracts that were involuntary was particularly high in the case of Romania (73%), Italy (82%), Greece (75%), Spain (69%), and Cyprus (74%).

In addition, there were particularly large increases in the share of involuntary part-time employment in 2014, compared to 2007 in Italy (28pp), Greece (23pp), Spain (34pp), and Cyprus (23pp).

However, the incidence of involuntary part-time employment was not as extensive as the incidence of involuntary temporary employment.

2.12 Conclusions

The years of crisis in Europe were accompanied by quite significant changes in the composition of the European labour market. Interestingly, the actual numbers in employment at the EU level did not change to any significant extent, but the labour force expanded, resulting in a substantial increase in the numbers of jobseekers who could not find employment.

The pernicious impact of the recession on the EU labour market is perhaps best illustrated by the fact that by 2014, only three EU countries, Germany, Poland and Romania had less persons unemployed than in 2007 – just prior to the emergence of the crisis.

The occupational composition of employment changed significantly over the period. The number and share of jobs in the broad group of professional occupations expanded strongly, but the expansion was not sufficient to absorb the increasing numbers of highly qualified jobseekers entering the EU workforce.

The result was intense competition for the available jobs, and not surprisingly the least well qualified lost out. By the end of the period, although the numbers in employment had remained more or less constant, there were 13 million less of the least qualified in the EU workforce. The market had become more difficult for jobseekers with low qualifications and this posed a significant challenge to the Public Employment Services and their response to that challenge is explored in chapter 4.

While anecdotal evidence suggests that there was a significant shift away from full-time permanent employment, the data on the share of temporary or part-time contracts in the total employee population does not support this view.

However, when the analysis focused specifically on new recruits, it confirmed an extensive incidence of temporary contracts. By 2014, just over half of all new recruits were on temporary contracts. The incidence of part-time employment was less extensive, affecting just over one in three of all new recruits. While the incidence of both temporary and part-employment contracts was already relatively high at the beginning of the period, the incidence of both types of contracts increased during the crisis. By 2014, the incidence of temporary employment in particular was very extensive in a number of EU countries.

Roughly half of all temporary contracts in 2014 were involuntary. The corresponding figure for part-time employment was 35%.

In the next chapter, we explore how the changing composition of the EU labour market during the crisis impacted on the composition of both jobseekers and job-finders.

3. CHANGING DYNAMICS OF THE EU LABOUR MARKET AND IMPLICATIONS FOR PES

3.1 Introduction

In this chapter, we explore how the jobseeker population in Europe evolved over the period of the crisis. We focus in particular on their economic status while searching for employment and on their salient personal characteristics. We compare the composition of the population of jobseekers with the composition of those who actually found jobs in similar reference periods, and we explore what the changing composition of those that found employment mean for an understanding of labour market dynamics and the measurement of the components of labour market demand. We conclude with a number of specific proposals on how the data may be used to inform PES.

3.2 Measuring the jobseeker population

The definition of unemployment used in the Labour Force Survey conforms to the definition of the International Labour Organisation (ILO) and might be considered by some to be quite restrictive. However, from a statistical perspective, it has the advantage of being quite precise, and therefore comparable between countries and over-time.

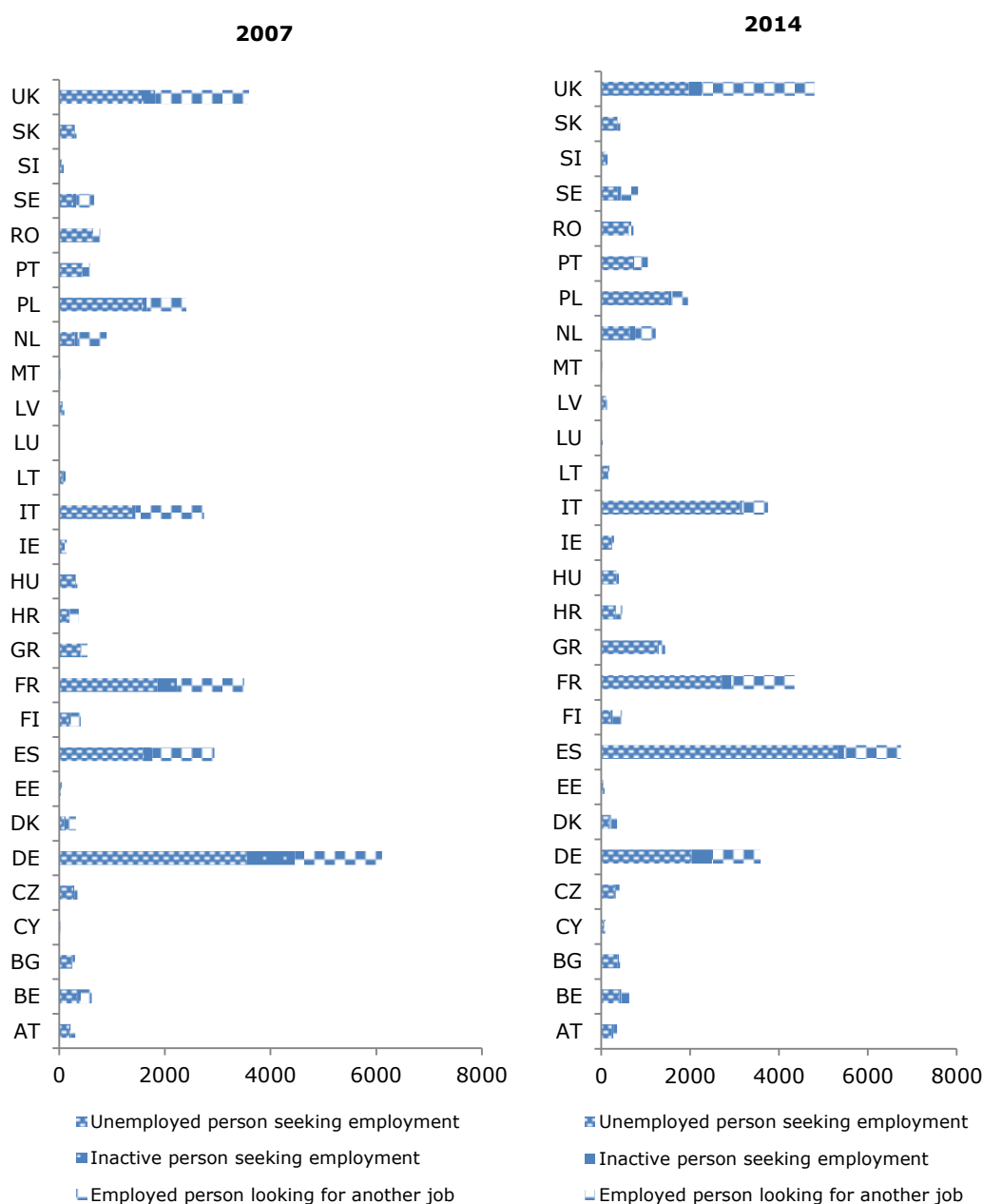
Furthermore, the measurement of the unemployed in the LFS is by no means synonymous with the measurement of jobseekers. The LFS is capable of identifying different categories of jobseekers, including employed persons who are looking for another job, unemployed persons who are seeking employment excluding those waiting to begin work and persons in the inactive population who are seeking work.

The latter do not fulfil the criterion of being unemployed because they were not actively seeking employment – according to the ILO definition – in the reference period. As shown in Figure 3.1 below, their numbers are quite modest, and for this reason they are not featured in some of the analysis that follows.

3.3 Changing composition of jobseekers

The jobseeker population is composed of three different categories: the unemployed (excluding those who have already received notice of securing a job in the near future), the employed who are looking for another job, and inactive persons who are seeking employment.⁸

⁸ The measurement of jobseekers in the LFS is a little complex. A small cohort of the unemployed are excluded because they have a job 'lined-up' while the inactive are included because they want a job even if they are not sufficiently engaged in job-seeking in the reference period to qualify as 'unemployed' in the survey.

Figure 3.1 Jobseekers by ILO status (000s)

Source: Analyses based on data extracts from Eurostat

At the overall EU level, there were 36.4 million jobseekers in 2014, an increase of 7 million on the 2007 figure of 29.4 million. All of the increase was among unemployed jobseekers. Indeed, the numbers of both employed jobseekers (i.e. job-changers) and inactive jobseekers recorded modest declines over the period.

The total number of unemployed seeking work was 16.7 million in 2007, and this figure increased significantly to around 24.7 million by the end of the period.

The total number of job-changers (i.e. employed jobseekers) was 9.9 million in 2014, and this figure represents a very modest decline from the 2007 figure of 10.4 million.

The total number of inactive jobseekers was modest at 1.8 million in 2014. There was a decline in absolute terms of 500,000 in the number of jobseekers that were classified as inactive in 2014 compared to 2007.

As is well known, the numbers of unemployed seeking work increased significantly between 2007 and 2014 in Spain, Portugal, Ireland, Greece and Italy, in particular. Figure 3.1 shows that the increases were very large in absolute terms in the case of Spain, Italy, Greece, and in relative terms in Portugal. The labour market was recovering strongly in Ireland by 2014, so the increase in unemployment was modest. But, there were also significant increases of unemployed jobseekers recorded in France, and to a lesser extent in Austria.

Not surprisingly, only the UK recorded any significant increase in the number of job-changers in 2014 compared to 2007. As already shown in Figures 2.2 and 2.3, the UK had returned to close to 2007 levels of unemployment by 2014, and it had also recorded the strongest level of entrepreneurial activity of any EU country over the period.

In general, the decision to seek a change in employment appears to have been strongly influenced by the state of the employment market. The numbers of job-changers declined over the period and the decline was particularly large in Italy. The numbers also declined significantly in Germany and to a somewhat lesser extent in Poland, but in both these countries, the decline was part of an overall decline in the jobseeker population – including a reduction in the numbers of unemployed jobseekers. This was not the case in Italy, where the latter continued to expand strongly.

While intuitively, one might expect that there would be a correlation between the trend in job-changers and the capacity of the labour market to offer employment opportunities, the situation of Spain and, in particular, Portugal is surprising. The number of job-changers in Portugal in 2014 was more than double the level which prevailed in 2007, despite having an employment market that was contracting over the period (see Figure 2.2 above).

A possible explanation is that countries, such as Portugal, experienced an increase in the share of job-changers who were highly qualified and who found themselves ‘over-qualified’ and their plight created the motivation for them to seek alternative employment, even in labour markets where employment prospects in general were relatively poor. The analyses in the next two sections, on the qualifications of jobseekers and on the reasons why job-changers seek alternative employment, show results that are consistent with this hypothesis.

3.4 Trend in the share of highly qualified jobseekers

Figure 3.2 below shows the share of highly qualified jobseekers among job-changers and unemployed jobseekers in each EU country at the beginning and end of the period under review.

There was an increase in the share of highly qualified job-changers of 10 percentage points (pp) in the EU labour market over the period, from a share of 29pp in 2007. The increase was widespread, with only Slovakia and Greece recording a reduction in the share in 2014 compared to the share at the beginning of the period.

Above average increases were recorded in Luxemburg (29pp), Austria (20pp), Estonia (15pp), Poland (14pp) and Portugal (11pp).

Thus, the results in the case of Portugal are at least consistent with the hypothesis speculated upon in the previous section (i.e. that the motivation to seek alternative employment even in difficult labour markets came from highly qualified workers trapped

in jobs for which they were over-qualified). The fact that over 40% of job-changers in Portugal in 2014 had tertiary education qualifications is also consistent with this hypothesis as is the fact that Portugal had one of the highest shares of temporary employment in the EU labour market in 2014 (see Figure 2.8 above).

With regard to the unemployed, the graph shows that the share of highly qualified jobseekers was greater in every EU country in 2014 than in the base year, with the exception of Lithuania and Denmark where the share did not change to any significant extent.

