

Recent developments in temporary employment: Employment growth, wages and transitions





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Country codes

EU Member States

AT	Austria	FI	Finland	MT	Malta
BE	Belgium	FR	France	NL	Netherlands
BG	Bulgaria	HR	Croatia	PL	Poland
CY	Cyprus	HU	Hungary	PT	Portugal
CZ	Czech Republic	IE	Ireland	RO	Romania
DE	Germany	IT	Italy	SE	Sweden
DK	Denmark	LT	Lithuania	SI	Slovenia
EE	Estonia	LU	Luxembourg	SK	Slovakia
EL	Greece	LV	Latvia	UK	United Kingdom
ES	Spain				

Other countries

AU	Australia	IS	Iceland	NO	Norway
CA	Canada	JP	Japan	RU	Russia
CH	Switzerland	KR	Korea	TR	Turkey
CL	Chile	MX	Mexico	US	United States of America

Country groups

- EU15** Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom
- EU12** Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia

Abbreviations used in the report

CEE	central and eastern European
EU-LFS	European Union Labour Force Survey
EU-SILC	European Union Statistics on Income and Living Conditions
GDP	gross domestic product
HTI	high-technology industry
KIS	knowledge-intensive services
LKIS	less knowledge-intensive services
LTI	low-technology industry
OECD	Organisation for Economic Co-operation and Development
SES	Structure of Earnings Survey

Executive summary

Introduction

This report presents a broad picture of temporary employment across the EU27 (Croatia is not included). It maps the recent evolution of temporary employment, before and after the economic crisis, using EU Labour Force Survey data for 2001 to 2012. The report calculates the wage gap between temporary and permanent employees using data from the 2010 and 2006 waves of the Structure of Earnings Survey (SES), and makes an innovative empirical analysis of the wage gap within companies. It looks also at labour market transitions of temporary employees into permanent employment and non-employment using data from the EU Statistics on Income and Living Conditions for 2006 to 2012.

Policy context

Rising structural unemployment and global competition in the 1980s led to demands for greater flexibility in labour markets, which resulted in reforms of employment protection legislation. This in turn gave rise to an increasing use of temporary employment contracts in the 1980s and 1990s in many European countries. In the past decade, this trend has continued in a number of countries, which have made reforms to employment protection legislation designed to ease the use of temporary contracts. Some of these reforms raised concerns of labour market segmentation in European labour markets, since many countries adopted two-tier reforms in employment protection legislation, easing the use of temporary contracts while leaving the regulation of permanent employment largely unchanged.

Key findings

- Temporary employment grew by 25% in the EU27 between 2001 and 2012, compared with 7% for permanent employment. It accounted for almost 4.5 million of the 14.5 million net increase in the number of employees and pushed the temporary employment rate from 11.2% to 12.8%. Poland, Germany, Italy, France and the Netherlands accounted for much of the absolute increase in temporary employment levels in the EU27, while temporary employment levels fell in a third of Member States, most notably in Spain.
- Both temporary and permanent employment levels fell at similar rates between 2008 and 2012 in the EU, but the number of temporary contracts increased and the number of permanent contracts decreased in many European countries during this period.
- Against a background of poor economic prospects, employers are recruiting a much higher proportion of new employees on temporary contracts in the EU27 (up to 50% between 2010 and 2012 compared with 40% in 2002). In 2012, this share was around 80% in Spain and Poland.
- The likelihood of holding a temporary contract is higher for employees with lower educational attainment, non-nationals, part-time employees and those working in agriculture and certain service sectors. It is much higher among younger employees, although age, while an important factor in predicting the incidence of temporary employment, seems less relevant as a determinant in central and eastern European countries than elsewhere. Experience of unemployment increases the odds of subsequently holding a temporary contract, a situation reinforced by the economic crisis.
- On average, temporary employees in the 19 Member States with complete SES coverage earn wages that are 19% lower than those of permanent employees. Temporary employees sustain a negative wage gap in all these countries apart from Estonia; the gap is more than 30% in Luxembourg, Poland, the Netherlands, Portugal and Hungary. This wage gap is larger in countries with higher temporary employment rates, suggesting labour market segmentation. The negative wage gap borne by temporary employees varies with the level of wages. It is highest at the bottom of the wage distribution but narrows as wages increase, and even turns positive among highly paid employees.

- When controlling for other factors that determine pay (such as educational attainment and economic sector), the European average for the adjusted wage gap disfavours temporary employees falls to 6%. This adjusted wage gap exists in all countries except the three Baltic States and Romania, where the gap is positive. The gap exists even among short-tenured employees across most countries, indicating that the lower wages for temporary employees are not only due to their shorter job tenures.
- There is also an unadjusted negative wage gap related to temporary status within the average company in all countries except Lithuania. Nevertheless, this gap, at 14%, is lower than the unadjusted overall wage gap of 19% noted above. The wage gap within companies is narrower in most countries (especially in France, Greece, Poland, Spain and Lithuania). This means that lower wages for temporary employees are due to both pay differentials within and between companies, supporting the dual market theory stating that temporary employees are more likely to work in companies paying relatively lower wages.
- Analysis at the company level suggests that the wage gap within companies narrows when companies are publicly controlled or employ high shares of women, while it widens when companies employ a high share of temporary employees, perhaps reflecting internal labour market segmentation at company level.
- Transition rates out of employment are higher among temporary than permanent employees across all countries. This gap widened notably from the onset of the crisis. Transition rates from temporary to permanent contracts for the EU as a whole declined from 28% between 2005 and 2006 to 20% between 2011 and 2012. The rate in the latter period was below 20% in France, the Netherlands, Spain, Greece, Italy and Poland, all of which are countries characterised by relatively high temporary employment rates, again suggesting labour market segmentation.

Conclusion

The relative importance of temporary employment continued to grow in the EU27 between 2001 and 2012. This trend was not universal across Member States but became more homogeneous from the onset of the crisis, and temporary contracts are increasingly being used by employers to recruit new employees in the most recent years.

Temporary employees generally earn less than their permanent counterparts. A negative gap disfavours temporary employees emerges across most countries even when controlling for other factors or when restricting the sample to short-tenured employees.

Several findings point to the existence of labour market segmentation in a number of European labour markets. The wage gap tends to be larger in countries with higher temporary employment rates. Temporary employees also earn less than their permanent counterparts in the same company, although the size of the gap is smaller, indicating that part of the total wage gap is due to pay differentials between companies. This supports the dual market theory prediction that temporary employees are more likely to work in companies paying lower wages and explains why the total wage gap tends to be larger in those countries with high temporary employment rates.

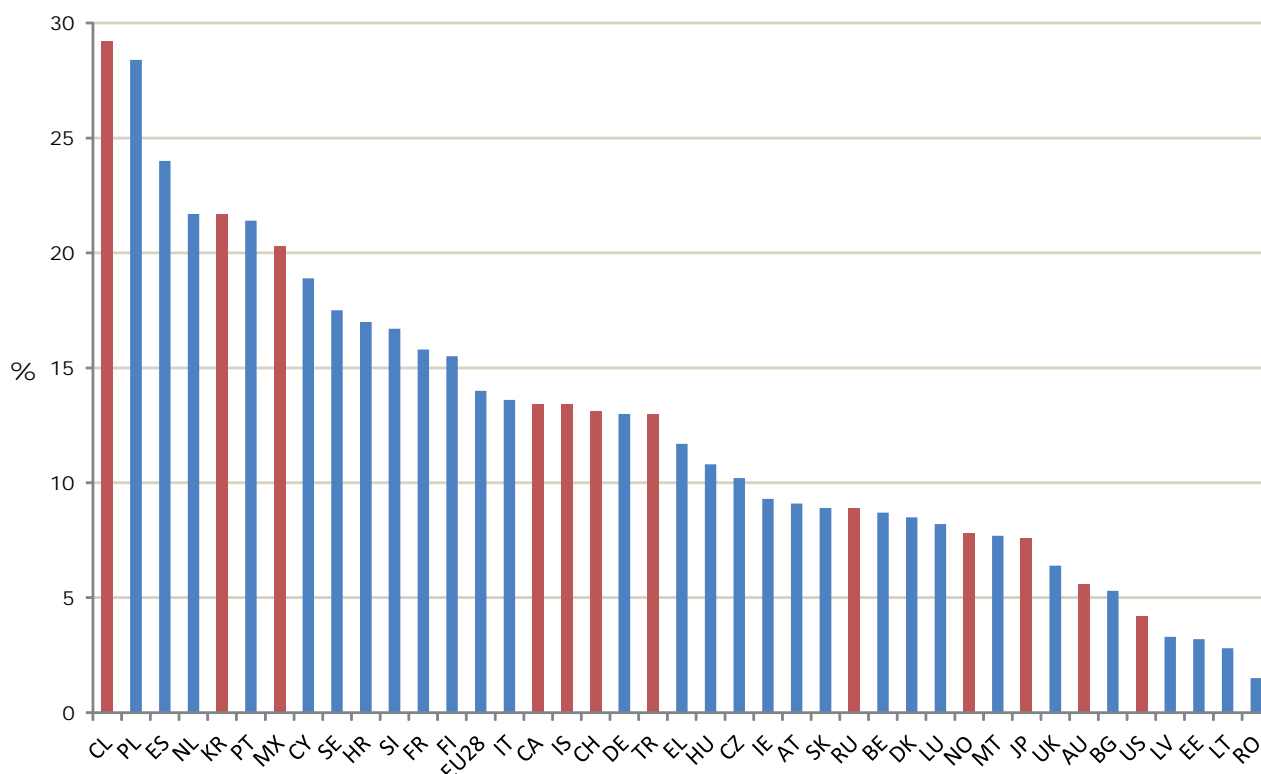
The fact that transitions from temporary to permanent contracts are less frequent in those countries with a higher temporary employment rate also points towards labour market segmentation. The study raises concerns about the career prospects of temporary employees, especially against the background of the current labour market situation. Transitions out of employment are becoming more common while those into permanent employment are becoming more difficult in recent years, which raises questions about the extent to which temporary contracts facilitate career progression.

Introduction

The growing importance of temporary contracts is one of the main features characterising many European labour markets for at least three decades. According to data from the Organisation for Economic Co-operation and Development (OECD), the share of temporary contracts increased from 8.8% in 1980 to 14.2% in 2013 in Europe (that is, in those European countries that are OECD members). The increase seems more relevant in the European case since temporary employment increased from 9.2% to 11.8% over the same period for all OECD countries.

Although the share of temporary contracts among all employees varies considerably between EU Member States, the EU average is comparable to that of other developed countries (Figure 1). In 2014, 14% of employees aged over 14 years in the EU28 held a temporary contract; this figure is roughly the same as that of Canada, Iceland, Switzerland and Turkey, lower than that of Korea but much higher than that of the USA, Australia or Japan.

Figure 1: Temporary contracts as share of total employees aged over 14 years, EU28 Member States and other countries, 2014



Notes: Data refer to 2013 for Australia, 2005 for the USA and 2004 for Mexico. Countries are ranked by temporary employment share. Blue bars denote EU Member States; red bars denote non-EU28 countries.
Source: Eurostat for EU countries and OECD for non-EU countries

Temporary contracts offer companies the advantage of lower employment adjustment costs. When a temporary contract is not renewed, the costs may be effectively zero, while open-ended employment contracts are usually associated with, sometimes significant, severance costs. Against the background of growing structural unemployment and global competition, demands for more labour market flexibility have led since the 1980s to policy reforms in the area of temporary employment in many European countries. It was argued that the low severance costs of temporary contracts would encourage hiring by companies. But while the research findings suggest that loose employment protection legislation does increase the variation of employment contracts over the business cycle, evidence on the impact on employment levels is far from conclusive. Following reforms in employment protection legislation, temporary

employment contracts were increasingly used through the 1980s and 1990s in many European countries (OECD, 2002; European Commission, 2010).

The expansion of temporary employment has raised concern about the insecurity and employment prospects of temporary employees. In addition, temporary jobs have been associated with lower wages and more difficulty accessing training opportunities and benefits (Booth et al, 2002; OECD, 2002; McGovern et al, 2004; Gash, 2008; Gebel, 2009; European Commission, 2010).

Moreover, the use of temporary contracts may result in labour market segmentation whereby a segment of employees characterised by worse working conditions, many of whom are on temporary contracts, co-exists with a well-protected segment of workers enjoying better working conditions and career prospects. Opportunities to move from the former to the latter segment may be limited (Boeri, 2010).

However, temporary contracts may provide greater flexibility for both employers and workers. Employers can benefit from an enhanced capability to adapt to fluctuations in demand and may use temporary contracts as a cheaper way to screen new hires. Some employees may prefer to hold temporary jobs that may require less commitment and allow for a better work–life balance, or prefer temporary jobs that allow them faster access to the labour market (Tremlett and Collins, 1999). Temporary jobs can be a stepping stone into the labour market towards a more stable employment contract (Booth et al, 2002).

Available data indicate that temporary employment levels expanded in Europe during the 1980s and 1990s. This report aims to update this picture by mapping the evolution of temporary employment in the European Union over the past decade, both before and after the Great Recession, using mainly Eurostat’s EU Labour Force Survey (EU-LFS) micro-data for the period 2001 to 2012. The report also describes the main characteristics of temporary employees and examines some of the most important features associated with temporary contracts, such as relative pay levels and career prospects.

Definition of temporary employment

Temporary employment is a heterogeneous concept. It may refer to fixed-term contracts, on-call work, probationary jobs, leave replacements and sometimes temporary agency work. The full list of jobs that qualify as temporary employment varies between countries, and international comparisons of temporary employment may not always compare like with like. Nevertheless, Eurostat harmonises the Labour Force Surveys conducted at national level in European countries, and the data should ensure some degree of comparability between temporary employees across countries.

This report is based on data from Eurostat, which defines temporary employment as follows:

Employees with temporary contracts are those who declare themselves as having a fixed-term employment contract or a job which will terminate if certain objective criteria are met, such as completion of an assignment or return of the employee who was temporarily replaced.

Scope of the report

The aim of the current study is to present a broad picture of temporary employment across the EU27 (Croatia is not included due to lack of data), drawing on various European datasets.

It considers temporary employment among employees only, excluding other categories of workers such as family workers and the self-employed.

It does not cover employees below 20 years of age because they represent a very small fraction of employment in the EU due to the large proportion of their life spent in education. Moreover, they are typically excluded from the EU's main employment targets set within core policy initiatives such as Europe 2020. Temporary employment rates are slightly lower as a result of excluding this teen segment due to the high level of temporary contracts among this group.

Eliminating this group excludes many employees in apprenticeship schemes. However, there is a good reason for this. This report compares temporary and permanent (or open-ended) contracts. In some countries such as Austria and Germany, apprenticeships are programmes built into the education system and do not really represent a substitute for permanent employment. It therefore makes sense to exclude such cases as far as is possible with the data available. However, all employees aged 20 years or over who are in apprenticeship schemes are included in the analysis when using EU-LFS data.

Structure of the report

The report has six chapters.

Chapter 1 describes the evolution of temporary employment in the EU since the turn of the 21st century, looking at patterns in temporary and permanent employment levels and temporary employment rates.

Chapter 2 identifies the main determinants of temporary employment in terms of personal, company and job characteristics.

Chapter 3 explores some features of temporary contracts, such as the reasons for holding them and their duration. It also compares some aspects of working conditions between temporary and permanent employees.

Chapter 4 presents an analysis of the pay differentials between temporary and permanent contracts across countries and a wide range of workforce characteristics, including the wage gap within companies.

Chapter 5 examines the career prospects of temporary employees by comparing their labour market transitions with those of permanent employees.

Chapter 6 presents the report's conclusions.

Mapping temporary employment over a decade 1

This chapter examines the evolution of temporary employment in the EU27 over a decade, covering the period 2001 to 2012, using two principal measures:

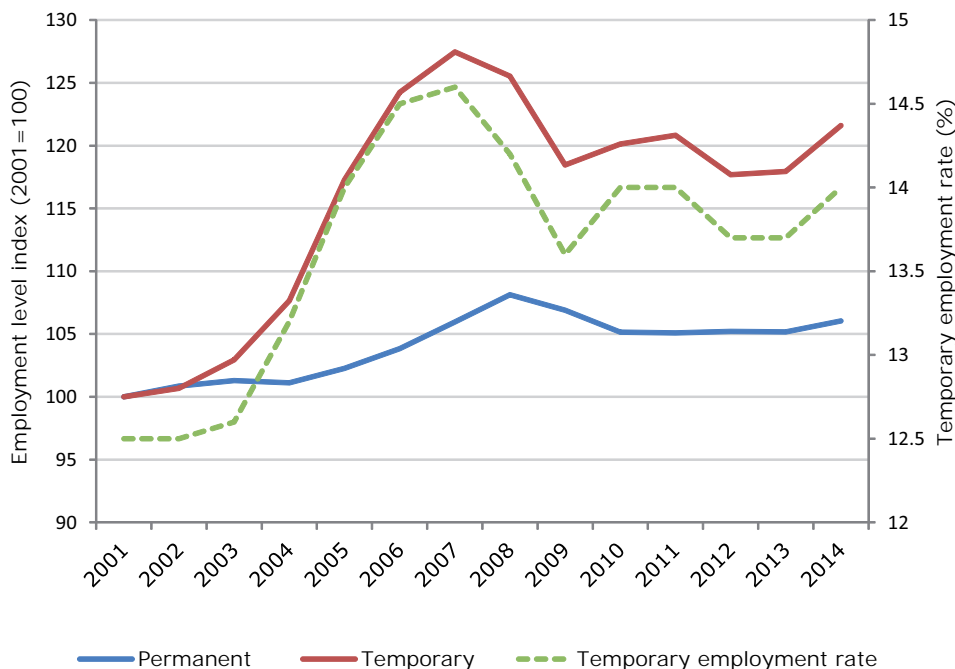
- the temporary employment level, which is the number of employees holding temporary contracts;
- the temporary employment rate, which is calculated using the following formula:¹

$$\text{Temporary employment rate} = \frac{\text{Number of temporary employees}}{\text{Total number of employees (temporary and permanent)}}$$

Previous studies have highlighted the increase in temporary employment in Europe between the 1980s and early 2000s. However, differences in temporary employment rates across countries are significant, and there is no common growth trend towards higher levels in all countries (OECD, 2002).

The temporary employment rate has increased in the EU27 since 2001, although the economic and financial crisis generated great volatility. The rapid growth in the level of temporary contracts between 2002 and 2007 led to a strong increase in the temporary employment rate. The level fell significantly in the early stage of the recession, hitting a cyclical low in 2009. Between then and 2014, temporary employment hovered around levels still well below the pre-recession peak (Figure 2).

Figure 2: Employment levels and temporary employment rate, EU27, 2001–2014



Notes: Data refer to employees aged 15–74 years. Employment levels have been indexed with 2001 as the base year. The temporary employment rate is plotted against the secondary axis.

Source: *EU-LFS and authors' own calculations*

¹ Respondents who do not provide a response to the question on type of contract are not considered, therefore neutralising the effect of the non-responses (assuming that there is no bias in the non-response categories).

The first part of this chapter describes the patterns in temporary and permanent employment levels across EU Member States, and the second covers temporary employment rates. Germany, Spain, France, Italy and Poland account for more than 70% of the temporary employment contracts in Europe, so special attention is paid to them (see also Table A1 in the Annex).

Temporary employment levels

Temporary contracts account for almost one-third of the net employment gains in the EU27 between 2001 and 2012, contributing almost 4.5 million to the 14.5 million net increase in the number of employees (Table 1). Although temporary employment levels expanded across two-thirds of European countries, the absolute gains in the EU27 are primarily attributable to five countries: Poland (2 million), Germany (1.1 million), Italy (900,000), France (400,000) and the Netherlands (300,000). However, Spain lost in net terms almost half a million temporary jobs in the same period, while the UK lost almost 140,000.

Table 1: Number of employees by type of contract, in thousands, EU27 Member States

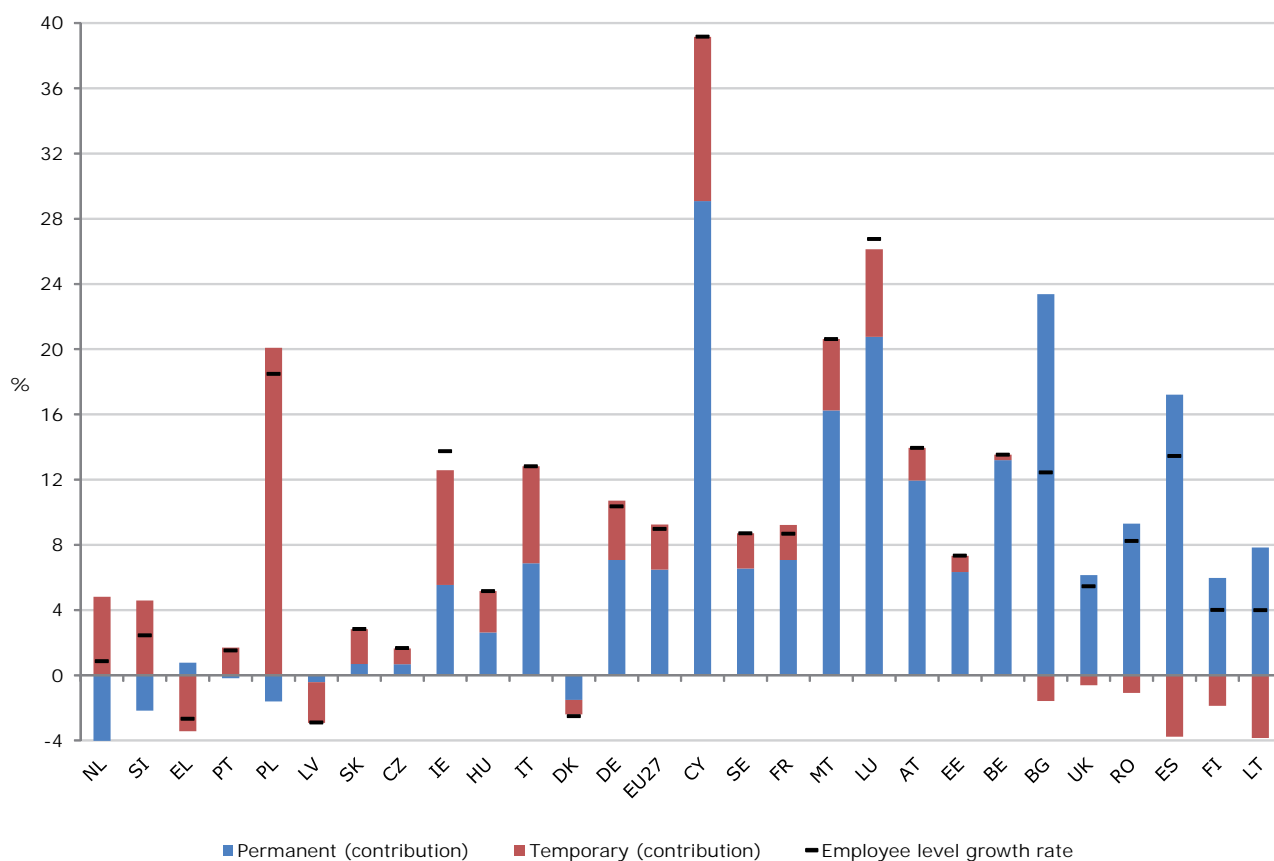
	2001			2008			2012		
	Permanent	Temporary	n.a.	Permanent	Temporary	n.a.	Permanent	Temporary	n.a.
AT	2,888	142		3,161	178		3,250	203	
BE	3,099	282		3,477	291		3,545	293	
BG	1,947	139	215	2,808	116		2,485	103	
CY	207	25		261	41		274	48	
CZ	3,618	310	0	3,835	325	2	3,644	348	1
DE	27,980	2,975	212	28,777	3,951	69	30,186	4,108	98
DK	2,141	199	3	2,232	176	0	2,106	178	
EE	514	14		583	13		547	19	
EL	2,116	318		2,593	328	0	2,135	235	
ES	8,689	3,841		11,755	4,570		10,846	3,369	
FI	1,680	320	3	1,851	287	1	1,800	282	1
FR	17,786	2,808	112	19,618	3,124		19,251	3,252	
HU	3,011	237		3,126	263		3,096	319	
IE	1,282	46		1,556	121	11	1,355	139	16
IT	13,770	1,404		15,038	2,217		14,812	2,307	
LT	1,018	70		1,305	30		1,103	29	
LU	163	6		177	10		198	15	1
LV	748	56		966	30		744	36	0
MT	116	4		127	5		136	9	
NL	5,778	782	31	5,847	960	42	5,514	1,099	35
PL	9,002	1,150		8,878	3,180		8,839	3,189	
PT	2,878	672		3,026	860		2,872	732	
RO	5,579	165		6,205	75		6,114	103	
SE	3,216	517		3,416	552		3,461	597	
SI	657	93		706	135		641	128	0
SK	1,817	91		1,985	93		1,830	132	
UK	21,267	1,406	49	22,959	988	30	22,663	1,267	32
EU27	142,967	18,071	624	156,269	22,919	155	153,445	22,539	185

Note: There is a significant level of non-responses on type of contract (shown in the n.a. column) in several countries, which is typically higher at the beginning of the period. In such cases, the growth in temporary and permanent employment levels over the period is partially due to a reduction in the non-responses category.

Source: *EU-LFS*

Temporary contracts contributed notably to increases in employee levels over the decade in many countries (Figure 3). In the Netherlands, Poland, Portugal, Slovakia and Slovenia, temporary contracts explain the growth in the aggregate employee level, against a background of contraction of permanent contracts, except in the case of Slovakia. In Greece and Latvia, trends in temporary employment also dominate the picture but, in this case, due to reductions in temporary contracts. Temporary contracts are responsible for half of the growth in employee levels in the Czech Republic, Hungary, Ireland and Italy, while they explain around a third of the increase in Germany and the EU27 as a whole. However, temporary employment declined and had a negative contribution across a third of EU27 countries.

Figure 3: Contributions of changes in permanent and temporary employment levels to employee growth rate in Member States and EU27, 2001–2012

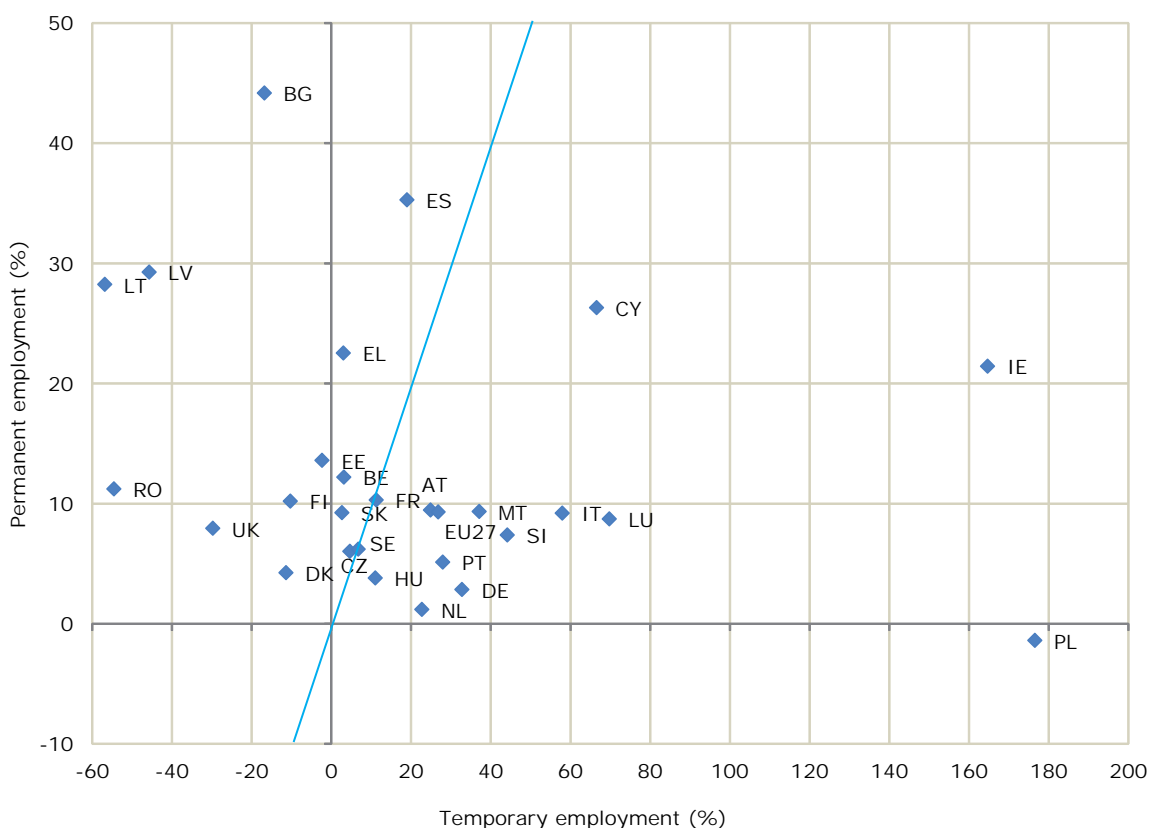


Note: Countries are ranked by the ratio of temporary employment contribution to the sum of temporary and permanent employment contributions. The latter do not always add up to the employee growth rate due to missing observations on type of contract.
Source: *EU-LFS*

The expansion in the temporary employment level was much larger in relative terms, growing by 25% in the EU27 between 2001 and 2012, than the growth in permanent employment, which grew by only 7%. Temporary contracts registered a higher growth rate than permanent contracts in two-thirds of European countries. Nevertheless, these trends are clearly influenced by the impact of the crisis, as shown by Figures 4 and 5.

Temporary employment grew more substantially between 2001 and 2008 in the EU27 than it did subsequently, although the picture is mixed across countries (Figure 4). This was the case in around half the countries (those located to the right of the blue line in Figure 4), especially Poland and Ireland; permanent contracts registered higher growth rates in the other half of European countries, with temporary employment contracting in several.

