Chapter 1

The dynamics of long-term unemployment[1]

Long-term unemployment (measured as a share of the total active population) has increased significantly since the onset of the crisis, from a low of 2.6 % in 2008 to 4.1 % in 2011, with the long-term unemployed accounting for 42.5 % of all unemployed persons in 2011 as compared to 33 % in 2009. Based on previous experience, there is a risk that long-term unemployment will continue to increase and it will remain a policy challenge for several years to come.

This chapter presents the main trends in the incidence of unemployment and the transitions into and out of short and long-term unemployment in the EU and across the Member States, investigates the main factors that lead people to become long-term unemployed, and seeks to identify the policy options that have been found to work best across the different Member States.

The main messages that emerge are that:

- The rise in long-term unemployment has been uneven between Member States and in various population sub-groups, occupations and sectors.

- The probability of finding a job is higher for the short-term than the long-term unemployed, but both groups have seen their transition rates to employment declining.

- In order to both prevent and tackle long-term unemployment, country-specific policy mixes are required which are tailored to particular groups (e.g. the short-term unemployed at low risk of becoming long-term unemployed; the short-term unemployed at high risk of becoming long-term unemployed; those who are already long-term unemployed).

- There is no universal policy mix, but the ability to balance the need for adequate income protection with appropriate work incentives depends on the effective design of both unemployment benefit systems and active labour market policies.

Average long-term unemployment rates have increased substantially in the EU, but there are important country differences. Certain Member States, such as Slovakia and Greece, have had high levels of long-term unemployment for some time and the recent crisis simply worsened the problem. But other Member States which previously had a limited long-term unemployment rate such as the Baltic countries, Spain, and Ireland, were particularly hard hit by the recession, and long-term unemployment has increased substantially over the last few years.

In terms of population subgroups overall, men, young people, and low and medium-skilled workers have been particularly affected by the recent increase in long-term unemployment.

The main factor driving the rise in long-term unemployment has been the inability of the labour market to accommodate the inflows of workers made redundant as a result of restructuring, either due to insufficient labour demand or to mismatches between labour demand and labour supply. Moreover, workers previously employed in certain sectors or occupations (notably construction) have experienced a double disadvantage in that they have a higher probability of becoming unemployed as well as a higher chance of becoming long-term unemployed. The resulting policy challenge is to ensure new opportunities for those who have been unemployed in both the short and long term, particularly in growing sectors, as well as to implement measures focusing on retraining in order to adapt workers' skills to the new needs of the labour market.

Although job creation is essential for reducing long-term unemployment, some countries (Netherlands, Sweden, Finland) have managed to limit the increase in long-term unemployment despite increases in the number of short-term unemployed persons (unlike countries such as Greece, Bulgaria and Slovakia), resulting in the highest transition rates out of unemployment for both the short and long-term unemployed. This is the result of successful labour market institutions (e.g. unemployment benefits and the social security system, active labour market policies, employment protection legislation, in-work benefits) which are complementing job creation.

The analysis of transition data also shows that the long-term unemployed face a

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high risk of falling into inactivity (although 'discouragement' does not seem to have increased with the crisis) while the short-term unemployed are at greater risk of a recurrence of short unemployment spells. Overall, it seems clear that both cyclical factors (changes in GDP and labour demand) and structural factors (such as labour market institutions) explain cross-country differences in the transition rates into and out of unemployment.

Preventing and tackling long-term unemployment requires a range of different policy responses. Effective preventive policies distinguish between the short-term unemployed who are at a lower risk of long-term unemployment and those at a higher risk (e.g. through profiling). For the first group, activation incentives embodied in the unemployment benefit and social security systems, in-work benefits and job search assistance often suffice, since this type of unemployed person is more likely to find a job on their own. The second group, the short-term unemployed at higher risk of becoming long-term unemployed, may need more help and additional measures in the form of personal counselling and tailored activation programmes (including re-training or up-skilling). Furthermore, these programmes need to be applied at an early stage of the unemployment spell.

Policies that aim to re-activate the long-term unemployed involve special and often complex programmes that combine measures available to the short-term unemployed (such as counselling and job-search assistance) along with more costly measures such as longer training programmes, employment incentives and direct job creation. Although these programmes are costly, they may well be worthwhile undertaking, particularly in the time of the crisis, since long-term unemployment is already a reality in many Member States and its persistence incurs high social as well as economic costs in terms of the aggravation of poverty and social exclusion.