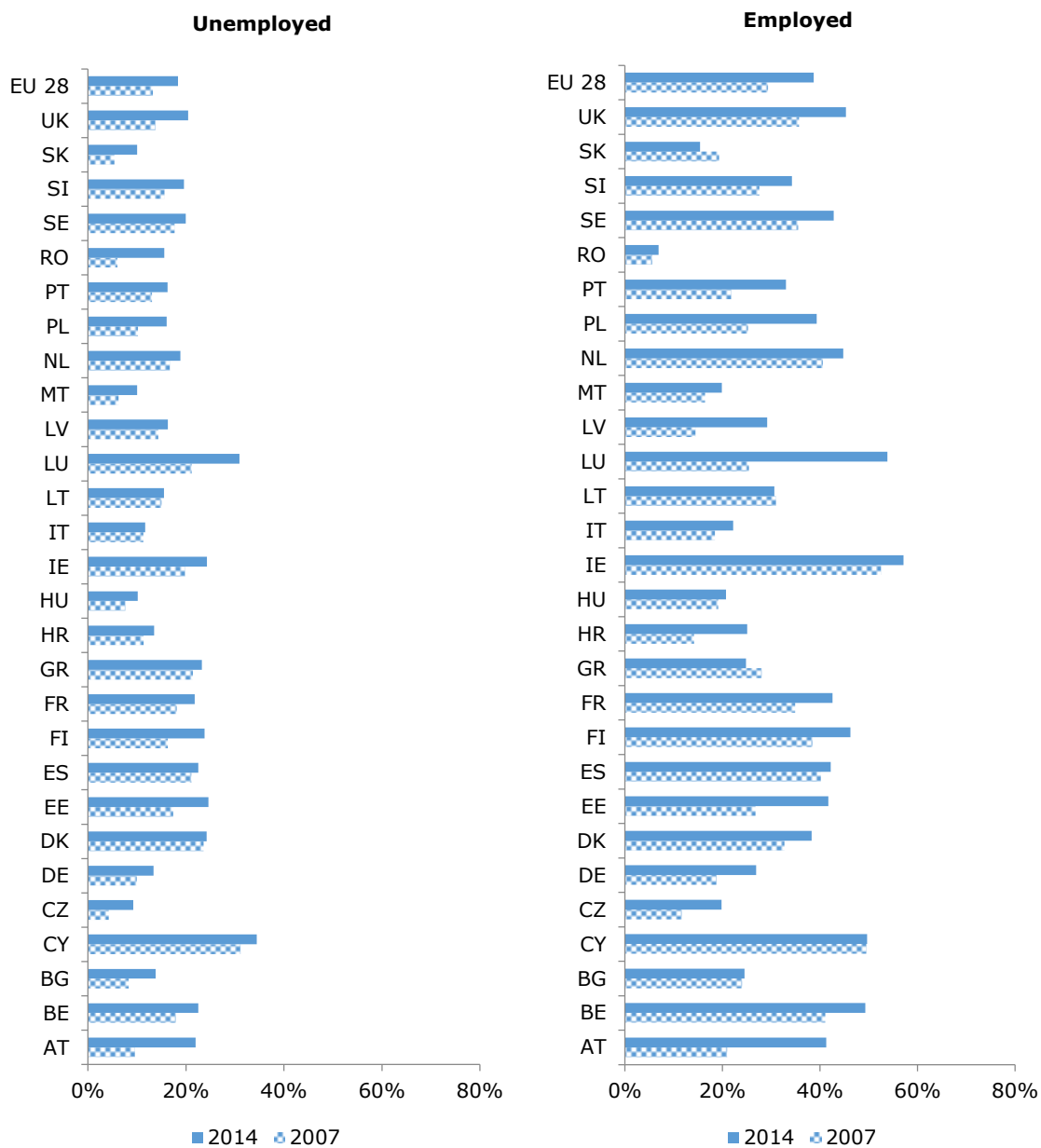
In the EU labour market as a whole, the share increased by 5pp from 13% in 2007. Above average increases occurred in Austria (12pp), Luxemburg (10pp), Estonia (8pp), Finland (8pp), UK (6pp), Bulgaria (6pp) and Poland (6pp).

Despite the significant increase in unemployment in Spain and Portugal, the share of highly qualified among unemployed jobseekers only increased by 2pp and 1pp respectively.

The situation of Austria is intriguing. Having apparently successfully coped with the most difficult years of recession from 2007-2010, the numbers of unemployed expanded significantly between 2010 and 2014, and this deteriorating labour market appears to have given rise to a large third-level graduate population among both unemployed jobseekers and job-changers.

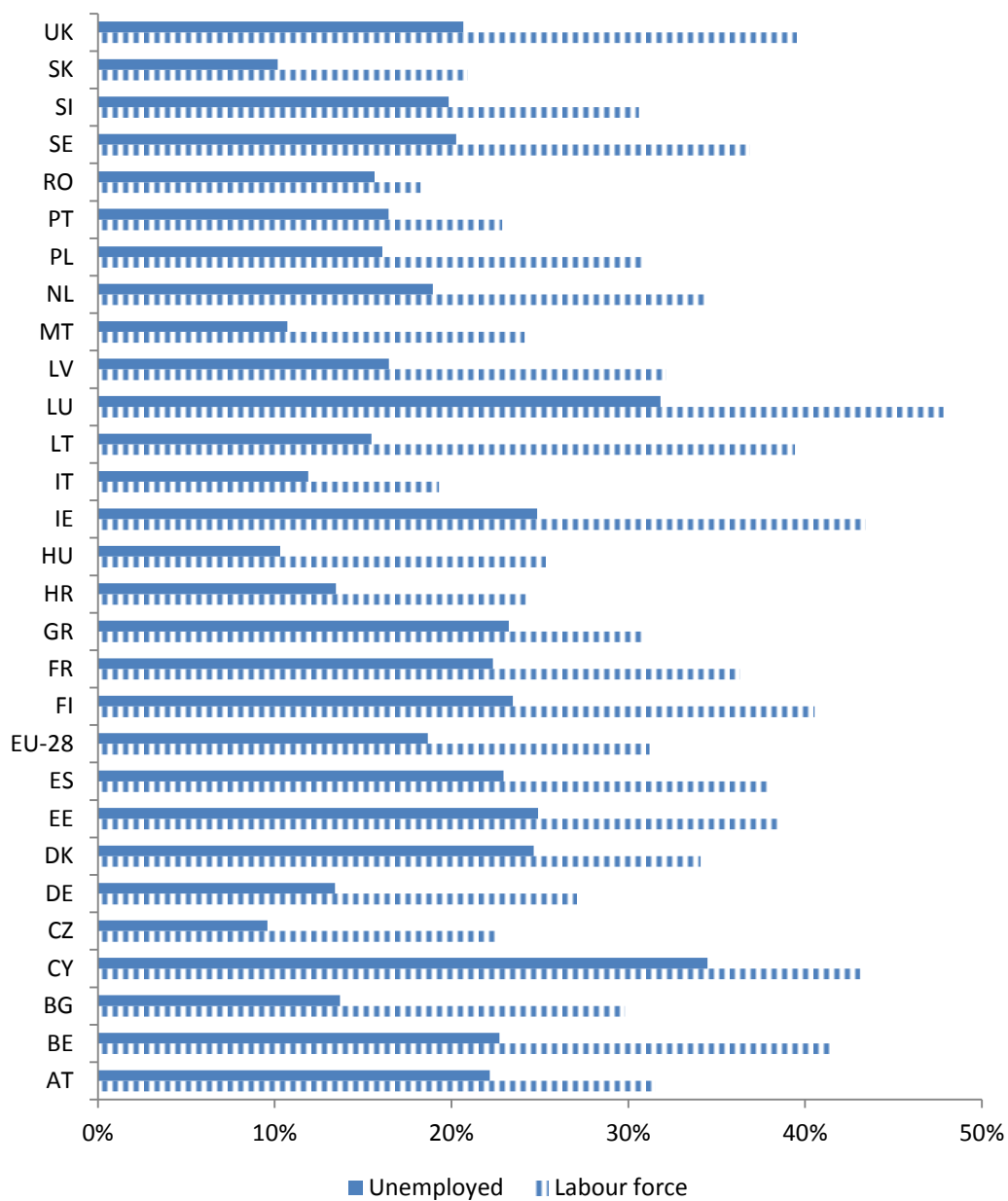
In the previous chapter, we noted that the share of the highly educated among the employed was increasing significantly over the period. It is interesting, therefore, to compare how the increase in the share of the highly educated in the active population (i.e. the labour force) compares to the share among the unemployed jobseekers. The results are shown in Figure 3.3. In the case of the EU labour market as a whole, the share among the labour force is 31%, while the share among the unemployed is 19%.

The share of the highly educated among the active population is significantly higher than the share among unemployed jobseekers in every EU country, with the exception of Romania, where the share among the labour force is only 2% higher. Thus, while the share of the highly educated among the unemployed increased in 2014 compared to 2007 (see Figure 3.2), it remained very significantly below the share in the active population as a whole.

Figure 3.2 Share of highly qualified among jobseekers

Source: Analyses of data extracts from Eurostat

Note: 'no answer' excluded; unemployed persons with lined-up job excluded

Figure 3.3 Share of highly educated in labour force and in unemployment, 2014

Source: Analyses of data extracts from Eurostat

3.5 Reasons for seeking alternative employment

The reasons why job-changers were seeking alternative employment over the period are shown in Table 3.1 below. There was a significant reduction in the numbers of jobseekers who were seeking alternative employment because they considered their current job to be transitional. There was also a decline in the numbers who cited improved working conditions as their motivation for seeking alternative employment.

Table 3.1 Reasons for seeking alternative employment (employed)(000s)

	2007	2014
No answer	89	45
Looking for another job because actual job is considered as a transitional job	1456	675
Looking for another job because of other reasons	1654	1649
Looking for another job because of risk or certainty of loss or termination of present job	1320	1481
Looking for another job because of wish to have better working conditions	4326	4062
Looking for another job because seeking a job with less hours worked than in present job	228	194
Looking for another job because seeking a job with more hours worked than in present job	859	1080
Looking for another job because seeking an additional job to add more hours	464	667
Grand Total	10397	9853

Source: Analyses of data extracts from Eurostat

However, the numbers citing one of the two reasons that involved seeking more hours of work increased significantly by over 400,000 over the period. By 2014, almost one in three (31%) of all job-changers cited a desire for additional working hours as their motivation. This finding is consistent with the expansion of temporary contracts and to a lesser extent, part-time employment, among new recruits illustrated in Figures 2.8 and 2.9.

3.6 Understanding the dynamics of the EU labour market

The analysis thus far has focused on the changing composition of the jobseeker population in the EU workforce and in individual EU countries. However, an understanding of the composition of the job-finder population is essential to understanding the dynamics of the EU labour market during this period. While data on jobseekers represents the average number of persons who are seeking employment in an EU country at a point in time, the composition of the job-finder population is in a constant state of flux as persons move in and out of the three main labour market categories of 'employed', 'unemployed' and 'inactive'.

This movement is often referred to as labour market transitions, and while some individual EU countries have undertaken 'transitional' analyses for a number of years⁹, it

⁹ For example, Ireland, the UK, the Netherlands, Portugal, Spain, and Italy all conduct analyses of labour market transitions

was only in October 2015 that such data became available for every EU country who conducted labour force surveys.¹⁰ Unfortunately, at the time of writing, the data on transitions is only available at an aggregate level. It is not disaggregated by gender, age, ISCED level or by occupation.

However, even at an aggregate level, the analyses of transitions may provide insights into the dynamics of each labour market within the EU.