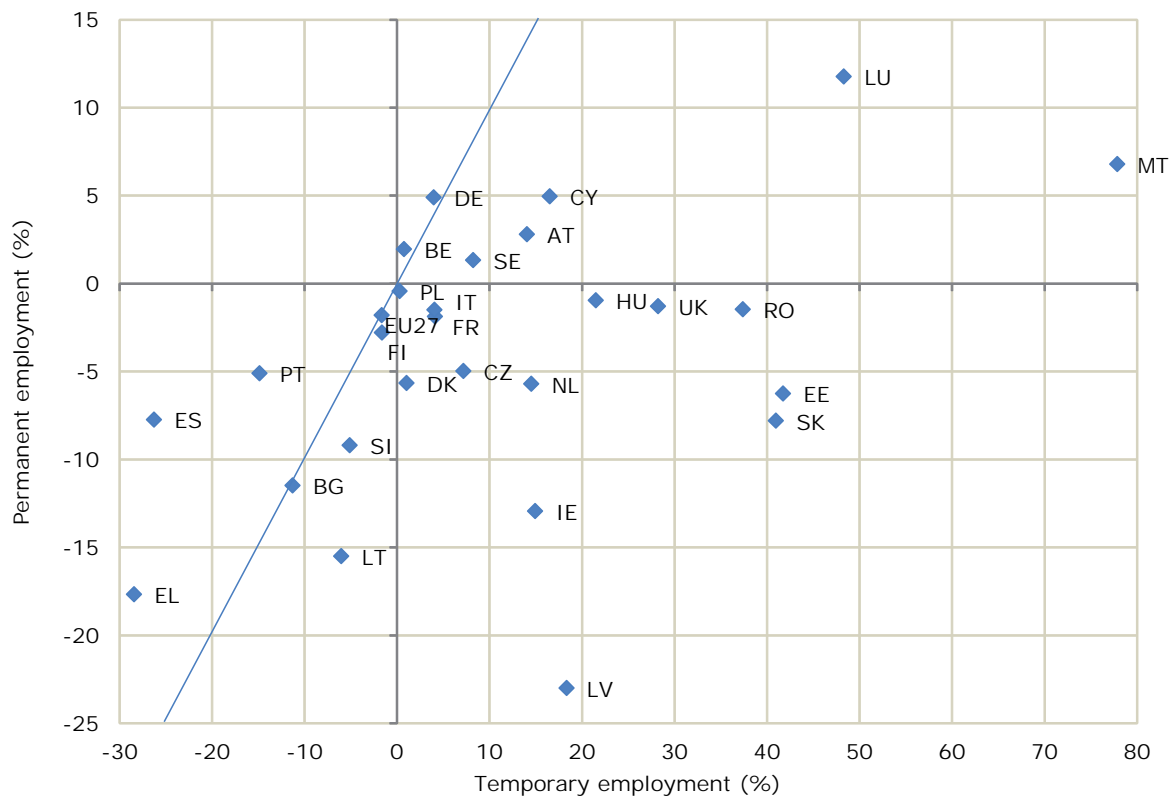
Figure 4: Growth rate of employment levels, Member States and EU27, 2001–2008



Source: EU-LFS

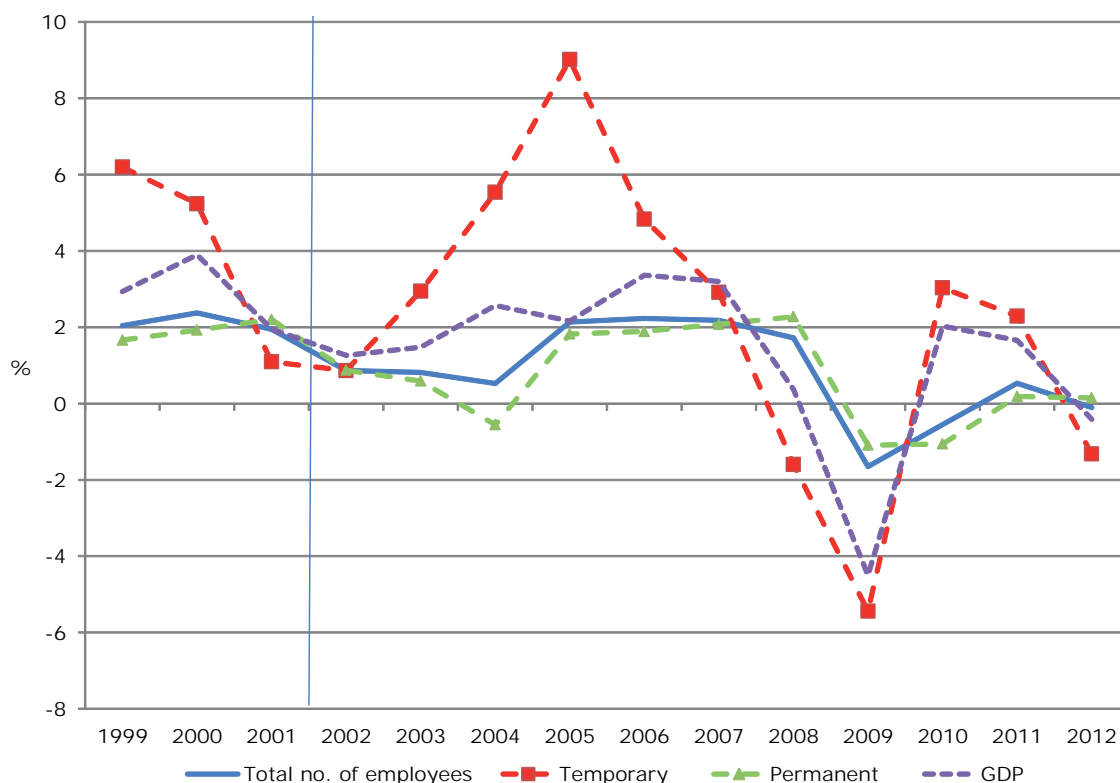
From the onset of the crisis in 2008, temporary and permanent employment levels declined at a similar rate for the EU27 up to 2012, although the picture is more homogeneous across countries than for 2001–2008 (Figure 5). Temporary contracts expanded relatively more or contracted less in most cases (those countries to the right of the blue line in Figure 5). Temporary employment grew and permanent employment declined in more than two-thirds of European countries. This was not the case in Greece, Portugal or Spain, however, where temporary contracts suffered a significant decline in relative terms. In Spain, temporary employees suffered the heaviest burden of the labour market adjustment, and their net numbers were reduced by 1.2 million (Table 1).

Figure 5: Growth rate of employment levels, Member States and EU27, 2008–2012

Source: *EU-LFS*

Temporary employment levels are more responsive to fluctuations in economic activity, almost anticipating changes of direction in the business cycle (Figure 6). At the beginning of the 21st century, the burst of the dot-com bubble was quickly reflected in the growth rate of temporary contracts, which moderated much earlier than that of permanent employment levels. Temporary contracts then boomed from 2002 with the incipient economic recovery, while permanent employment creation was very contained. From 2005, the gap in the growth rates between temporary and permanent employment levels started to narrow, almost anticipating the dramatic change in the business cycle that was to come. With the onset of the financial crisis, temporary employment levels declined in 2008 and even more so in 2009. Nevertheless, they quickly bounced back in 2010 responding to a stimulation in aggregate demand, in most EU countries, before moderating their growth rate in 2011 and shrinking again in 2012 once austerity policies and depressed economic activity set in.

Figure 6: Yearly growth rates in employment levels and real GDP, EU27, 1999–2012

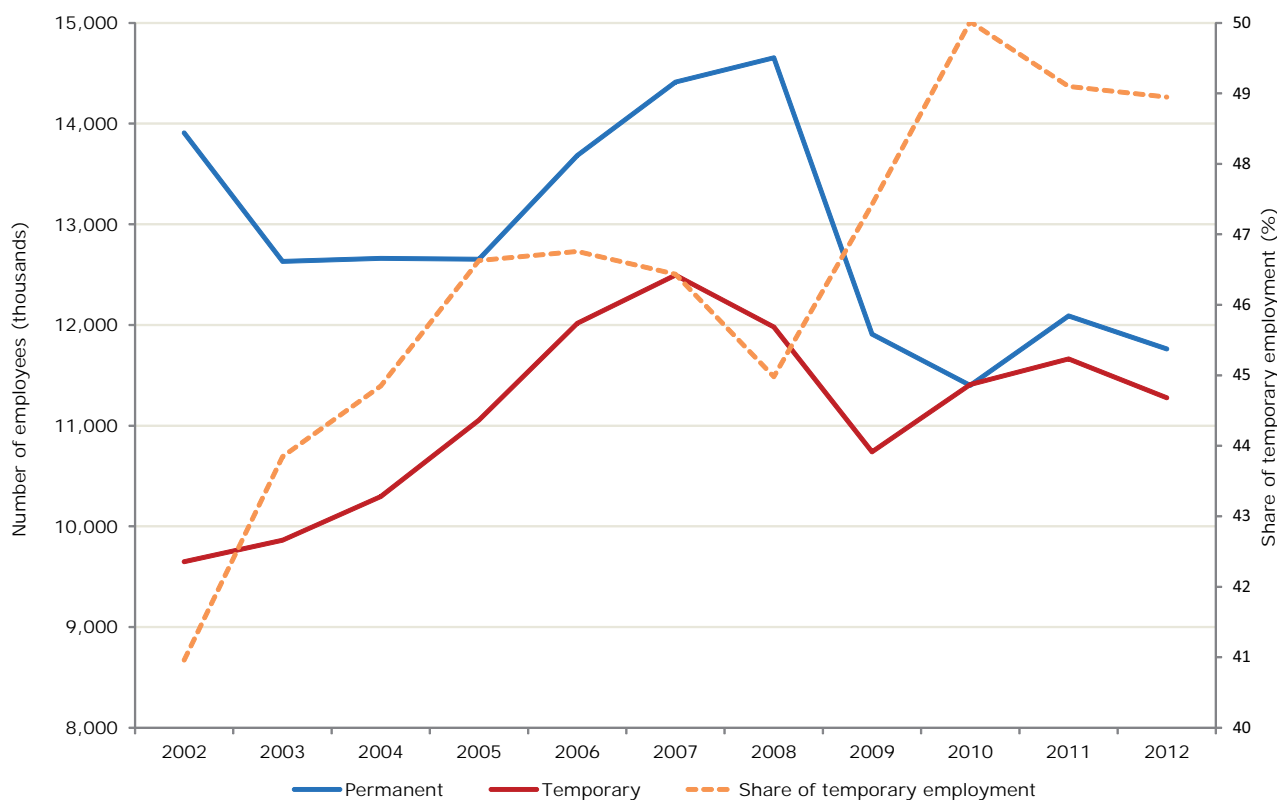


Notes: Data for the period 1999 to 2001 refer to the EU15. GDP = gross domestic product.
Source: *EU-LFS*

The greater dynamism of temporary contracts can be explained by the flexibility they provide to employers. Temporary contracts allow employers to expand their workforce more quickly whenever the demand for their products or services starts to expand or they expect an improvement in conditions before economic fundamentals are yet solid. In contrast, employers may start reducing their workforce by not renewing temporary contracts when there is uncertainty in the business environment. This is why the growing importance of temporary employment may result in higher labour market volatility, especially when there is labour market segmentation (Dolado et al, 2012).

Figure 7 presents a more straightforward picture of the business cycle dynamics of temporary employment by focusing on those employees newly recruited each year. The data confirm the higher responsiveness of temporary contracts to business cycle changes. They also show that the proportion of temporary contracts among employees taking up new jobs increased in Europe during the period under observation. This increase occurred across all age groups, except for those above 60 years (Figure A1 in the Annex).

Despite the notable reduction in temporary employment levels in 2008 and 2009, employers recruited almost half of their new employees on temporary contracts in the years between 2009 and 2012 (Figure 7). In Poland and Spain, this proportion was close to 80% (Box 1). When quarterly data are used, the proportion of the total number of employees in the EU27 with tenures of up to 3 months is greater than 60% in the period from 2009 to 2012 (Figure A2 in the Annex).

Figure 7: Levels and share of temporary employment among short-tenured employees, EU27, 2002–2012

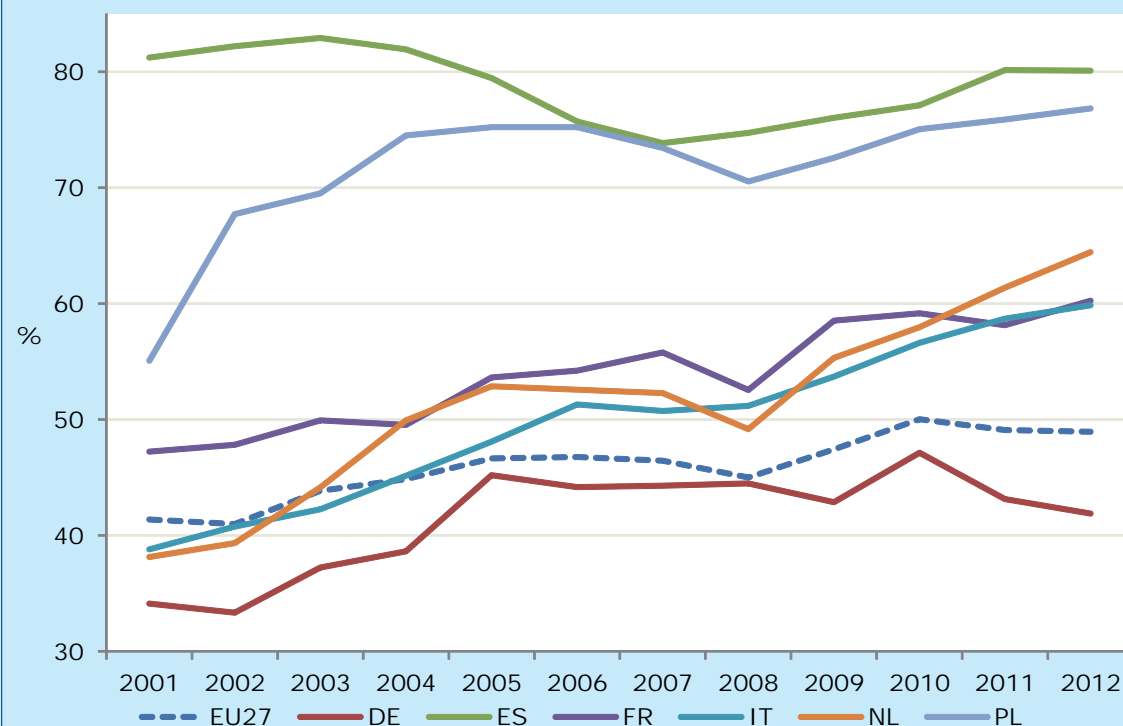
Note: Short-tenured employees are those with a job tenure of up to 12 months. It includes newly employed individuals who were not previously employed or who changed jobs within the previous 12 months.

Source: *EU-LFS*

The uncertain economic environment in Europe may explain why employers recruit a high proportion of temporary employees across many European countries. Once the recovery is more solid, it is to be expected that the share of permanent contracts will increase among new recruits. If an increasing proportion of the inflows into the labour market is taking place under temporary contracts, the temporary employment rate will increase in European labour markets. At the same time, temporary employees are more likely to exit the labour market due to non-renewal (or expiry) of their contracts, which would reduce the temporary employment rate. The final effect of these labour market inflows and outflows on the temporary employment rate is a matter of empirical analysis. According to available data (see Figure 2), the temporary employment rate for the EU27 has increased from 2009, and it may be expected to continue that way until a solid economic recovery sets in. The next section looks at the temporary employment rates across countries in the past decade.

Box 1: Share of temporary contracts among short-tenured employees in selected countries

The share of temporary contracts among short-tenured employees has increased progressively over the previous decade in all selected countries apart from Spain (Figure 8). From the onset of the economic crisis in 2008, this proportion has increased in all countries apart from Germany, reaching levels of around 80% in Spain and Poland and around 60% in the Netherlands, France and Italy in 2012.

Figure 8: Share of temporary contracts among short-tenured employees in six Member States and the EU27, 2001–2012

Note: Short-tenured employees are those with a job tenure of up to 12 months. It includes newly employed individuals who were not previously employed or who changed jobs within the previous 12 months.

Source: *EU-LFS*

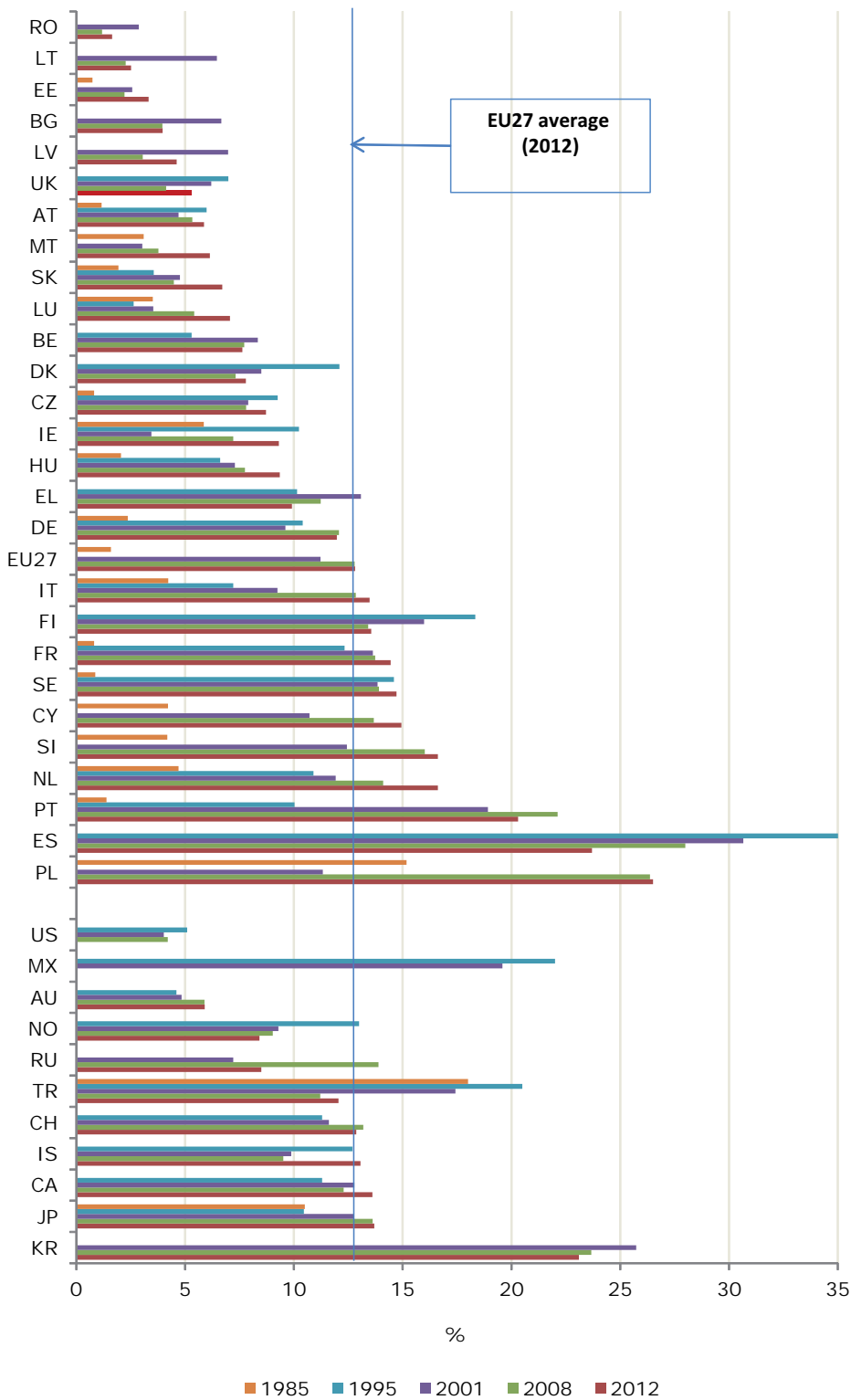
Temporary employment rates

The increasing prevalence of temporary contracts in the EU27 over the past decade is reflected by the increase in the temporary employment rate from 11.2% in 2001 to 12.8% in 2012 (Figure 9). This was not a uniform trend: the rate increased in many Member States (by more than 4 percentage points in Poland, Ireland, the Netherlands, Italy, Cyprus and Slovenia), but fell in 10.

The crisis had a clear impact on the temporary employment rate, reflecting the changes in employment levels (Figures 4 and 5). Between 2001 and 2008, the temporary employment rate in the EU27 increased by 1.5 percentage points against a background of mixed rises and falls across Member States. However, it remained constant between 2008 and 2012 for the EU27, while it increased in most countries. The developments in the temporary employment rate in Spain, Poland, Germany, France, Italy and the Netherlands are important in explaining EU-level trends (see Box 2).

Temporary employment became significantly more common over the past decade, mainly in Poland, Germany, Italy, the Netherlands, Ireland and Luxembourg – and Iceland outside the EU27 – compared with previous decades. In other countries, the more significant increases occurred in earlier decades: for instance, between 1985 and 1995 for France and Spain, and between 1995 and 2001 for Belgium, Greece and Portugal (and Japan outside Europe).

Figure 9: Temporary employment rates over time in the EU27 Member States and other countries, 1985, 1995, 2001, 2008, 2012



Notes: Countries are ranked by the 2012 rate. 1985 data refer to 1986 for Portugal, 1987 for Spain and 1988 for Turkey; 1995 data refer to 1996 for Luxembourg and Norway, 1997 for Finland, Hungary, Sweden and Canada, and 1998 for Australia and Switzerland; 2001 data refer to 2003 for Korea; 2008 data refer to 2005 for the USA.

Source: EU-LFS for the EU27 and OECD for the rest (employees aged above 14 years)

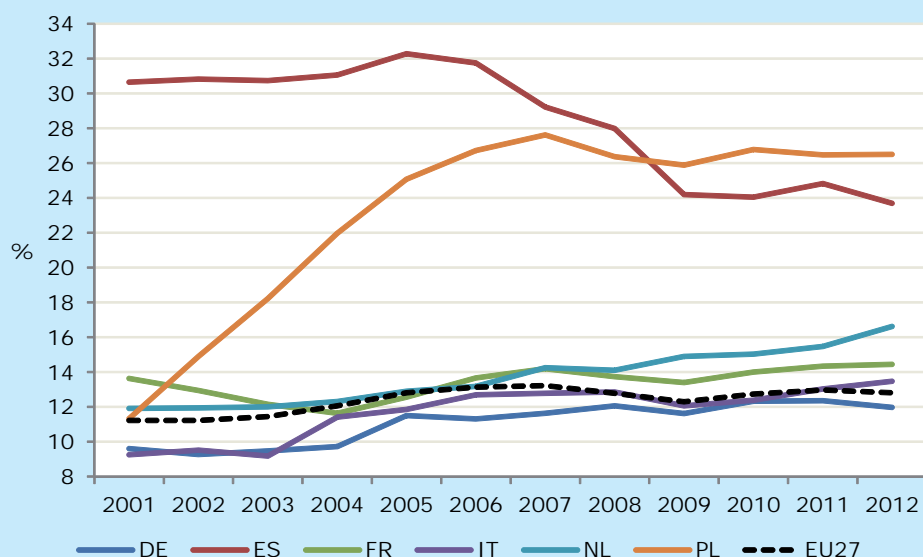
Box 2: Trends in the temporary employment rate in selected countries, 2001–2012

The growth of the temporary employment rate in the EU27 is driven largely by the six countries depicted in Figure 10, which account for most of the temporary contracts in Europe. The EU27 rate grew from 2002, driven by the increases in Germany and the subsequent increases in Italy and France, which added to the effects of the ongoing developments in Poland.²

After peaking in 2007, the EU rate moderates following the big reduction in the Spanish rate and the largely constant behaviour in Germany and Poland, and despite the increases across most European countries during the crisis period.

Poland and Spain stand out in terms of the magnitude of their temporary employment rate and in the different trends in these two countries in the decade between 2002 and 2012. Spain had the highest rate at the beginning of the period, but it started to decline from 2005, while Poland experienced a huge increase in its rate between 2001 and 2007 and a stabilisation ever since.

Figure 10: Temporary employment rates in six selected Member States and the EU27, 2001–2012



Source: *EU-LFS*

Although the trends in temporary employment described above are affected by changes in the economic structure and the impact of the economic crisis, policy developments in employment protection legislation provide further context. France, Germany, Italy, the Netherlands and Poland all adopted policy reforms between 2002 and 2012 mainly aimed at easing the use of temporary contracts, while the opposite occurred in Spain, where temporary employment had risen notably from the 1980s. Below is a summary of the main reforms in employment protection legislation in these countries, based on information provided in the LABREF (labour market reform) database for the period 2000 to 2013.

² In the German case, the sudden increase in 2005 may be partially data-driven, due to the notable reduction in the number of non-responses to the question on type of contract.

France

A new type of fixed-term employment contract (*contrat à durée déterminée senior*) was created in 2006, addressed at job-seekers aged 57 years or more who had either been registered as a job-seeker for more than three months or had signed a ‘personal reclassification’ agreement. Such contracts could be for a duration of up to 18 months and renewable once.

Germany

Against the background of the Hartz reforms, the age limit imposed for fixed-term contracts (beyond which such contracts can be concluded with employees without any deadline being set or without a maximum time limit) was reduced from 58 to 52 years old in 2002. The maximum length a short-term contract could be used without giving any reason was extended from two to four years in 2003 for newly created enterprises during the first four years after start-up.

Italy

The Biagi reforms introduced new forms of flexible employment contracts in 2003 such as on-call jobs (*lavoro intermittente*), job sharing (*lavoro ripartito*) and supplementary work (*lavoro accessorio*), while other existing contracts (such as apprenticeships) were made more flexible. In 2008, it was made possible to exceed the maximum duration of fixed-term contracts, with collective bargaining being assigned the task of determining the terms of renewal of contracts beyond the 36-month time limit.

The Netherlands

The number of consecutive fixed-term employment contracts that can be used to employ a young employee (up to 27 years) was extended in 2010 from three to four. In the case of young people, temporary contracts could only be converted into an open-ended contract if consecutive fixed-term contracts exceeded 48 months.³

Poland

The nine-month time limit on fixed-term employment contracts was removed in 2002, until Poland’s accession to the EU (which required some restrictions on the use of fixed-term contracts), while an indefinite number of fixed-term contracts was allowed with the same employer.⁴ Apart from the employment relationships regulated by the Labour Code, the so-called civil law contracts, which are temporary contracts based on the Civil Code, have been extensively used in Poland.

Spain

In 2001, limited compensation for dismissal was introduced for workers on temporary contracts amounting to eight days’ pay per year worked. In 2006, a ceiling was established on the number of consecutive fixed-term contracts that can be signed for the same job (two or more contracts in a period of over 24 months in the preceding 30 months). Further changes were made in 2010:

- fixed-term contracts ‘for a specific job or services’ were limited to a maximum of three years, with the option to extend for a further year through sectoral collective bargaining;

³ This temporary measure expired on 1 January 2012 and, following an evaluation of its effectiveness, the government decided not to extend it.

⁴ In 2003, the rule whereby no more than two consecutive fixed-term employment contracts could be held with the same employer was reinserted in line with relevant EU legislation. In 2004, a rule was introduced stating that if a fixed-term contract is renewed for the second time, it must be for an indefinite period.

- binding temporary contracts were to be reduced and restricted to 24 months for workers who were taken on more than once by the same company or group of companies, even if their job changed (before this, there were no limits on duration);
- compensation for dismissal of employees was set to rise gradually for temporary contracts (annually by one day per year of service) from 8 days per year of service to 12 days as of 1 January 2015.

Summary

Temporary employment levels expanded significantly between 2001 and 2012 in the EU27, growing more than levels of permanent employment (25% compared with 7%) and contributing almost 4.5 million to the 14.5 million net increase in the number of employees. This was not a universal trend, since temporary contracts declined in one-third of European countries. Poland, Germany, Italy, France and the Netherlands were responsible for much of the absolute increase in temporary employment levels in the EU27 over the past decade, while a substantial reduction occurred in Spain. As a result of these developments in employment levels, the EU27 temporary employment rate rose from 11.2% to 12.8% between 2002 and 2012, increasing in almost two-thirds of Member States.

The crisis had a clear influence on trends. The country picture was more mixed before the crisis, as temporary employment levels had fallen in almost one-third of European countries. From the onset of the crisis, temporary employment levels increased and permanent employment levels decreased in many countries, resulting in growing temporary employment rates across most European countries.

Temporary employment levels are more responsive to changes in the business cycle than permanent employment, with growth moderating before the onset of the crisis. Levels were severely affected by the employment correction that occurred in 2008 and 2009. But from 2010, around 50% of employees who had taken up their jobs within the previous 12 months did so on temporary contracts, the highest proportion over the whole period. This proportion rose to around 80% in Poland and Spain. Against a background of poor economic prospects, employers may prefer to use temporary contracts for many of their new hires. This situation may continue until a solid recovery takes hold in Europe.

Determinants of temporary employment 2

Several factors can be identified in the literature that may explain differences in the temporary employment rate across countries. These factors include sectoral economic structures, the competitive strategy adopted by companies and the employment protection legislation. The literature underlines the importance of the latter, since many European countries have liberalised employment protection legislation for temporary contracts in the past decades while leaving that of permanent contracts relatively unchanged (Blanchard and Landier, 2001; Dolado et al, 2002; Bentolilla et al, 2008). These factors are determinants of temporary employment at a more macro level and are not covered here because they are dealt with extensively by the specialised literature.

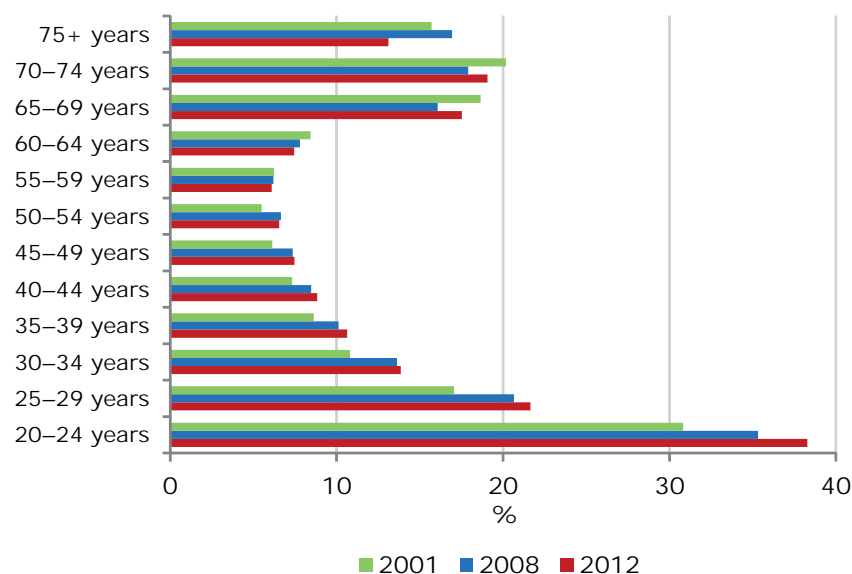
Instead, this section looks at the determinants of temporary employment at a micro level, that is, the individual and job characteristics more commonly associated with holding a temporary contract. The analysis consists of two complementary steps:

- a description of the temporary employment rate across different segments of the workforce;
- a multivariate regression analysis to study which characteristics are associated with a higher likelihood of holding a temporary contract.

Workforce characteristics associated with temporary employment

Age may be the most relevant determinant of temporary employment. The relationship between the temporary employment rate and age follows a U-shape: the rates are highest among the youngest employees, decrease gradually until employees are in their fifties and grow again for older segments of the workforce (Figure 11). The importance of age seems to have been reinforced over the past decade, since the temporary employment rate increased only among those employees below 55 years of age, and especially among the youngest. Nevertheless, temporary employment levels expanded across all age groups and particularly among the oldest segments of the workforce. But while permanent employment levels declined for the younger age groups (causing an increase in their temporary employment rate), they grew more than temporary employment levels for the older segments of the workforce (causing a fall in their temporary employment rates).

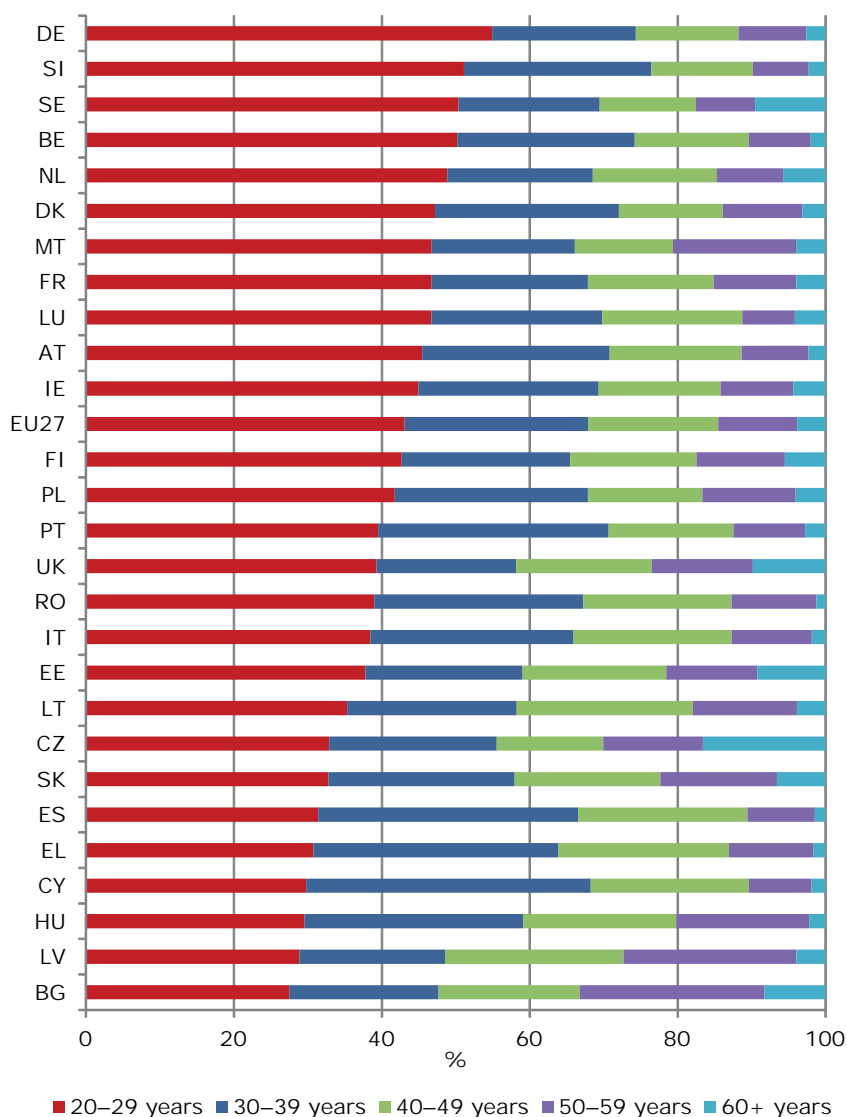
Figure 11: Temporary employment rate, by age group, 2001, 2008 and 2012, EU27



Source: *EU-LFS*

The fact that temporary employment has a higher incidence among the youngest segments of the workforce does not necessarily mean that younger employees hold the bulk of the temporary contracts in a country. That will depend as well on the employment shares represented by each age group. Figure 12 shows that employees in their twenties are the most significant group because they represent more than 40% of the temporary contracts in the EU27. However, the other groups also account for substantial shares of temporary contracts; the exception is those employees aged above 60 years, who represent less than 5% of temporary employment contracts in the EU27.