This chapter contains five sections:

Section 1 presents the most recent trends (2008-11) in long-term unemployment in the EU Member States.

Section 2 identifies the population groups most affected by long-term unemployment, analysing the differences with the pre-crisis period and touching on the main socio-economic categories (such as sex, age, education level) and the incidence of long-term unemployment by origin; the reason for leaving the last job and the previous sector/occupation are also investigated.

Section 3 reviews the main factors that have been put forward in the literature to explain the differing trends in long-term unemployment across countries. It concludes with a grouping of Member States according to the policy mix they have chosen, which will contribute to understanding the trends and transitions into long-term unemployment.

Section 4 goes beyond a static analysis of the long-term unemployment rate to analyse the underlying dynamics of long-term unemployment. The focus is on year-to-year transition rates from and to long-term unemployment using data from the longitudinal section of the EU-Labour Force Survey. This is the first time that longitudinal LFS data has been used to analyse long-term unemployment transitions at EU level.

Section 5 concludes by reviewing the main findings of the chapter along with policy-relevant implications and issues.

1. Trends in long-term unemployment in the EU

This section describes recent trends in long-term unemployment in the EU, discusses its measurement, and draws comparisons with experiences in previous recessions. It also analyses cross-country differences between EU Member States, looking in particular at differences in the rate of persistence in unemployment.

1.1. Current and past level of long-term unemployment at EU level

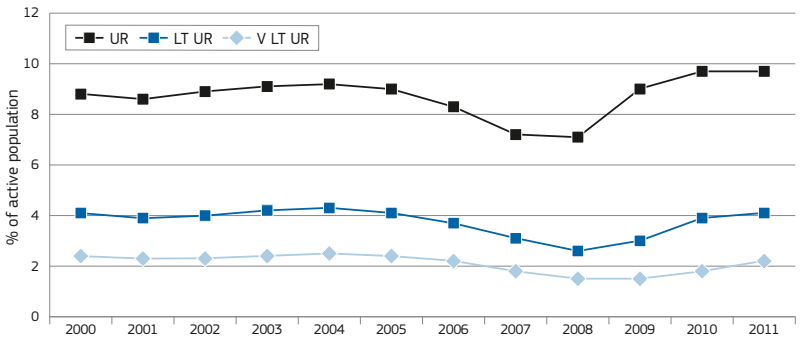
Long-term unemployment refers to those who remain unemployed for longer than twelve months (see Box 1 on definitions and measurement issues). Since the problem is primarily driven by changes in overall levels of unemployment, this section begins by summarising how unemployment has evolved in the EU in recent years.

1.1.1. Sharp increase in unemployment since 2008

During the 2008-09 financial and economic crisis, most EU Member States experienced a strong economic downturn, which after a certain time lag, led to a sharp deterioration in their labour markets. Over the past decade, the unemployment rate was at its lowest around 2007-08 in most Member States thanks to several years of steady economic growth in the prior three to four years, with the recorded rate of unemployment falling from 9.2% in 2004 to 7.1% in 2008.

All the progress made in terms of unemployment (and in terms of the improved employment rate) vanished with the economic crisis, with unemployment reaching 9.7% in both 2010 and 2011 (and 10.4% in 2012Q2). Since statistics have been recorded for the EU-27 (2000), never before had such a high percentage of the active population been unemployed and the last time there was such a high level of unemployment in the EU-15 was in the mid-90's following the 1993 economic recession.

Chart 1: Rates of unemployment, long-term unemployment, and very-long term unemployment (percentage of active population), EU-27



Source: Eurostat, EU-LFS.

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Box 1: Defining and measuring long-term unemployment

Long-term unemployment is generally **defined** as those who have been unemployed for twelve consecutive months and this is the definition used in this chapter.