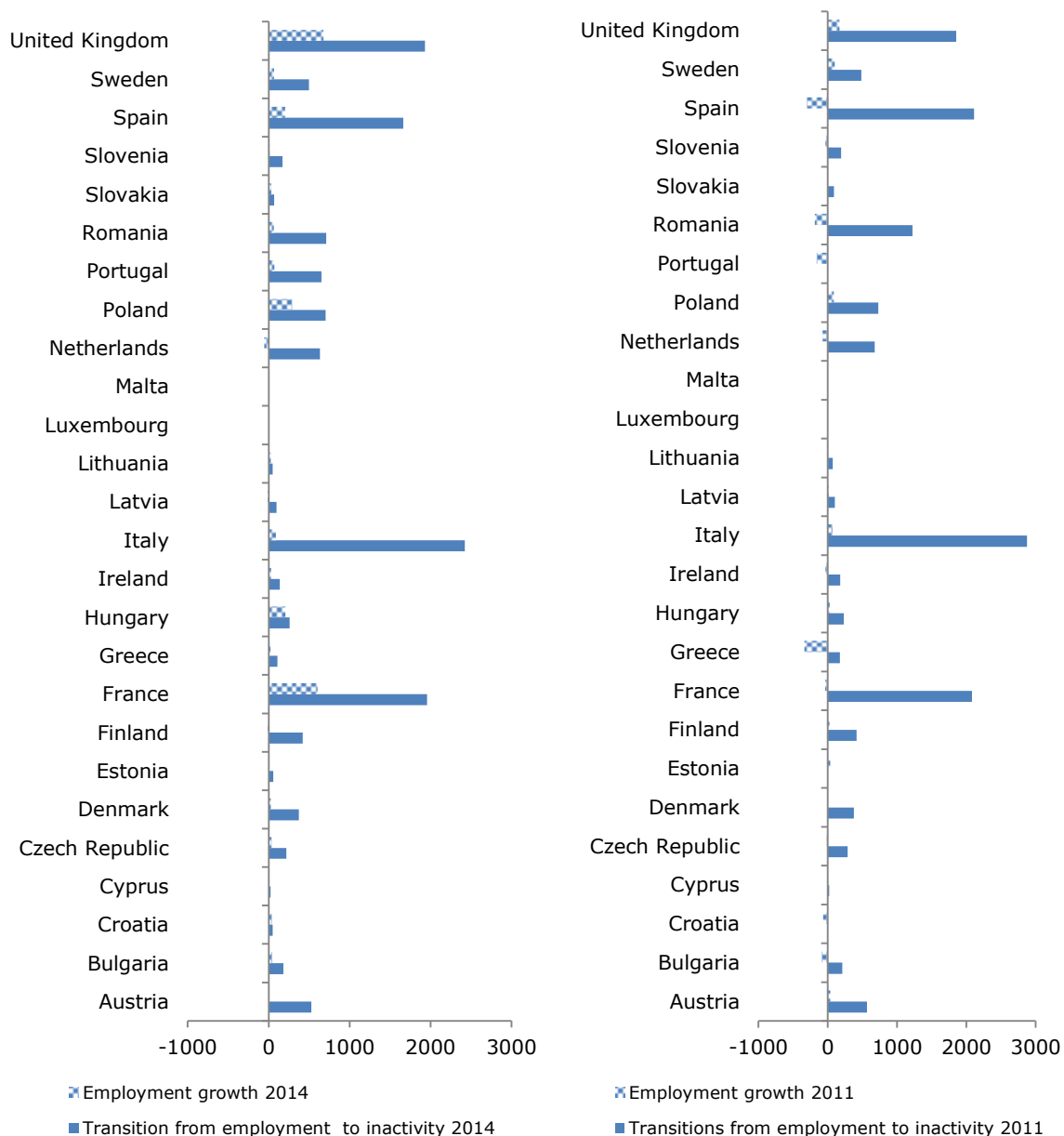
3.7 Components of labour market demand

Labour market demand is composed of expansion and replacement demand. Estimates of expansion demand are generally based on net employment growth. Replacement demand is an estimate of the number of persons who will exit the labour force either because of retirement, illness, home duties, education, emigration or other factors. In Figure 3.4 below, replacement demand is measured by the numbers who transitioned from employment to inactivity.

The measurement of replacement demand is complex and problematic, and one of the advantages of transitions analysis is that it provides very good information on the numbers leaving the labour force for reasons such as retirement, education, illness and home duties. As transitions analysis is based on panel data, it cannot identify the numbers who exit the labour force due to emigration. However, net migration estimates are usually available from other sources.

In addition, the measurement of replacement demand assumes implicitly that employers will seek to fill the vacant posts created by the workers who exit the labour market. However, this assumption is implicit in most analyses and forecasts of job-openings.

¹⁰ Currently, transitional analyses is not available for Germany, Belgium or Luxemburg. It is anticipated that data for Belgium and Luxemburg will be available in the near future, but the situation in Germany is more complex and may require some time to resolve. Data is not available for Malta because the sample error is too large.

Figure 3.4 Replacement and expansion demand estimates (000s)

Source: Analyses based on data extracts from Eurostat

Figure 3.4 above shows the composition of job-openings created by both expansion demand and replacement demand in 24 individual EU countries in 2011 and 2014.¹¹ The graph shows that replacement demand is by far the greatest source of job-openings, and this is invariably the case in an economic recession.

Figure 3.4 highlights the importance of the year 2014 as a turning point in the recovery of the EU labour market. In that year, virtually all of the EU countries that had been experiencing net employment losses ceased to do so, including Spain, Portugal, Slovenia,

¹¹ Eurostat analyses of transitions begins in quarter 2 2010. Consequently, 2011 is the first calendar year for which transitions data is available for all European Countries who conduct quarterly LFS.

Romania, Greece, Croatia and Bulgaria¹². Indeed, in the case of Spain, Portugal, and to a lesser extent Bulgaria, the 'turn-around' in such a short period of time from negative to positive employment growth was striking.

While the employment growth recorded in Greece in 2014 was very modest (i.e. 23,000) relative to the size of its workforce, this should be viewed in the context of Greece experiencing major contractions in employment of around 350,000 annually only a few years earlier.

Significant employment growth in absolute numbers was recorded in France, Poland, Hungary and the UK, while Ireland and Lithuania experienced strong relative employment growth.

Figure 3.4 shows that the level of replacement demand actually declined in some EU countries in 2014 compared to 2011, particularly in Spain and to a lesser extent Italy. This is a surprising finding in view of the fact that employment increased in virtually every country in 2014.

One possible explanation is that the significant increase recorded in the share of professional occupations in employment in the EU labour market, which was noted in chapter 2, reduced the overall replacement rate over the period as professional occupations are in general associated with significantly lower replacement rates than other occupations.

3.8 Up-skilling as a PES strategy for job-creation

Much of the literature on forecasting job-openings presents expansion and replacement demand as the sum total of additional job-openings. This is understandable from a statistical perspective as all other job-openings occur within the employed population and by definition, the sum total of these job-openings is zero.

However, this approach does not reflect the full potential of job-creation in a labour market. Jobs can be created by the PES through training jobseekers in the competences required to fill the skill gaps created by employment to employment transitions.

It is necessary to conduct analyses of the occupational composition of employment to employment transitions to identify these skill gaps. Unfortunately, as already pointed out, Eurostat has not at the time of writing completed such analyses. However, a number of EU countries do conduct such analyses and one of these EU countries, Ireland, is chosen to illustrate how the analysis of the occupational composition of employment to employment transitions can result in the identification of additional job-creation opportunities¹³.

3.9 Occupational composition of labour market transitions

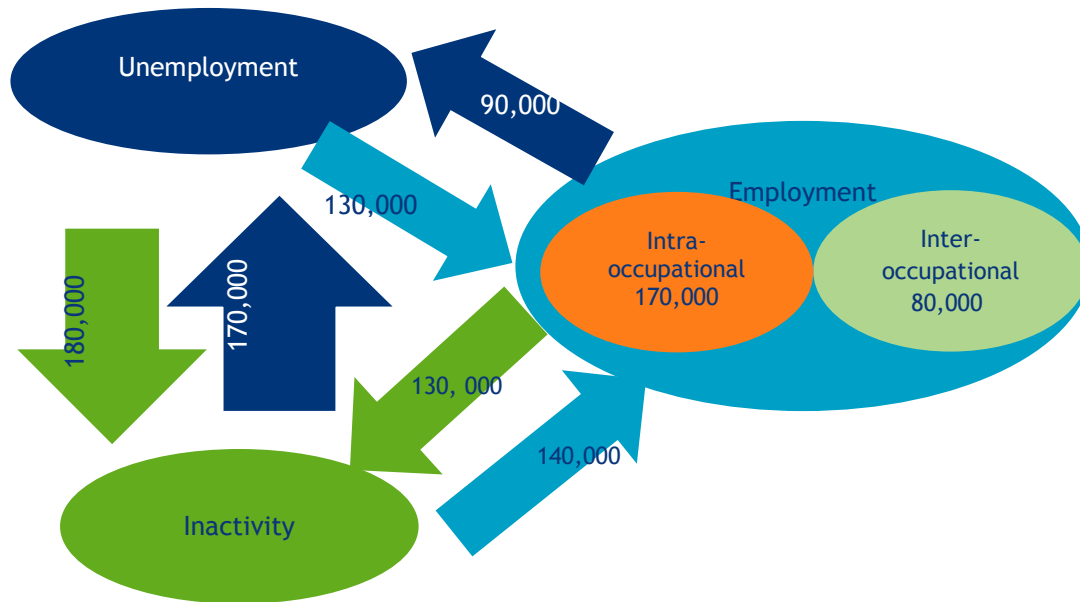
Figure 3.5 below summarises the magnitude and type of transitions in the Irish labour market in 2014. It shows that there were a total of 310,000 exits from the labour force, and also a total of 310,000 entries to the labour force, although the distribution of these

¹² There were very small reductions in employment of less than 1% in the case of Finland and the Netherlands, and reductions of just above 1% for Latvia and Cyprus.

¹³ The way Ireland is currently using analysis of transitions data to enhance the effectiveness of active labour market measures is one of the reasons why Ireland has been chosen by the Commission to host the 2015 Mutual Learning Programme event on skills forecasting in June 2015.

flows differed. A total of 270,000 persons entered the workforce, while a total of 220,000 exited, resulting in net employment growth (i.e. expansion demand) in Ireland in 2014.

Figure 3.5 Labour Market Transitions in Ireland (2014)



Source: National Skills Bulletin 2015, Ireland

Within the employed population, there were a total of 250,000 transitions (i.e. job-changers). A total of 170,000 of these transitions were within the same occupation (i.e. intra-occupational mobility), while 80,000 of these transitions were between occupations (inter-occupational mobility).

Most of the transitions between occupations in 2014 took place within the same broad occupational group. There were many transitions for example within the elementary group of occupations and the services and sales groups of occupations.

While this was the case for Ireland in 2014, the extent to which inter-occupational mobility occurs in other EU countries will be influenced by two factors. Firstly, the degree of regulation in the labour market will *ceteris paribus* restrict the movement of job-changers from one occupation to another. Many of the EU countries in Northern Europe, such as Germany, Austria and Denmark, make extensive use of apprenticeships as a means of training and qualifying persons in the competences required across a wide range of occupations. This system may limit the extent to which job-changers can transition directly from one occupation to another, as mandatory qualifications are required to access employment in many occupations.

In contrast, in the Mediterranean countries such as Italy, Portugal and Spain, and the Anglo Saxon countries of the UK and Ireland, the training and qualifications systems cover a relatively small range of occupations for which mandatory qualifications are required, and there may be more opportunities for job-changers to move directly into other occupations.

The extent to which job-changers move directly into other occupations can only be determined by an analysis of panel data, because it allows for the identification of occupations both before and after the transition to alternative employment.

The second factor that will influence the level of inter-occupational mobility is the turnover rate, which in this context refers to the extent to which employed persons move within the employed population. The turnover rate varies considerably between occupations and it is generally higher in less skilled occupations. Thus, a labour market with a relatively high share of employment in, for example, elementary and sales and service occupations will *ceteris paribus* have a relatively high degree of turnover. However, as the analysis in Ireland showed, there can be striking exceptions to this generalisation.¹⁴

An understanding of the occupational composition of job-changers is critical to the identification of the job-creation potential of up-skilling programmes and to an understanding of the relationship between job-creation and vacancies.

3.10 Relationship between job-changers, vacancies and job-creation

A portion of the net difference in inter-occupational mobility may under certain circumstances be translated into additional expansion demand. For example, if transitions out of an occupation exceed transitions into an occupation (inter-occupation mobility), there is an opportunity for the Public Employment Service to increase the supply of skills associated with working in this occupation through the training of unemployed persons and fill the skills gap which has been created.

These possibilities arise only in cases where the net difference in inter-occupation mobility is positive and where employment in the occupation in which the vacancies have arisen require specific skills. In all other cases, the vacancies which arise through both inter-occupation and intra-occupation mobility do not create any additional employment opportunities.

In other words, these vacancies do not relate to either expansion or replacement demand, but rather labour turnover. In the absence of any analysis of the occupational composition of employment to employment transitions, it is not possible to identify the share of such vacancies in the total vacancy market in any EU country¹⁵.

However, the issue is of critical importance to optimising the employment outcomes from active labour market programmes (ALMPs). As the filling of vacancies that are created by labour market turnover – unlike vacancies that are created by expansion or replacement demand – do not, in general, create additional employment opportunities. The identification of such vacancies gives the PES the possibility of designing their ALMP's to equip jobseekers with the skills to fill *only* vacancies created by expansion and replacement demand. In this way, the PES can increase the level of additional employment resulting from ALMP measures.

¹⁴ Transitional analyses in Ireland found that software programmers were one of the few professional occupations which had a relatively high turnover rate, apparently because many of them work on 'contracts' rather than as employees (see National Skills Bulletin 2015). This raises the issue of whether forecasts of demand for IT personnel in general in the EU is 'overstated'.

¹⁵ The share of churn vacancies notified to the Public Employment Services can be calculated by comparing the occupational composition of vacancies notified to the PES with the occupational composition of ((inter+ intra occupation mobility)-(net positive change in inter-occupation mobility)).

To summarise, the total job-creation potential in any labour market can be expressed as expansion + replacement demand + (net change in inter-occupational mobility). Any skills gaps which emerge from inter-occupational mobility can be filled by the PES through training jobseekers in the skills required to meet these skills gaps.