Figure 12: Distribution of temporary employment among age groups, Member States and EU27, 2012



Note: Countries are ranked by the share of the 20–29 years age group over the total number of temporary contracts in each country. Source: *EU-LFS*

Considerable cross-country differences emerge. While the youngest segment of the workforce (employees aged 20–29 years) represents more than half of the temporary employment in Germany, Slovenia, Sweden and Belgium, it represents less than a third in Greece and Spain and three central and eastern European (CEE) countries (Bulgaria, Latvia and Hungary). Employees aged 30–39 years represent more than 30% of temporary contracts in several Mediterranean countries (Cyprus, Greece, Portugal and Spain), while employees aged over 50 years account for more than 20% of

temporary employment in Malta, the UK and in several CEE countries (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia and Slovakia).

Temporary contracts are present across all groups within the workforce (categorised by age, economic sector, occupation and so on), although to varying degrees (Table 2).

There is only a marginal difference in the temporary employment rate between men and women (Table 2a). However, employees with lower levels of educational attainment have higher rates than those with a medium or high level of educational attainment. Even more significant differences can be found between nationals and non-nationals, especially when compared with foreign nationals from non-EU countries.

Table 2b shows that the temporary employment rate is higher in the agriculture sector and several service sectors, including accommodation and food service activities, arts, entertainment and recreation, administrative and support service activities, activities of households as employers, and education. The rate declines with company size, although the differences are not very large. Table 2c shows that the temporary employment rate tends to be higher in lower-skilled occupations. In addition, a higher proportion of part-time workers are employed under temporary contracts compared with full-time workers.

Nevertheless, looking at the distribution of temporary employment, a more typical temporary employee is:

- a national;
- aged below 40 years;
- someone with a medium level of education;
- either a man or a woman
- working full time.

Temporary contracts are well spread among economic sectors (despite the negligible share represented by some of them), companies and even occupational categories, although in the latter case, more than half of temporary contracts are concentrated in professional, service and elementary occupations, taken together.

Table 2: Temporary employment rates and distribution of temporary employment in the EU27, according to sociodemographic, company and job characteristics, 2012

(a) Sociodemographic characteristics

		Temporary employment rate (%)*	Share of temporary contracts (%)**
Gender	Men	12.3	49.9
	Women	13.4	50.1
Age	20–29 years	28.4	43.1
	30–39 years	12.3	24.8
	40–49 years	8.2	17.6
	50–59 years	6.3	10.7
	60+ years	9.6	3.8

		Temporary employment rate (%)*	Share of temporary contracts (%)**
Educational level	Low	16.9	24.1
	Medium	12.2	47.0
	High	11.6	28.9
Nationality	National	12.3	89.1
	EU citizen	16.5	4.1
	Non-EU citizen	21.1	6.8

(b) Company characteristics

	Temporary employment rate (%)*	Share of temporary contracts (%)**
Economic activity (NACE Rev. 2)		
A. Agriculture, forestry and fishing	31.0	3.9
B. Mining and quarrying	7.1	0.3
C. Manufacturing	10.4	14.4
D. Electricity, gas, steam and air conditioning supply	6.6	0.5
E. Water supply, sewerage, waste management and remediation activities	10.9	0.8
F. Construction	14.4	7.0
G. Wholesale and retail trade; repair of motor vehicles and motorcycles	11.6	12.1
H. Transportation and storage	9.5	4.1
I. Accommodation and food service activities	20.9	6.8
J. Information and communication	9.8	2.3
K. Financial and insurance activities	6.0	1.6
L. Real estate activities	8.0	0.5
M. Professional, scientific and technical activities	11.1	3.6
N. Administrative and support service activities	18.9	6.3
O. Public administration and defence; compulsory social security	10.2	6.7
P. Education	15.5	10.5
Q. Human health and social work activities	13.2	12.2
R. Arts, entertainment and recreation	21.4	2.4
S. Other service activities	14.7	2.3
T. Activities of households as employers	17.6	2.0
U. Activities of extraterritorial organisations and bodies	10.9	0.1
Company size		
10 or fewer employees	15.3	27.5
11–19 employees	13.0	11.9
20–49 employees	11.5	14.8
>50 employees	10.4	37.7
Unsure (but > 10)	22.1	8.2

(c) Job characteristics

		Temporary employment rate (%)*	Share of temporary contracts (%)**
Occupation	Managers	4.0	1.6
	Professionals	11.6	16.7
	Technicians and associate professionals	9.4	12.5
	Clerical support workers	11.3	10.2
	Service and sales workers	15.6	20.4
	Skilled agricultural workers	21.1	1.4
	Craft and related trades workers	12.9	11.5
	Plant and machine operators	12.0	7.7
	Elementary occupations	21.8	17.0
	Armed forces occupations	18.5	1.1
Type of employment	Full-time	11.2	70.3
	Part-time	19.5	29.7

* proportion represented by the number of temporary employees divided by the total number of employees in a certain category;

** proportion represented by the number of temporary employees in a certain category divided by the total number of temporary employees.

Source: *EU-LFS*

There are significant cross-country differences both in temporary employment rates and the distributions of temporary employment by personal, job and company-related characteristics (see the detailed information given in Table A2 in the Annex). Almost half of employees aged 15–29 years in Poland, Slovenia and Spain hold temporary contracts, while the highest rates are found among the older employees in the Czech Republic and Slovakia. The temporary employment rate among women in Cyprus is much higher than that of men and they hold over 70% of such contracts, while rates among men are higher than among women in several CEE countries (Bulgaria, Estonia, Hungary, Lithuania, Latvia, Poland and Romania), where men account for around 55%–65% of all temporary contracts, depending on the country.

Educational attainment is clearly an important factor in several CEE countries, where the temporary employment rate is much lower among highly educated employees (Bulgaria, Estonia, Hungary, Lithuania, Latvia, Romania and Slovakia). In contrast, the temporary employment rate is considerably higher among highly educated employees than among employees with low attainment in Austria, Malta, Portugal and the UK. This apparently surprising result is better understood when the interaction between educational attainment and age is considered: educational attainment tends to be lower among the older segments of the workforce in countries such as Austria, Malta, Portugal and the UK, while older employees have relatively high educational attainment in many CEE countries, where sometimes a smaller proportion of low-skilled employees is found among older workers than among their younger counterparts.

Likelihood of holding a temporary contract

A multivariate analysis using a logistic regression model was conducted to determine the individual effect of different characteristics on the probability of holding a temporary contract while controlling for other factors. The regression calculates the likelihood (expressed as an odds ratio) of one employee holding a temporary contract compared with another employee, which functions as a reference, depending on the variation in a specific characteristic – for instance, in terms of occupation, the likelihood of a manager holding a temporary contract compared with a craft worker.

The logistic regression model includes three types of characteristics as explanatory factors:

- sociodemographic;
- company-related;
- job-related.

The results of the analysis are shown in Figure 13. Data in the chart represent the change in the odds of holding a temporary contract associated with each categorical comparison. For instance, the odds of holding a temporary contract in 2012 are almost 2.9 times (or 190%) higher for employees aged 20–29 years than for employees aged 40–49 years. If the odds ratio is below 1, it means the odds are lower. For instance, the odds of holding a temporary contract are 0.18 times lower (or 18%, the odds ratio being 0.82) for employees in the 50–59 years range than for those in the 40–49 years range.

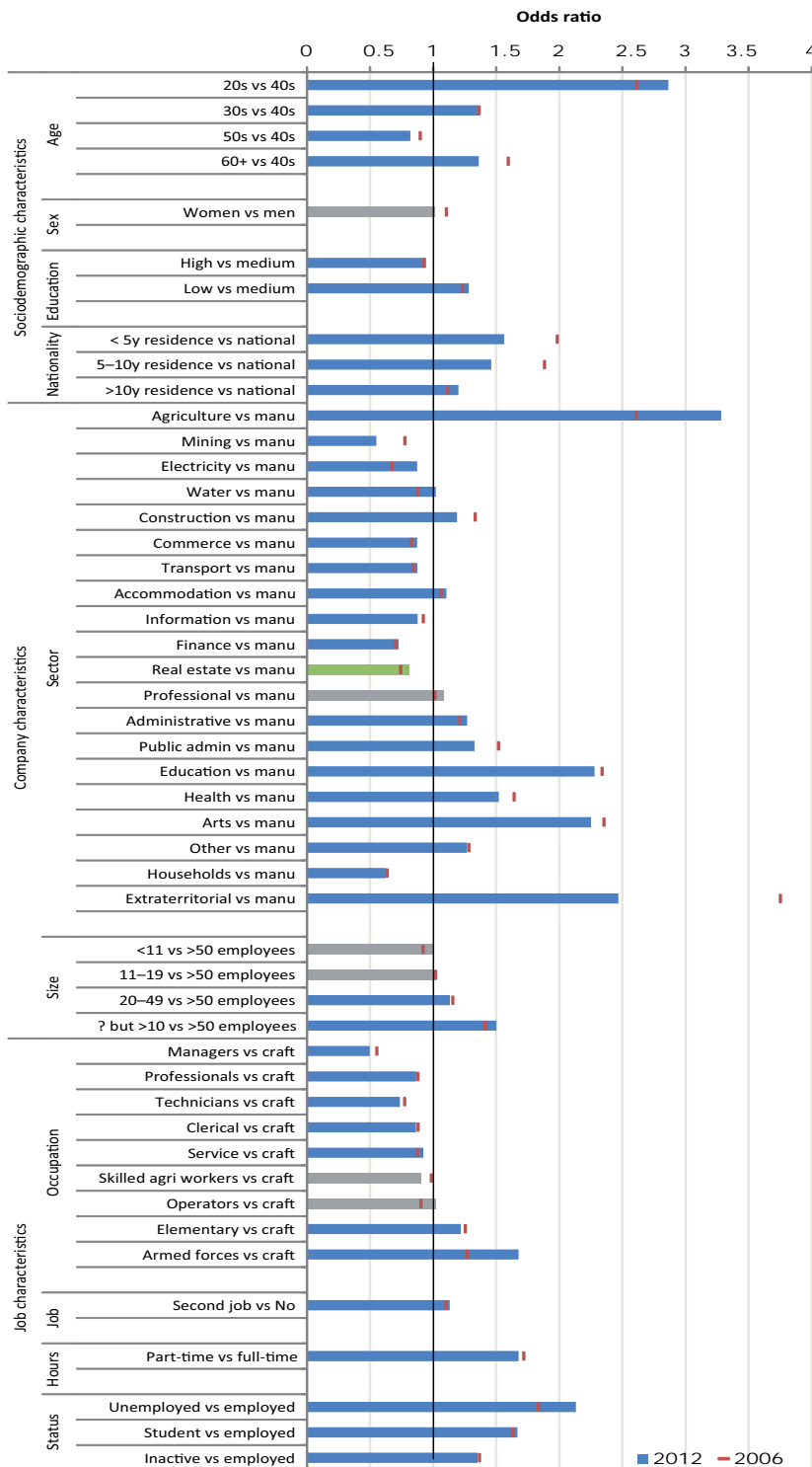
To simplify the presentation of the results, only the odds ratios for the most important variables are shown in Figure 13. Results are presented for the years 2006 and 2012 to show how the determinants of temporary employment may have changed over time, especially against a background of the economic crisis.

Results using data for 2012 show that the odds of holding a temporary contract are:

- much higher for employees aged 20–29 years (and for those aged 30–39 years and above 60 years, although to a lesser extent) and lower for those aged 50–59 years than for those employees aged 40–49 years (confirming the U-shaped relationship between the temporary employment rate and age);
- slightly higher for female than male employees, although not statistically significant;
- higher for employees with low educational attainment and lower for highly educated employees than for employees with medium educational attainment, confirming the negative relationship between educational attainment and the likelihood of holding a temporary contract;
- notably higher for non-nationals than for nationals, although they fall with the years of residence in the country;
- much higher in agriculture and some service sectors (extraterritorial organisations, arts and entertainment, and education) than for employees in manufacturing, while they are lowest in the financial, mining, and activities of households as employers sectors;
- slightly higher for employees working in medium-sized companies (20–49 employees) than in larger companies employing 50 or more, while there is no difference between the latter and smaller companies employing fewer than 20 people, where the results are not statistically significant;
- much higher among elementary and armed forces occupations, and much lower among managers, professionals and technicians than for craft and related trades workers, reflecting a negative relationship between the skills intensity of the occupational category and the likelihood of holding a temporary contract;
- higher for part-time than for full-time workers, and higher for employees having more than one job than for those having only one;
- much higher for employees who were out of employment in the previous year (2011 in this case) than for those who were already employed. The odds ratios are higher for those who were unemployed or students than for those who were inactive, suggesting that temporary contracts may be used relatively more to facilitate access to the labour market by those who had experience of unemployment (maybe in between temporary contracts) or who are working for the first time after finishing education.

The odds of being in temporary employment (not shown in the chart) are much higher in Poland, Spain, Italy or the Netherlands than in France, while they are lowest in the Baltic states, Ireland, the UK and some eastern European countries (Bulgaria and Romania especially). Differences across countries in the odds of holding a temporary contract are due to other factors than those included in the model, such as employment protection legislation or company practices.

Figure 13: Likelihood of holding a temporary contract, EU27, 2006 and 2012



Notes: Blue bars indicate variables that are significant at the 5% level; green bars indicate variables significant at the 10% level; grey bars indicate variables not significant at the 10% level. manu = manufacturing.

Source: Author's analysis based on EU-LFS data

The most significant changes during the past decade in the odds ratios of holding a temporary contract are summarised below.

- **Sociodemographic characteristics:** The odds increased over time for younger employees and those with lower educational attainment. In contrast, the higher likelihood of holding a temporary contract among non-nationals moderates over time, as it does with female employees, whose odds were only slightly higher than those of men in 2006, a gap that became negligible and statistically insignificant by 2012.
- **Sector characteristics:** The odds increased significantly in the agriculture sector between 2008 and 2012. However, they decreased in sectors with a public sector presence such as public administration, education and healthcare, even though employees in these sectors are still more likely to hold a temporary contract than those in manufacturing.
- **Job-related characteristics:** The odds grew notably over time for employees with previous experience of unemployment, suggesting that the scarring effects of a past record of unemployment may be more important against a background of economic crisis and depressed labour markets.

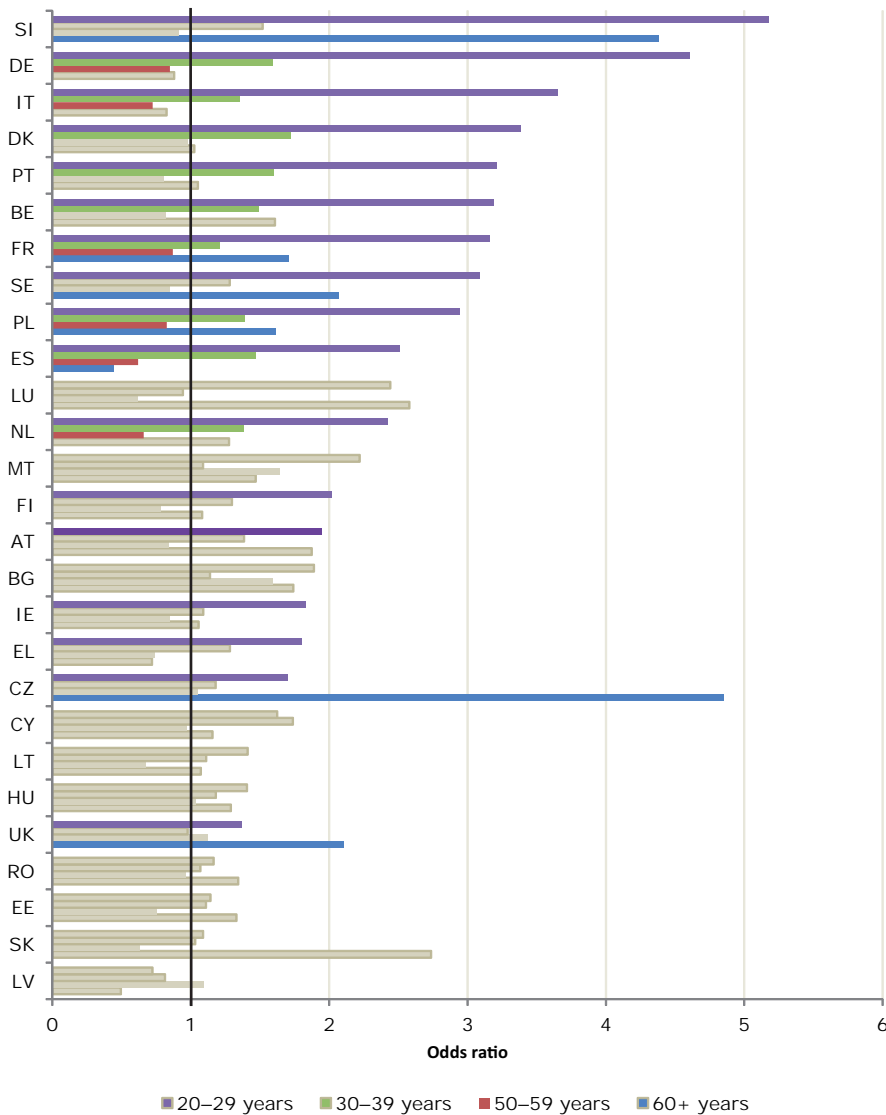
A detailed picture of the regression results over time is presented in Table A3 in the Annex.

Country differences for age, gender and previous unemployment experience

It is probable that regression results for the EU27 mask divergences across countries on the relationship between certain characteristics and the likelihood of holding a temporary contract. This section presents detailed regression results across countries for three variables: age, gender and previous labour market status.

The age variable stands out in country-level regressions due to both the magnitude of the odds ratios for certain age groups and their high statistical significance in many countries (Figure 14). In most cases, younger employees have the highest odds of holding a temporary contract. But this is not always the case: the oldest employees have the highest odds in Estonia, Romania, Slovakia and the UK, those aged 30–39 years in Cyprus, and those aged 50–59 years in Latvia. Age seems to be less important in determining the likelihood of holding a temporary contract in the Member States that acceded in the 2000s (the EU12: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia), with the exception of Slovenia. This is because the odds ratios associated with younger groups in the workforce are not as high as in most EU15 countries, and the odds ratios are not, in general, statistically significant.

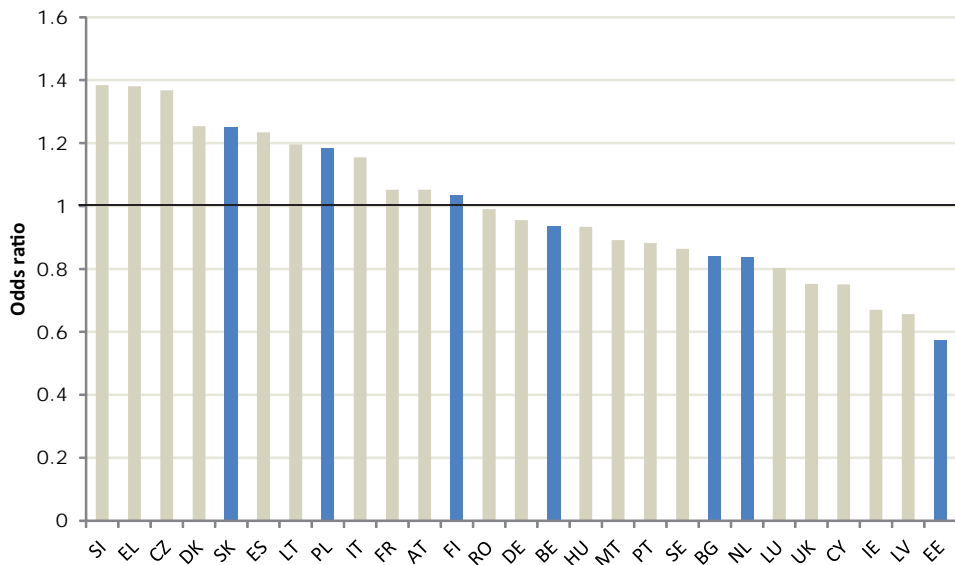
Figure 14: Likelihood of holding a temporary contract, by age group, according to Member State, 2012



Notes: Strongly coloured bars indicate statistical significance at the 10% level and grey bars indicate no statistical significance at the 10% level. Countries are ranked by the size of the odds ratio for the age category 20–29 years. The coefficients result from multivariate regressions including all the sociodemographic, company and job-related characteristics mentioned above.
Source: *EU-LFS*

The odds of holding a temporary contract were only slightly higher for female employees and not statistically significant for the EU27 (see Figure 13). The country-level results are mixed on this characteristic, since the odds are higher for female employees in less than half of the Member States (Figure 15). The results are statistically significant only in Finland, Poland and Slovakia, where female employees have higher odds of holding a temporary contract, and Belgium, Bulgaria, Estonia and the Netherlands, where the opposite is the case.

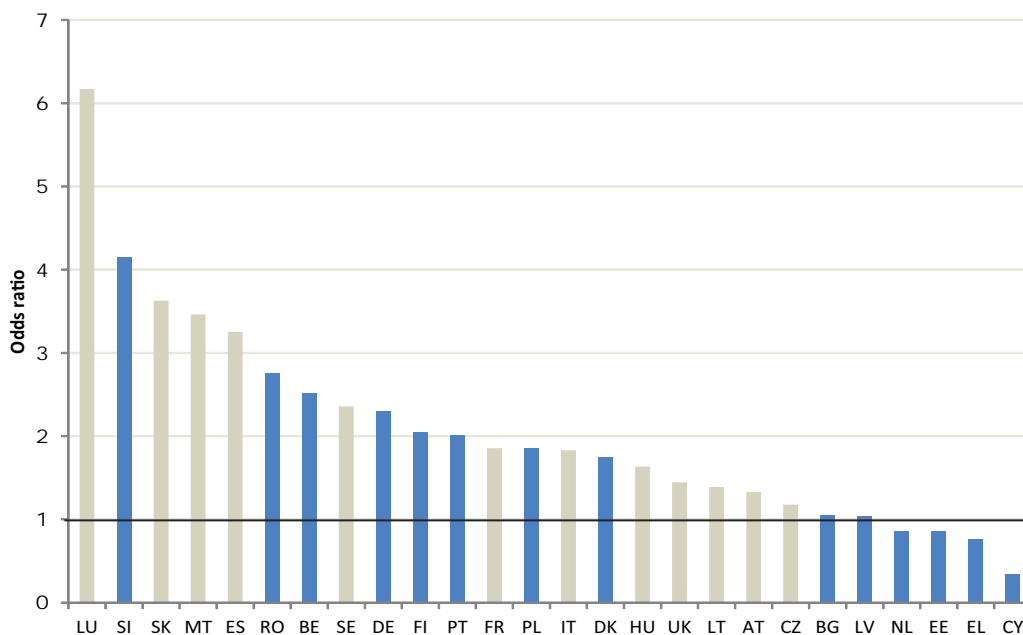
Figure 15: Likelihood of female employees holding a temporary contract, by Member State, 2012



Notes: Blue bars indicate statistical significance at the 10% level and grey bars indicate no statistical significance at the 10% level. Countries are ranked by the size of the odds ratios.
Source: *EU-LFS*

Employees who were previously unemployed have higher odds of holding a temporary contract than those who were already employed the previous year (Figure 16). The odds ratios are very high in most countries, although they are not always statistically significant. The only countries where experience of unemployment in the previous year does not seem to increase the likelihood of holding a temporary contract compared with those who were previously employed are Cyprus, Estonia, Greece and the Netherlands. A more detailed analysis of the career of temporary employees from a dynamic perspective is presented in Chapter 5.

Figure 16: Likelihood of previously unemployed employees holding a temporary contract, by Member State, 2012



Notes: Previous unemployment status refers to the year 2011. Blue bars indicate statistical significance at the 10% level and grey bars indicate non-statistical significance at the 10% level. Countries are ranked by the size of the odds ratios.
Source: *EU-LFS*

Summary

Temporary contracts are used across all countries and groups within the workforce (when categorised by age group, sector, occupation and so on), although to differing extents. Age seems to be the most important variable to predict the incidence of temporary employment, since there is a U-shaped relationship between the temporary employment rate and age: the rate is highest among younger employees, decreases with age and then grows again for the oldest employees. Nevertheless, there are important differences across countries. Younger employees aged 20–29 years account for more than half the temporary contracts in some countries (Belgium, Germany, Slovenia and Sweden), but well below a third in several CEE countries, Greece and Spain. Employees aged 50 years or more account for significant shares of temporary employment in some CEE countries and the UK.

The temporary employment rate is also higher among employees with a foreign background, in the agricultural and several services sectors, and among employees with lower educational attainment. Differences between employees with lower educational attainment and those who are highly educated are typically wider in many CEE countries, but narrower or even negative in other countries. The reason for this is that high levels of educational attainment are more prevalent among older employees in many CEE countries and among younger employees in other countries. This may result in temporary employment rates being higher among highly educated employees in the latter countries, since younger employees are more often in temporary employment.

A multivariate regression analysis, which determined the individual effect of each of the different characteristics while controlling for all other variables, broadly confirmed the descriptive results. The odds of holding a temporary contract are much higher for employees aged 20–29 years than for those aged 40–49 years, although relevant differences arise across countries. The oldest employees have the highest odds of holding a temporary contract in the cases of Estonia, Romania, Slovakia and the UK. Age seems to be less relevant as a determinant of temporary employment in the EU12 than in most of the EU15 countries. The previous labour market status of employees also seems to be a relevant variable. Those employees with past experience of unemployment are much more likely to hold a temporary contract and this link has become stronger against the background of the economic crisis.

Nevertheless, the high statistical significance of the country variables in the regression model suggests that country-level factors not included in the model (such as employment protection legislation) are important in explaining the diverging incidence of temporary employment across Member States.

Characteristics of temporary employment 3

This chapter has two aims. The first is to characterise temporary contracts by looking at the main reasons for holding them and their stated duration. The second is to compare temporary and permanent employees in terms of aspects of working conditions such as job tenure, relative position in the wage distribution, working hours and access to training.

Some features of temporary contracts

Reasons for holding a temporary contract

According to the stated views of temporary employees, the most prevalent category among them is what may be considered ‘involuntary temporary employment’. Almost two-thirds of temporary employees in the EU27 claimed they had a temporary contract because they ‘could not find permanent employment’ (Figure 17). The other three categories were much less common:

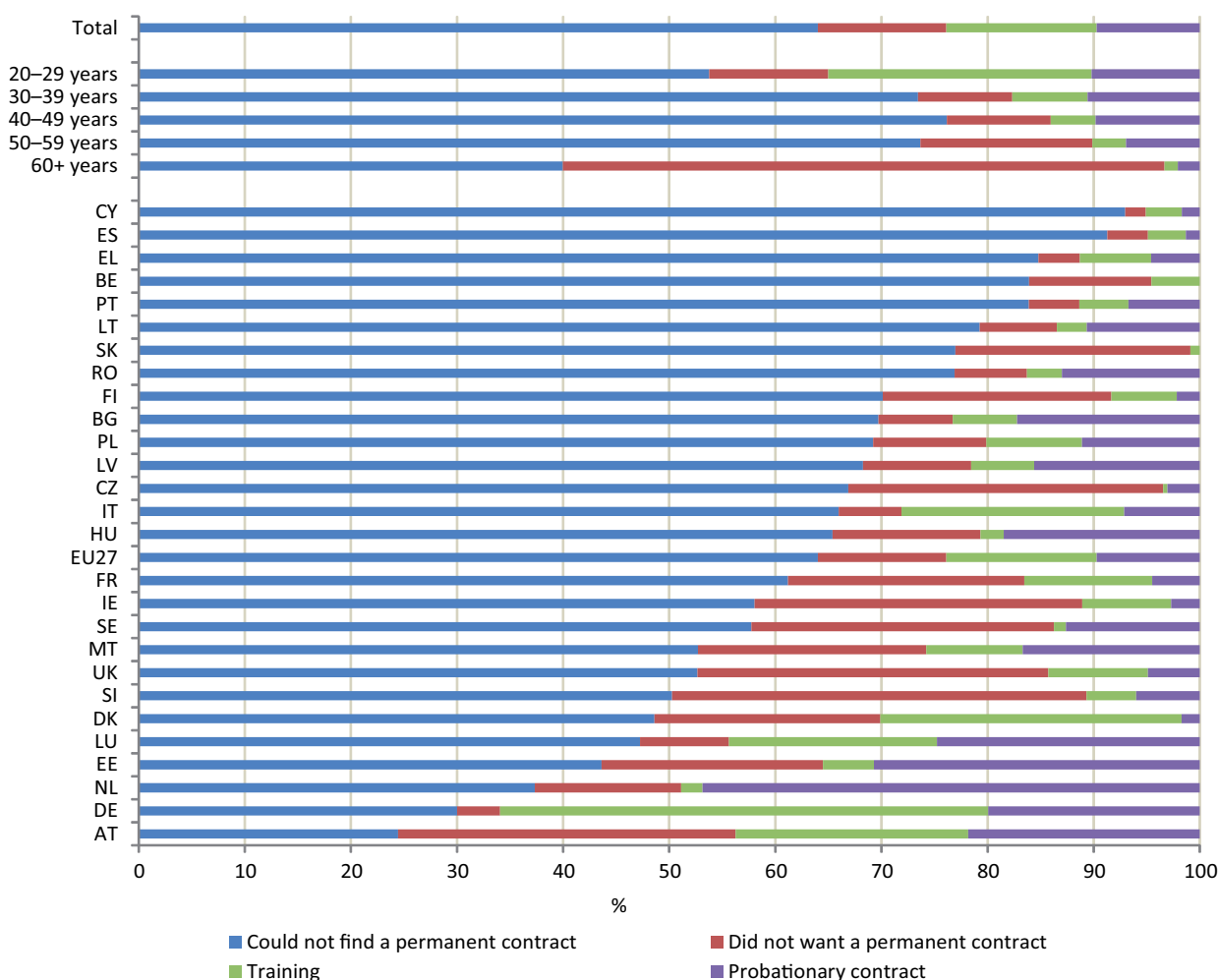
- less than 15% of temporary employees had training contracts;
- around 12% may be called ‘voluntary temporary employees’ (that is, they reported not wanting a permanent job);
- less than 10% of temporary contracts were used as contracts for a probationary period.

Involuntary temporary employment represents more than 70% of temporary contracts among the core of the labour force (that is, those aged 30–59 years), a segment characterised by lower temporary employment rates (see Chapter 2). The most prevalent category among the oldest segment of the workforce is voluntary temporary employment, while training contracts represent almost a quarter of temporary contracts among the youngest segment, reflecting the use of schemes such as traineeships or apprenticeships to smoothen the transition from education to work.

There are relevant differences across countries. Involuntary temporary employment represents at least two-thirds of temporary contracts in more than half of the EU27 countries, and more than 80% in Belgium, Cyprus, Greece, Portugal and Spain.⁵ Nevertheless, there are some countries where other categories are significant. Training contracts play a significant role in Austria, Denmark, Italy and especially Germany, reflecting the importance of schemes such as internships and apprenticeships – the German dual training system being the archetypical example. Temporary contracts used as contracts for a probationary period are relevant in Estonia, Luxembourg and the Netherlands, while voluntary temporary employment is relatively significant in Austria, the Czech Republic, France, Ireland, Slovenia, Sweden and the UK.

⁵ Responses on the reasons for holding a temporary contract are subject to significant variation in the EU-LFS. To minimise the potential bias of a particular year, data refer to the average for the whole period, although in some countries (Austria, Estonia, France, Latvia, Poland and the UK) information for particular years was not considered due to its unreliability.