The term **'consecutive'** implies that those having worked (or been inactive) for a short period between two spells of unemployment are excluded from the measure. This may happen when a jobseeker works for a short duration (for instance, under a temporary contract) in the middle of a long spell of unemployment or even, in some countries, when a jobseeker participates in a labour market programme (since this may reset the duration of the unemployment spell). Due to the recurrence of unemployment spells (shorter than one year) among certain groups and the problem of discouragement among jobseekers (becoming inactive), the measure of long-term unemployment may underestimate the extent of 'long-term joblessness'.

Concerning the **twelve-month threshold**, of note is the fact that in the US, long-term unemployment is defined as an unemployment period of 'only' six consecutive months. The difference in the definition can be explained by the lower rate of long-term unemployment in the US compared with the EU, and is linked among other things to lower levels of income support provided to the unemployed for extended periods in the US, and the generally more flexible labour market.

At EU level, another important indicator concerns **very long-term** unemployment, defined as two years or longer. According to the literature, the two-year mark is the point at which returning to employment becomes more difficult, reflecting the *negative duration dependence*, i.e.: the exit rate from unemployment decreases as the duration increases. This can be explained by 'scarring effects' in the form of declining job search intensity, the discouragement of the long-term unemployed, and stigmatisation, since potential employers often see the duration of unemployment as a signal of a person's employability and potential productivity. However, what negatively influences the exit rate is, to a certain extent, a selection effect (the unemployed with the lowest chance of finding a job are those who become long-term unemployed) and not directly the duration itself[1].

The **measurement** of long-term unemployment is expressed as one of the following:

the absolute number of persons unemployed for more than twelve months;

the long-term unemployment rate, i.e., as a percentage of the active population (as with the standard unemployment rate);

the percentage of all unemployed persons (or the so-called **'incidence of long-term unemployment'**).

Another way to measure the duration of unemployment is to use the **average duration of unemployment.** However, this indicator is strongly influenced by the number of individuals who are unemployed for very long periods (four years or more) and is not necessarily a good indicator of differences between countries in the most relevant categories: for example, the two categories of 'less than one year' and 'one to two years' together represent around 80 % of the unemployed in the EU.

Moreover, the most convenient way to measure the duration of unemployment is to measure the length of time that currently unemployed persons have been spent without a job and looking for a job[2]. However, the unemployment spell is not over when the measurement (i.e. labour force survey) takes place, meaning that it is only possible to measure the duration of ***incomplete unemployment spells or spells in-progress***. Such measures are likely to underestimate the complete spell length as they do not take into account the period of unemployment that will still occur after the survey takes place[3].

(1) Cockx and Dejemeppe (2002) noted that 'for continental European countries researchers generally do not find evidence of marked negative duration dependence once observed and unobserved heterogeneity is controlled for'.

(2) In the EU-LFS, unemployment duration is indeed measured by the variable 'DURUNE' which is calculated as the minimum between two variables: LEAVCLASS (the time since the person last worked, grouped in classes) and SEEKDUR (duration of search for employment).

(3) See European Commission, 2009, Employment in Europe, Chapter 2, Labour flows, transitions and unemployment duration.

1.1.2. Long-term unemployment also increased, with a lag…

It is well known that labour market developments almost always lag behind changes in the economic situation. When an economic downturn occurs, employers tend to wait before adjusting their workforce[2], and the same is true when the economy recovers. According to Junankar (2011), changes in the overall unemployment level are determined by changes in inflows to, and outflows from unemployment. As a recession hits an economy, increases in inflows and decreases in outflows lead to an increase in the level of unemployment.

When the economy recovers, inflows to unemployment decrease and return to their previous equilibrium level, but outflows from unemployment take more time to reach their original level[3] and unemployment often continues to grow during the start of the recovery period. The result is that the impact on employment figures usually lags behind a fall in demand by between six and twelve months. Such a lag was very visible in the last recession, since for most Member

(2) Usually, they wait to see if the fall in demand is more than temporary, since they do not wish to lose the skilled and loyal staff they have been employing for some time.

(3) This is because the effect of the increase in inflows into unemployment is to decrease the probability of each unemployed person finding work, even when the level of demand for labour returns to previous levels, since for each job vacancy there are more potential applicants. As a result, some of the unemployed will now be unemployed for a longer duration: those previously unemployed for less than a month will now move into the next group of one to three months duration, and like a pack of dominoes falling there will be more unemployed workers shifted to the next duration level.