3.11 Setting realistic PES placement targets

One of the challenges for every PES is to understand the impact of its activities on employment. While the European PES use a range of different methodologies to measure the extent to which those who were on the PES jobseeker register subsequently found employment, such as exit interviews and monitoring the social insurance databases, it is much more difficult to assess the degree to which those former registrants would have found employment in the absence of PES activity (i.e. the counterfactual situation). Some PES use econometric analyses to measure the relative employability of different sub-groups of registrants and estimate the value of the counterfactual on this basis.

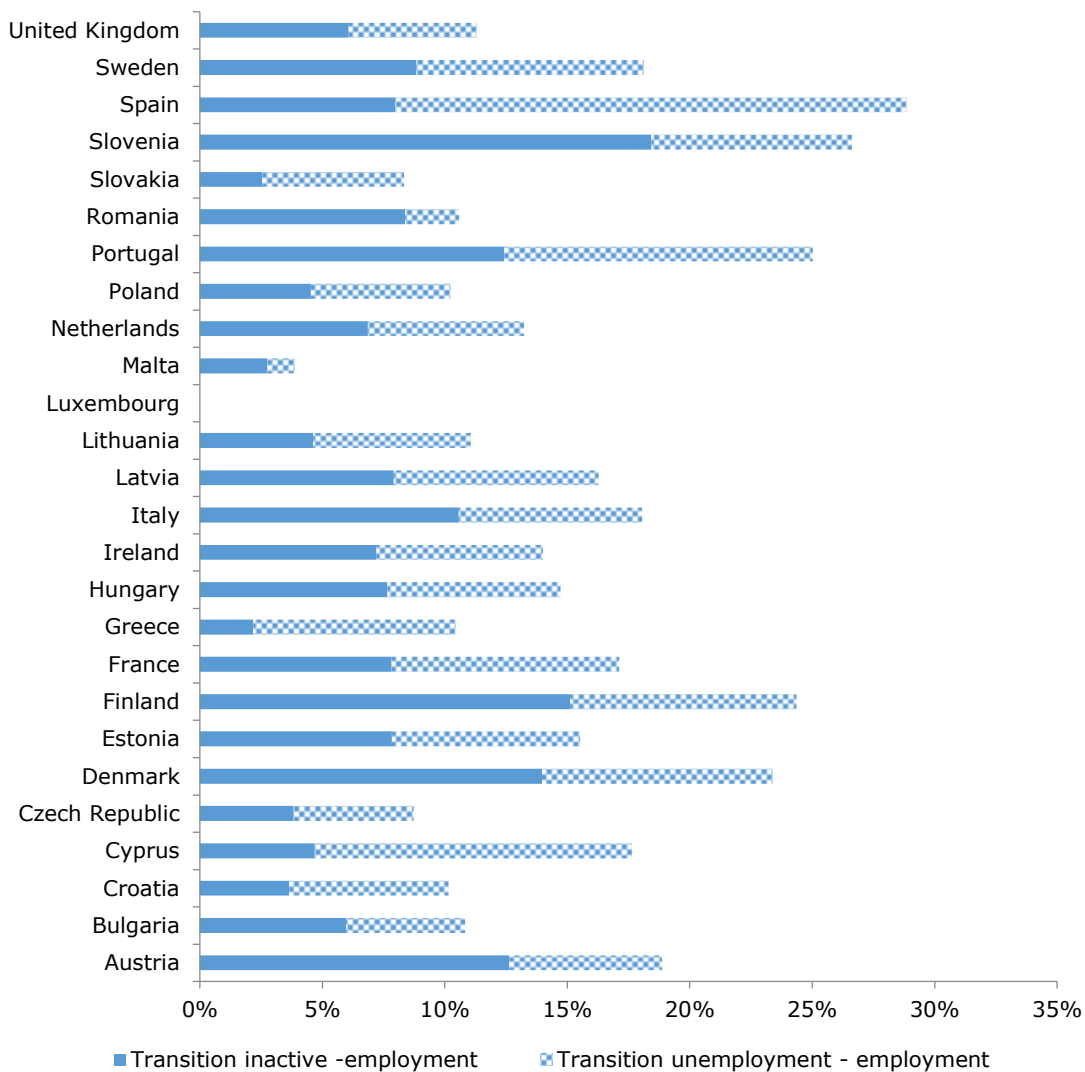
However, the analyses of data on transitions – when it is completed by Eurostat – could also be useful to the PES in the context of creating a methodology for setting realistic targets for placement performance for each PES sub-population, which take the 'counterfactual' values into account.

For example, the analyses of transitions will provide data on the numbers who have transitioned from inactivity and unemployment into employment for a reference period and for any selected group (e.g. females < 25 years with tertiary education qualifications).

The PES, through its administrative database, can identify the number in this selected group who had been on the register before finding employment in the same reference period. The difference between the total in the selected group who made the transition to employment and the number of former PES registrants in the selected group who made the transition to employment is equivalent to the number in the selected group who made the transition to employment without the assistance of the PES.

If the numbers in this last category were relatively large compared to the number who were on the register, it might be reasonable to infer that the intervention of the PES was not necessary for jobseekers with these particular characteristics (e.g. females <25 years with tertiary education qualifications).

Of course, this is a simplistic version of how the analysis of the occupational composition of transitions from employment to employment might provide insights into the relative performance of the PES, and it may not be adequate in all cases. For example, using transitions data only allows for controlling for age, education and gender, and this may not be sufficient if the sub-group who registered with the PES were also suffering from drug abuse or mental illness.

Figure 3.6 Transitions to employment as a % of employment in 2014

Source: Analyses of LFS data extracts from Eurostat

Nevertheless, this methodology has many advantages over the current approach of monitoring employment outcomes by reference to the social insurance records. In most EU countries, the latter does not contain details on either the occupation or the education profile of those who found employment. As such, it is not possible to evaluate the relevance of the training provided or to identify the level of labour market turnover.

An example of transitions from inactivity and unemployment to employment expressed as a percentage of total employment for 24 EU countries in 2014 is shown in Figure 3.6. In this case, the population refers to all transitions but as data on gender, age and ISCED levels become available from Eurostat, further analysis will be possible.

But, it is easy to imagine how such data could be compared to transitions from the PES jobseeker register for a similar sub-population and reference period. As both sub-populations exist within the same labour market, there is no need to control for exogenous variables.

For these reasons, it is one of the core recommendations in this report that this type of analysis should be undertaken for every EU PES as soon as data on gender, age and ISCED levels are available. Additional analyses on labour turnover should also be undertaken when data on the occupational composition of employment to employment transitions are available from Eurostat, more refined and focused measures of transitions to employment will be possible.

3.12 Conclusions

The analysis in chapter two showed that there was insufficient employment growth to provide jobs for the number of jobseekers who were entering the EU labour market. The analysis in this chapter confirms that an increasing share of these jobseekers were highly qualified. When we combine this information with the increasing incidence of involuntary temporary and part-time employment observed in chapter two, it is not surprising that we find that seeking more working hours was the primary motivation for job-changers to seek alternative employment, or that there was an increase in the share of highly educated workers in occupations that they are not generally associated with.

The result was an increasing dynamic within the EU labour market that is best illustrated by the fact that the dramatic increase in unemployment of almost 50% across the EU over the period did nothing to curtail the number of workers who were looking for alternative jobs.

Chapter 3 also provides an analysis of 'transitions data'. It shows how the components of labour market demand, expansion and replacement demand, behaved in 24 EU countries in 2011 and 2014. It is noted that the replacement rate actually declined in 2014 in some countries that experienced an expansion in employment. While this is unusual, it is nevertheless consistent with a rise in the occupation profile of the workforce as the replacement rate, for example for professional occupations, is significantly lower than for most other occupations.

The potential usefulness of the analysis of the occupational composition of employment to employment transitions to the PES is highlighted. It is pointed out that an analysis of this data would allow the PES to focus on providing skills training to fill vacancies arising from expansion and replacement demand only, rather than all vacancies. *Ceteris paribus*, such a focus would increase the employment outcomes from PES ALMPs.

It is argued that an analysis of transitions from inactivity and unemployment to employment is also useful for the evaluation of the net employment impact (i.e. the number of jobs that required PES intervention) of PES activities.

In the following chapter, the level of interaction of the PES over the period, particularly in relation to jobseekers and job-finders, is explored in detail.

4. LEVEL OF INTERACTION BETWEEN PES AND THEIR CLIENTS

4.1 Introduction

The answers to two questions in the Labour Force Survey provide very useful information to the European Public Employment Services. These questions are on the number of persons who were assisted by the PES in finding their current job and the number of persons who contacted the PES in their job-search activity. The answers to these questions provide considerable detail on the characteristics of the people who interacted with the PES during the crisis, and the nature of that interaction.

4.2 PES registrations

In this section, we explore the level of registration with the PES of the unemployed and employed in 2007 and 2014.

A total of 30.6 million persons in the EU registered with Public Employment Services in 2014, most of whom (18.6 million) were not receiving benefits. This level of registration represents a significant increase from the 2007 figure of 23.9 million, although the majority (13.3 million) were also not receiving benefits that year.

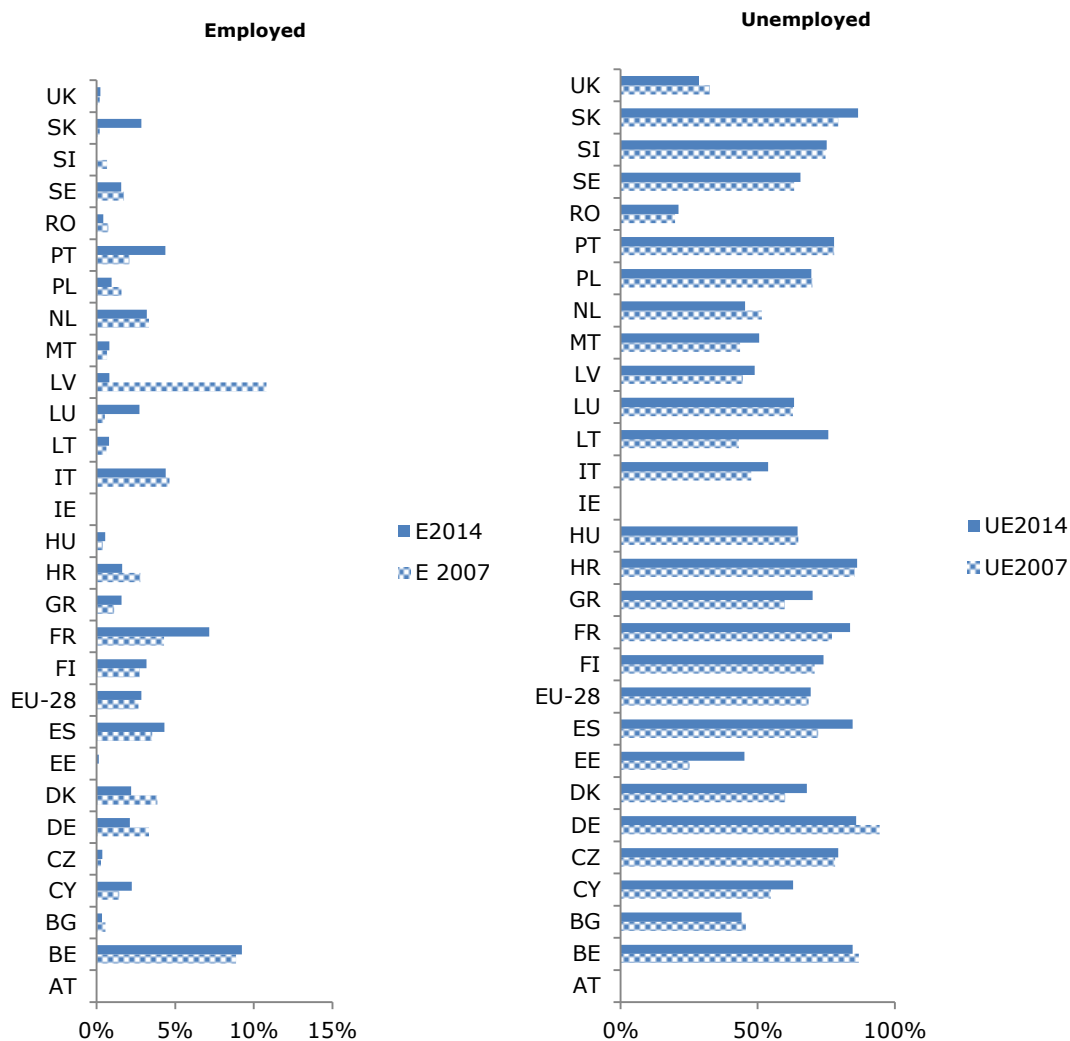
In 2014, at EU-28 level, the share of unemployed registered with PES was 69%. This is broadly in line with the share observed in 2007. However, the share varied significantly across the member states. As shown in figure 4.1, the shares were relatively high in 2014 in the following countries: Slovakia (87%), Croatia (86%), Germany (86%) and Spain (85%). In contrast, the share was the lowest in Romania (21%). While the share observed in the UK was low, the response rate for this country was so low that the figures cannot be used with confidence.