Figure 17: Reasons for holding a temporary contract, by age (EU27) and Member State, 2001–2012



Notes: Shares refer to averages for the period 2001 to 2012. Countries are ranked according to the share of involuntary temporary employment.
Source: *EU-LFS*

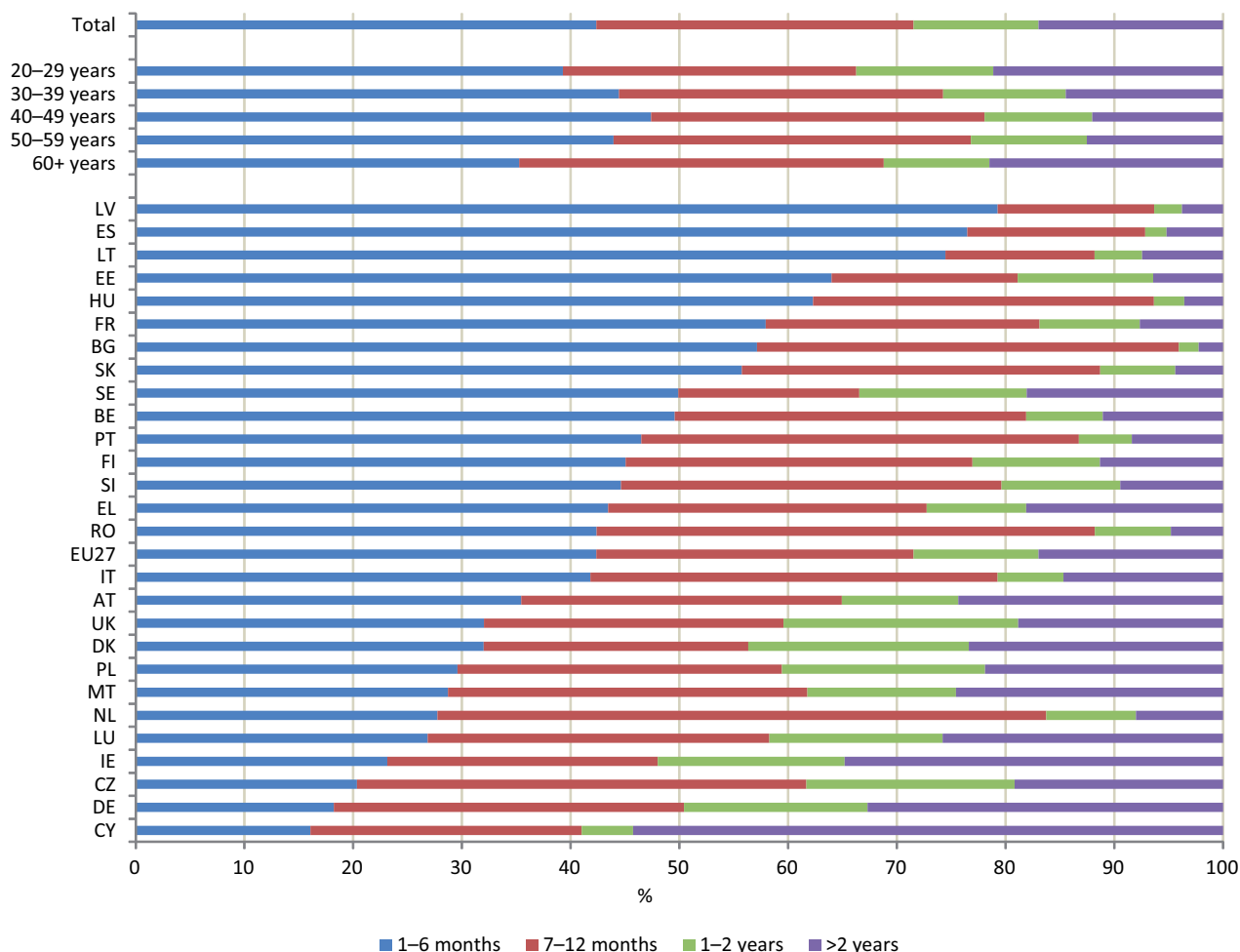
Formal duration of temporary contracts

More than 40% of temporary contracts in the EU27 have a very short duration of up to 6 months; those lasting more than 2 years represent slightly more than 15% (Figure 18). The younger and older segments of the workforce, which are characterised by higher temporary employment rates, hold a higher proportion of temporary contracts with a longer duration.

Across countries, half or more of temporary contracts have a stated duration of over a year in Cyprus, Germany and Ireland, while this is the case for less than one-tenth of contracts in Bulgaria, Latvia, Hungary and Spain, where shorter-term contracts are more common (Figure 18).

There does not seem to be a clear relationship between the temporary employment rate and the share of shorter-term temporary contracts. Temporary contracts of less than a year’s duration are relatively important in countries characterised by both relatively high temporary employment rates (the Netherlands, Portugal and Spain) and low temporary employment rates (several CEE countries such as Bulgaria, Estonia, Latvia, Lithuania and Slovakia).

Figure 18: Formal duration of temporary contracts, by age (EU27) and Member State, 2012



Source: EU-LFS

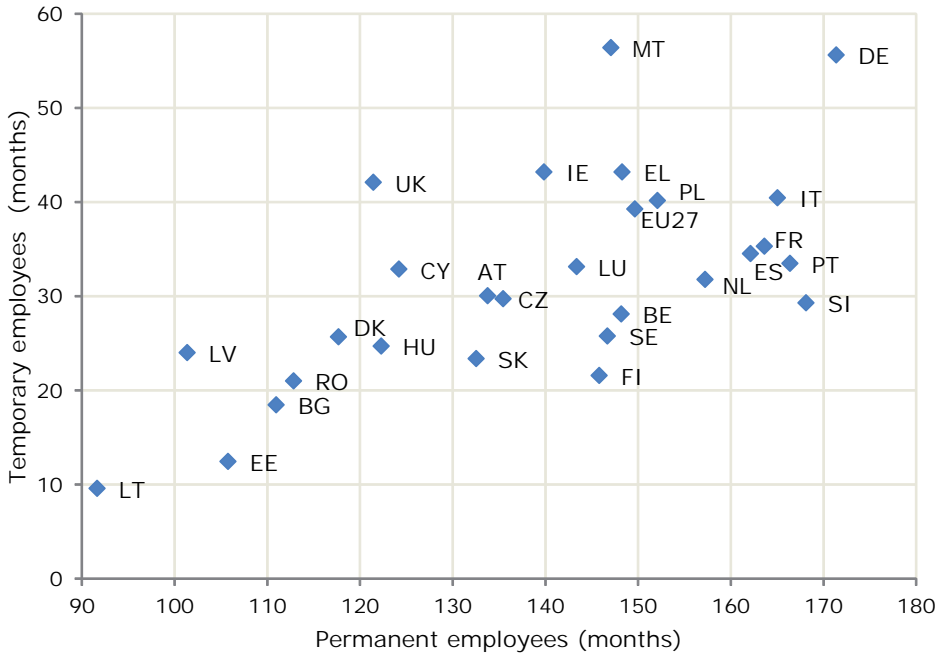
Job tenure for temporary and permanent employees

There is an obvious *de jure* (stated) difference in job duration between temporary and permanent contracts, since the latter are open-ended. Nevertheless, the actual duration of both types of contracts may be different to that stated due to employees leaving their jobs or being laid off, or renewing their contracts in the case of temporary employees. It has been argued that, against the background of dynamic labour markets with growing labour market transitions, employees may tend to stay for a shorter time with the same employer regardless of the type of contract they hold, and therefore *de facto* (actual) differences in job duration between the two types of employees are not necessarily significant.

Data clearly show that average job tenure is much shorter for temporary than permanent employees (Figure 19). For the EU27 in 2012, permanent employees had been with their employers for much longer than their temporary counterparts (150 compared with 39 months on average). Although the difference increases with age, temporary employees are characterised by shorter tenures across all age groups, and the gap has not narrowed over the past decade (see Figure A3 in the Annex).

Average job tenure is notably shorter for temporary employees across all countries. The relative size of the gap is larger in the Baltic states of Estonia and Lithuania and narrower in Germany, Ireland, Malta and the UK. In the countries with narrower gaps in job tenure by type of contract, this is explained by the relatively longer tenures of temporary contracts, since the average job tenures for permanent employees in those countries are not much shorter than in other countries.

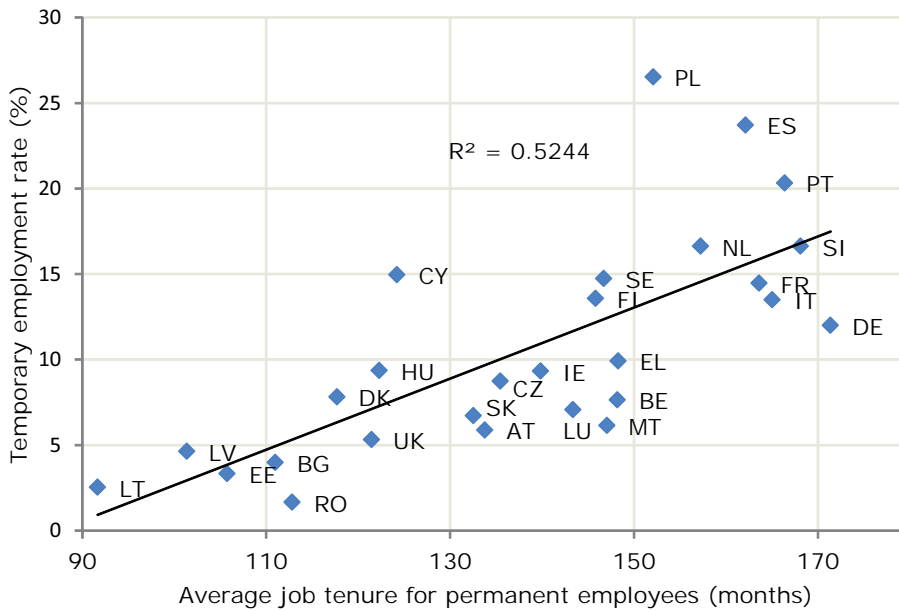
Figure 19: Average job tenure of temporary and permanent employees, Member States and EU27, 2012



Note: Job tenure refers to the length of time workers have been employed by their current employers.
Source: EU-LFS

There is a positive relationship between the temporary employment rate and the average job tenure for permanent employees (Figure 20). This may reflect the labour market segmentation between temporary and permanent employees. In those countries where temporary contracts are more commonly used to provide labour market flexibility while their permanent counterparts enjoy high levels of employment protection (for example, Spain), average job tenure among permanent employees is relatively higher.

Figure 20: Temporary employment rate and average job tenure, Member States, 2012



Note: R² represents the coefficient of correlation between the two variables.
Source: EU-LFS

Comparison of some aspects of working conditions

Empirical research (Booth et al, 2002; OECD, 2002; Gash, 2008; McGovern et al, 2004; Gebel, 2009; European Commission, 2010) suggests that temporary jobs are typically associated with:

- lower wages;
- more income volatility due to a higher risk of spells of unemployment;
- fewer training opportunities;
- less generous benefits such as paid holidays, sick leave, unemployment insurance and other fringe benefits.

A recent Eurofound report notes that temporary employees often have less access to benefits because the short-term nature of their employment may mean they make insufficient contributions to qualify for support such as unemployment benefit, sickness leave and maternity leave (Eurofound, 2013).

Table 3 presents a comparison between temporary and permanent employees on various aspects of working conditions covered by the EU-LFS. It shows that temporary employees work relatively more shift work, weekends and evenings, although the differences are modest. However, they are relatively less affected by night work. They work fewer hours on average across all age groups, although involuntarily in many cases, as almost a quarter would like to work more. A larger proportion of temporary employees reported having a second job, maybe as a result of their wish to work more hours or perhaps their lower wages (see Chapter 4 for a detailed discussion of the latter).

Table 3: Comparison of working conditions in the EU27, by type of contract, 2012

	Permanent	Temporary
1. Shift work (%)	17.5	19.3
2. Evening work (%)	16.2	17.8
3. Night work (%)	7.1	6.9
4. Saturday work (%)	22.4	24.6
5. Sunday work (%)	12.6	14.0
6. Want more working hours (%)	9.3	22.0
7. More than one job (%)	3.8	4.8
8. Participated in taught learning activities outside the education system within the last four weeks (%)	8.5	7.9
9. Time spent on taught learning activities (hours)	17.5	33.6
10. Most recent taught learning activity took place during working hours (%)	54.2	44.0
11. Received education or training in last four weeks (%)	10.7	21.7
12. Looking for another job (%) (total and reasons why)	3.3	12.7
At risk of losing current job	10.7	28.0
Current job is transitional	9.0	15.7
To add more working hours	8.9	3.5
Seeking another job with more working hours	12.7	10.7
Seeking another job with less working hours	1.4	0.5
To have better working conditions	39.7	34.3
Other reasons	17.6	7.4

	Permanent	Temporary
13. Average wage decile* (total and by age group)	5.9	3.8
20–29 years	4.9	3.5
30–39 years	5.9	4.5
40–49 years	6.1	4.0
50–59 years	6.1	3.8
60+ years	5.8	3.6
14. Number of working hours (total and by age group)	36.7	33.3
20–29 years	36.6	33.7
30–39 years	37.5	34.5
40–49 years	36.9	33.2
50–59 years	36.5	32.2
60+ years	32.0	24.2

* wage deciles are calculated by sorting all employees according to wage and then dividing them into 10 categories of equal size; the lowest-earning 10% of employees are in the first decile and the highest-earning 10% are in the 10th decile.

Source: *EU-LFS*

The proportion of temporary employees reporting that they had received education or training within the four weeks before the interview is above that of permanent employees (22% compared with 11%). Nevertheless, these EU-LFS data on access to training should be interpreted cautiously because temporary employees tend to be younger and many combine education or training and work. If only taught learning activities outside the education system are considered, the proportion of temporary employees reporting to have attended them is lower than that of permanent employees. The EU-LFS data suggest that permanent employees receive more on-the-job training because a higher proportion of those who had attended taught learning activities outside the education system did so during working hours.

Relatively more temporary employees claim to be looking for another job (13% compared with 3%). This is as expected given the nature of temporary contracts, with a larger proportion of temporary employees regarding their jobs as transitional. The finding could also be explained by a higher perceived insecurity, since almost a third of those temporary employees looking for another job were doing so because of the risk of losing their job. Another factor could be the lower wages temporary employees seem to receive; on average, temporary employees are found in the lower deciles of the wage distribution, and the gap in the average wage deciles occupied by temporary and permanent employees increases with age (Table 3).

Summary

Almost two-thirds of temporary employees in the EU27 are temporary involuntarily, and the proportion is even larger among the core of the workforce of employees aged between 30 and 59 years. Training and probationary contracts represent more than a third of temporary contracts among the younger segment of the workforce, while voluntary temporary employment is prevalent among those temporary employees aged above 60 years.

Against a background of less regulated labour markets characterised by growing labour market transitions, claims have been made that the shorter stated duration of temporary contracts may not be necessarily translating into significant differences in the actual job duration between temporary and permanent employees. Nevertheless, this chapter has shown that average job tenure is notably shorter for temporary employees across all age groups. In those countries where temporary contracts are more common, average job tenure for permanent employees tends to be relatively longer, probably reflecting labour market segmentation.

According to EU-LFS data, a higher proportion of temporary employees report having received education or training. However, this is probably a consequence of temporary contracts being held by a larger proportion of younger employees, many of whom combine education or training with work. A lower proportion of temporary employees report participating in taught learning activities outside the education system and receiving on-the-job training; however, the differences are probably narrower than expected, probably for the same reason.

Temporary employees appear to be paid less than permanent employees, and the gap increases with age. But although the EU-LFS provides data on average wage deciles, these are far from adequate for a proper analysis of the wage differentials between temporary and permanent employees. Chapter 4 examines the wage gap between temporary and permanent contracts in considerable detail using much better data than that provided by the EU-LFS.

Wage gap between temporary and permanent employees 4

The empirical analysis in this chapter answers two key questions:

- do temporary employees receive lower wages than permanent employees?
- if so, to what extent and how does this vary between countries, segments of the workforce and even within companies?

From the theoretical literature, it is unclear whether temporary employment should pay less. According to the theory of compensating wage differentials, temporary employees ought to receive higher wages as compensation for the undesirable job characteristics associated with temporary contracts such as greater job insecurity and income volatility (Rosen, 1986). According to human capital theory (Becker, 1964), however, temporary employees would receive lower wages as the limited time horizon to recoup human capital investment would cause them to receive less training (Bassanini et al, 2005). Wages could also be lower when such a contract covers a probationary period and employers are uncertain of worker productivity (Güell and Petrongolo, 2007). Moreover, dual labour market theory claims that temporary employment tends to be relatively more common in those companies, sectors and occupations offering lower wages (Leontaridi, 1998). A dual market may exist within companies where the core of the workforce is employed on permanent contracts (granting access to higher wages, career progression and training), while a more marginal workforce used to deal flexibly with fluctuations in demand is employed under temporary contracts (with lower wages, fewer possibilities for career progression and less access to training) (Pfeifer, 2009).

There is a very strong indication in the empirical literature that wages are lower for temporary employees (Booth et al, 2002; OECD, 2002; Brown and Sessions, 2005; Mertens et al, 2007). This chapter provides an updated picture of the wage differentials by type of contract across European countries and presents an innovative approach to studying wage gaps within companies. It uses two EU-wide surveys that provide individual and comparable data on wages:

- the Structure of Earnings Survey (SES);
- the European Union Statistics on Income and Living Conditions (EU-SILC).

Wage differentials are analysed using a measure of hourly wages based on data from the SES, which is more suitable for the purposes of this study (see Box 3 for methodological details).

Box 3: Analysing wage differentials by type of contract with SES and EU-SILC – methodology

Structure of Earnings Survey (SES)

The SES collects representative and harmonised data on wages at the establishment level, enabling the construction of an hourly wage measure with a great deal of detail. Nevertheless, it provides only a limited coverage of EU workers. Data are available for just 19 countries out of the EU27; Austria, Belgium, Bulgaria, Denmark, Germany, Malta and the UK do not provide data, while Sweden does not provide information on the variable capturing the type of contract. In addition, small companies (those with fewer than 10 employees) and important sectors of the economy (mainly public administration and agriculture) are not included for almost half the countries.

Therefore, most of the analysis is based on a sample of 19 countries and excludes smaller companies plus the public administration and agriculture sectors. Some data are also presented for a reduced sample of 12 countries that includes smaller companies.

The measure of wages used is defined as follows:

$$\text{Hourly wage} = \frac{\text{Monthly wage} + \text{Monthly equivalent annual bonus}}{\text{Monthly working hours}}$$

All variables except the monthly equivalent annual bonus refer to October (in 2006 and 2010, depending on the wave of the survey) for most countries, adjusted for cases of partial unpaid absence. The monthly wage includes payments for overtime and shift work. The monthly equivalent annual bonus is calculated as the total annual bonus received divided by the number of months worked.

SES data refer to the year the survey was conducted and are provided by the company where the employee is working; adjustments to deal with holders of multiple jobs or people changing jobs are therefore not necessary (as in EU-SILC, explained below).

Wages considered to be unrealistically low are eliminated by applying the following rule: whenever an employee has a wage that is below 50% of the minimum wage applicable in their country, the values are excluded from the analysis. Temporary employees on apprenticeships are also excluded from the sample.

The elimination of extremely low wage values is straightforward in the case of countries with a single national wage floor. In those countries with multiple minimum wage levels negotiated for different sectors or occupations, the lowest national collectively agreed minimum wage level is used.⁶

EU Statistics on Income and Living Conditions (EU-SILC)

EU-SILC is representative of all private households and their current members residing in the territory of the countries at the time of data collection. The variable on labour income refers to overall labour income in the previous calendar year. This can be transformed into a monthly full-time equivalent measure of gross wages by dividing the annual cash gross earnings (in the previous year) by the number of months the respondent worked over the same year (weighting differently those months worked part time).

EU-SILC covers all EU countries and the entire workforce. However, it has a number of significant shortcomings for the purpose of this analysis. Two are particularly important, as explained below.

Firstly, EU-SILC's cross-sectional dataset cannot be used as it provides information on the type of contract during the current year and the labour income from the previous year, thus making it impossible to know what type of contract the employee had when their income was generated. This problem can be solved by using EU-SILC's longitudinal dataset, but this results in even fewer observations and coverage of fewer countries.

Secondly, the wage variable may overestimate the wage differentials between permanent and temporary employees, since temporary employees may not have worked for the whole period over which the labour income is reported.

⁶ The author would like to thank Kampelmann and colleagues (2013) for sharing the data they had gathered on sectoral agreed minimum wages for those countries without national wage floors.

As well as these core shortcomings, the EU-SILC has other limitations:

- the variable on the type of contract gives a large number of non-responses for several countries;
- it does not allow for the elimination of apprenticeships;
- for those workers who changed jobs during the reference period, it is impossible to know how much of last year's labour earnings can be attributed to each job;
- some adjustments need to be made for workers holding more than one job.

Wage differentials by type of contract are calculated in two ways:

- **unadjusted wage gap** – the overall differences in average wage levels between temporary and permanent employees across countries and by gender, age or educational attainment;
- **adjusted wage gap** – the remaining differences in average wage levels between temporary and permanent employees when controlling for a wide range of sociodemographic, company and job-related characteristics.

The relative measure for the difference in average wages by type of contract is measured using the following formula:

$$\text{Wage gap by type of contract} = \frac{\text{Wage of temporary employees} - \text{Wage of permanent employees}}{\text{Wage of permanent employees}}$$

Negative values indicate that average wages are lower for temporary employees and thus there is a wage gap with permanent employees. Positive values indicate that average wages are higher for temporary employees.

Data on the wage gap by type of contract are mainly presented at country level. Whenever data for the EU are presented in this chapter, they refer to an average across European countries, that is, not weighted by countries. If the wage gap for the EU was weighted by countries, it would not only be affected by the wage gap in the different Member States, but also by the number of temporary (and permanent) employees in each country and their relative pay levels, which vary considerably between countries.⁷

Unless otherwise stated, results are presented for a sample of 19 EU Member States and exclude companies with fewer than 10 employees.

⁷ Since a higher share of temporary rather than permanent contracts at European level is represented by countries with relatively low wage levels among their workforce, such as Poland, Portugal and Spain, a wage gap disfavouring temporary contracts at EU-aggregate level may emerge regardless of whether a wage gap exists in these countries.

Unadjusted wage gap

The average wage received by temporary employees across EU Member States is 19% lower than that of permanent employees (Figure 21). Temporary employees earn less than permanent employees within most groups of the workforce, although some differences are worth noting. The negative wage gap sustained by temporary employees:

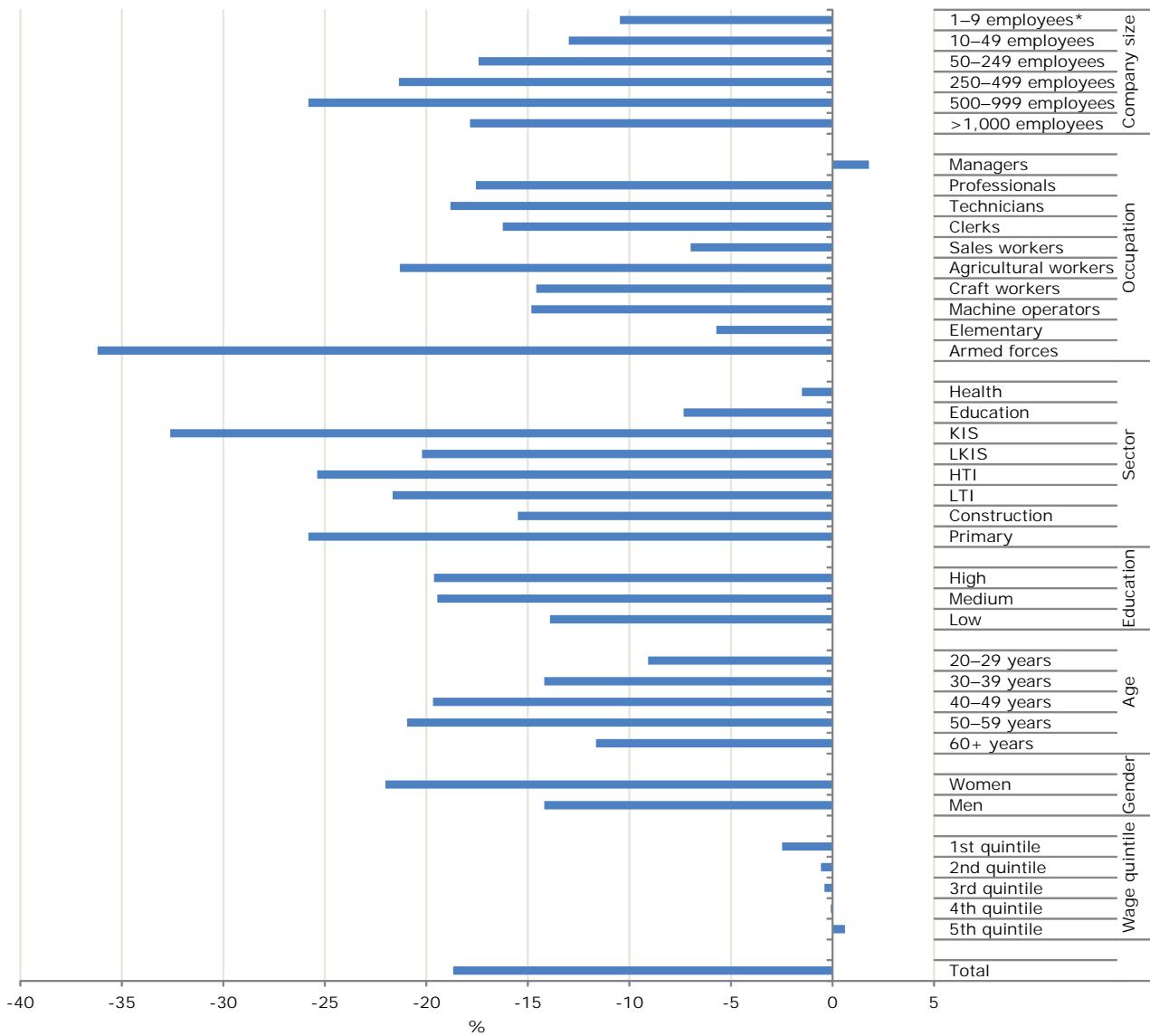
- is higher among women;
- increases with age, although it moderates again among the oldest employees;
- is higher among highly educated employees than those with low attainment;
- is highest in the primary sector, in knowledge-intensive services (KIS) and in the high-technology industry (HTI);⁸
- increases with company size, although it moderates again among the largest companies.⁹

A positive wage gap in favour of temporary employees exists in the occupational category of managers.

⁸ Data for the primary sector exclude agriculture and include mining and quarrying; KIS includes financial intermediation, real estate, water and air transport, and posts and communication; less knowledge-intensive services (LKIS) includes retail, hotels, restaurants and catering, land transport, public administration, recycling and private households; the distinction between high-technology and low-technology industry (HTI and LTI, respectively) is based on the intensity of research and development in the sector and the technology embodied in the purchases of intermediate and capital goods.

⁹ The wage gap reported for the companies with fewer than 10 employees refers to a different sample which excludes some countries. Based on this sample, the wage gap is higher for companies employing 50–999 employees and narrower in both the smaller and largest companies (around 10% in companies employing 1–9, 10–49 and 1,000+ employees).

Figure 21: Wage gap between temporary and permanent employees, EU, 2010



* data for the smallest companies are based on a different sample excluding several countries.

Notes: Data are an unweighted average across EU Member States. Quintiles are calculated by sorting all employees according to wage, then dividing them into five categories of equal size; the lowest-earning 20% of employees are in the first quintile and the highest-earning 20% are in the fifth quintile.

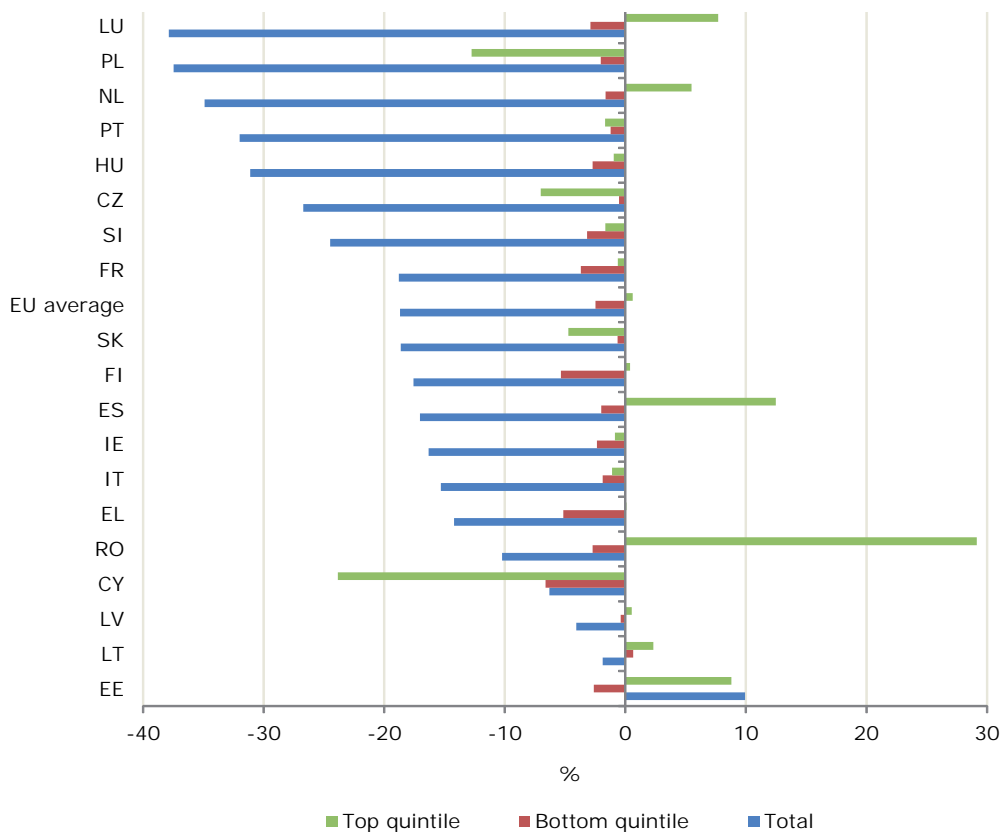
Source: SES

The wage gap varies across the wage distribution. It is wider among the lowest paid employees (in the first quintile), but in the top (fifth) wage quintile, temporary employees earn slightly higher wages than their permanent counterparts (Figure 21). This is probably a result of employees such as consultants, who have temporary contracts but whose pay is relatively high. These findings are consistent with previous research identifying relatively higher wage differentials at the lower end of the wage distribution (Mertens and McGinnity, 2005; Mertens et al, 2007; Pfeifer, 2012).

A negative wage gap exists in the EU as a whole and across all the European countries covered, apart from Estonia (Figure 22). The negative gap is above 30% in Luxembourg, Poland, the Netherlands, Portugal and Hungary, but below 10% in Lithuania, Latvia and Cyprus. The gap changes over the wage distribution for the EU average, going from

negative in the bottom wage quintile to positive in the top quintile. The wage gap is similarly negative in the bottom quintile in all 19 countries but Lithuania, while it generally becomes narrower in the upper wage quintile and even turns positive in around half of the countries (notably in Estonia, Luxembourg, Romania and Spain). Cyprus, the Czech Republic, Poland, Portugal and Slovakia are the only countries where the negative wage gap is wider in the top quintile than in the bottom quintile.

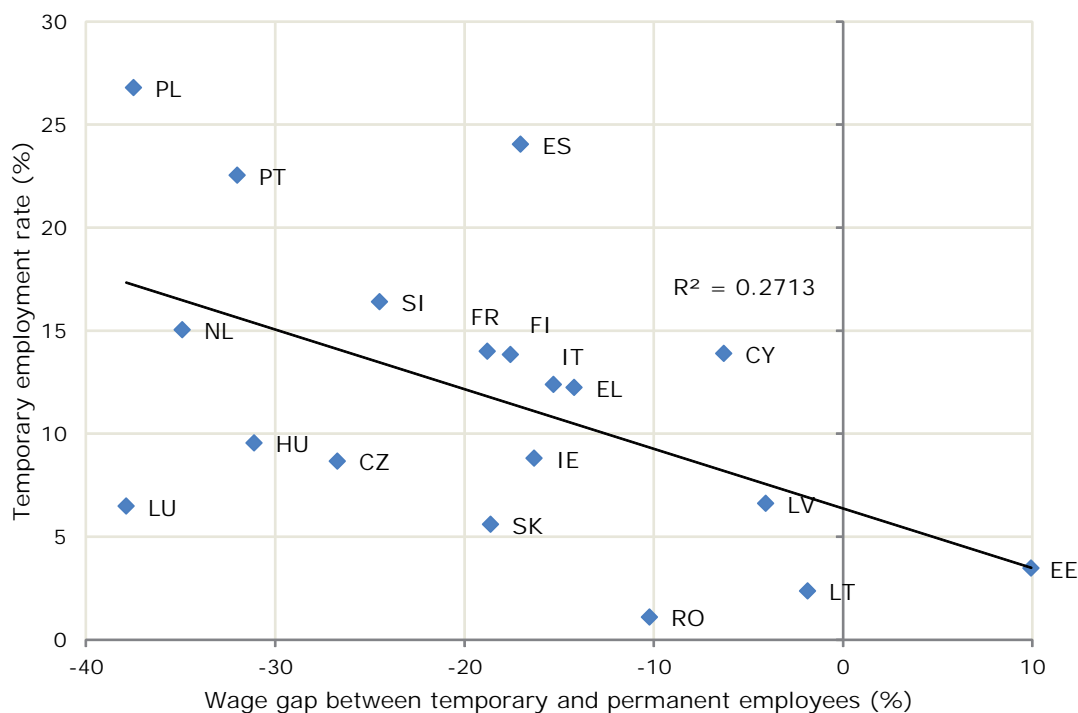
Figure 22: Wage gap between temporary and permanent employees by wage quintile, Member States and EU, 2010



Note: Countries are ranked by the magnitude of the wage gap.
Source: SES

The magnitude of the wage gap by type of contract seems to be related to the temporary employment rate. In those countries with higher temporary employment rates, such as in Poland and Portugal, the wage gap is larger (Figure 23). This could be due to segmentation in some labour markets: that is, a dual market where the labour force is split between two segments with limited mobility between them; one is characterised by employees with poor labour market prospects and pay levels (many of them on temporary contracts) and the other consists of employees with high levels of job security and opportunities for career progression, typically under permanent contracts. However, the wage gap is very narrow in some EU12 countries, such as Latvia and Lithuania, and is even positive in Estonia, all of which are characterised by relatively low temporary employment rates.