States, GDP was already stagnant in 2008 while unemployment only began to increase in 2009.

There is also an obvious time lag between developments in unemployment and changes in long-term unemployment, since individuals are only considered to be long-term unemployed when they have been out of work for twelve consecutive months (see Box 1).

Chart 2 shows how the change in long-term unemployment has lagged behind the change in unemployment in the EU-15 aggregate since the end of the eighties. This shows that in the recession of the 1990's, long-term unemployment started to increase only in 1993 after two years of increasing unemployment (1991-92). The same lag occurred in the recession in the early 2000's, with an increase in long-term unemployment beginning in 2003 following rising unemployment as of 2002, although the downturn was more limited.

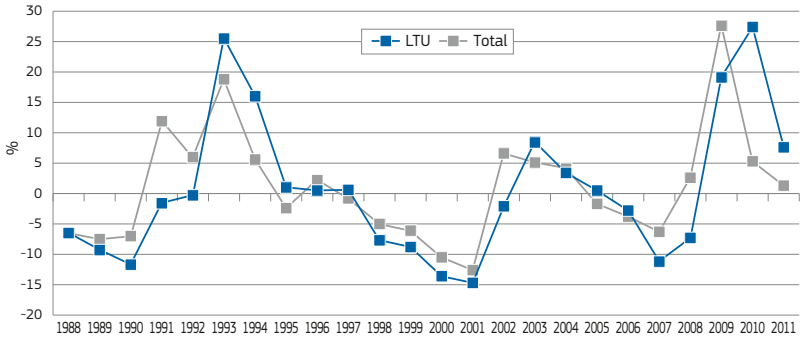
In general, past experience with recessions in the EU and other parts of the world show that long-term unemployment continues to rise after total unemployment has peaked, and almost always takes a long time before starting to decline. For instance, during the 1990's in the EU, while overall unemployment had already started to decline in 1995 following increases in the 1991-94 period, long-term unemployment only began to decrease in 1998[4].

There is also evidence from previous recessions that sharp increases in unemployment are not only of long duration, but that they may not be completely reversed in subsequent recoveries (OECD, 2009). The phenomenon in which increases in unemployment due to transitory shocks lengthen into extended periods of persistently high, long-term unemployment has been called the 'hysteresis effect' (see Box 2).

In the case of the United States, according to Junankar (2011), each recession has led to a higher level of long-term unemployment, even following a recovery. Looking at the minimum and maximum levels of long-term unemployment reached in previous recessions (Table 1), this does not seem to be the case in the EU, however. Indeed, the new minimums reached in the long-term unemployment rate are always lower than during previous recessions, and higher levels of long-term unemployment were recorded in the past, particularly following the recession in the 1990's[5].

This change may be partly linked to labour market reforms carried out in the 1990's and the 2000's that have reduced the so-called hysteresis effects. Indeed, Guichard and Rusticelli (2010) argue that 'thanks to labour and product market reforms, in the majority of countries, the impact of the crisis on long-term and structural unemployment is likely to be more moderate than in past severe downturns'. Boeri, Garibaldi, Fuest and Petrongolo (2009) have also pointed out that the decrease in unemployment and long-term unemployment between the 1990's and the last recession was very large, and argue that institutional reforms such as reduced employment protection and less generous unemployment benefits account for these changes.

Chart 2: Changes in the number of unemployed and long-term unemployed persons in EU-15*, 1998-2011 (%)



Source: OECD (except 2011: DG EMPL calculations based on EU-LFS). *EU-15 refers to the 15 EU Member States (before the 2004 enlargement).

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Table 1: Long-term unemployment rate (percentage of active population) across previous recessions in EU-12*

Economic downturn starting in:	Peaks	LTU rate and change over the period
1992	Min (1992)	3.6
	Max (1994)	5.4
	Change (p.p.)	+1.8
2002	Min (2002)	3.2
	Max (2004)	3.5
	Change (p.p.)	+0.3
2008	Min (2008)	2.7
	Max (2011)	4.3
	Change (p.p.)	+1.6

Source: DG EMPL calculations based on EU-LFS.

Notes: *EU-12 refers to the twelve EU Member States before the 1995 enlargement. The maximum indicated for the last recession is the 2011 value, which is likely to be lower than what will be recorded for 2012 since the overall unemployment rate in the EU increased in 2011.