Compared to 2007, there was significant positive increases in the share recorded in Lithuania (+33pp), Estonia (+20pp) and Greece (+10pp). However, the share that contracted in Germany had the highest share of all (94%) in 2007. The share in the Netherlands also contracted from 51% in 2007 to 45% in 2014.

The share of the total employed that was registered was very modest: 3% were registered with their local PES in both 2007 and 2014. The only observations of note are the increases in the shares of employed registered with the Portuguese and French PES of 2pp and 4pp respectively.

4.3 Use of PES in job search

According to the Eurostat database, the share of unemployed who used the services of the PES in their job-search declined significantly over the period from 60.7% in 2007 to 49.1% in 2014. At the same time, the share of unemployed who contacted private agencies increased from 18.5% to 23%. But, the biggest increase was in direct contact with individuals, whether with employers (47.2% to 63.3%) or relatives and trade unions (57.1% to 72.4%).

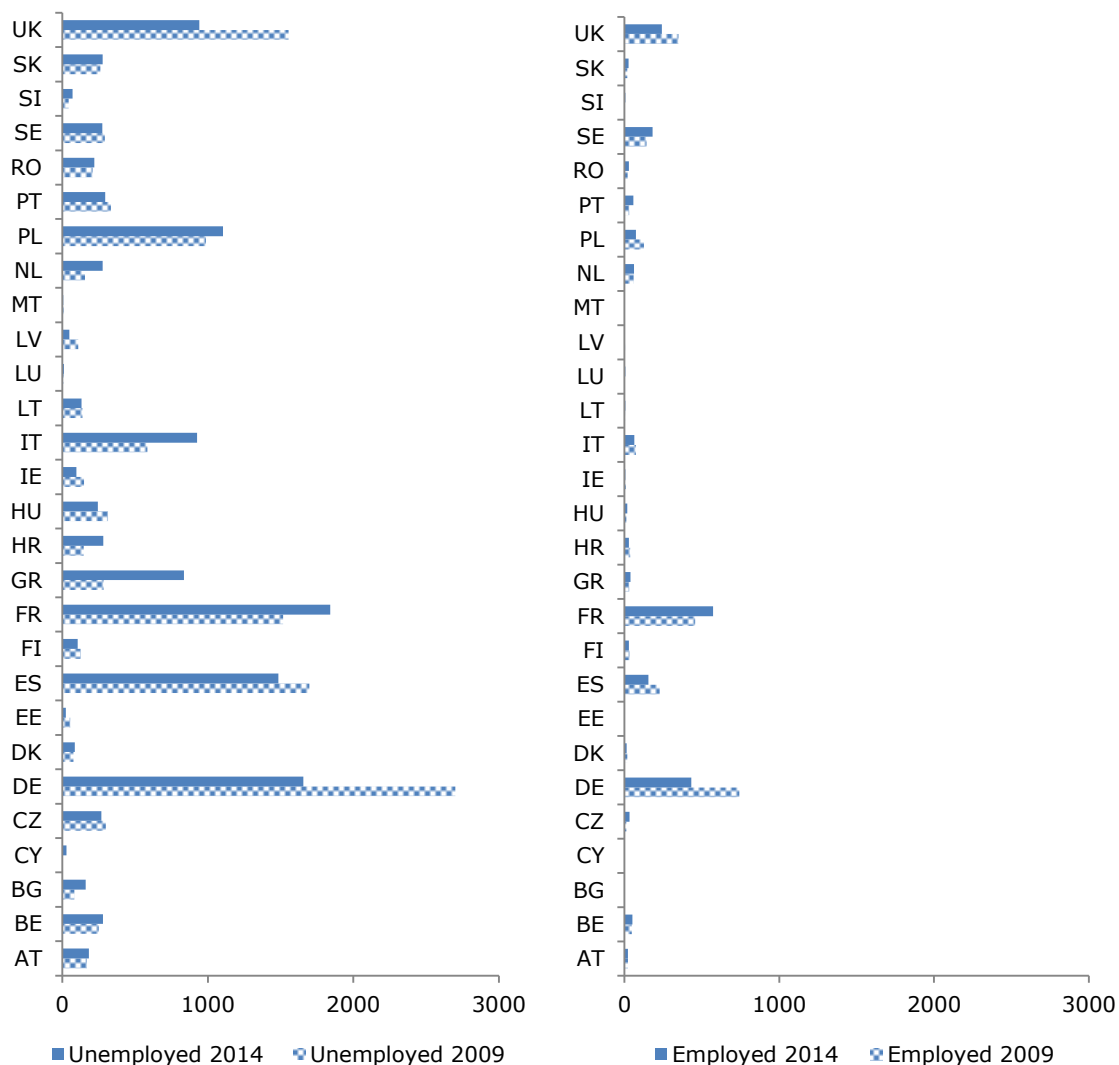
Figure 4.1 Share registered with PES

Source: Analyses of LFS data extracts from Eurostat (% shares)

Note: All employed included; 'no answer' and 'not applicable' excluded; in Ireland and Austria there is no question on 'REGISTER'.

The significant increase in the incidence of direct contact with individuals is not a surprise. The analyses in chapters 2 and 3 of this report have revealed evidence of intense competition among jobseekers for the available jobs. But, the significant reduction in the share of unemployed contacting the services of the PES in their search for jobs is disappointing. The fact that in the midst of a severe recession the level of such contact should dip below 50% warrants investigation.

Figure 4.2 below shows the extent to which the employed and unemployed in individual EU countries contacted PES in their job-search activities in 2009 and 2014. The declining use of the PES by the unemployed is evident in the figures. Major declines in the volume of users occurred in Germany (-1 million), the UK (-600,000) and in Spain (-200,000).

Figure 4.2 Person using PES in job search (000s)

Source: Analyses of data extracts from Eurostat (% shares)

Even in those cases where the volume of usage increased significantly, such as Italy and France, the share did not increase.¹⁶

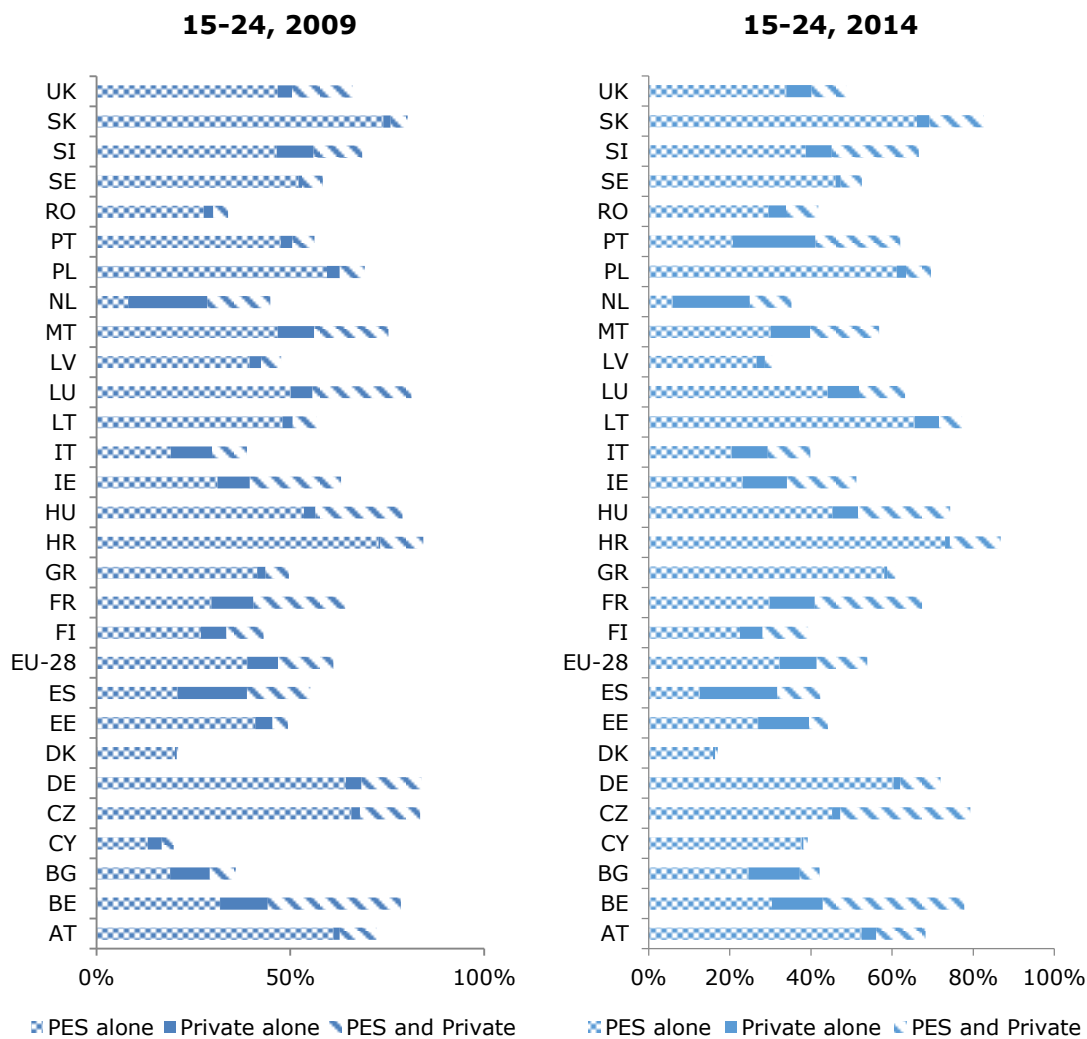
While declining numbers of unemployed was certainly a factor, especially in Germany, the shares also declined in those EU countries that experienced major contractions in volume; by 5% in Germany, 18% in the UK and 15% in Spain. This is arguably the most disappointing result in view of the state of the labour market in Spain over this period.

¹⁶ The shares were static in France and contracted by 2% in Italy.

4.4 Use of PES by young

One possible hypothesis for why the share of unemployed who contacted the PES declined is that young jobseekers coming into the EU market over this period increasingly exhibited a preference for using private recruitment agencies rather than the Public Employment Service. This issue is explored in Figure 4.3.

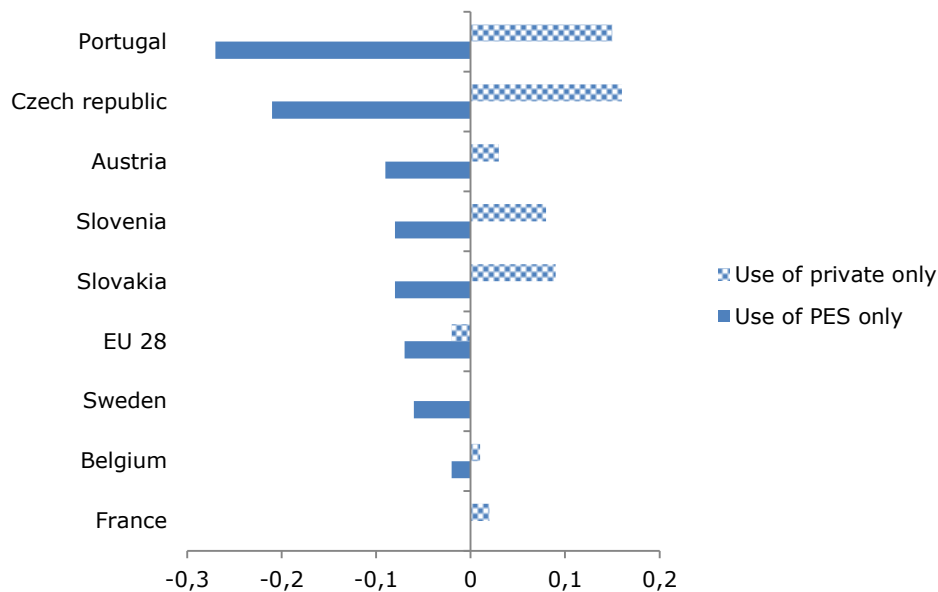
Figure 4.3 The use of public and private employment services by young unemployed jobseekers (%)



Source: Analyses of data extracts from Eurostat

The analyses confirm that such a switch did occur in eight EU countries, and the extent of the switch was significant in two of them, Portugal and the Czech Republic (Figure 4.4). We have already noted in chapter 3 that the number of job-changers more than doubled between 2007 and 2014 in Portugal, and the evidence suggested that this increase was related to the rising education profile of the jobseeker population.

Figure 4.4 Change in the use of PES and private recruitment agencies (percentage point), 2009-2014



Source: Analyses of data extracts from Eurostat (000s)

Figure 4.5 shows a comparison between the change in the share of unemployed youth in total unemployed, and the change in the share of unemployed youth who used PES in their job-search.