Figure 23: Wage gap and temporary employment rates, Member States, 2010

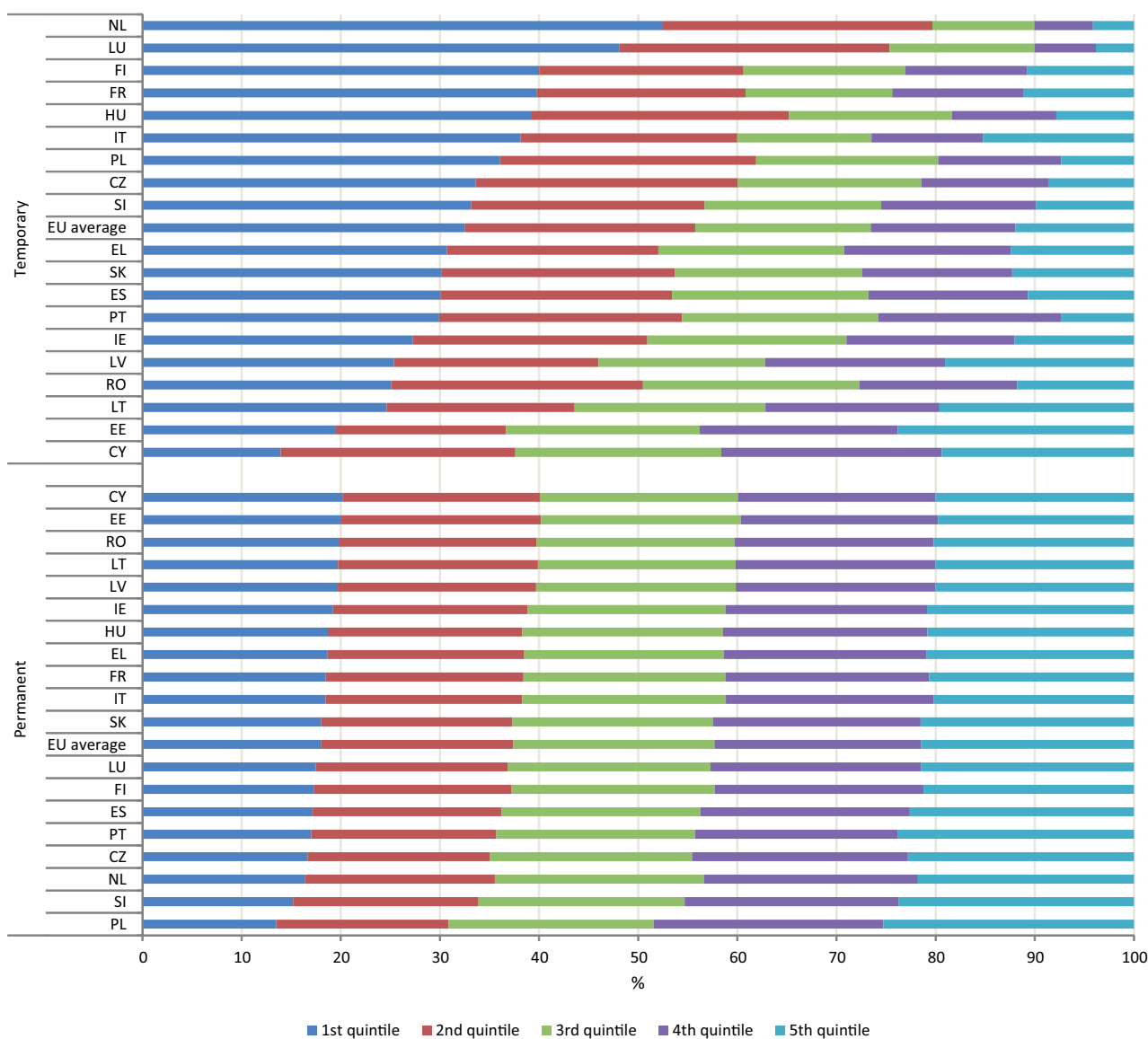


Note: R^2 represents the coefficient of correlation between the two variables.

Sources: *SES for wage differentials*, *EU-LFS for temporary employment rates*

One consequence of the lower wages characterising temporary employment is a very different positioning of temporary and permanent employees across the wage quintiles. A higher proportion of temporary employees (32%) occupy the bottom wage quintile compared with 18% of permanent employees in the EU (Figure 24). At least 50% of temporary employees are found either in the first or the second wage quintiles in most countries, while only around 10% or less are found in the top wage quintile in about a third of the countries. In some EU12 countries (Cyprus, Estonia, Latvia, Lithuania and Romania), differences in the distributions of employees by type of contract are not so large.

Figure 24: Distribution of employees by wage quintiles, Member States and EU, 2010



Source: SES

Adjusted wage gap

The wage gap by type of contract presented so far may be partly due to temporary contracts being used relatively more in jobs associated with lower wages (in certain sectors or occupations, companies or among certain types of workers). This section uses multivariate regression to obtain the adjusted wage gap, that is, the remaining wage differences between temporary and permanent employees that cannot be explained by those characteristics controlled for in the model and that vary between temporary and permanent workers.

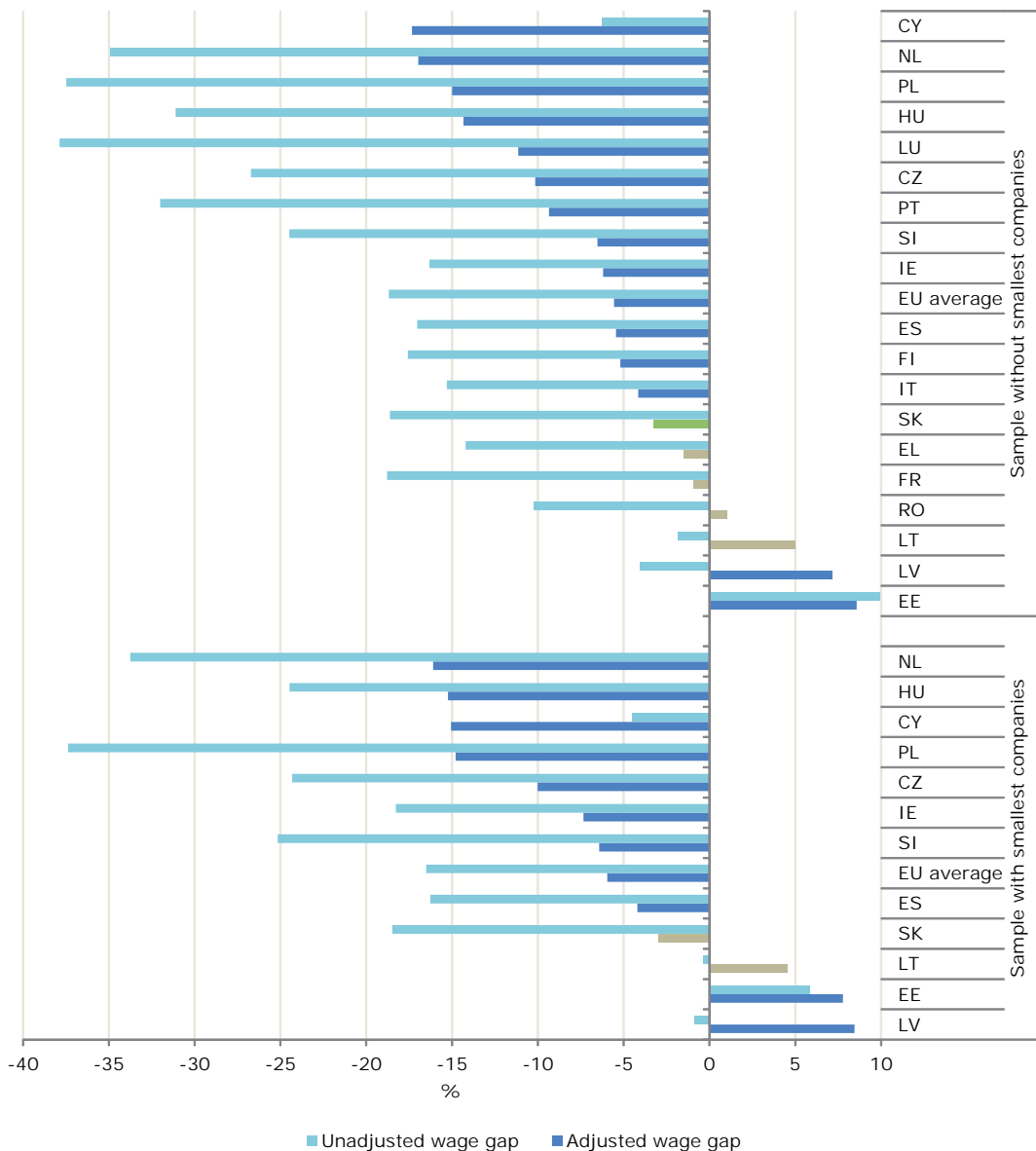
The following control variables are included in the model:

- sociodemographic characteristics (gender, age and educational attainment);

- company characteristics (company size, sector, public or private control, and existence of collective bargaining applying to at least 51% of the workforce);
- job characteristics (full-time or part-time employment, seniority at the company and occupation).

Figure 25 compares the wage gap by type of contract across countries for two different samples: including and excluding the smallest companies, which are not included in the samples of all countries.¹⁰

Figure 25: Unadjusted and adjusted wage gap between temporary and permanent employees in two samples, Member States and EU, 2010



Notes: Countries are ranked by the size of the adjusted wage gap. Bars are colour coded (except for the EU average): blue bars mean the coefficient is significant at the 5% level; green bars are significant at the 10% level; and grey bars are not statistically significant at the 10% level.

Source: SES

¹⁰ The unadjusted wage gap in this figure is obtained by regressing the employee’s wage level only on the type of contract. It is the same as that presented in the previous section, but in this case adding the statistical significance of the type of contract in explaining wage differentials.

As expected, Figure 25 shows that the magnitude of the gap narrows once other factors are accounted for: on average across European countries, the negative wage gap between temporary and permanent employees is reduced from 19% (Figure 21) to 6% (Figure 25) when other factors are controlled for.

The wage gap narrows in most countries, with just a few exceptions. It widens and becomes statistically significant in Cyprus, while it becomes positive in Latvia, Lithuania and Romania (although only statistically significant in the former).

The relative ranking of countries regarding the size of the wage gap remains similar when comparing the adjusted and unadjusted versions. Hungary, Luxembourg, the Netherlands, Poland and Portugal continue to be among the countries with the largest negative wage gaps, while the Baltic states and Romania are at the other extreme. The greatest change takes place in Cyprus, whose rather narrow negative wage gap transforms into the largest one once the adjusted version is calculated.

The magnitude of the unadjusted wage gap becomes more modest when calculated for the sample including the smallest companies (except in the case of Ireland), which is consistent with the fact that the wage gap is relatively narrower among smaller companies (Figure 21). Nevertheless, differences in the magnitude of the adjusted wage gap are much smaller in most countries when results based on the two alternative samples (that is, with and without the smallest companies) are compared. Overall, the results presented here are consistent with a recent OECD study that identified adjusted wage gaps of between 6% and 10% (OECD, 2014).

Between 2006 and 2010, the European average for the wage gap by type of contract remained relatively stable (Table 4). A mixed picture emerges at country level, with the magnitude of the wage gap following different trajectories over time. Whether the unadjusted or the adjusted version is used, the wage gap widens between 2006 and 2010 in the Czech Republic, Hungary, Luxembourg, the Netherlands and Poland (and Estonia, where the gap is positive), while it narrows in Finland, Italy, Romania, Slovakia, Slovenia and Spain.

Table 4: Unadjusted and adjusted wage gap between temporary and permanent employees, Member States and EU, 2006 and 2010

Country	Unadjusted gap (%)		Adjusted gap (%)	
	2006	2010	2006	2010
CY	-14.2	-6.3	-6.5	-17.3**
CZ	-22.5	-26.7	-6.4**	-10.1**
EE	9.2	9.9	8.3**	8.6**
EL		-14.2		-1.5
ES	-26.8	-17.0	-6.6**	-5.4**
FI	-19.8	-17.6	-6.0**	-5.2**
FR	-14.5	-18.8	-3.0*	-0.9
HU	-24.3	-31.1	-11.5**	-14.3**
IE	-22.4	-16.3	-2.8	-6.2**
IT	-17.1	-15.3	-11.0**	-4.1**
LT	8.7	-1.9	-1.4	5.0
LU	-27.0	-37.9	-3.9	-11.1**
LV		-4.1		7.2**
NL	-25.6	-34.9	-12.1**	-17.0**

Country	Unadjusted gap (%)		Adjusted gap (%)	
	2006	2010	2006	2010
PL	-33.7	-37.5	-11.9**	-15.0**
PT	-31.1	-32.0	-10.6**	-9.4**
RO	-18.6	-10.2	-18.1**	1.1
SI	-27.1	-24.5	-8.0**	-6.5**
SK	-21.5	-18.6	-6.2**	-3.3*
EU average	-19.3	-19.8	-6.9	-6.5

* denotes the coefficient for temporary contracts is significant at the 10% level when controlling for other factors (and not for the EU average); ** denotes it is significant at the 5% level.

Note: European average excludes Greece and Latvia due to unreliable data in the 2006 SES wave.

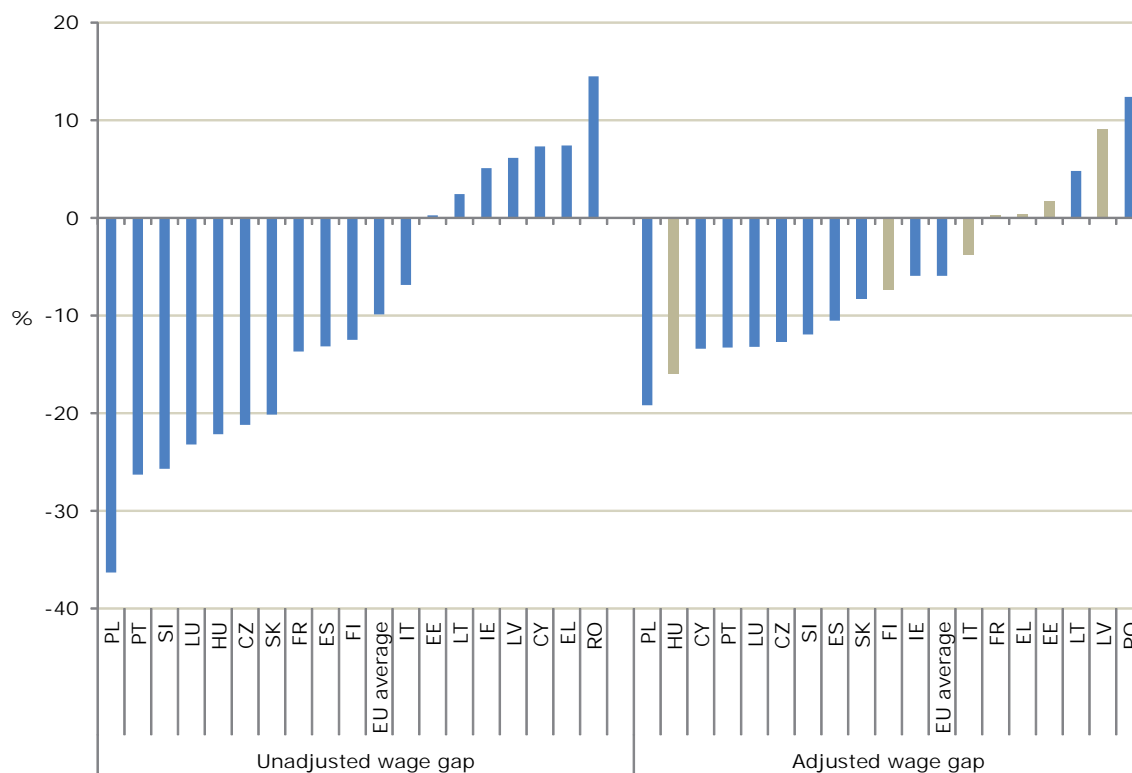
Source: SES

Wage gaps among short-tenured employees

Permanent employees are characterised by longer job tenures, and it is known that this generally leads to higher wages (Eurofound, 2015). It is interesting to compare the wage gap between temporary and permanent short-tenured employees, that is, before the effect of longer job tenures may start to open up a wage gap in favour of permanent employees.

Even when considering only employees with up to two years of seniority, temporary employees still receive lower average wages in most countries (Figure 26). The unadjusted negative gap reaches almost 40% in Poland and almost 30% in Portugal and Slovenia, while there is no gap in Estonia and it is positive in Cyprus, Greece, Ireland, Latvia, Lithuania and Romania. The gap narrows when other factors are controlled for, but remains in most countries.

Figure 26: Wage gap between temporary and permanent contracts for short-tenured employees, Member States and EU, 2010



Notes: Countries are ranked by the size of the wage gap.

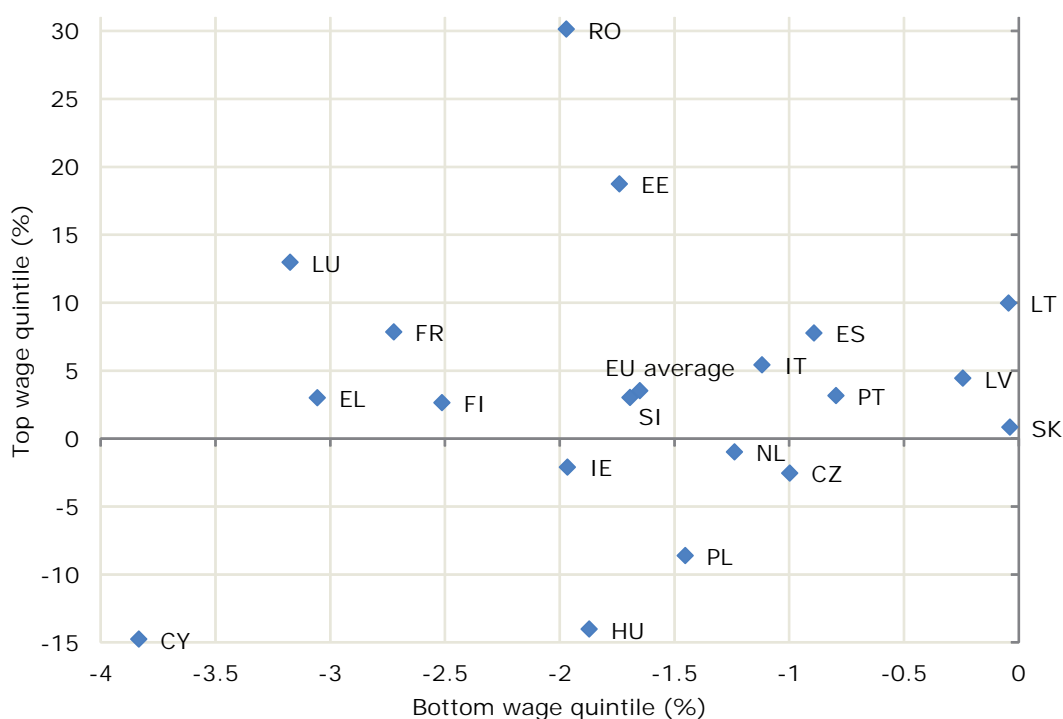
Bars are colour coded (except for the EU average): blue bars mean the coefficient for temporary contracts is significant at the 5% level; and grey bars mean it is not statistically significant at the 10% level. No data available for the Netherlands.

Source: SES

Wage gaps over the wage distribution

It has already been shown that the unadjusted wage gap varied over the wage distribution, being negative in the bottom wage quintile for most countries and narrower or even positive in the top wage quintile (Figure 22). As shown in Figure 27, the picture remains largely the same when other factors are accounted for. The adjusted wage gap by type of contract is negative in the bottom wage quintile for all European countries, although the magnitude is generally smaller than before. However, temporary employees receive on average higher wages in the top wage quintile in more than half of European countries. In this case, the magnitude of the wage gaps is generally larger than when the results were not adjusted for other factors.

Figure 27: Adjusted wage gap between temporary and permanent contracts, by wage quintiles, Member States and EU, 2010



Source: SES

Wage gap within companies

The magnitude of the wage gap between temporary and permanent contracts described in the previous sections results from wage gaps within and between companies. Temporary employees may receive lower wages than their permanent counterparts working in the same company, in which case a wage gap exists within the company. Even if that were not the case, a wage gap may exist for the whole economy because differences are to be expected between companies in terms of pay levels and use of temporary contracts. The dual labour market theory predicts that temporary employees are more likely to be employed by companies with relatively lower wage levels (Leontaridi, 1998). If this occurs, a wage gap between temporary and permanent employees will emerge even if this gap does not exist within companies.

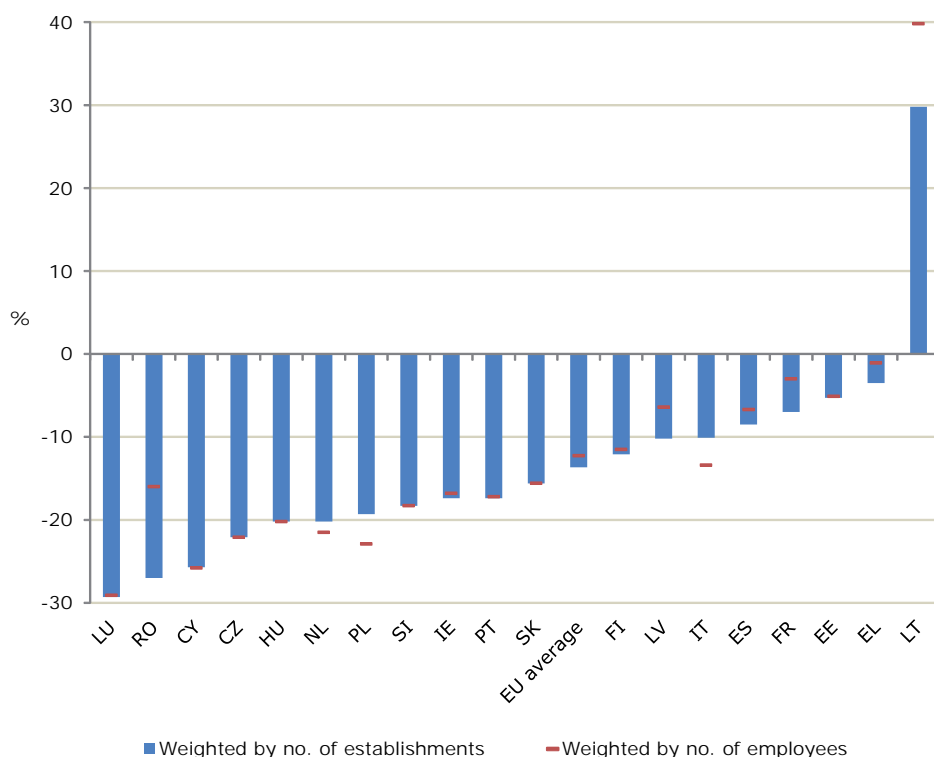
The SES dataset identifies establishments and therefore allows wage gaps between temporary and permanent employees within these establishments to be calculated. To the author's knowledge, this empirical exercise has not been conducted from a European comparative perspective before.

The company is the unit of analysis, since a single value for the wage gap by type of contract is calculated for each company.¹¹ Results are presented for the unadjusted wage gap within companies, based on a sample that contains companies with at least 20 employees and that employ at least 10% of their workforce on temporary contracts. The value for the wage gap within companies is obtained as an average of the gap in each individual establishment (weighted by the number of establishments, regardless of the number of employees they have). Therefore, it can be viewed as the wage gap by type of contract existing within the average company in a given country.

Within companies, temporary employees generally receive lower wages than their permanent counterparts (Figure 28). The negative wage gap within companies is largest and above 20% in Luxembourg, Romania, Cyprus, the Czech Republic, Hungary and the Netherlands, while Lithuania is the only country with a positive wage gap within companies in favour of temporary employees.

It could be the case that these negative wage gaps within companies did not represent the typical experience of employees. The wage gaps within companies might be very different across companies of different sizes, for instance, the gap being much narrower or even positive within those companies representing a large employment share. Figure 28 rules out this possibility by showing that the magnitude of the negative wage gap within companies is relatively similar in most countries when results are weighted by the number of employees instead of the number of establishments; it is wider in Italy, Lithuania and Poland, and narrower in France, Latvia and Romania.

Figure 28: Wage gap by type of contract within companies, Member States and EU, 2010



Source: SES

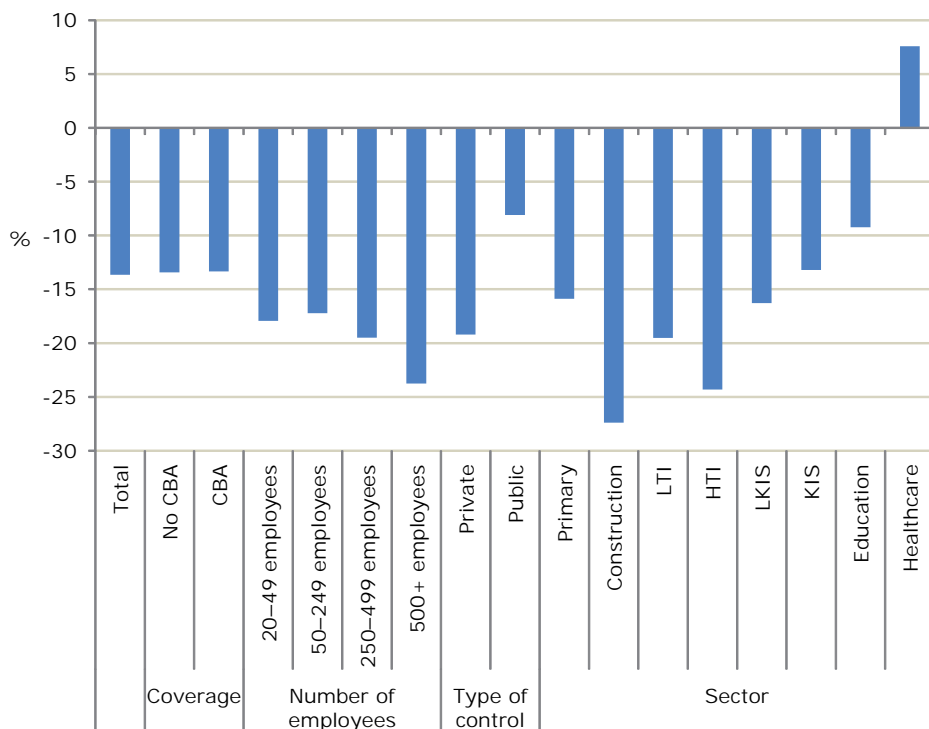
¹¹ While formally it is in fact ‘establishments’, in the vast majority of cases these correspond to companies.

When comparing these results with those for the unadjusted wage gap in the previous section (Figure 25 or Table 4), some changes are worth noting. The magnitude of the negative wage gap by type of contract is generally reduced when it is calculated within companies; the European average across countries narrows from 19% to 14%. This supports the dual labour market theory, which states that temporary employees are more likely to be employed by companies characterised by relatively lower wages. If the overall negative wage gap in a country is partially explained by pay differentials between companies, the magnitude of the wage gap would narrow if pay differentials were analysed only within companies, as it is the case here. The wage gap narrows when calculated within companies across most countries and particularly in France, Greece, Poland and Spain (and Lithuania, where a positive and large wage gap emerges), suggesting the existence of labour market segmentation.

Nevertheless, the opposite seems to apply to a small number of countries. The negative gap widens in Cyprus, Ireland, Latvia and Romania, and it turns negative in the case of Estonia, when calculated within companies. So in contrast to what the dual labour market theory would predict, temporary employees in these countries are more likely to work in companies characterised by relatively higher wage levels, since there is a positive wage gap in favour of temporary employees if only pay differentials between companies are considered.

The negative wage gap within companies varies depending on a company’s characteristics (Figure 29). It widens as companies get larger, reaching almost 25% within those companies with more than 500 employees. It is much narrower within publicly controlled companies. It is relatively large within companies in the construction, HTI and LTI sectors, but much narrower or positive within companies in sectors with a public sector presence such as education and healthcare. In addition, the magnitude of the wage gap within companies does not seem to be related to the presence of a collective bargaining agreement. The cross-country picture of the wage gap within companies is explored next using some of these variables.

Figure 29: Wage gap by type of contract within companies, by type of company, EU, 2010



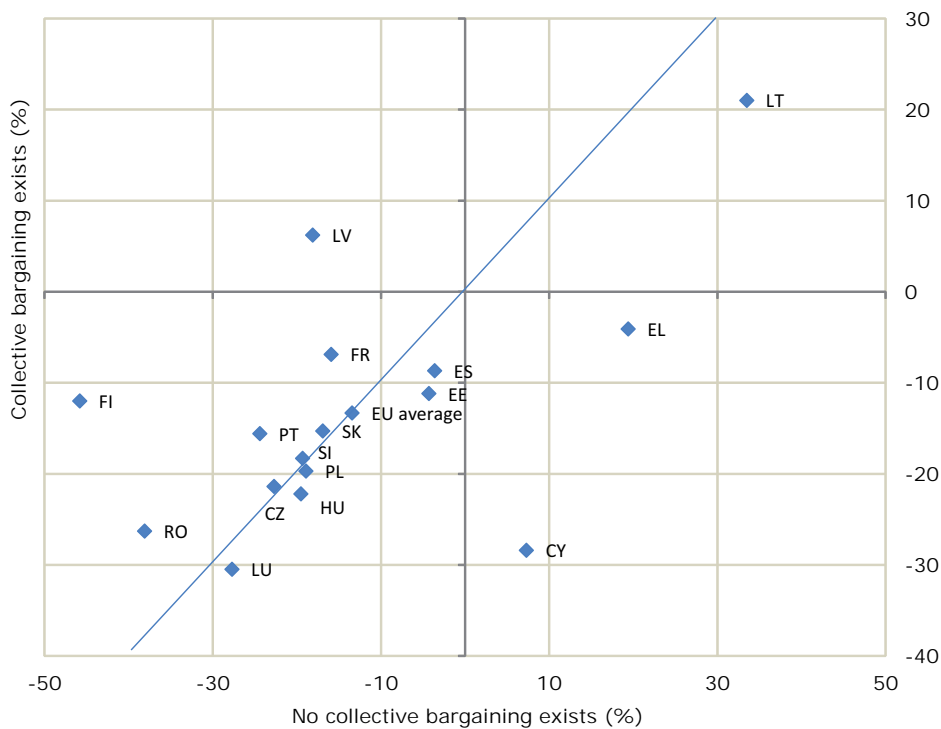
Notes: Data refer to an unweighted average across the European countries for which there is available data in each case. For details on the sectoral clustering, see Footnote 8. CBA refers to the existence of a collective bargaining agreement applying to at least 51% of the workforce.

Source: SES

It is not clear from the literature what impact collective bargaining has on the wage gap within companies. Collective bargaining coverage has been reported to reduce wage inequalities by compressing wage distributions (European Parliament, 2014) and therefore would be expected to narrow the wage gap. However, the insider–outsider theory would predict a negative wage gap in the presence of collective agreements improving pay levels, since temporary employees are more likely to be excluded from these than permanent employees. The differences between insiders and outsiders regarding rights and entitlements have been researched extensively (Palier and Thelen, 2008, 2010; Eichhorst and Marx, 2010; Emmenegger et al, 2012).