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(4) The situation was a bit different following the economic downturn in the 2000's: long-term unemployment had already decreased in 2006, just one year later the decrease in unemployment (in 2005). This was probably linked to the fact that this recession was less severe and did not affect all Member States, as well as to labour market reforms implemented in the 90's.

(5) However, it in fact varies from one country to another (see Chart 11).

Box 2: Hysteresis effects in unemployment and structural unemployment

The notion of hysteresis has been borrowed from physics and is used to explain how transitory shocks may have lasting effects, and how structural unemployment may be influenced by the path of actual unemployment. Hysteresis effects are indeed likely to push up structural unemployment since workers who remain unemployed for long periods of time become less attractive to employers as a result of their declining human capital or as they reduce the intensity of their job search (Machin and Manning, 1998), thereby creating less downward pressure on wages and inflation. Long-term unemployment plays a key role in the hysteresis effect, as suggested by Ball (2009) in particular. Hysteresis was invoked as early as 1989 by Blanchard and Summers as one of the factors explaining the differences in long run unemployment rates between Europe and the United States.

Workers who have been unemployed for lengthy periods of time tend to become less attractive to employers. Not only does the human capital of the unemployed diminish over time but, due to recruitment costs, potential employees are frequently evaluated on the basis of the frequency and duration of their periods of unemployment (Lockwood, 1991). Active job searching may also diminish as the unemployed lose contact with the labour market and awareness of job offers. In addition, long-term unemployed may put less pressure on wages since long spells of unemployment can increase job seekers' reservation wage as a consequence of a social acceptance of their status (Lindbeck, 1995), and the human capital of the unemployed may fall below their reservation wage (Blanchard, 1991). Indeed, there is empirical evidence that those who have been out of work for long periods have less influence on wage bargaining than do those out of work for shorter periods (Llaudes, 2005 and Elmeskov and MacFarlan, 1993), and that this prevents real wages from falling sufficiently to enable them to be priced back into the labour market. Thus increases in the proportion of the long-term unemployed may increase the structural unemployment rate consistent with a stable inflation rate.

According to the OECD (2012), until recently, major increases in structural unemployment, measured as the NAIRU *(non-accelerating inflation rate of unemployment)*, have not been experienced. The OECD (2012) has estimated that structural unemployment has risen in most countries since the crisis began, but that the estimated increase in the NAIRU (+0.4 pp for the OECD countries) is generally small relative to the actual increase in the unemployment rate (+2.3 pps). From a policy perspective this suggests that priority should be given to encouraging economic growth and aggregate demand. However, the NAIRU appears to have increased significantly (by more than 2 pps) in a number of EU Member States, including Estonia, Greece, Ireland, Portugal and Spain. According to the OECD, this means that in those countries, *an expansion of aggregate demand will not be sufficient to bring unemployment back to pre-crisis levels. Specific measures with respect to training and job-search assistance will also be required*.

A complementary method of documenting recent developments in structural unemployment is based on the Beveridge curve, which charts the inverse relationship between job vacancies and unemployed job seekers over the business cycle. The OECD (2012) estimates that since mid-2010, the Beveridge curve has started to move outwards in many countries. This may simply reflect the normal cyclical pattern in which a recovery in vacancies is not immediately reflected in reductions in unemployment, but it may also be a sign of an increase in matching frictions related to the build-up of long-term unemployment or the need for structural change in the labour market. However, the detailed 2012 OECD analysis of matching frictions suggests that they have evolved very differently across countries during the current economic recovery. Therefore, an analysis of the Beveridge curve leads to no clear-cut conclusions on whether or not structural unemployment has increased significantly. The same results are found in the European Employment Observatory Review on long-term unemployment (*European Commission*, 2012a).