The figures in the graph show that in the case of the EU as a whole, there was a decline in the use of PES services by the young unemployed of 9pp, while there was also a decline in the share of youth in unemployment of 4pp.

In general, most of the EU countries follow this pattern. Thus, the shares of both indicators for most countries are negative and the decline is greater over the period in the case of the share of unemployed youth using the services of PES.

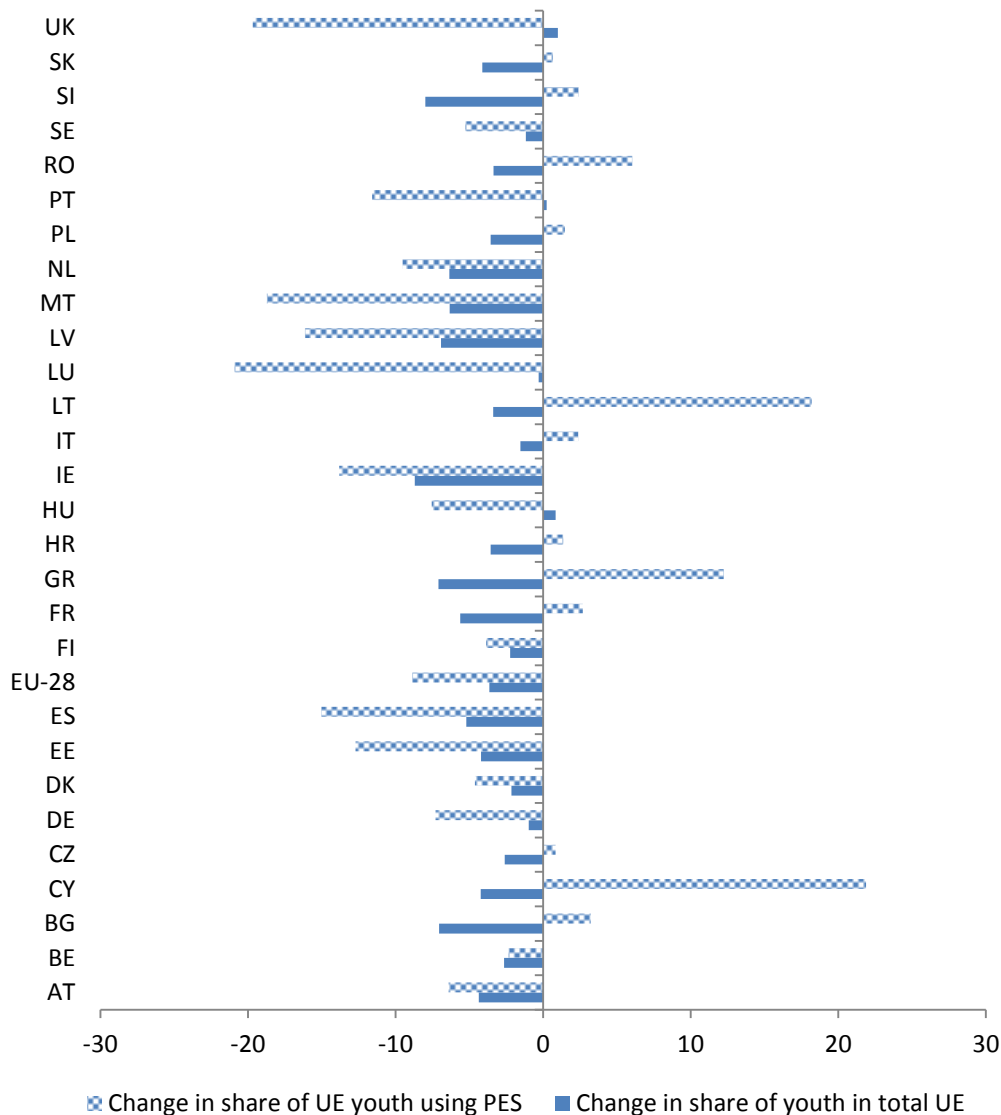
However, in the case of ten EU countries, the change in the share of youth using PES services is positive. In the case of six of these countries, the value of the positive change is very small and could be due to sampling or other computation factors.

In the case of the other four EU countries, the positive change recorded is significant in respect of three of them: Lithuania (18pp), Greece (12pp), and Cyprus (22pp), while Romania also recorded an increase, but it was relatively small at 6pp.

This result appears to be counter-intuitive as it suggests that in these four countries, as the share of youth in unemployment contracted, the share of unemployed youth using the PES in their job-search activities increased.

Figure 4.1 above, which shows the share of unemployed who registered with the PES in 2007 and 2014, provides a possible explanation of this counter-intuitive result. The graph shows that the highest increase in the share occurred in Lithuania (33pp), while Greece (10pp) and Cyprus (8pp) also recorded significant increases in their share of unemployed who were on the PES register. Only Spain recorded an increase in the share of unemployed who were registered (13pp), which was greater than any of these three countries.

Figure 4.5 Change in share of youth in unemployment and the use of PES by unemployed youth, 2009-2014



Source: Analyses of data extracts from Eurostat

Thus three out of the four EU countries that experienced significant increases in the share of the unemployed who registered with their PES over the period, also experienced a significant increase in the usage of PES by the unemployed in their job-search activities.

This is an intuitively plausible explanation as unemployed registrants are usually exposed to the different functions of the PES and they would be expected to avail of at least some of these functions in their job-search activities.

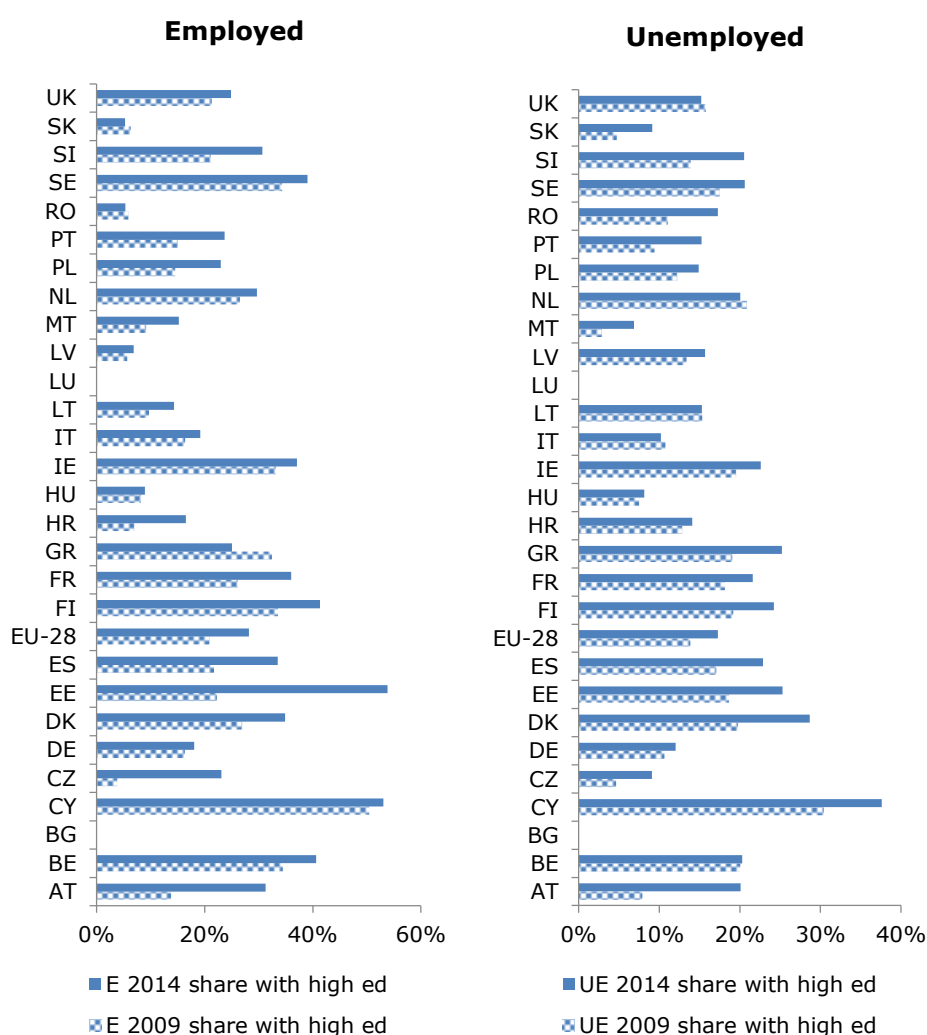
4.5 The use of PES by highly qualified jobseekers

Finally, one of the themes to emerge from the analyses in chapters 2 and 3 was the increase in the qualifications level of jobseekers in general, and it is of interest to explore the extent to which the increase in the qualification profile of jobseekers was apparent in those who contacted the PES.

In chapter three, we speculated that the rising education profile of jobseekers in combination with the expansion in the share of temporary contracts might be fuelling a significant increase in the level of inter and intra occupational mobility in some EU countries.

The data in Figure 4.6 confirms that the increase in the education profile of both employed and unemployed jobseekers, which was observed in Figure 3.2, has percolated through to the PES. The share of highly educated among employed jobseekers who contacted the PES expanding from 21% in 2009 to 28% in 2014, and among unemployed jobseekers 14% in 2009 to 17% in 2014.

The change in the share at EU level disguises more significant swings in many EU countries in the shares of both employed and unemployed jobseekers who contacted PES during their job-search activities. Over the span of just five years, the share of highly qualified jobseekers who contacted the PES in Spain increased by 11pp in the case of the employed and 6pp in the case of the unemployed. The corresponding figures for France are 10pp and 4pp; Slovenia 10pp and 7pp; Portugal 9pp and 6pp; Denmark 8pp and 9pp; and Poland 8pp and 3pp.

Figure 4.6 Use of PES by highly qualified jobseekers

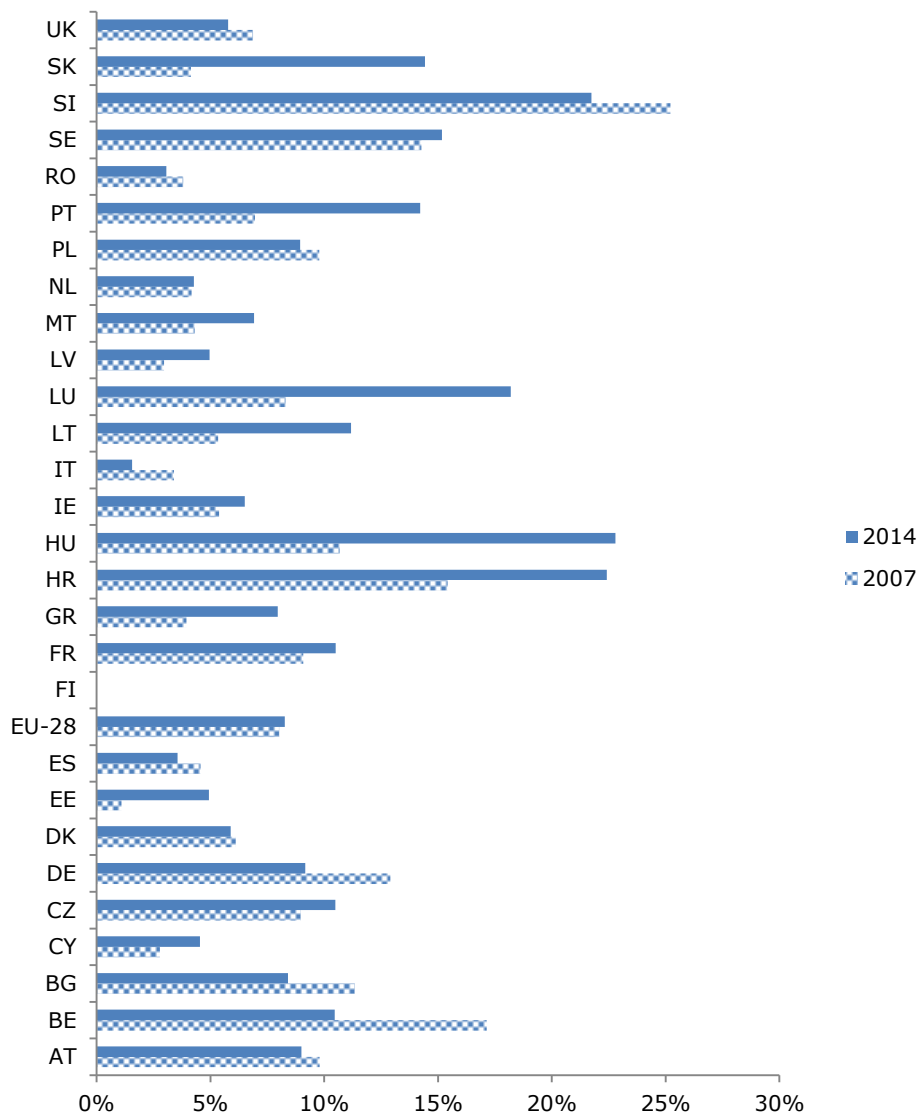
Source: Analyses of data extracts from Eurostat

4.6 The share of new recruits assisted by the PES in finding work

Despite the significant reduction in the share of jobseekers who contacted PES in their job-search in 2014 compared to 2009, the share of new recruits (8%) who were assisted by the PES in finding employment remained the same in 2007 and 2014.