Reflecting this contradictory literature, the empirical results are mixed across countries. The wage gap disfavouring temporary employees is narrower within companies covered by collective agreements in around half the countries (those to the left of the diagonal line in Figure 30). In the other half, the opposite is true. In Cyprus, Greece and Lithuania, there is a wage gap in favour of temporary employees within companies not covered by collective agreements, which narrows or turns negative within companies covered by collective bargaining.

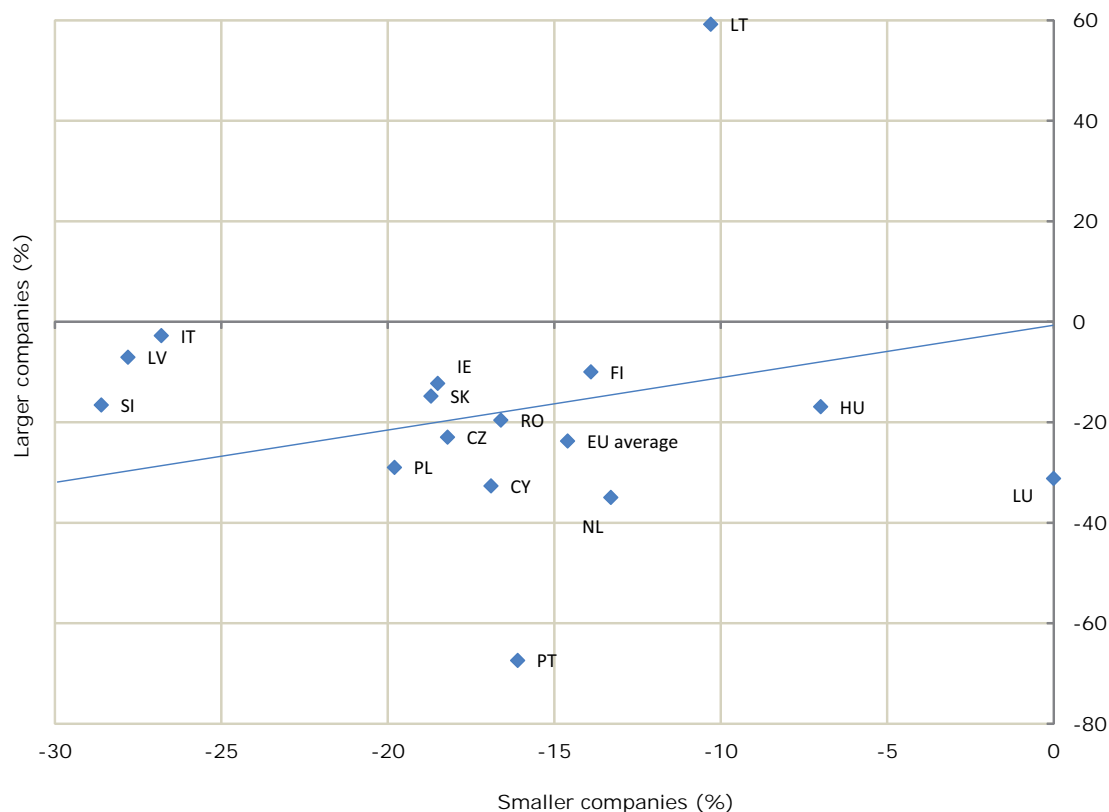
Figure 30: Wage gap by type of contract within companies, by collective bargaining coverage, Member States and EU, 2010



Note: No data available for Ireland, Italy and the Netherlands.
Source: SES

Results across countries are also mixed when considering company size. The wage gap is wider within larger companies in around half of the countries where data are available (those located below the blue line in Figure 31). Lithuania is the only country where a positive wage gap within companies was identified and, as shown in Figure 31, this is entirely explained by what occurs within the larger companies, since a negative wage gap exists within the smaller companies.

Figure 31: Wage gap by type of contract within companies, by company size, Member States and EU, 2010

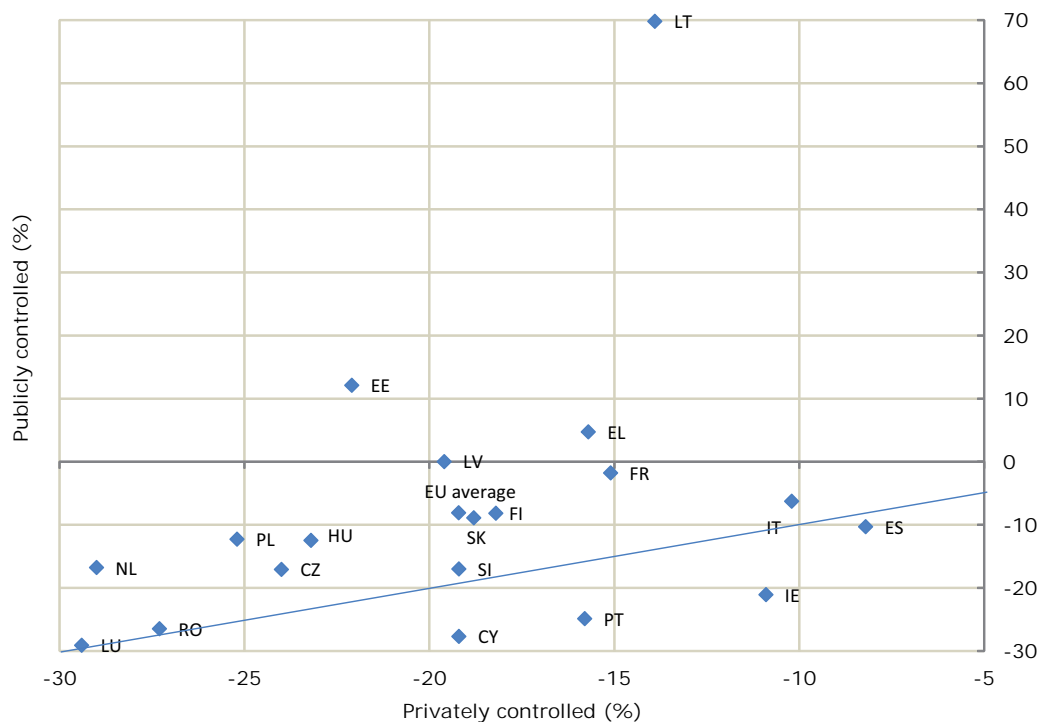


Note: Larger companies have at least 500 employees, except for Italy, Latvia, Lithuania and Luxembourg, where it refers to those with 250–499 employees, and Romania, where it refers to companies with 50–249 employees. Smaller companies have 20–49 employees. No data available for Estonia, France, Greece and Spain.

Source: SES

The picture is much more homogeneous across countries when considering the company's type of control (Figure 32). The wage gap is always negative within privately controlled companies, and for publicly controlled companies, too, except in Estonia, Greece, Latvia and, especially, Lithuania. This result for the Lithuanian case may offer some context to the large positive wage gap within the larger companies (Figure 31), since publicly controlled companies are typically larger in size. The magnitude of the negative wage gap is narrower within privately controlled companies only in four countries (those below the diagonal line, Cyprus, Portugal, Ireland and Spain). This explains why the wage gap within companies is narrower in those economic sectors with a greater public sector presence (Figure 29).

Figure 32: Wage gap by type of contract within companies, by form of control, Member States and EU, 2010



Source: SES 2010

Effect of company characteristics on wage gap within companies

A multivariate regression analysis was conducted to explore how a company's characteristics affect the size of the wage gap between temporary and permanent employees within companies. In this case, the sample contains companies with at least 20 employees and employing between 10% and 90% of their workforce on temporary contracts. The unit of analysis is the company, both for the dependent variable (the wage gap by type of contract within each establishment surveyed by the SES) and for the explanatory variables, which are:

- relative level of wages;
- number of employees;
- share of women, temporary contracts and part-time employees belonging to the occupational category of professionals;
- type of control;
- average age;
- existence of a collective bargaining agreement;
- average job tenure.

To the author's knowledge, this methodological approach has not been taken before. The interpretation of the results is not easy, given the limitations on constructing variables at the company level; also, many of the coefficients are not statistically significant in the country-level regressions. Therefore, this empirical exercise should be seen as a first

attempt to apply an innovative approach to study wage differentials at company level, which it is hoped will inspire further research on this topic.

Table 5 presents the results from the country-level regressions. A positive coefficient means the variable narrows the wage gap disfavouring temporary contracts that exists within companies, while a negative coefficient widens the wage gap. This is so because, in this case, the wage gap was calculated as the ratio of the average wage of temporary employees to that of permanent employees in each company. This means that a higher value (closer to 1) represents a narrower wage gap and a lower value (closer to 0) represents a wider wage gap disadvantaging temporary contracts. Values above 1 indicate a positive wage gap in favour of temporary employees.

The main findings of this analysis are summarised below.

- The company's relative wage level (measured as the ratio between the average wage in the company and the average wage in the country) has a mixed effect on the wage gap within companies. In some countries (mainly CEE countries such as the Czech Republic, Lithuania, Poland, Romania and Slovakia), a relatively higher level of wages widens the wage gap within companies, while the opposite occurs in France, Portugal and Spain.
- The effect of the workforce's size does not have a clear direction and results are only statistically significant in the cases of Lithuania and Poland. These results seem consistent with the mixed country-level picture provided by Figure 31, where a large positive wage gap within large companies was identified in Lithuania.
- Employing a larger proportion of women or part-time employees narrow the wage gap within companies in around two-thirds of the countries. In the case of women, this seems more relevant in some of the EU15 countries (Finland, Greece and Portugal), while in the case of part-time work, results are statistically significant in several CEE countries (the Czech Republic, Hungary, Latvia, Poland and Slovenia) and Spain. It is not easy to explain why, but a possible reason could be that within those companies making extensive use of part-time employment or female employees or both, the wage disparities gravitate around these two groups, typically characterised as vulnerable in the labour market, and not so much on the type of contract held.
- In contrast, employing a larger proportion of employees with temporary contracts widens the wage gap within companies in most countries, although the variable is not always statistically significant. One possible reason for this is that those companies employing a higher proportion of temporary employees may have segmented internal labour markets. In such a situation, the core of the workforce (typically under permanent contracts) have better working conditions than the more marginal segment of the workforce (typically under temporary contracts) used to provide flexibility to the company. This would result in wider wage gaps within the company between both groups. Public control reduces the wage gap within companies in all countries apart from three (Ireland, Italy and Romania) and results are statistically significant in many cases. This is fully consistent with the descriptive picture provided by Figure 32.
- A relatively older workforce (measured as its average age) seems to narrow the wage gap within companies in most countries – but not in Finland, France, Ireland and Luxembourg, although the magnitude of the coefficients is very small and results are not statistically significant in most cases. A reason for this may be that, since younger employees are more likely to hold temporary contracts and receive lower wages, companies employing fewer young employees limit the scope for wage gaps to arise between temporary and permanent employees.
- The impact of having a collective bargaining agreement in place applying to at least 51% of the workforce does not have a clear direction across countries in explaining the wage gap within companies, and the results are not statistically significant in most cases. This is consistent with the mixed descriptive picture across countries presented in Figure 30.

- The effect of a workforce's seniority (measured by average job tenure) on the wage gap within companies is mixed across countries and results are statistically significant only in a few cases. Broadly, the same occurs with the share of professionals (defined as an occupational category) working at the company. A higher proportion of professionals widens the wage gap within companies in some countries (the Netherlands, Portugal, Slovenia and Spain), while it narrows it in some CEE countries (the Czech Republic, Poland, Romania and Slovakia).

Table 5: Wage gap by type of contract within companies, 2010 – results of multivariate analysis
(a) CZ–IT

	CZ	EE	EL	ES	FI	FR	HU	IE	IT
Wages levels	-0.16***	0.18	0.33	0.37***	0.04	0.46*	-0.12	-0.18	0.40
Number of employees	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Share of women	-0.07***	0.00	0.49*	0.01	0.10**	0.18	-0.01	-0.04	0.04
Share of temporary	-0.03	0.39***	-0.28	0.03	-0.05	-0.09	-0.27***	-0.42	-0.01
Share of part-time	0.26***	0.21	-0.10	0.26***	0.02	0.14	0.35***	0.58	0.16
Public control	0.04**	0.43***	0.03	0.01	0.08***	0.15***	0.00	-0.14*	-0.03
Average age	0.00	0.01	0.01	0.00*	0.00	0.00	0.00	0.00	0.01
Collective bargaining	0.02	-0.21***	-0.14	-0.14*	0.30***	0.03	-0.05	0.00	0.00
Average tenure	0.00	0.00	0.00	0.00	0.00	-0.01	0.01**	0.03**	-0.02
Share of professionals	0.11***	-0.23	0.16	-0.35***	0.05	0.23	0.15	-0.17	-0.08
_cons	0.82***	0.17	0.24	0.47**	0.44**	0.43	0.74***	0.82*	0.20
N	4,977	212	99	1,556	863	575	497	49	684
R ²	0.19	0.40	0.29	0.14	0.17	0.09	0.28	0.51	0.08

(b) LT–SK

	LT	LU	LV	NL	PL	PT	RO	SI	SK
Wages levels	-0.66*	-0.11	0.12	0.27	-0.17***	1.02**	-0.15**	-0.02	-0.08**
Number of employees	0.01**	0.00	0.00	0.00	0.00***	0.00	0.00	0.00	0.00
Share of women	0.38	-0.16	0.04	0.23	-0.07***	0.42*	0.12	0.06*	-0.02
Share of temporary	0.62	-0.72***	0.25*	-0.20	-0.06**	0.50	-0.36*	-0.10*	0.29***
Share of part-time	-0.41	-0.13	0.23*	-0.33	0.26***	0.30	-0.04	0.72***	0.02
Public control	0.17	0.30*	0.12	0.07	0.07***	0.02	-0.18	0.00	0.04*
Average age	0.00	-0.01	0.00	0.01	0.01***	0.01	0.01	0.01*	0.00*
Collective bargaining	-0.29*	-0.03	0.15**	0.00	-0.01	-0.12	0.09	-0.01	-0.04
Average tenure	0.06*	-0.01	0.01	-0.05	0.00	-0.02	0.00	0.00	0.00
Share of professionals	0.30	-0.25	-0.03	-0.54*	0.20***	-1.31*	0.34*	-0.06*	0.10***
_cons	0.61	1.45***	0.41	0.76*	0.67***	-0.30	0.57*	0.58***	0.61***
N	63	21	367	149	5,787	560	206	840	1,467
R ²	0.70	0.76	0.18	0.21	0.17	0.62	0.21	0.08	0.16

* significant at the 1% level; ** significant at the 5% level; *** significant at the 10% level.

Note: Cyprus is excluded due to its low number of observations.

Source: SES

Summary

Temporary employees generally receive lower wages than their permanent counterparts. On average across European countries, the unadjusted negative wage gap is almost 19%, according to 2010 SES data. The wage gap is wider among women, higher-educated employees and larger companies, and broadly increases with age. Moreover, the differentials are different over the wage distribution. The wage gap is negative and generally wider in the bottom wage quintile, but it turns positive in favour of temporary employees in the top wage quintile, probably reflecting the existence in that quintile of specific highly paid positions such as consultants.

Apart from in Estonia, temporary employees receive lower wages than permanent employees across most countries, the gap being above 30% in Hungary, Luxembourg, the Netherlands, Poland and Portugal. The negative wage gap is relatively larger in those countries characterised by a higher temporary employment rate such as Poland or Portugal, probably as a result of labour segmentation in some European countries. In those countries with a low incidence of temporary employment (such as the Baltic states and Romania), the wage gap is much narrower.

When other factors that may affect the wage gap are controlled for, the European average of the negative wage gap is reduced from 19% to less than 6%. Luxembourg, Poland, the Netherlands, Portugal or Hungary continue to be characterised by relatively large negative wage gaps, and Cyprus moves from having one of the narrowest unadjusted wage gaps to the largest adjusted wage gap. At the other extreme, the Baltic states and Romania all have positive wage gaps in favour of temporary employees in this case. Even when controlling for other factors, all countries have a negative wage gap in the bottom wage quintile, which turns positive in more than half of them in the top wage quintile. The analysis also identifies a negative wage gap related to temporary contracts across most countries when only short-tenured employees are considered; this rules out the possibility that pay differentials may be due only to longer job tenure among permanent employees.

The wage gap is the result of pay differentials by type of contract both between and within companies. SES data have been used to explore this issue by calculating the unadjusted wage gap within companies. Temporary employees receive lower wages than their permanent counterparts within the average company across all countries but Lithuania. Nevertheless, the negative wage gap generally narrows when calculated within companies – from 19% to 14% for the European average, reflecting a reduction across most countries, but especially in France, Greece, Lithuania, Poland and Spain. This result supports the dual labour market theory that temporary employees are more likely to be employed by companies characterised by relatively lower wages, because the narrowing of the total wage gap when calculated within companies indicates that it originates partly from pay differentials between companies. The opposite occurs in a few countries (Cyprus, Estonia, Ireland, Latvia and Romania), where the wage gap widens when calculated within companies.

The wage gap within companies is wider within privately controlled companies, within larger companies (although results are mixed across countries) and within companies in the construction, HTI and LTI sectors. It is much narrower within companies operating in sectors with a public sector presence such education and healthcare.

An innovative multivariate regression analysis has been conducted at the establishment level to determine how the size of the wage gap by type of contract within companies is affected by company characteristics. The results are not easy to interpret: the impact of variables is sometimes in different directions across countries and not statistically significant in many cases. However, there are some results worth highlighting. The magnitude of the negative wage gap disfavouring temporary employees narrows within companies in most countries when companies:

- are publicly controlled;
- employ a higher share of women or part-time employees;
- have a relatively older workforce.

In contrast, having a higher share of the workforce under temporary contracts tends to widen the wage gap within companies, perhaps reflecting the existence of internal labour market segmentation at company level.

Employment transitions for 5 temporary employees

Temporary contracts are less advantageous than permanent ones in terms of a wide range of working conditions and pay. However, they may provide a first step towards a more secure position in the labour market. Other dynamics such as the transitions from temporary contracts to unemployment are also of interest.

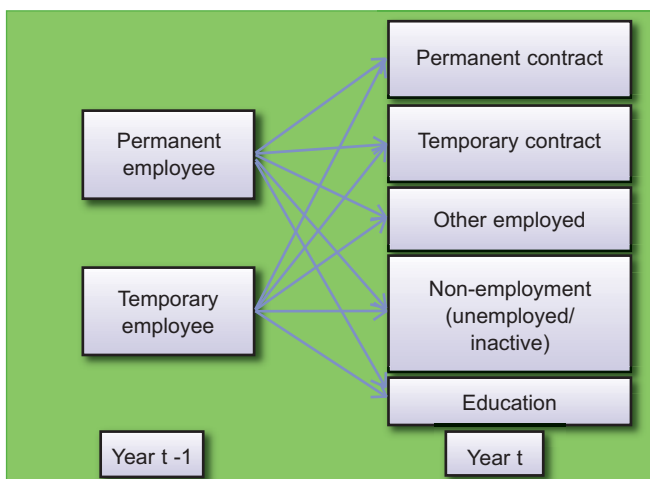
This chapter provides a picture of employment transitions for temporary employees using EU-SILC, the only source of comparable longitudinal micro-data across European countries. However, the results should be treated with caution because EU-SILC data present two main caveats for the purposes of this analysis:

- they provide only annual information on labour market status and so miss transitions that may occur within a year;
- the type of contract variable has to be treated with caution since it has a high number of non-responses in a number of countries (Denmark, Finland, France, the Netherlands, Slovenia, Sweden and the UK, and others to a lesser extent).

The framework used to cover the transitions that employees undergo depending on their type of contract is depicted in Figure 33. The focus is on the transition from being an employee on either a temporary or a permanent contract to another status. These include permanent and temporary contracts, other employed, non-employment and education. ‘Other employed’ includes employees who did not report their type of contract, self-employed people and family workers; ‘non-employment’ includes unemployment and inactivity.

Most of the data used in this chapter refer to a European aggregate weighted by countries, including 20 of the EU27 countries; Bulgaria, Germany, Ireland, Malta, Romania, Slovakia and Sweden do not provide complete data for the whole period covered.

Figure 33: Framework of labour market transitions by type of contract



Source: Author's representation

The EU-level data from before and after the crisis given in Table 6 suggest that temporary employees much more often make transitions than permanent employees. Around 9 out of 10 permanent employees in Europe as a whole keep their jobs from one year to the next, but this is only the case for slightly more than half of temporary employees. While some temporary employees manage to move to a permanent position (20% between 2011 and 2012), they more often transition

into education and, especially, to non-employment than permanent employees. The higher transitions into education may be explained by the fact that temporary employees tend to be younger and many of them combine education or training and work. In addition, many students may work temporarily in the summer or Christmas holidays, before going back to education.

Table 6: Transition rates from temporary and permanent contracts in the EU before and after the crisis

(a) Transitions in 2005–2006

Status in 2005	Status in 2006				
	Permanent %	Temporary %	Other employed %	Non-employment %	Education %
Permanent	89.2	3.3	2.0	5.2	0.3
Temporary	27.6	54.1	3.2	13.4	1.8

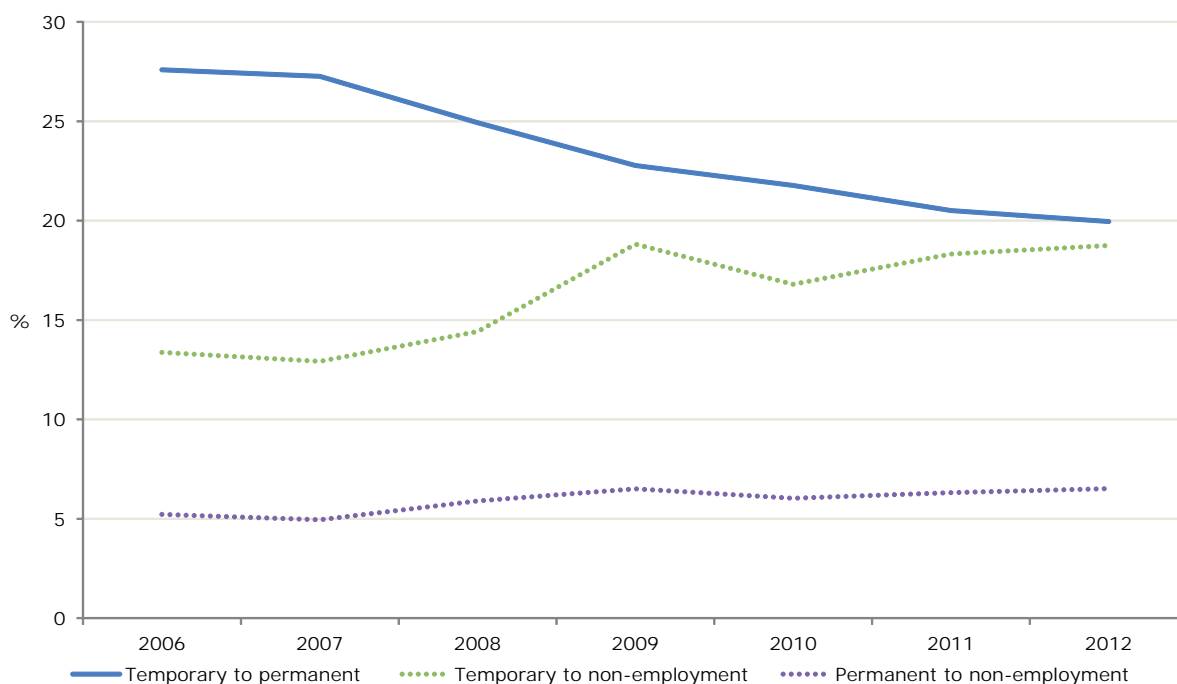
(b) Transitions in 2011–2012

Status in 2011	Status in 2012				
	Permanent %	Temporary %	Other employed %	Non-employment %	Education %
Permanent	90.1	1.8	1.2	6.5	0.3
Temporary	20.0	57.5	2.4	18.8	1.4

Source: *EU-SILC*

The most relevant transitions for temporary employees are those into permanent employment, which are of high policy relevance, and those into non-employment, where a large gap with their permanent counterparts is evident.

Annual data show that the already higher transition rates into non-employment for temporary employees grew more from 2008 (Figure 34). From the onset of the crisis, around 18% of temporary employees working in a given year found themselves unemployed the following year, while this was the case for only around 6% of permanent employees. But while at least a quarter of temporary employees transitioned into permanent positions the following year before 2008, this proportion had fallen to less than 20% by 2012.

Figure 34: Transition rates from temporary and permanent contracts, EU, 2006–2012

Note: Data refer to one-year transitions (2006 refers to the period 2005–2006; 2007 to 2006–2007 and so on).

Source: *EU-SILC*

Transitions into non-employment by type of contract

Transitions into non-employment are much more common among temporary than permanent employees, with the gap widening since the onset of the crisis (Table 7). This occurs for both female and male employees, although the gender gap in this respect is wider among permanent employees.

The size of transition rates is negatively related to educational levels. The crisis reinforced this link and widened the gap between temporary and permanent employees, as a result of the much higher growth in transition rates among employees with lower educational attainment in temporary contracts.

Transitions are higher for temporary than for permanent employees across all ages. Once again, the crisis widened this gap, relatively more so among those employees below 50 years of age.

Considering longer time spans, a higher proportion of temporary employees have episodes of non-employment. This increased significantly in recent years; almost a quarter of those employees holding a temporary contract in 2009 were out of employment in 2012.

Table 7: Transition rates into non-employment over time, EU

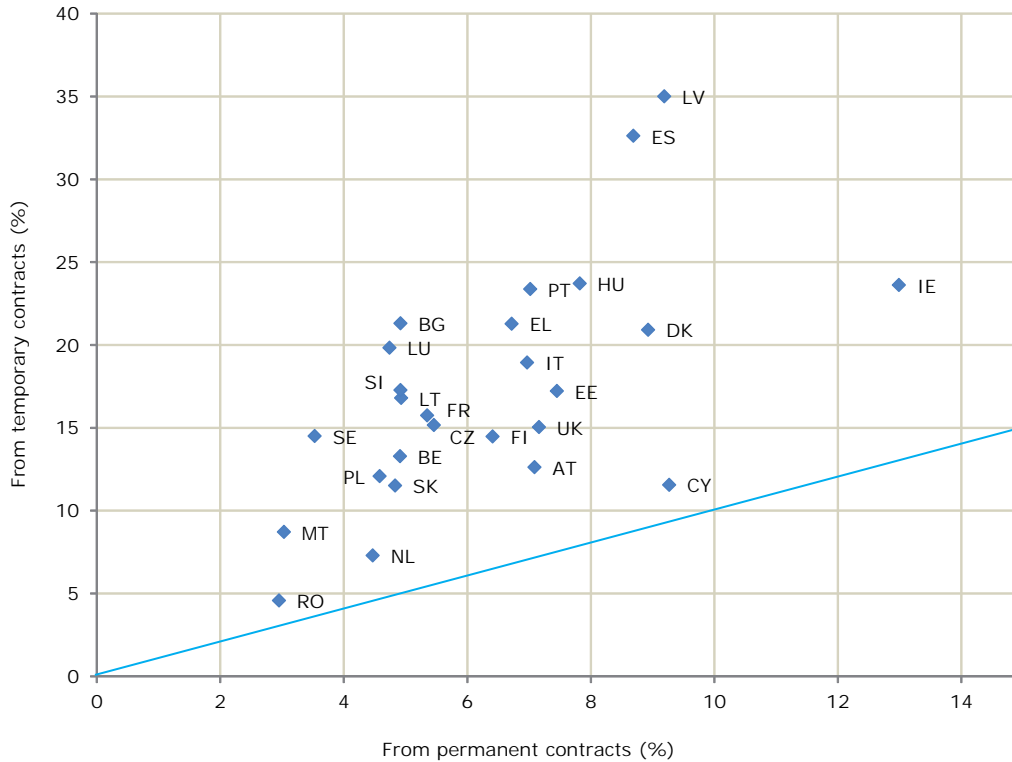
	Temporary to non-employment %				Permanent to non-employment %			
	2006	2008	2010	2012	2006	2008	2010	2012
Total	13.4	14.4	16.8	18.8	5.2	5.9	6.0	6.5
Gender								
Men	12.2	13.0	16.6	18.7	4.6	4.8	5.6	5.9
Women	14.7	16.2	17.0	18.8	6.1	7.4	6.5	7.2
Education								
Low	18.9	20.3	25.4	29.4	8.0	8.0	8.8	10.7
Medium	12.3	13.3	15.7	16.3	4.9	5.8	6.0	6.2
High	8.1	8.1	10.3	13.4	3.7	4.5	4.3	4.7
Age								
20–29 years	11.1	12.1	15.3	18.0	4.9	5.9	6.6	6.6
30–39 years	12.4	12.8	15.8	16.8	3.9	4.3	4.9	5.2
40–49 years	12.3	15.7	15.7	19.1	2.9	3.3	3.3	4.1
50–59 years	20.6	20.9	21.5	21.0	7.4	7.6	7.1	6.3
60+ years	36.0	34.5	34.1	35.4	24.2	29.9	25.9	27.8
Time span								
2 years	17.6	15.2	22.4	22.3	8.2	9.3	10.0	9.7
3 years	n.d.	17.2	21.2	24.3	n.d.	12.3	11.6	12.6

Note: Data refer to one-year transitions (2006 refers to the period 2005–2006, 2008 to 2007–2008 and so on) except for the last two rows, which refer to two-year and three-year transitions – for instance, data in 2012 refer to transitions between 2010 and 2012 for two-year transitions and between 2009 and 2012 for three-year transitions. n.d.= no data available.

Source: *EU-SILC*

Transitions into non-employment are more common for temporary than permanent employees across all European countries (Figure 35). In 2012, the rates for temporary employees were above 30% in Latvia and Spain and below 10% in the Netherlands, Malta and Romania.

Figure 35: Transition rates from temporary and permanent contracts into non-employment, Member States, 2011–2012



Note: Data refer to 2010–2011 for Malta, Romania, Sweden and Slovakia and to 2009–2010 for Ireland.
Source: *EU-SILC*

Transitions from temporary to permanent contracts

Transitions from temporary to permanent contracts declined consistently between 2006 and 2012, but especially from the onset of the crisis in 2008, to reach a level of 20% in 2012 in Europe as a whole (Table 8).

The drop in transitions from temporary to permanent contracts affects all groups.

The transition rate is higher for men than women, although the gap narrowed during the observation period due to the larger fall in transitions among men. This is consistent with the greater impact of the crisis on male employment levels.

The transition rates are positively related to rising educational attainment, although all groups have experienced reductions in their transitions into permanent employment, especially from the crisis.

There is a negative relationship between the size of the transition rates and age, although this became less obvious between 2006 and 2012. The rates declined across all age groups but especially among the younger segments of the workforce.

Table 8: Transition rates from temporary to permanent contracts, EU, 2006–2012

	2006	2007	2008	2009	2010	2011	2012
Total	27.6	27.3	24.9	22.8	21.8	20.5	20.0
Gender							
Men	29.9	28.5	25.2	22.5	22.4	21.1	20.0
Women	25.0	25.8	24.6	23.2	21.2	19.9	19.9
Education							
Low	23.6	22.0	20.7	17.2	18.4	15.9	16.3
Medium	28.5	28.9	27.2	26.1	22.9	21.5	20.5
High	32.4	31.4	26.3	23.9	23.5	22.5	22.2
Age							
20–29 years	27.0	27.2	24.4	23.5	21.0	19.9	18.2
30–39 years	29.2	28.4	28.0	24.1	24.0	21.3	20.7
40–49 years	28.2	27.4	22.9	21.5	21.3	20.6	21.6
50–59 years	25.8	25.9	24.4	21.8	20.3	21.3	21.3
60+ years	21.8	18.9	16.2	11.7	19.4	17.3	17.6
Time span							
2 years	35.3	37.5	35.6	34.0	29.7	30.1	28.4
3 years			40.4	40.6	39.3	32.9	34.3

Note: Data refer to one-year transitions, except the last two rows, which refer to two-year and three-year transitions. For instance, data in 2012 refer to transitions between 2010 and 2012 in the case of two-year transitions and between 2009 and 2012 in the case of three-year transitions.

Source: *EU-SILC*

Considering longer time spans, less than 30% of those employees holding a temporary contract in 2010 had managed to move into a permanent contract by 2012 for the EU aggregate, while this was the case for around a third of those holding a temporary contract in 2009 (Table 8). The rates for the two-year and three-year transitions also declined during the period.