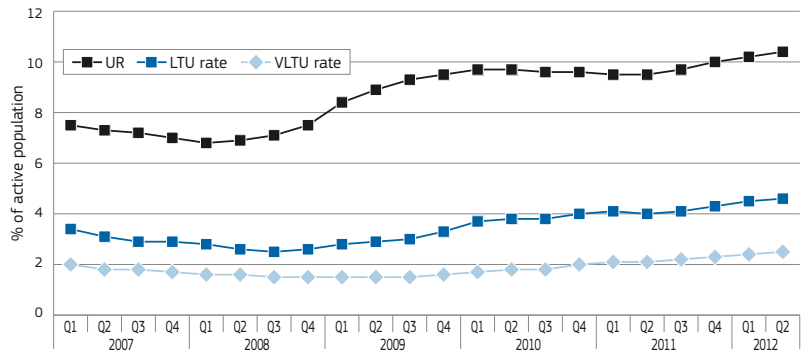
Source: Guichard and Rusticelli (2010); OECD (2012); European Commission (2012a).

1.1.3. ...and long-term unemployment is set to increase further

An analysis of changes in unemployment and long-term unemployment rates in recent years confirms the usual lag in long-term unemployment compared with unemployment (see Chart 3). While the unemployment rate in the EU-27 reached its lowest point in 2008Q1 (6.8%), a sharp increase occurred between 2008Q3 and 2009Q3 (from 7.1 to 9.3%) while the long-term unemployment rate reached its lowest point in 2008Q3 (2.5%) and began to increase significantly after 2009Q3.

Moreover, while the unemployment rate remained stable between 2010 and 2011 (at around 9.7%), reflecting the modest economic recovery that took place in 2010, the long-term unemployment rate continued to increase (from 3.7% in 2010Q1 to 4.6% in 2012Q2). As for the very long-term unemployment rate, it remained barely unchanged during 2008 and 2009 but has increased gradually since then, from 1.6% in 2009Q4 to 2.5% in 2012Q2.

Chart 3: Rates of unemployment, long-term unemployment and very long-term unemployment (as a percentage of the active population)



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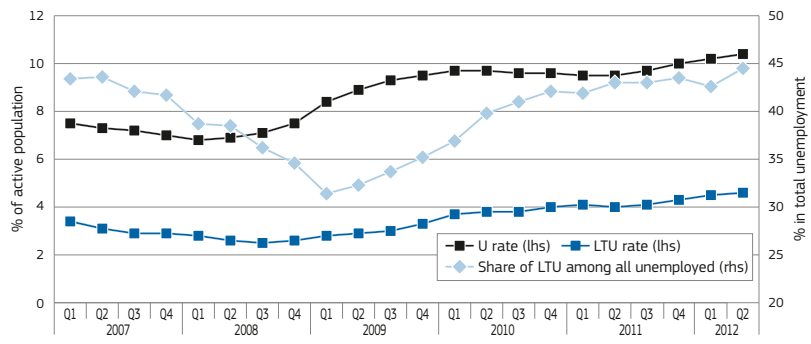
Source: Eurostat, EU-LFS.

Chart 4: Unemployment and long-term unemployment rate (as a percentage of the active population, left scale) and incidence of long-term unemployment (long-term unemployment as a share of total unemployment, right scale), EU-27



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Source: Eurostat, EU-LFS.

Given that the long-term unemployment rate tends to continue to increase for some time even once the unemployment rate has stabilised, the recent increase in the total unemployment rate (from 9.5 % in 2011Q2 to 10.4 % in 2012Q2) following the relative improvement in 2010, suggests that long-term unemployment is likely to increase further.

1.1.4. Another indicator: the incidence of long-term unemployment

The **incidence of long-term unemployment** (i.e. long-term unemployment as a share of total unemployment) was in decline in the pre-crisis period, but it declined even more sharply at the beginning of the economic downturn, reaching a low of 33.1 % in 2009 when total unemployment and long-term unemployment rates had already begun to increase.

This drop in the incidence of long-term unemployment is caused by changes in the composition of the unemployed. At the start of an economic downturn, the number of newly unemployed workers rises (due both to temporary contracts not being renewed and to workers on permanent contracts being dismissed), leading to an automatic decrease in long-term unemployment as a share of the total. Later, those who were unemployed for short periods either found work or became long-term unemployed[6], and the incidence of long-term unemployment increased sharply: in 2011, it reached 42.9 % (see Chart 4).

(6) These recently unemployed persons could also fall into inactivity, but the discouragement phenomenon mainly affects the long-term unemployed and much less the short-term unemployed who still have strong links with the labour market, a higher job search intensity and a greater likelihood of receiving unemployment benefits (see Section 4 on transitions).