The overall share of 8% may appear modest, but it was sustained in an EU labour market that was very challenging in many countries. In this respect, the relative performance of the PES in Greece from 2007 to 2014 (+4pp), Hungary (+12pp), Croatia (+7pp), Portugal (+7pp), and Lithuania (+6pp) is commendable.

There were some reductions in Slovenia, Bulgaria, Belgium, Austria, Germany and the UK, but the magnitude was significant only in Belgium (-7pp), and to a lesser extent in Germany (-4pp).

Figure 4.7 Share of new recruits assisted by the PES in finding work

Source: Analyses of data extracts from Eurostat

4.7 Occupational profile of new recruits assisted by the PES

One of the issues that is the focus of this report is the turnover rate and specifically the level of inter and intra occupation mobility. It was noted that in one of the EU countries that conducted occupation analyses of 'transitions' data, the level of turnover was highest in the occupation groups that traditionally are the focus of PES activity.

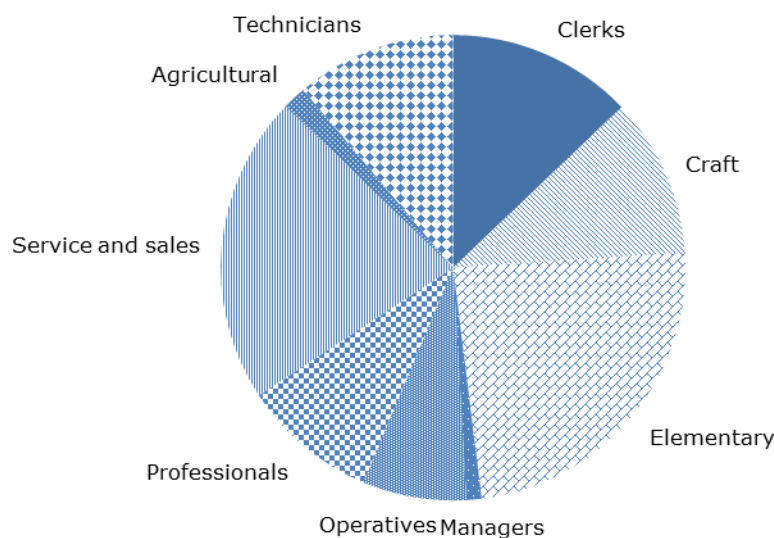
Figure 4.8 below shows the distribution of the occupations of the jobs of the new recruits in 2014 who were assisted by the PES, and Figure 4.9 shows the change in the share of the occupations compared to 2007.

Figure 4.9 shows that the highest share of occupations was in the elementary group (24%). The next highest was in the service and sales occupations (21%), followed by clerks (13%), craft (11%) and technicians (11%), professionals (9%) and managers (7%).

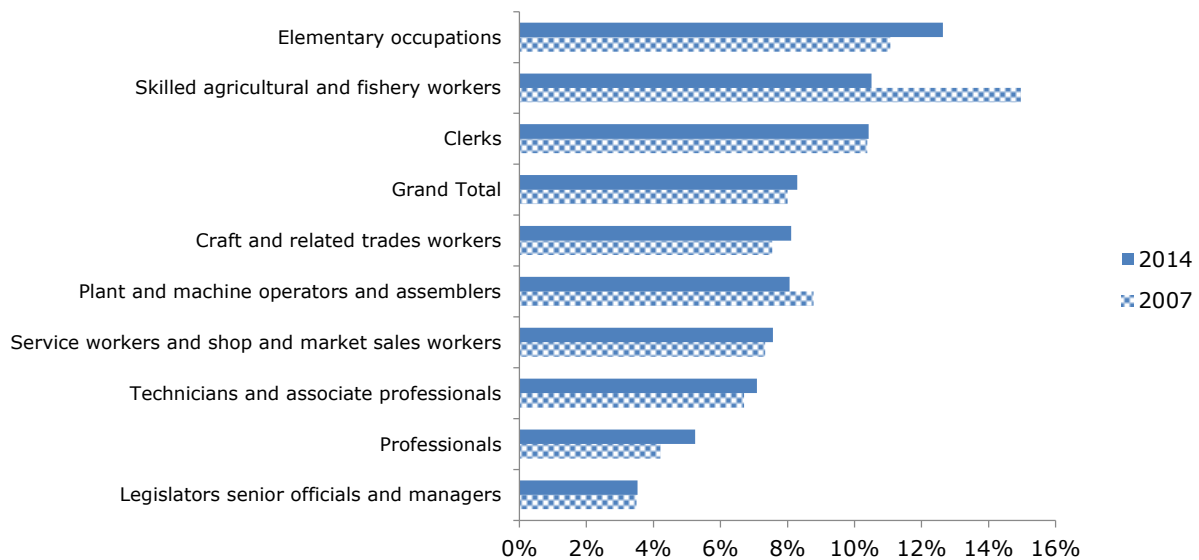
Not surprisingly in view of the results of the analyses to date, there was an increase in the share of recruits in professional occupations who received assistance from the PES.

The largest increase was in elementary occupations, but the increase was modest at 2%.

Figure 4.8 Occupational profile of new recruits assisted by the PES in 2014



Source: Analyses of data extracts from Eurostat

Figure 4.9 Change in occupational profile of new recruits assisted by PES

Source: Analyses of data extracts from Eurostat

4.8 PES assistance to selected groups

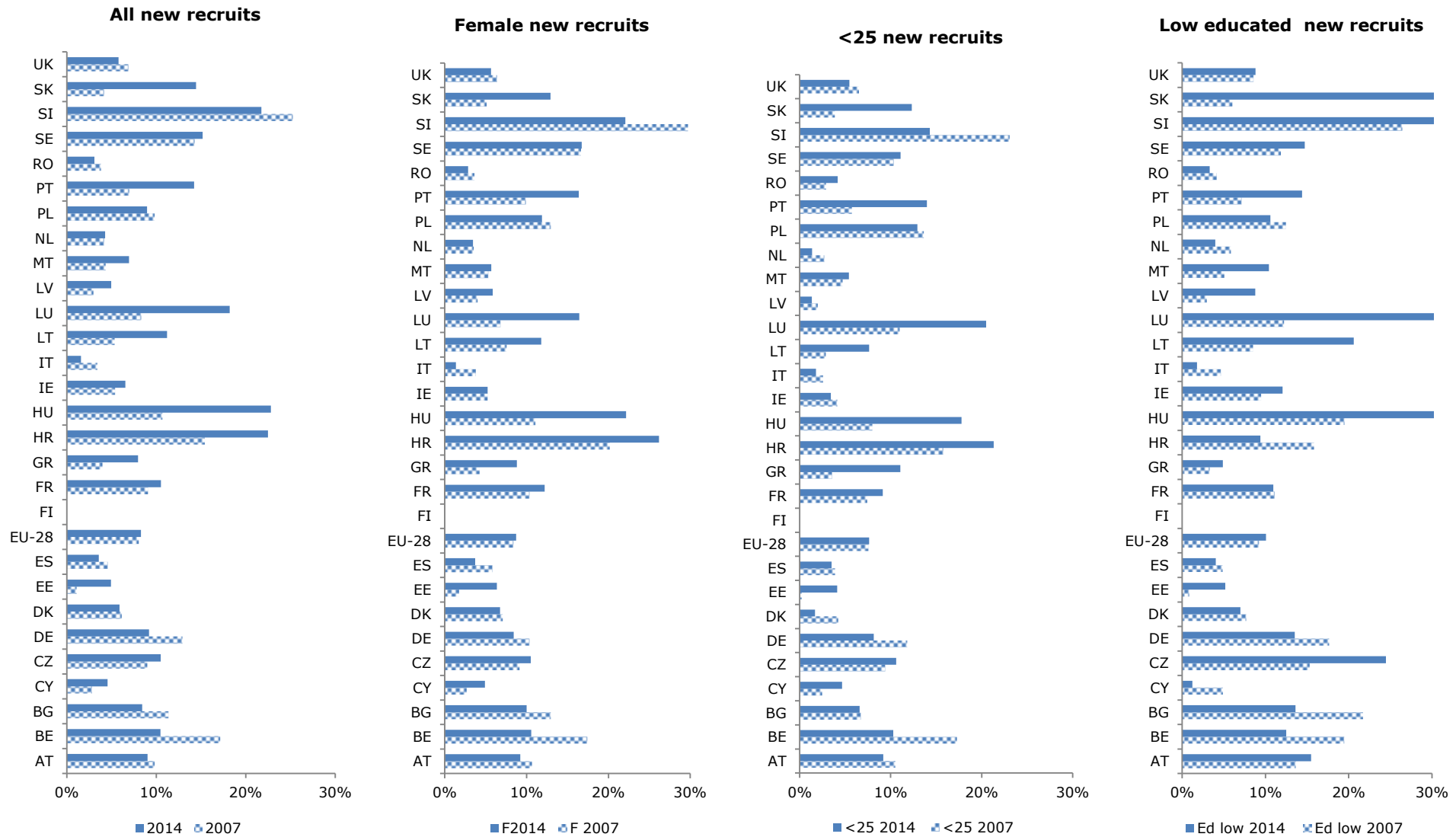
Unfortunately, it is not possible to estimate the extent to which assistance from the PES was instrumental in finding employment for jobseekers. This is because the question on the impact of PES mediation is only asked of those who found employment, not of jobseekers in general.

However, we do know the share of job-finders in a specific reference period who received assistance from the PES in finding their current job, and we know their personal characteristics. Therefore, we can at least establish the proportion of successful jobseekers in the main PES client groups, and we can compare that proportion to the overall proportion of new recruits who were assisted by the PES.

The results of this analysis in respect of the three selected groups who are the focus of PES activity: young jobseekers, female jobseekers, and the least qualified jobseekers (i.e. ISCED 0-2) are shown in Figure 4.10 below. As already noted, the overall share of recruits successfully assisted by the PES was 8% in 2014, the same as in 2007. The share of the selected groups did not differ to a significant extent; 9% for female; 8% for young recruits and 10% for the least well qualified.

However, the overall results mask a huge variation between individual PES. In general, the trend displayed in the comparison of 2007 and 2014 in respect of overall recruits, whether positive or negative, was again apparent in each of the selected groups.

Thus, for example, the share of new recruits who were assisted by the PES in Slovakia increased by 10pp, slightly higher than the share for females (8pp) and the share for

Figure 4.10 Share of new recruits among selected groups assisted by the PES

youth (8pp). But, the share of the least educated increased by 53pp to 59%, a remarkable performance in a difficult labour market.

In the case of the Portuguese PES, the overall increase was 7pp; for females it was 6pp; for youth it was 8pp and for the least educated it was 7pp.

For the PES in Hungary, the increase was 12pp overall, 11pp for females; 10pp for youth and 24pp for the least educated.

In Luxemburg, the overall increase was 10pp; for females it was 9pp; youth 9pp and the least educated 22pp.

The PES in Lithuania registered a 6pp increase overall, for females it was 4pp, for youth 5pp, and for the least educated it was 12 pp.

In general, those PES who performed positively in the share of new recruits who were assisted by them, recorded particularly strong increases in respect of the low educated. Even in the case of some PES who performed relatively poorly overall, such as the Czech Republic (1pp), the performance in respect of the low educated was impressive (12pp).

Furthermore, the share of all new recruits in this sub-group who received assistance in 2014 was often relatively high, including a share of 59% in both Slovenia and Slovakia.

The performance of Croatia is unusual. After recording impressive increases overall and for females and youth, the share for the low educated contracted by 7pp over the period.

While a considerable number of PES recording contractions in the share of new recruits who received assistance from them, in general the level of contraction was modest.

The exception is Belgium, which recorded reductions of approximately 7pp for all sub-groups over the period.

The relatively strong performance of the PES in successfully assisting the least well qualified to find jobs is commendable, because it occurred at a time when the education levels of their workforce were increasing significantly.

4.9 The relevance of good PES performance on future use of PES

The analysis to date shows that the performance of the PES in respect of two indicators in particular, the share of jobseekers who contacted them during their job-search and new recruits who were assisted by them, varied greatly between different EU countries.