The magnitude of the transition rates varies widely across European countries, ranging from more than 50% in Estonia, Romania, Lithuania and the UK to less than 20% in France, the Netherlands, Spain, Greece and Italy in 2012 (Figure 36). The proportion of temporary employees moving the following year into permanent positions declined between 2006 and 2012 across two-thirds of European countries (those above the diagonal line in Figure 36), but notably so in Ireland, Latvia, Hungary, Spain and Luxembourg. In contrast, the transition rate grew significantly over the period in Austria, Belgium, Lithuania and Portugal.

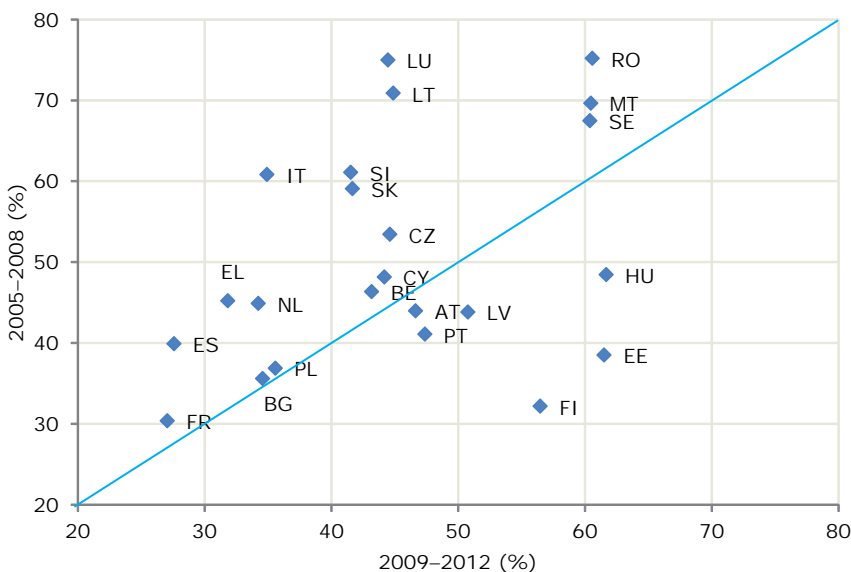
Figure 36: Transition rates from temporary to permanent contracts, Member States, 2005–2006 and 2011–2012



Note: Data for 2011–2012 refer to 2010–2011 for Lithuania, Malta, Romania, Slovakia and Sweden, and to 2008–2009 for Ireland. Data for 2005–2006 refer to 2007–2008 for Bulgaria and Romania, and to 2006–2007 for Portugal.
Source: *EU-SILC*

The reduction in the proportion of temporary employees able to move into permanent positions is even more generalised when a three-year span is considered. The rates fell in all but six countries (those to the right of the blue diagonal line in Figure 37). Substantial reductions took place in Lithuania, Luxembourg and Italy. In the case of Italy, for instance, 60% of those employed under temporary contracts in 2005 had a permanent contract by 2008, while only 35% of temporary employees in 2009 had moved into permanent employment by 2012.

Figure 37: Three-year transition rates from temporary to permanent contracts, Member States, 2005–2008 and 2009–2012

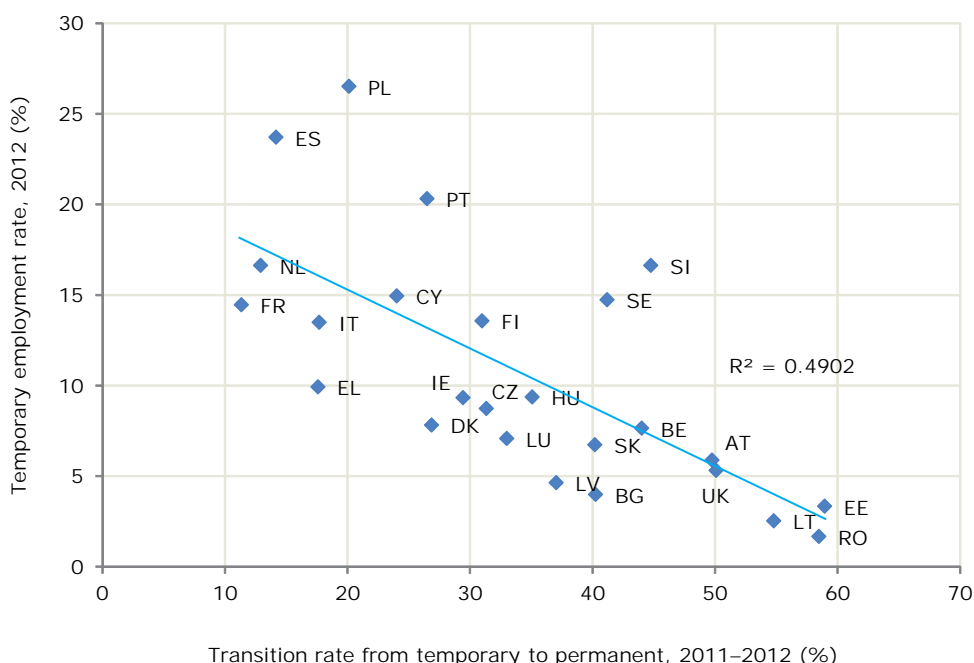


Note: Data for 2011–2012 refer to 2010–2011 for Romania, Slovakia and Sweden. Data for 2005–2008 refer to 2006–2009 for the Czech Republic, France, Hungary, Lithuania, Malta, Portugal, Spain and Sweden, and to 2007–2010 for Romania.
Source: *EU-SILC*

The transition rates tend to be lower in those countries with relatively high temporary employment rates (Figure 38). This is the situation in southern countries (mainly Spain, Portugal and Italy), some western countries (the Netherlands and France) and Poland, which is an outlier within CEE countries. However, those countries characterised by higher transition rates and lower temporary employment rates include mainly CEE countries (especially Romania, Lithuania and Estonia), Austria and the UK.

This state of affairs may be explained by the two-tier reforms in employment protection legislation adopted by many European countries starting from the 1980s. These eased employment protection legislation for temporary contracts while leaving the provisions regulating permanent employment largely unchanged. These reforms have resulted in growing levels of temporary employment and varying degrees of labour market segmentation, where the workforce is split into two segments characterised by different working conditions (one of them typically under permanent contracts, the other under temporary contracts) and limited mobility between these two groups.

Figure 38: Transition rate from temporary to permanent contracts vs temporary employment rates, Member States



Note: R^2 represents the coefficient of correlation between the two variables.
 Source: EU-SILC for transition and EU-LFS for temporary employment rates

The results here support previous research suggesting that the possibilities for temporary employees to move into permanent positions tended to be lower in those countries that had relaxed the regulations on the use of temporary contracts (European Commission, 2010). In these countries (for instance, France, Poland and Spain), reforms easing the use of temporary contracts would:

reduce conversion rates of temporary into permanent jobs, even when workers and jobs seem well matched, as firms may prefer to ‘churn’ (or rotate) temporary workers instead of bearing the potential costs of having to fire permanent ones.

(European Commission, 2010, p. 139)

Thus, the main policy concern is to what extent temporary contracts may become a ‘trap’ that deprives employees of good labour market career prospects in those countries characterised by stronger labour market segmentation between temporary and permanent jobs.

Summary

Temporary employees more often undergo labour market transitions than permanent employees. Transitions into non-employment are much more common among temporary employees, and the gap with permanent employees has widened since the onset of the crisis. Transition rates into non-employment are higher among temporary employees across all European countries. Rates are even higher among employees with lower educational attainment, with almost 30% of this group who held temporary contracts in 2011 not being in employment in 2012.

Moreover, the proportion of temporary employees who manage to move into permanent positions has declined consistently since 2006 for the EU as a whole. Only 20% of temporary employees moved into permanent contracts between 2011 and 2012. The transition rate is even lower among younger employees and those with lower educational attainment. The rate fell over the period across two-thirds of European countries, although wide disparities persist between them.

More than 50% of temporary employees were able to move into permanent positions in Estonia, Romania, Lithuania and the UK between 2011 and 2012, while this was the case for less than 20% in France, the Netherlands, Spain, Greece and Italy. The transition rates into permanent contracts tend to be lower in those countries characterised by relatively higher temporary employment rates. This reflects the existence of labour market segmentation in a number of European countries, whereby a growing segment of employees (typically on temporary contracts) is characterised by worse working conditions than the core of the workforce (typically on permanent contracts), and mobility between these two groups may be difficult.

Given the increase in the transition rates out of employment and the greater difficulty in moving to permanent positions, the current context poses a challenge to the labour market situation of temporary employees and raises the question to what extent temporary contracts facilitate a good career progression.

Against a background of growing structural unemployment across European countries in the 1970s, reforms in employment protection law from the 1980s have resulted in increasing levels of temporary employment across many European countries. This report provides an updated picture on temporary employment by studying its evolution over the past decade and analysing the working conditions and career progression of temporary employees.

Temporary employment grew considerably more than permanent employment between 2001 and 2012 (25% compared with 7%) in the EU27 as a whole. It contributed almost 4.5 million to the 14.5 million overall net increase in the total number of employees over this period. The growth rate of temporary contracts was above that of permanent contracts in around two-thirds of European countries, although it declined in the other third. Five countries (Poland, Germany, Italy, France and the Netherlands) accounted for much of the absolute increase in temporary employment levels in the EU27 between 2001 and 2012, while numbers of temporary employees have fallen significantly in Spain in recent years.

These developments meant that the temporary employment rate for the EU27 increased from 11.2% to 12.8% between 2001 and 2012, with almost two-thirds of Member States recording growth. The economic crisis had a clear influence on trends: the country picture was more mixed before the crisis, with temporary employment levels falling in almost a third of European countries. From the onset of the crisis, temporary employment levels have generally increased (and permanent employment levels have decreased), resulting in growing temporary employment rates across most European countries. Nevertheless, temporary employment rates are still quite variable, ranging in 2012 from more than 20% in Poland, Spain and Portugal to below 5% in some CEE countries.

Temporary contracts are more responsive to changes in the business cycle. Their growth moderated prior to the crisis, and they were severely affected by the employment correction that took place in 2008 and 2009. However, against a background of economic uncertainty, a very high share of the new employment being created occurs under temporary contracts. From 2010, around half of employees who had taken up their jobs within the previous 12 months did so on temporary contracts. This is the highest proportion over the whole period under study and rises to levels of around 80% in Spain and Poland. A preference by employers to use temporary contracts for many of their new hires may continue until a solid recovery takes hold in Europe.

Temporary contracts are much more prevalent among the younger segments of the labour force, with the relationship between the temporary employment rate and age following a U-shape: the rate is highest among younger employees, decreases with age and then grows again for the oldest employees. Temporary contracts held by employees aged 20–29 years represent more than half the total temporary contracts in some countries (Belgium, Germany, Slovenia and Sweden), but less than 30% in others (Greece, Spain and some CEE countries). Employees over 50 years of age account for significant shares of temporary employment in some CEE countries and the UK.

Even when other factors are controlled for, age is still a very important determinant of whether an employee holds a temporary contract, but much less so in the CEE countries than in the EU15 countries. The likelihood of holding a temporary contract is much higher among employees with past experience of unemployment, and this effect has strengthened against the background of the economic crisis. Nevertheless, results of a regression analysis suggest that country-level factors not included in the model (employment protection legislation, among others) are important in explaining differences in temporary employment rates across European countries.

Workers take up temporary employment for a variety of reasons. According to their own reported answers, almost two-thirds of temporary employees in the EU27 could be considered involuntary temporary employees – they accepted a temporary contract because they could not find permanent employment. A further 12% are temporary voluntarily, while less than 15% are on training contracts and less than 10% on contracts covering a probationary period. Although involuntary temporary employment is prevalent among those aged 30–59 years, training and probationary contracts

account for more than a third of contracts among employees aged 20–29 years, and voluntary temporary employment is the most common among employees aged 60 years and over. Regardless of the reason for holding a temporary contract, the research clearly shows that temporary employees have much shorter job tenures than permanent employees across all groups.

According to 2010 SES data and as an average across 19 countries, temporary employees earn wages that are 19% lower than those of permanent employees. The wages of temporary employees are lower across all 19 countries except Estonia, the negative gap being above 30% in Luxembourg, Poland, the Netherlands, Portugal and Hungary, and much narrower in the Baltic states and Romania. The negative wage gap tends to be wider in those countries characterised by a higher incidence of temporary employment, probably a reflection of the labour segmentation in some European countries. This wage gap is negative across almost all countries in the bottom wage quintile, but narrows or turns positive in favour of temporary employees in the top wage quintile, probably reflecting the presence of occupations such as consultants in this quintile.

When other factors are controlled for, the resulting adjusted negative wage gap is reduced to less than 6% on average across European countries. Temporary employees still earn lower wages in most European countries except, in this case, the Baltic states and Romania. The picture of different wage gaps at the extremes of the wage distribution across countries is generally maintained. Moreover, a wage gap disfavouring temporary employees exists across most European countries, even among employees with up to two years of seniority at a company, implying that the pay differential is not only due to longer job tenures among permanent employees.

The SES data enable the unadjusted wage gap between temporary and permanent employees working within the same company to be calculated. Again, temporary employees earn less within the average company across all 19 countries, except Lithuania. Nevertheless, the average size of the negative wage gap in Europe narrows from 19% to 14% when calculated within companies. This means that temporary employees earn less than permanent employees partly because they are more likely to be employed by companies characterised by relatively lower wages, and therefore pay differentials between companies contribute to the wage gap between temporary and permanent employees, as predicted by the dual labour market theory. The wage gap is larger within privately controlled companies and within companies in the construction and industry sectors, but much narrower within companies in sectors with a public sector presence such as education and healthcare.

This study presents an innovative multivariate regression analysis conducted at establishment level. Although the results should be treated with caution, they show that when companies are publicly controlled, employ a higher share of women or part-time employees, or have an older workforce, these factors generally lead to narrower wage gaps within the company. In contrast, having a higher share of temporary employees tends to lead to a larger wage gap within the company, probably reflecting the internal labour market segmentation at company level.

A much higher proportion of temporary employees have spells of non-employment in their labour market careers. This experience was accentuated with the onset of the crisis. Transition rates into non-employment are higher among temporary employees than permanent employees across all European countries. During the most recent years, the yearly transition rates out of employment have been around 18% among temporary employees compared with around 6% among permanent employees for the EU as a whole.

However, the proportion of temporary employees moving into permanent positions has seen a constant decline over the period under observation. In Europe as a whole, less than 20% managed to achieve this change between 2011 and 2012; this figure was even lower among younger employees and those with a lower educational attainment. Although the transition rate has fallen across two-thirds of European countries, large disparities between them persist, and transition

rates tend to be lower in countries with high temporary employment rates. More than half of temporary employees moved to permanent positions between 2011 and 2012 in Estonia, Romania, Lithuania and the UK, but less than 20% in France, the Netherlands, Spain, Greece and Italy, again suggesting the existence of labour market segmentation in some countries.

The study raises concerns about the career prospects of temporary employees, especially against the background of the current labour market situation. From the onset of the crisis, temporary employees have been more likely to exit employment. This may increase the likelihood of them falling back into unemployment and holding temporary contracts in the future. At the same time, temporary employees find it more difficult to move into permanent positions and escape the cycle of temporary employment and unemployment. This raises a question about the extent to which temporary contracts facilitate good career progression.

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Annex: Supplementary data

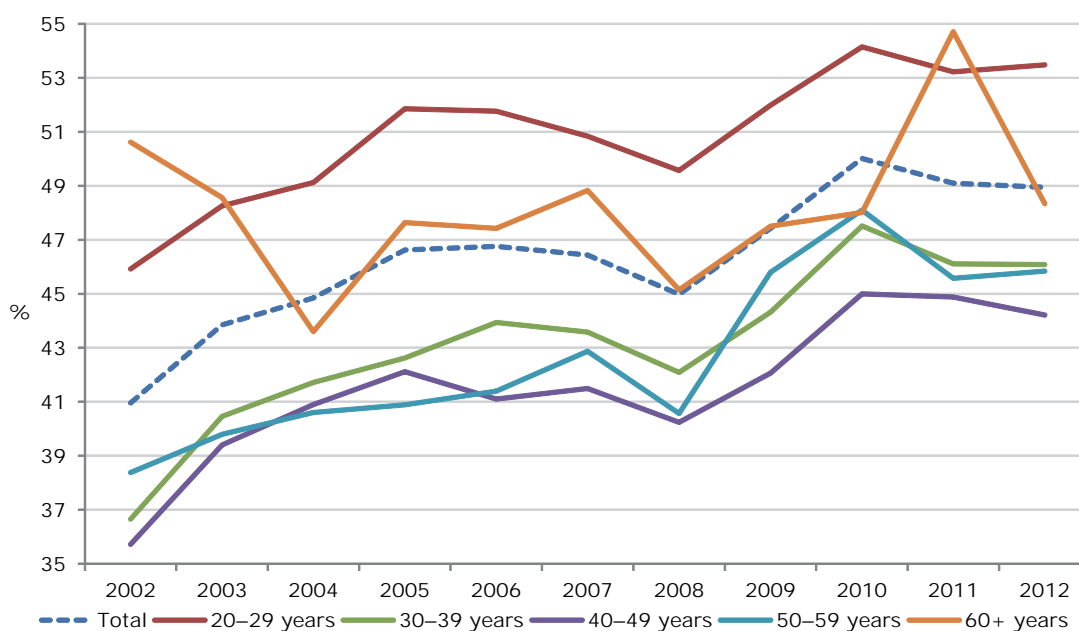
Table A1: Average Member State share of main EU27 employment aggregates (%)

	Population	Unemployment	Employment	Employees	Permanent employment	Temporary employment
AT	1.7	0.9	1.9	1.9	2.0	1.3
BE	2.2	1.7	2.0	2.1	2.2	1.3
BG	1.6	1.9	1.4	1.5	1.6	0.6
CY	0.2	0.1	0.2	0.2	0.2	0.2
CZ	2.2	1.8	2.3	2.3	2.4	1.5
DE	17.2	16.6	17.7	18.9	18.8	19.0
DK	1.1	0.7	1.3	1.4	1.5	1.0
EE	0.3	0.3	0.3	0.3	0.4	0.1
EL	2.2	2.7	2.0	1.5	1.6	1.3
ES	9.1	14.5	8.5	8.5	7.0	18.5
FI	1.1	1.2	1.2	1.2	1.2	1.5
FR	11.9	12.0	11.8	12.7	12.5	13.7
HU	2.1	1.6	1.8	1.9	2.0	1.1
IE	0.8	0.8	0.9	0.9	1.0	0.5
IT	12.3	10.0	10.6	9.5	9.7	8.5
LT	0.7	0.9	0.7	0.7	0.8	0.2
LU	0.1	0.0	0.1	0.1	0.1	0.1
LV	0.5	0.7	0.5	0.5	0.5	0.3
MT	0.1	0.1	0.1	0.1	0.1	0.0
NL	3.2	1.6	3.9	4.1	3.9	4.9
PL	7.6	11.5	7.0	6.3	5.6	11.3
PT	2.2	2.2	2.4	2.2	2.0	3.4
RO	4.5	3.5	4.5	3.4	3.9	0.4
SE	1.8	1.6	2.1	2.3	2.2	2.7
SI	0.4	0.3	0.5	0.5	0.4	0.6
SK	1.1	2.0	1.1	1.1	1.2	0.4
UK	12.0	8.8	13.5	14.0	15.3	5.8

Note: Data refer to average shares for 2000–2012 for population, unemployment and employment, and 2001–2012 for employees, permanent and temporary employment.

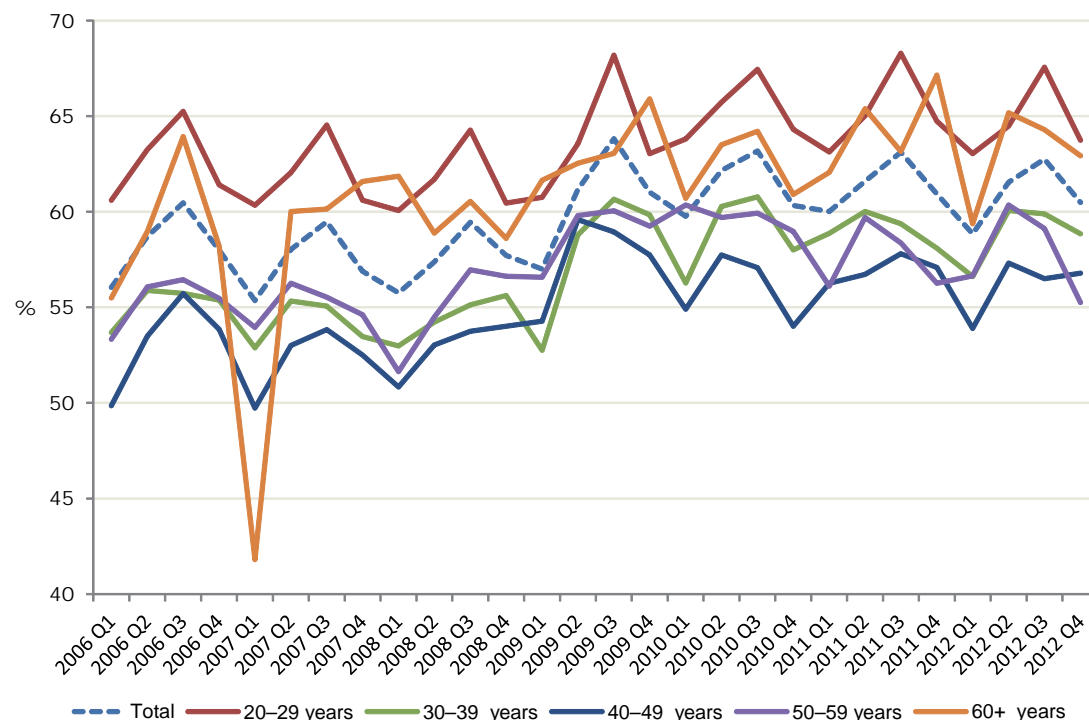
Source: *EU-LFS*

Figure A1: Share of temporary contracts among short-tenured employees, by age group, EU27



Note: Short-tenured employees are those with a job tenure of up to 12 months and include newly employed individuals who were not previously employed or who changed jobs within the previous 12 months.
Source: EU-LFS

Figure A2: Quarterly share of temporary contracts among very short-tenured employees, by age group, EU27, quarter 1 2006 to quarter 4 2012



Note: Very short-tenured employees are those with a job tenure of up to three months and include newly employed individuals who were not previously employed or changed jobs within the previous three months.
Source: EU-LFS

Table A2: Temporary employment rates and distribution of temporary employment by Member State, 2012

(a) Temporary employment rate: Personal characteristics*

	Age					Gender		Educational level			Nationality		
	15–29	30–39	40–49	50–59	60+	Male	Female	Low	Medium	High	National	EU	Non-EU
AT	11.9	6.0	3.5	2.6	5.7	5.2	6.6	7.2	4.5	9.5	5.4	10.2	7.7
BE	19.3	6.9	4.1	2.9	5.8	6.6	8.8	9.1	7.1	7.4	6.9	11.0	24.1
BG	6.3	3.0	2.8	4.3	5.6	4.5	3.4	14.5	3.3	1.7	4.0		0.0
CY	18.4	19.3	13.1	7.2	7.0	8.9	20.8	29.1	11.8	12.6	7.7	10.2	76.3
CZ	15.9	6.9	4.8	5.4	26.7	7.2	10.5	16.0	8.5	8.1	8.6	18.5	11.5
DE	33.8	11.2	5.9	4.6	4.6	11.9	12.3	22.7	10.9	10.3	11.6	15.8	19.3
DK	19.2	8.2	4.0	3.7	3.2	6.7	8.9	9.3	6.8	8.0	7.4	10.2	15.4
EE	5.9	3.0	2.8	1.9	3.1	4.2	2.5	7.2	3.9	1.7	3.1	6.7	4.7
EL	19.3	10.1	7.4	6.3	5.9	8.7	11.4	16.7	8.7	7.5	8.7	25.4	18.8
ES	48.6	25.5	18.9	11.2	8.6	22.0	25.6	27.2	23.5	21.0	21.4	37.9	40.4
FI	29.1	12.9	9.3	6.9	9.9	10.9	16.2	12.7	15.1	12.1	13.4	15.0	25.9
FR	34.2	11.9	8.8	7.0	16.4	13.5	15.4	15.8	15.0	12.9	14.1	15.3	24.2
HU	15.2	8.8	7.5	7.5	9.5	10.1	8.5	22.1	8.5	5.6	9.3	10.0	10.7
IE	18.6	7.1	6.4	5.5	8.2	9.1	9.5	9.4	9.9	8.9	9.3	8.4	13.2
IT	36.2	13.3	9.0	6.4	8.0	12.5	14.6	14.2	12.7	14.3	13.1	18.7	14.8
LT	4.9	2.4	2.2	1.5	1.4	3.3	1.9	9.7	3.2	1.1	2.5	0.0	2.0
LU	18.7	5.5	4.4	2.6	11.4	6.7	7.6	9.1	5.7	7.5	5.8	7.8	14.7
LV	6.1	3.7	4.6	4.8	2.4	6.1	3.2	11.3	5.0	2.3	4.5	0.0	5.3
MT	9.8	4.2	4.0	5.5	7.7	5.6	7.0	5.7	5.9	7.2	6.0	8.8	
NL	36.7	14.4	10.5	6.7	14.6	15.8	17.6	17.6	17.3	15.1	16.1	21.3	32.7
PL	48.6	23.2	17.9	16.2	28.3	27.0	26.0	43.5	29.4	18.5	26.5	40.6	31.6
PT	43.3	20.1	12.7	10.5	13.5	20.5	20.2	18.3	21.7	23.5	19.8	31.0	39.1
RO	3.4	1.5	1.2	1.0	1.1	2.0	1.2	5.2	1.5	0.8	1.7	0.0	0.0
SE	37.0	11.9	7.6	5.6	14.0	12.9	16.6	17.4	14.9	13.4	14.1	18.3	37.6
SI	47.1	13.6	7.6	6.4	25.4	15.2	18.2	17.9	18.1	13.7	16.1	35.4	35.2
SK	11.3	5.8	5.2	4.6	14.9	6.3	7.2	37.4	5.9	3.6	6.7	12.2	0.0
UK	9.0	4.3	3.7	3.6	7.1	5.1	5.6	3.8	4.9	6.4	4.9	8.6	9.1
EU27	28.4	12.3	8.2	6.3	9.6	12.3	13.4	16.9	12.2	11.6	12.3	16.5	21.1

*(b) Distribution of temporary employment**: Personal characteristics*

	Age					Gender		Educational level			Nationality		
	15–29	30–39	40–49	50–59	60+	Male	Female	Low	Medium	High	National	EU	Non-EU
AT	45.4	25.4	17.8	9.0	2.3	46.1	53.9	15.1	52.3	32.6	81.2	11.2	7.6
BE	50.2	24.0	15.4	8.4	2.0	45.1	55.0	23.4	36.4	40.2	83.4	9.2	7.4
BG	27.5	20.2	19.1	25.0	8.3	57.7	42.3	36.9	51.1	12.0	100.0	0.0	0.0
CY	29.8	38.5	21.4	8.5	1.9	29.2	70.8	31.7	31.7	36.6	38.5	10.4	51.1
CZ	32.9	22.6	14.4	13.5	16.6	45.3	54.7	8.2	72.5	19.2	97.2	1.8	1.0
DE	54.9	19.5	13.9	9.2	2.6	51.6	48.5	21.9	54.4	23.7	86.9	5.5	7.6
DK	47.2	24.9	14.1	10.8	3.1	43.9	56.1	21.8	40.0	38.2	89.1	4.1	6.9

Recent developments in temporary employment: Employment growth, wages and transitions

	Age					Gender		Educational level			Nationality		
	15–29	30–39	40–49	50–59	60+	Male	Female	Low	Medium	High	National	EU	Non-EU
EE	37.8	21.3	19.4	12.3	9.2	60.6	39.4	17.8	62.8	19.4	78.9	0.5	20.6
EL	30.7	33.1	23.1	11.4	1.6	49.3	50.7	35.3	36.3	28.4	78.6	5.4	16.0
ES	31.4	35.1	22.9	9.1	1.5	48.5	51.5	39.2	23.7	37.1	78.5	6.9	14.6
FI	42.7	22.8	17.1	12.0	5.5	39.5	60.5	9.5	51.9	38.7	96.5	1.2	2.3
FR	46.7	21.1	17.0	11.2	4.0	46.8	53.2	23.0	45.4	31.6	92.2	2.4	5.4
HU	29.5	29.6	20.7	18.0	2.2	56.6	43.4	27.3	57.3	15.5	99.3	0.4	0.3
IE	44.9	24.4	16.5	9.8	4.4	47.0	53.0	15.4	38.1	46.6	83.4	10.9	5.7
IT	38.5	27.5	21.4	10.8	1.9	51.2	48.8	34.9	45.9	19.2	85.9	5.6	8.6
LT	35.3	22.9	23.8	14.1	3.9	60.9	39.1	14.1	68.2	17.7	99.7	0.0	0.3
LU	46.7	23.1	18.9	7.1	4.2	52.1	47.9	24.6	31.3	44.1	40.5	50.8	8.8
LV	28.9	19.7	24.2	23.4	4.0	63.3	36.7	20.6	61.9	17.5	83.0	0.0	17.1
MT	46.7	19.4	13.3	16.7	4.0	55.5	44.5	41.2	30.7	28.0	98.4	1.6	0.0
NL	48.9	19.7	16.8	8.9	5.8	49.3	50.8	22.7	46.1	31.2	93.8	2.6	3.5
PL	41.8	26.1	15.5	12.6	4.1	54.6	45.4	8.4	68.8	22.8	99.9	0.1	0.1
PT	39.5	31.2	16.9	9.7	2.8	50.5	49.6	48.3	25.4	26.3	94.7	0.9	4.5
RO	39.0	28.3	20.1	11.5	1.3	66.8	33.2	24.9	62.9	12.2	100.0	0.0	0.0
SE	50.4	19.1	13.0	8.0	9.5	44.0	56.0	15.9	50.0	34.1	91.1	3.2	5.8
SI	51.1	25.3	13.7	7.6	2.3	47.8	52.2	9.4	64.1	26.5	94.9	1.0	4.1
SK	32.8	25.2	19.7	15.7	6.6	49.9	50.1	23.1	65.5	11.4	99.8	0.2	0.0
UK	39.3	18.9	18.3	13.7	9.9	48.4	51.6	12.7	37.0	50.3	84.6	7.8	7.7
EU27	43.1	24.8	17.6	10.7	3.8	49.9	50.1	24.1	47.0	28.9	89.1	4.1	6.8

(c) Temporary employment rate*: Company characteristics

	Economic sector (NACE Rev. 2)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
AT	6.0	9.0	3.1	3.3	4.6	4.3	3.1	4.0	11.5	4.9	2.4	3.3	4.6
BE	15.2	8.5	6.2	5.3	6.2	4.0	6.8	4.2	14.3	5.4	2.3	4.2	10.5
BG	13.7	1.1	1.2	0.0	3.0	9.1	1.3	2.5	10.8	1.9	2.0	0.0	1.2
CY	41.9	7.2	2.5	8.7	7.3	3.8	1.9	9.8	23.8	6.8	1.7	3.5	5.3
CZ	9.3	1.9	8.5	6.1	6.2	7.7	8.4	4.5	16.1	8.3	6.7	7.3	7.9
DE	11.2	8.1	8.8	8.6	9.2	8.3	11.5	9.6	14.7	10.5	6.5	6.9	12.5
DK	9.9	5.1	4.5	2.5	5.4	7.8	5.9	3.7	8.6	5.6	2.8	7.1	5.8
EE	8.3	3.8	2.8	0.0	1.2	8.0	2.7	3.0	6.4	3.4	0.0	3.7	1.8
EL	31.7	6.9	4.9	13.1	17.0	19.7	4.9	6.6	28.5	3.7	2.4	0.0	6.4
ES	62.9	13.3	16.1	13.1	14.9	37.7	19.2	16.0	36.7	16.8	10.2	12.4	20.2
FI	15.0	8.4	7.0	7.6	9.0	7.4	7.9	8.5	15.7	6.2	5.3	4.8	14.9
FR	25.6	4.3	11.5	6.6	13.2	14.4	11.2	8.8	19.1	12.2	5.9	9.3	11.7
HU	15.8	1.5	8.0	3.0	24.8	13.6	5.4	3.2	11.0	5.3	2.9	7.9	4.8
IE	11.3	7.1	6.7	6.4	9.0	14.7	8.0	5.9	13.8	6.6	4.3	7.6	9.0
IT	61.3	9.7	9.3	9.5	8.7	15.0	13.7	8.8	29.9	9.6	5.0	9.6	14.5
LT	12.4	1.0	1.9	2.6	6.6	5.6	1.6	1.7	2.0	0.9	0.0	4.5	1.4