It is intriguing to consider if there is a relationship between these two indicators. For example, might a relatively good performance by a particular PES in terms of assisted employment outcomes have an influential effect regarding the share and characteristics of jobseekers who contact the PES?

To answer these questions, a number of hypotheses were explored using regression analyses.¹⁷ Three different groups were considered: all jobseekers, employed jobseekers who do not receive benefit, and employed jobseekers who were on the register but did not receive benefit. The latter two groups acted as a proxy for 'voluntary' engagement with the PES. As it was the potential impact of PES-assisted placements on the

¹⁷ The configurations and testing of these hypotheses were undertaken by Dr Michael Fertig (ISG)

subsequent use of PES in job-search which was being measured, a time-lag of a year was introduced to capture the spillover effect.

In addition, a considerable number of refinements were introduced including control variables using GDP growth, employment growth and the school drop-out rate. Country-fixed effects were also introduced to capture factors with an impact on the use of the PES that are unique to a specific country, but invariant over time (like different registration requirements across countries and other time-invariant country peculiarities).

Table 4.1 Results of the regression analysis

Dependant variable: Share of PES-users among all jobseekers	Coefficient	t-value	Coefficient	t-value
Involvement of PES in finding job (t-1)	1.55	4.61	0.53	2.59
GDP growth rate	0.88	0.91	0.12	0.46
Employment growth rate	-2.30	-2.13	-0.68	-2.46
School drop-out rate	-1.08	-3.22	0.15	0.39
Year 2012	-0.54	-0.12	-0.57	-0.61
Year 2013	-1.24	-0.28	0.28	0.29
Year 2014	-1.84	-0.42	-0.48	-0.47
Constant	42.92	6.04	39.21	8.64
Country-fixed effects	no		yes	
R-squared	0.34		0.21	
Number of observations	111.00		110	

Source: Analyses of data extracts from Eurostat

The result of these regression analyses was positive in the case of the overall share of PES users. In other words, there is a statistically significant positive association between the uses of PES in job-search with the share of those who were assisted by the PES to find their current job. This positive result occurred even after controlling for the context factors mentioned above and a range of country-fixed effects.

The regression results illustrate that a type of 'virtuous circle' is being created by those PES who perform relatively well in terms of successfully assisting jobseekers to find employment. The share of PES-users is systematically higher in those countries where the PES can be considered as "more helpful".

This is a hugely encouraging result, particularly in the context of this report which contains results that might be considered by some PES to be disappointing. It confirms that good PES performance does attract a higher level of use of PES services by clients, and as such demonstrates the benefits of policies of continuous improvement.

4.10 Conclusions

This chapter contains analyses of the answers to two questions in the LFS which are of particular relevance to the PES. These analyses have produced both negative and positive results. The results of the analyses of the extent to which unemployed jobseekers contact their local PES in their job-search activities must be considered disappointing. The fact that by 2014, following many years of severe recession and record unemployment in the EU labour market, just over half of all unemployed jobseekers – as defined by ILO criteria – should bypass the PES in their job-search is disconcerting and certainly warrants further investigation.

The analyses, however, did uncover some mitigating factors. For example, the share of youth in total unemployment was contracting over the latter half of the period, and this reduction was associated with the decline in the use of PES services by the unemployed.

But, perhaps the biggest factor was the incidence of registration with the PES. It was notable that three out of the four countries that experienced a significant increase in registration by the unemployed also experienced an increase in the use of PES services by the unemployed in their job-search activities.

This is an intuitively plausible result as it would be expected that those who are registered with the PES would also use the PES in their job search activities.

The analyses also produced some results that are very encouraging. The share of job-finders assisted by the PES was the same in 2007 as in 2014. In addition, the PES increased the share of the least qualified that it assisted to find employment. This is a notable achievement in view of the fact that the education levels of the workforce were rising during this period.

The analyses uses regression to demonstrate that the perceived helpfulness of the PES in assisting jobseekers to find employment has a positive spillover effect on the level of usage of PES services by the unemployed in their job-search activities.

This is a most encouraging result as it shows that good performance by the PES creates a virtual circle which encourages greater usage of the PES by its potential clients.

5. USEFULNESS OF LSF DATA TO THE PES

5.1 Introduction

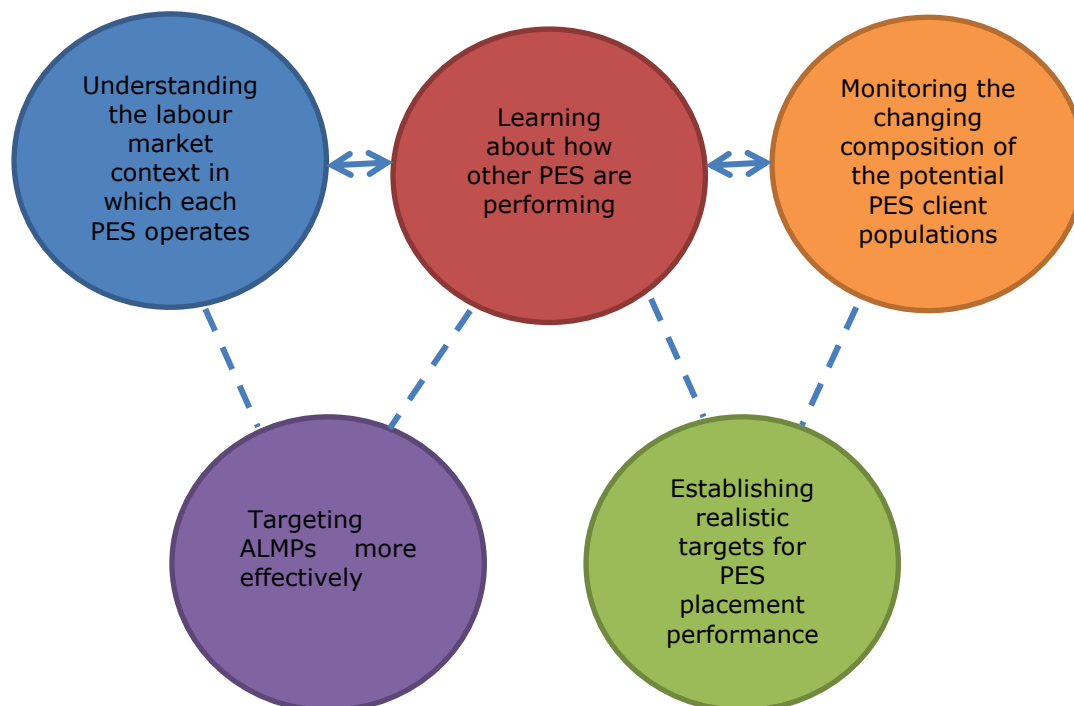
Chapter 5 provides a brief summary of some of the ways that data from the LFS could be useful to the PES using examples from the analyses in chapters 2, 3, and 4 of this report. The examples are presented in five main themes outlined below in Figure 5.1. The line to the last two themes, targeting ALMP's more effectively and establishing realistic targets for placement performance, is dotted because not all of the data required to allow all national PES to fully implement these themes is currently available from the European LFS. However, the data should be available within a year or two.

5.2 Understanding the context in which each PES operates

The analyses in this report show how the composition of each EU labour market has implications for the dynamics of that labour market which in turn creates different challenges for the PES.

The increasing incidence of both involuntary temporary and part-time employment means that there will be more jobseekers, and consequently more contact with the PES. It also means that employment outcomes on average will be of shorter duration.

Figure 5.1: Ways in which LFS data can be useful to the PES



The contraction in self-employment, particularly in EU countries where employment growth has at best been sluggish, may create an opportunity for some PES to increase their involvement in the provision of training for self-employment and in the promotion of and support for entrepreneurial activity.

5.3 Learning about the performance of other PES

The analyses, in particular in chapter 4, of this report show how each PES performed on a variety of quantitative indicators relative to other PES. Such indicators are not a valid measure of relative performance between PES, since each PES operates under different labour market circumstances and interacts with different client populations. Nevertheless, such information could be useful to a PES in respect of its own performance objectives. For example, a PES might consider that its relative share of assisted placements for one of its client groups, for example young lowly qualified unemployed male jobseekers, is disappointing because of the strong focus that the PES places on providing services to that particular group. Alternatively, a PES might consider that the reduction in the share of unemployed who contact them during their job-search activities is unacceptably low, and introduce measures to address it.

The purpose of this data is to inform – not to compare. If there are particular indicators that a number of PES find useful, it may be beneficial for the EU Commission to produce a simple, annual report providing the most up-to-date data from the LFS on how each PES is performing relative to these indicators.

5.4 Monitoring the changing composition of the potential PES client populations

One of the themes explored in this report is the way in which the composition of potential PES client populations is changing. The focus in the report is on the highly qualified. The increasing presence of this sub-group is observed, firstly among the workforce (chapter 2), subsequently among jobseekers (chapter 3), and finally among those who are the recipients of PES services both during job-search and in finding a job (chapter 4).

Traditionally, the PES has focused on intermediate and low skills and this has been a reflection not only of the composition of the registrant population, but also of the composition of the vacancies that were notified to the PES.

The increasing share of the highly qualified, both in the incidence of contact with the PES during job-search and in the share of PES assisted placements, may have implications for the focus of some PES services in the future.

5.5 Targeting ALMP more effectively

One of the core functions performed by the Public Employment Service is to assist employers to fill vacancies from the PES register. This function is performed irrespective of whether or not the vacancy creates an additional job in the labour market.

Another core function of the PES is to deliver an annual portfolio of active labour market programmes (ALMPs) which are designed to create jobs or improve the relative labour market position of various target groups or both.

It is pointed out in this report that the analyses of transitions data, including the occupational composition of employment to employment transitions, will provide the PES with information on the levels of expansion and replacement demand and the skills gaps that arise from inter-occupational mobility. This information will allow the PES to focus on the provision of the skills required for the filling of vacancies that arise from these three

sources of labour market demand, and in so doing maximise the employment outcomes from ALMPs.

5.6 Setting realistic placement targets

Currently, it is difficult for the PES to set realistic and relevant placement targets for its performance as the appropriate tool-kits are not available at present. The social insurance records in general do not contain data on occupations or on the level of detail regarding personal characteristics (e.g. age; ISCED levels) to allow the counterfactual values to be measured. Exit interviews do contain data on personal characteristics, but they do not provide time-series data, or the possibility of estimating the counterfactual values.

It is argued in this report that the analyses of 'transitions' data by occupation and personal characteristics may create placement targets for each PES that are realistic and allow for the estimation of counterfactual values in respect of each of the main PES client groups.

5.7 Overall conclusions and future direction

This is a relatively brief report and it covers a wide range of issues. As such, it is only possible to provide preliminary analyses of the issues which have been identified and their potential significance to the PES.

The analyses has identified five trends that were particularly important to the dynamics of the EU labour market during the crisis: stagnant employment and significantly increasing unemployment; significant contraction in self-employment in many of the countries with the highest levels of unemployment; increasing numbers and shares of professional jobs, but an even greater increase in the number of highly educated jobseekers entering the EU labour market; an increase in the number of the highly educated in occupations that are not generally associated with highly educated workers; an increase in the incidence of both involuntary temporary and part-time employment for new recruits and temporary employment contracts becoming the norm for new recruits.

These trends created a dynamic that impacted the profile of those who inter-acted with the PES. There was a significant decline in the share of the unemployed who contacted the PES during their job-search activities, but those who did contact the PES were more highly qualified.

This reduction in the share of the unemployed may reflect the fact that the share of youth in total unemployment was contracting over the period. However, it also appears to be related to the share of unemployed who were registered with the PES. Most of the countries that experienced a significant increase in this share also experienced an increase in the share of the unemployed who contacted the PES in their job-search activities.

There were a number of positive developments in the share of job-finders who were assisted by the PES. Firstly, the PES managed to maintain the same share in both 2007 and 2014, despite the difficult labour market conditions. More importantly, a higher share of the least qualified job-finders was assisted by the PES in 2014 compared to 2007, and this is true in EU countries where the education profile of the workforce was rising.

The report provides an analysis using regression which shows that where the PES is perceived to be helpful in assisting jobseekers to find employment, the numbers of jobseekers contacting the PES in their job-search activities increases.

This report concludes with a strong recommendation that the EU should fund analyses of transitions data as soon as data is available disaggregated by gender, age and ISCED level. The EU should commission further analyses of transitions data when the occupational composition of employment to employment transitions is made available by Eurostat at a later date.

This report provides just two examples of the many ways in which analyses of transitions data may be used by the PES to enhance the effectiveness of the services it provides to its clients. The data on transitions has the potential to provide important insights into the dynamics of the labour market in the EU and this potential should be fully exploited as soon as possible.

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