Recent developments in temporary employment: Employment growth, wages and transitions

	Economic sector (NACE Rev. 2)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
LU	0.0	0.0	2.4	4.3	7.2	6.2	7.0	4.5	9.4	3.4	3.0	6.0	8.0
LV	11.1	15.0	1.8	4.0	0.0	9.5	2.0	6.7	4.6	1.3	0.3	4.4	1.3
MT	3.1	7.1	4.9	2.7	2.0	2.7	5.8	6.5	8.5	4.8	3.0	10.3	9.0
NL	19.0	11.8	13.2	16.4	9.2	14.0	17.9	21.5	34.5	16.1	10.4	7.5	16.5
PL	34.4	9.8	30.9	5.6	19.7	38.4	34.3	21.4	42.4	24.2	18.8	14.2	23.2
PT	29.7	21.9	16.5	16.8	13.7	25.7	17.3	17.7	26.4	26.1	8.6	22.0	27.2
RO	11.7	0.2	0.9	0.1	2.3	4.1	1.0	0.9	5.0	0.9	0.6	0.0	0.7
SE	17.1	9.3	6.4	3.9	13.1	8.1	13.5	14.7	34.9	8.5	7.5	11.2	9.5
SI	21.3	5.8	14.0	8.0	10.4	20.6	18.2	13.6	32.2	13.3	12.8	13.3	18.0
SK	5.7	2.9	4.8	1.1	12.1	8.1	5.4	2.3	10.0	3.7	2.7	8.3	4.7
UK	7.6	4.9	4.6	3.4	6.8	4.2	3.2	4.9	7.1	3.6	2.6	4.2	3.7
EU27	31.0	7.1	10.4	6.6	10.9	14.4	11.6	9.5	20.9	9.8	6.0	8.0	11.1

(d) Temporary employment rate*: Company characteristics (continued)

	Economic sector (NACE Rev. 2)								Company size (number of employees)				
	N	O	P	Q	R	S	T	U	<11	11–19	20–49	>50	Unsure, but >10
AT	5.0	5.8	15.2	7.8	17.4	6.2	8.8	35.8	6.1	6.1	5.7	5.7	10.0
BE	11.2	5.0	15.3	6.7	16.8	7.8	11.0	12.1	8.6	9.1	7.9	6.2	15.4
BG	16.7	3.4	2.5	5.5	0.9	1.3	15.6	100.0	6.1	3.4	3.1	2.1	6.1
CY	4.8	12.3	22.5	7.0	24.5	5.9	93.8	1.7	22.0	8.6	10.7	100.0	13.4
CZ	17.9	7.7	11.5	7.4	12.6	18.7	7.4	0.0	11.4	8.4	7.1	8.0	10.0
DE	16.9	11.7	21.6	15.5	20.7	12.6	4.5	12.9	9.6	12.7	11.9	12.2	
DK	6.8	7.8	13.7	10.1	14.3	7.5	38.5	18.6	8.9	7.6	6.8	7.3	18.4
EE	7.1	1.5	0.9	2.1	4.5	1.7		0.0	6.5	3.5	1.6	2.1	16.2
EL	13.7	5.5	9.5	10.0	19.1	9.1	27.2	0.0	14.2	7.5	7.6	5.7	8.4
ES	23.4	16.5	23.8	26.9	35.5	26.3	29.5		27.8	22.1	20.0	16.2	32.6
FI	12.9	10.9	25.3	22.1	20.0	22.3	46.4	0.0	14.0	13.1	14.4	11.7	
FR	20.8	15.3	18.9	16.0	37.6	18.8	15.8	24.7	15.1	13.5	12.8	11.5	33.2
HU	11.9	23.8	6.0	6.2	11.4	7.6	48.9	11.1	9.7	9.4	8.9	8.2	12.8
IE	12.2	2.8	14.3	9.9	18.4	13.4	31.9	10.2	11.8	8.9	7.6	6.9	
IT	18.1	6.2	16.0	10.2	28.5	16.6	6.0	9.5	16.9	16.5	12.9	8.9	16.9
LT	4.6	0.5	1.5	0.5	0.3	4.2	57.0	0.0	5.1	2.4	1.7	1.6	9.4
LU	8.2	5.5	12.8	10.4	11.8	11.2	3.0	13.1	6.7	6.4	6.3	6.6	9.7
LV	25.5	1.8	2.2	4.4	3.7	14.1	0.0	18.6	6.8	4.0	2.8	2.9	6.3
MT	8.6	6.6	8.5	5.3	8.6	9.2	0.0	9.4	6.0	5.6	6.9	5.9	8.9
NL	29.3	6.6	14.8	15.4	25.6	20.4	15.4	18.2	20.1	18.9	16.4	13.7	
PL	54.8	11.8	14.8	16.6	24.2	30.7	70.8	0.0	37.4	29.7	24.8	20.1	37.9
PT	29.0	12.1	25.7	19.0	32.9	21.2	23.3	14.3	22.5	18.0	16.7	18.2	32.3
RO	2.0	0.3	1.4	0.5	2.1	0.6	26.7	0.0	2.7	1.7	1.6	1.3	1.9
SE	25.0	13.0	18.7	18.2	26.7	20.2	42.6	13.0	17.3	14.4	12.7	10.3	35.8
SI	23.4	13.2	16.1	12.1	32.1	27.5	77.5		22.6				15.2

Recent developments in temporary employment: Employment growth, wages and transitions

	Economic sector (NACE Rev. 2)								Company size (number of employees)				
	N	O	P	Q	R	S	T	U	<11	11–19	20–49	>50	Unsure, but >10
SK	33.1	14.0	3.7	2.8	10.1	8.4	34.8	0.0	7.6	7.4	6.6	5.3	7.4
UK	7.5	3.6	9.7	5.8	10.4	6.6	4.9	0.0	5.6	4.7	5.2	5.1	
EU27	18.9	10.2	15.5	13.2	21.4	14.7	17.6	10.9	15.3	13.0	11.5	10.4	22.1

(e) Distribution of temporary employment^{**}: Company characteristics

	Economic sector (NACE Rev. 2)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
AT	0.8	0.4	9.2	0.4	0.4	6.6	8.1	3.8	10.9	2.1	1.6	0.5	3.7
BE	0.8	0.2	11.7	0.5	0.6	3.2	11.1	3.4	4.5	2.3	1.1	0.2	4.6
BG	12.1	0.3	6.8	0.0	1.3	15.6	5.4	3.9	13.7	1.1	1.1	0.0	0.7
CY	3.3	0.1	1.2	0.4	0.8	2.6	2.3	2.6	12.2	1.3	0.8	0.1	2.1
CZ	3.4	0.2	28.8	0.8	0.9	5.4	10.4	3.6	6.3	2.2	1.9	0.6	2.8
DE	0.7	0.2	15.6	0.8	0.5	4.1	12.3	4.1	4.4	2.7	1.8	0.3	4.1
DK	1.7	0.2	7.8	0.2	0.5	5.3	9.1	2.5	3.1	2.8	1.2	0.9	3.3
EE	9.6	1.1	16.6	0.0	0.2	21.5	10.2	7.2	5.5	2.9	0.0	2.0	1.6
EL	6.4	0.3	5.4	1.4	1.6	9.9	7.8	3.5	19.1	1.0	1.0	0.0	2.4
ES	8.0	0.2	9.3	0.3	0.6	8.5	11.7	3.3	11.0	2.1	1.3	0.2	3.0
FI	1.6	0.2	8.1	0.4	0.3	3.5	7.0	3.5	3.6	2.1	1.0	0.3	6.4
FR	2.0	0.0	11.3	0.4	0.8	6.4	9.5	3.5	4.5	2.6	1.5	0.7	4.1
HU	6.7	0.1	19.1	0.3	4.9	8.3	7.7	2.4	4.9	1.4	0.8	0.4	1.4
IE	1.4	0.3	9.1	0.4	0.5	6.4	13.0	2.8	9.7	3.2	2.7	0.4	4.5
IT	11.3	0.1	14.7	0.5	0.8	6.9	12.0	3.5	11.2	1.8	1.1	0.3	3.3
LT	20.0	0.1	12.5	1.2	3.5	15.8	11.2	5.5	2.1	0.8	0.0	1.9	2.1
LU	0.0	0.0	1.9	0.4	0.3	5.6	8.1	2.6	4.8	1.9	5.8	0.4	6.7
LV	11.8	1.1	5.9	1.2	0.0	14.4	6.3	13.8	3.3	0.7	0.2	2.7	0.8
MT	0.2	0.3	11.0	0.6	0.5	2.0	11.6	6.2	11.2	3.6	2.5	0.5	5.0
NL	1.5	0.1	9.5	0.6	0.3	4.6	14.4	7.6	7.2	3.5	2.2	0.4	5.0
PL	2.3	0.8	26.2	0.3	1.0	11.6	18.7	5.1	3.8	2.0	2.0	0.6	2.4
PT	3.5	0.4	15.4	0.4	0.5	9.6	11.8	3.7	7.4	2.7	1.1	0.5	3.7
RO	21.8	0.2	14.3	0.1	1.8	21.2	10.3	3.5	8.5	1.2	0.9	0.0	0.9
SE	1.0	0.2	5.4	0.2	0.5	3.4	10.5	5.4	6.3	2.5	1.2	1.1	4.6
SI	1.7	0.2	21.5	0.6	0.8	6.8	14.3	4.9	8.2	2.5	3.0	0.2	4.7
SK	2.7	0.3	19.5	0.2	2.3	8.3	9.7	2.5	6.6	1.4	0.8	0.8	1.4
UK	0.7	0.4	9.4	0.5	1.1	4.0	8.2	4.6	6.1	2.6	2.2	0.9	4.0
EU27	3.9	0.3	14.4	0.5	0.8	7.0	12.1	4.1	6.8	2.3	1.6	0.5	3.6

*(f) Distribution of temporary employment**: Company characteristics (continued)*

	Economic sector (NACE Rev. 2)								Company size (number of employees)				
	N	O	P	Q	R	S	T	U	<11	11–19	20–49	>50	Unsure, but >10
AT	2.9	7.7	18.8	13.7	4.6	2.4	0.4	1.0	25.5	13.2	17.3	43.0	1.1
BE	8.0	6.9	21.1	13.1	3.0	1.7	0.6	1.6	18.4	11.9	17.6	42.4	9.8
BG	16.6	7.3	4.8	7.6	0.4	0.4	0.9	0.2	28.4	12.9	11.7	17.3	29.7
CY	0.6	6.4	12.5	2.1	2.2	0.7	45.7	0.1	60.7	6.7	10.5	20.8	1.4
CZ	5.4	6.7	10.0	6.3	2.1	2.1	0.1	0.0	26.1	11.9	15.5	37.7	9.0
DE	7.4	7.8	12.2	16.4	1.8	2.6	0.2	0.1	15.2	12.1	14.2	58.5	0.0
DK	2.7	6.8	18.3	26.7	3.7	2.3	0.9	0.2	20.4	11.1	16.5	46.5	5.4
EE	7.5	3.4	2.9	4.0	3.2	0.7	0.0	0.0	39.5	19.4	10.3	24.5	6.2
EL	3.4	7.8	11.1	8.1	2.2	1.6	6.1	0.0	57.0	10.4	9.5	12.3	10.8
ES	5.5	6.4	8.0	10.7	2.4	2.0	5.7	0.0	40.2	9.0	12.7	23.9	14.2
FI	3.6	4.3	15.2	31.1	3.0	3.7	1.1	0.0	32.2	13.8	23.8	30.2	0.0
FR	5.7	11.4	10.3	15.8	3.5	3.1	3.0	0.2	27.2	10.0	13.2	36.4	13.2
HU	4.5	22.9	5.8	4.9	1.9	1.3	0.4	0.1	27.8	13.7	15.5	28.5	14.5
IE	4.6	2.0	14.1	16.0	4.1	3.2	1.5	0.2	37.7	11.1	14.8	36.4	0.0
IT	5.7	3.6	9.7	6.7	2.0	2.9	1.9	0.1	38.8	19.0	15.7	22.3	4.2
LT	5.9	1.4	6.9	1.5	0.2	3.0	4.6	0.0	31.0	9.1	11.3	35.3	13.3
LU	3.4	9.7	15.1	16.2	1.5	2.1	0.9	12.6	22.1	9.4	14.2	53.8	0.5
LV	17.0	3.1	5.7	5.8	2.1	4.2	0.0	0.1	37.2	16.4	13.6	17.0	15.8
MT	4.0	11.4	15.1	8.7	3.2	2.1	0.0	0.4	15.3	8.8	14.7	55.0	6.2
NL	7.7	3.3	7.9	19.3	2.4	2.4	0.0	0.1	18.7	13.4	18.0	49.9	0.0
PL	6.6	3.9	5.3	4.3	1.3	1.4	0.6	0.0	25.0	13.1	15.4	34.9	11.6
PT	5.4	4.8	12.5	9.2	1.8	1.5	4.0	0.0	36.6	8.3	11.1	33.8	10.2
RO	3.0	1.4	5.0	1.9	1.2	0.6	2.4	0.0	19.1	16.9	16.2	32.8	15.0
SE	8.3	6.2	15.8	21.2	3.4	3.0	0.0	0.0	24.4	11.3	17.7	30.7	15.9
SI	3.7	6.4	10.1	4.9	3.6	1.9	0.2	0.0	26.5	0.0	0.0	0.0	73.5
SK	14.0	19.6	4.3	3.0	1.8	1.0	0.1	0.0	28.4	20.9	19.0	23.7	8.0
UK	5.7	4.9	21.6	16.4	4.0	2.6	0.1	0.0	20.1	7.5	19.6	52.8	0.0
EU27	6.3	6.7	10.5	12.2	2.4	2.3	2.0	0.1	27.5	11.9	14.8	37.7	8.2

(g) Temporary employment rate: Job characteristics*

	Occupation										Employment type	
	Managers	Professionals	Technicians	Clerical workers	Service workers	Skilled agri. workers	Craft workers	Machine operators	Elementary occupations	Army	Full-time	Part-time
AT	4.3	11.6	5.3	3.8	5.9	10.1	3.7	3.7	5.2	12.7	5.6	6.6
BE	2.8	9.6	3.7	6.1	11.0	15.6	5.6	8.1	12.3	2.6	6.5	10.6
BG	1.4	1.6	1.8	1.7	3.9	16.9	3.0	1.3	16.1	0.0	3.5	27.4
CY	3.0	13.2	4.7	7.5	8.1	11.2	3.9	5.7	45.7	26.9	14.4	21.5
CZ	4.3	7.6	5.7	7.4	11.8	13.3	7.2	8.2	22.0	21.8	6.9	38.6
DE	4.2	13.8	10.7	11.2	14.4	14.9	11.1	9.6	13.9	55.9	11.7	13.1
DK	1.7	9.1	5.0	8.0	9.7	14.4	8.6	2.9	7.8	10.2	7.3	9.5
EE	0.4	1.1	1.0	3.8	3.8	9.4	5.8	3.7	7.7	0.0	2.9	7.5

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	Occupation										Employment type	
	Managers	Professionals	Technicians	Clerical workers	Service workers	Skilled agri. workers	Craft workers	Machine operators	Elementary occupations	Army	Full-time	Part-time
EL	2.0	7.7	4.9	6.3	10.6	25.2	12.3	7.1	26.0	1.7	8.1	30.4
ES	6.8	22.1	16.7	16.5	25.4	29.1	26.4	18.9	38.5	16.4	19.9	43.6
FI	3.1	15.3	12.6	11.3	17.6	29.9	8.2	10.3	19.8	1.8	11.8	25.2
FR	4.6	13.3	11.2	13.5	17.6	21.2	15.7	14.2	23.3	20.8	12.2	24.5
HU	2.7	5.2	4.6	6.4	7.5	19.7	8.8	8.3	30.8	19.5	8.2	24.9
IE	3.0	9.1	6.3	8.3	12.8	19.0	8.4	7.8	12.8	0.0	5.5	21.6
IT	4.7	13.9	7.9	10.2	18.4	37.3	12.2	11.1	21.6	6.7	11.8	21.3
LT	0.3	0.7	1.0	1.2	1.9	17.5	3.1	2.7	10.2	2.7	2.2	5.7
LU	3.9	7.6	6.0	4.9	10.9	13.8	5.8	3.7	8.0	20.4	6.6	9.3
LV	2.2	1.1	3.8	1.1	2.6	15.6	5.0	5.4	13.7	5.0	4.3	8.2
MT	4.3	6.3	5.8	4.5	7.2	0.0	4.5	7.8	9.1	2.4	5.0	13.9
NL	7.1	13.2	13.3	17.9	22.1	15.5	14.6	22.5	26.7	6.5	11.7	21.9
PL	8.7	15.3	16.7	27.2	38.1	30.7	31.7	28.8	46.0	23.5	24.6	54.5
PT	9.3	23.3	13.7	17.3	21.2	27.6	18.9	17.7	26.8	37.2	17.6	51.7
RO	0.3	0.7	0.5	1.0	1.5	26.9	1.7	0.8	5.2	0.0	1.5	25.0
SE	3.3	12.5	9.5	14.4	24.4	29.3	8.0	13.7	29.1	9.8	9.8	29.1
SI	4.8	13.3	11.5	19.9	26.6	31.8	14.7	16.1	24.7	35.2	13.9	50.3
SK	2.0	2.8	2.8	3.7	6.5	4.5	4.3	4.9	32.5	0.0	4.0	65.8
UK	1.8	6.0	4.3	6.2	5.6	5.2	3.1	6.3	8.4	2.0	4.0	9.2
EU27	4.0	11.6	9.4	11.3	15.6	21.1	12.9	12.0	21.8	18.5	11.2	19.5

(h) Distribution of temporary employment**: Job characteristics

	Occupation										Employment type	
	Managers	Professionals	Technicians	Clerical workers	Service workers	Skilled agri. workers	Craft workers	Machine operators	Elementary occupations	Army	Full-time	Part-time
AT	3.2	30.0	18.1	8.1	17.6	1.3	8.6	4.1	8.4	0.6	70.1	29.9
BE	2.5	26.3	7.9	11.6	17.8	1.0	7.1	7.6	18.0	0.3	62.5	37.5
BG	1.3	6.6	3.8	3.1	22.2	4.7	11.4	4.6	42.3	0.0	86.2	13.8
CY	0.7	15.7	4.5	6.4	9.6	0.2	2.5	1.7	56.6	2.1	89.6	10.4
CZ	2.4	11.9	12.1	8.7	19.2	1.4	12.7	14.8	15.7	1.2	74.0	26.0
DE	1.2	17.7	19.6	13.4	16.5	1.0	12.3	5.4	10.2	2.7	70.6	29.4
DK	0.4	33.1	11.3	9.2	23.3	1.9	9.1	2.3	8.7	0.6	72.2	27.8
EE	0.9	6.4	4.3	7.3	15.4	3.2	26.8	15.3	20.4	0.0	78.6	21.4
EL	0.4	16.9	5.2	9.3	22.1	2.3	12.6	5.0	25.7	0.4	75.4	24.6
ES	0.9	16.3	8.2	8.3	22.0	1.2	11.5	6.5	24.8	0.4	70.4	29.6
FI	1.1	26.4	17.4	6.4	24.7	2.1	6.7	5.8	9.5	0.1	75.9	24.1
FR	2.2	15.4	17.0	10.0	20.5	1.5	7.1	7.3	17.4	1.6	68.7	31.4
HU	1.2	8.9	7.2	5.8	12.1	3.8	13.7	12.9	33.2	1.1	81.9	18.1
IE	2.1	23.2	8.4	10.4	29.5	1.3	7.6	4.5	13.2	0.0	45.0	55.0
IT	0.5	12.7	10.4	11.9	21.2	2.3	12.4	6.9	21.0	0.8	71.6	28.4
LT	1.0	6.7	5.0	2.1	10.3	9.2	17.4	13.5	34.5	0.4	81.9	18.1

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	Occupation										Employment type	
	Managers	Professionals	Technicians	Clerical workers	Service workers	Skilled agri. workers	Craft workers	Machine operators	Elementary occupations	Army	Full-time	Part-time
LU	1.3	36.8	17.0	6.2	17.0	1.7	6.1	2.5	10.3	1.1	76.3	23.7
LV	3.2	4.1	11.7	1.7	8.8	3.4	14.2	11.8	40.5	0.6	86.3	13.7
MT	6.3	18.0	14.6	9.6	21.4	0.0	6.1	8.5	15.1	0.6	71.9	28.1
NL	2.6	18.7	14.8	12.3	24.6	1.2	7.4	6.6	11.8	0.2	36.3	63.7
PL	1.9	12.0	7.8	8.5	20.7	0.5	19.9	13.2	15.1	0.6	87.1	12.9
PT	1.5	19.0	7.5	8.3	18.1	2.7	14.0	8.7	18.7	1.6	79.8	20.2
RO	0.4	8.3	3.1	3.7	16.6	15.3	21.4	6.6	24.5	0.0	88.8	11.2
SE	1.2	22.3	11.0	6.3	34.7	1.8	5.3	7.5	9.8	0.2	49.9	50.1
SI	1.8	18.0	10.4	11.3	22.6	1.4	12.6	10.2	10.2	1.5	77.5	22.5
SK	1.0	4.7	7.4	5.1	16.8	0.6	9.6	11.7	43.2	0.0	56.3	43.7
UK	3.6	28.3	11.4	12.9	20.2	0.4	3.6	5.8	13.8	0.1	56.4	43.6
EU27	1.6	16.7	12.5	10.2	20.4	1.4	11.5	7.7	17.0	1.1	70.3	29.7

* refers to the proportion represented by temporary employees over the total number of employees in a certain category;

** refers to the share represented by temporary employees in a certain category over the total number of temporary employees.

Note: A. Agriculture, forestry and fishing; B. Mining and quarrying; C. Manufacturing; D. Electricity, gas, steam and air conditioning supply; E. Water supply; sewerage, waste management and remediation activities; F. Construction; G. Wholesale and retail trade; repair of motor vehicles and motorcycles; H. Transportation and storage; I. Accommodation and food service activities; J. Information and communication; K. Financial and insurance activities; L. Real estate activities; M. Professional, scientific and technical activities; N. Administrative and support service activities; O. Public administration and defence; compulsory social security; P. Education; Q. Human health and social work activities; R. Arts, entertainment and recreation; S. Other service activities; T. Activities of households as employers; undifferentiated goods - and services - producing activities of households for own use; U. Activities of extraterritorial organisations and bodies.

Source: *EU-LFS*

Table A3: Odds ratios of logistic regressions over time, EU27

(a) Personal characteristics

	2006		2008		2010		2012	
Age: 40–49 years (reference)								
20–29 years	2.61	***	2.62	***	2.92	***	2.86	***
30–39 years	1.36	***	1.34	***	1.38	***	1.37	***
50–59 years	0.90	***	0.86	***	0.90	***	0.82	***
60+ years	1.60	***	1.44	***	1.46	***	1.36	***
Sex: Male (reference)								
Female	1.10	***	1.07	***	1.06	***	1.02	
Marital status: Widowed/divorced/separated (reference)								
Single	1.19	***	1.19	***	1.18	***	1.18	***
Married	0.81	***	0.79	***	0.80	***	0.80	***
Educational level: Medium (reference)								
High	0.93	***	0.93	***	0.91	***	0.94	**
Low	1.23	***	1.27	***	1.29	***	1.28	***
Years' residence: National (reference)								
1–4 years	1.98	***	2.10	***	1.55	***	1.56	***
5–10 years	1.88	***	1.69	***	1.67	***	1.46	***
>10 years	1.12	***	1.19	***	1.25	***	1.20	***
Degree of urbanisation: Medium-populated area (reference)								
Densely	0.96	*	1.00		0.99		0.99	
Thinly	1.10	***	1.18	***	1.16	***	1.12	***

(b) Company-related characteristics

	2006			2008		2010		2012	
Economic sector: Manufacturing (reference)									
A. Agriculture	3.11	***	A. Agriculture & fishing	2.61	***	3.14	***	3.28	***
B. Fishing	1.24		B. Mining	0.78		0.50	***	0.55	***
C. Mining	0.73	**	D. Electricity	0.67	***	0.81	*	0.87	
E. Electricity	0.77	**	E. Water supply	0.87		1.06	*	1.02	
F. Construction	1.44	***	F. Construction	1.33	***	1.26	***	1.19	***
G. Trade	0.88	***	G. Trade	0.83	***	0.92	**	0.87	***
H. Hotels/restaurants	1.19	***	H. Transport	0.84	***	0.92	*	0.88	***
I. Transport	0.95		I. Accommodation & food	1.06		1.14	***	1.11	**
J. Financial	0.82	***	J. Information & communication	0.92		0.97		0.88	**
K. Real estate	1.09	**	K. Financial	0.70	***	0.77	***	0.73	***
L. Public administration	1.56	***	L. Real estate	0.74	**	0.88		0.81	*
M. Education	2.32	***	M. Professional activities	1.01		1.05		1.09	
N. Health/social work	1.61	***	N. Administrative activities	1.21	***	1.28	***	1.27	***
O. Social/personal activities	1.67	***	O. Public administration	1.52	***	1.49	***	1.33	***
P. Activities of households	1.00		P. Education	2.34	***	2.40	***	2.28	***
Q. Extraterritorial organisations	3.08	***	Q. Health & social work	1.64	***	1.56	***	1.52	***
			R. Arts	2.35	***	2.20	***	2.25	***
			S. Other activities	1.28	***	1.36	***	1.27	***
			T. Households as employers	0.64	***	0.75	***	0.62	***
			U. Extraterritorial organisations	3.75	***	4.77	***	2.47	***
Size of the company: More than 50 workers (reference)									
10 or fewer workers	0.92	***		0.96		0.98		1.00	
11–19 workers	1.02			0.99		1.04		1.03	
20–49 workers	1.15	***		1.11	***	1.16	***	1.13	***
Unknown but >10	1.41	***		1.42	***	1.43	***	1.50	***

(c) Job-related characteristics

	2006			2008		2010		2012	
Occupation: Craft and related trades workers (reference)									
Managers	0.55	***		0.51	***	0.58	***	0.50	***
Professionals	0.88	***		0.92	*	0.86	***	0.87	***
Technicians	0.77	***		0.79	***	0.82	***	0.74	***
Clerks	0.88	***		0.91	**	0.92	**	0.86	***
Service and sales workers	0.87	***		0.93	*	0.87	***	0.92	**
Agricultural & fishery workers	0.98			1.08		0.99		0.90	
Plant & machinery operators	0.90	***		0.98		1.00		1.02	
Elementary occupations	1.25	***		1.26	***	1.19	***	1.22	***
Armed forces	1.27	**		1.57	***	1.49	***	1.68	***
Pluri-employment: Only one job (reference)									
More than one job	1.10	**		1.09	**	1.14	***	1.13	***

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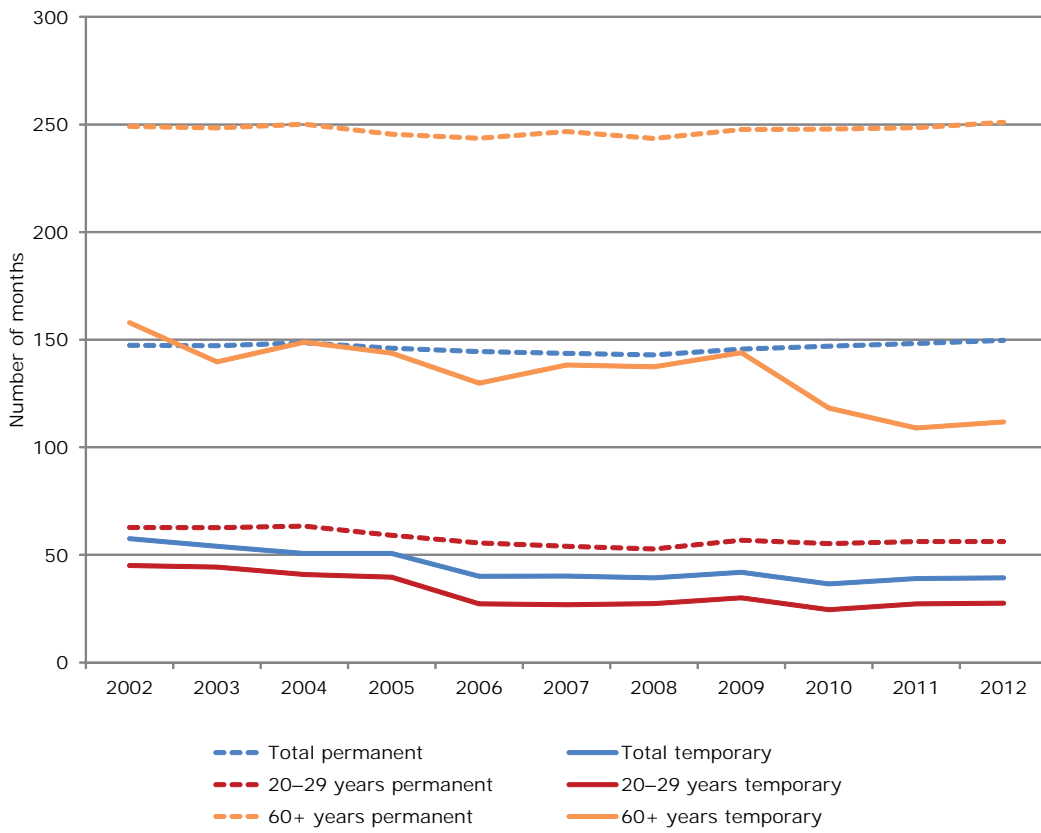
	2006		2008		2010		2012	
Type of employment: Full-time job (reference)								
Part-time job	1.72	***	1.76	***	1.67	***	1.68	***
Involvement of public employment office in finding present job: No (reference)								
Yes	1.97	***	1.80	***	1.75	***	2.00	***
Status previous year: Employed (reference)								
Unemployed	1.83	***	1.93	***	1.99	***	2.13	***
Student	1.63	***	1.68	***	1.57	***	1.67	***
Inactive	1.37	***	1.55	***	1.40	***	1.35	***

(d) Countries

	2006		2008		2010		2012	
Country: France (reference)								
AT	0.30	***			0.27	***	0.29	***
BE	0.57	***			0.41	***	0.45	***
BG	0.26	***			0.31	***	0.26	***
CY	0.95				0.91		1.12	
CZ	0.80	***			0.70	***	0.75	***
DE	0.87	***			0.81	***	0.82	***
DK	0.38	***			0.33	***	0.33	***
EE	0.14	***			0.15	***	0.14	***
EL	0.96				1.06		0.92	
ES	3.09	***			2.11	***	2.32	***
FI	0.89				0.92		0.84	**
HU	0.51	***			0.62	***	0.58	***
IE	0.20	***			0.37	***	0.42	***
IT	1.21	***			1.10	**	1.27	***
LT	0.28	***			0.11	***	0.11	***
LU	0.34	***			0.32	***	0.39	***
LV	0.37	***			0.25	***	0.17	***
MT	0.00	***						
NL	0.99				0.95		1.15	***
PL	3.62	***			3.46	***	3.75	***
PT	1.94	***			2.06	***	1.81	***
RO	0.12	***			0.09	***	0.14	***
SE	0.66	***			0.66	***	0.72	***
SI	1.56	***			1.27	**	1.29	**
SK	0.38	***			0.36	***	0.51	***
UK	0.29	***			0.22	***	0.27	***
_cons	0.24	***			0.30	***	0.29	***
PseudoR ²	0.30				0.30		0.29	

*** indicates coefficients statistically significant at the 1% level, ** at the 5% level and * at the 10% level.

Figure A3: Average job tenure by age group, EU27



Notes: Job tenure refers to the time workers have been employed by their current employers. EU27 data exclude Malta.
Source: *EU-LFS*

Temporary employment has increased since the 1980s in most European countries as a result of demands for greater flexibility in labour markets and subsequent reforms of employment protection legislation. This report presents a broad picture of temporary employment across the EU27 between 2001 and 2012 based on Eurostat data. It maps the recent evolution of temporary employment, before and after the economic crisis. It calculates the wage gap between temporary and permanent employees and also analyses the wage gap within companies. The report also identifies the main determinants of temporary employment in terms of personal, company and job characteristics and examines the most relevant labour market transitions for temporary employees. The study finds evidence of segmentation in a number of European labour markets, whereby temporary employees have poor pay and labour market prospects, while permanent employees enjoy high levels of job security and opportunities for career progression.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency, whose role is to provide knowledge in the area of social and work-related policies. Eurofound was established in 1975 by Council Regulation (EEC) No. 1365/75, to contribute to the planning and design of better living and working conditions in Europe.