In *European Commission* (2009)[7], it was demonstrated that the relationship between the unemployment level and the incidence of long-term unemployment displays 'counter-clockwise loops' and that for a given level of unemployment, the incidence of long-term unemployment is usually higher during upturns than downturns. The indicator of incidence of long-term unemployment must therefore be interpreted cautiously and analysed together with the unemployment rate as well as with trends in inactivity (see section below).

Nevertheless, the fact that, according to the latest figures (2012Q2), 44.5 % of the unemployed have been unemployed for at least twelve months is worrying. This rate is roughly the same as it was five years earlier (2007Q2) but as of 2012Q2, it applies to a larger overall number of unemployed persons (25 million) as compared with 2007 (17 million).

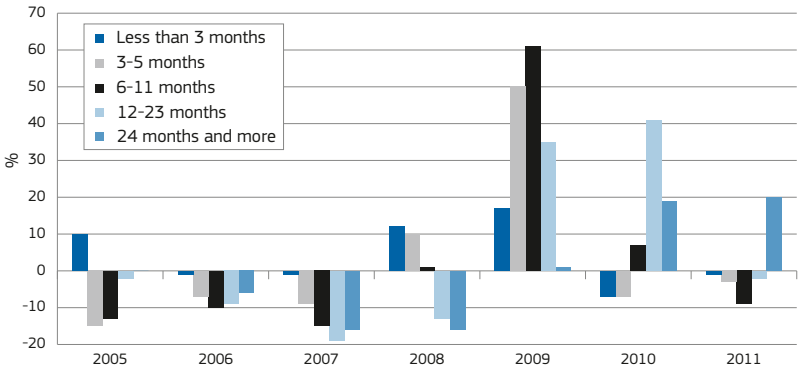
1.1.5. The transfer from short to long-term unemployment categories

At EU level, unemployment figures showing numbers of persons by duration of unemployment provide insights into the development of spells of long-term unemployment. Chart 5 shows that unemployment was declining in 2006 and 2007 for every category of duration until the economic crisis began in 2008. At this point there was an increase in the number of short-term unemployed (fewer than six months) while the number of long-term unemployed was still diminishing.

The year 2009 was marked by an increase in all categories except for the very long-term unemployed (longer than two years), while the modest economic recovery of 2010 led to a decrease in short-term unemployment even while long-term (and very long-term) unemployment numbers were still on the upswing. Finally, in 2011, there was a reduction across all categories compared with the previous year, with the notable exception of very long-term unemployment for which the same increase was recorded as in 2010 (around +20 %).

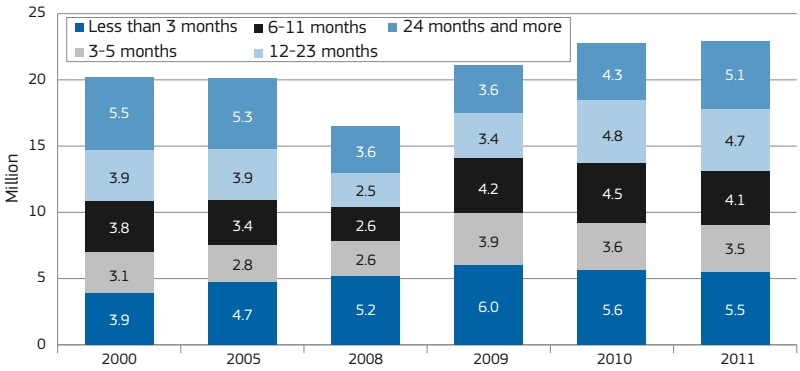
(7) *European Commission* (2009), Employment in Europe, Chapter 2, Labour flows, transitions and unemployment duration.

Chart 5: Changes in the number of unemployed by duration, EU-27 (%)



Source: Eurostat, EU-LFS.

Chart 6: Distribution of unemployed by duration (in millions), EU-27



Source: Eurostat, EU-LFS.

The declines recorded in 2010 and 2011 for the short-duration categories have, however, been relatively limited (with a less than 10% decline) and overall levels in terms of the number of unemployed persons have therefore remained substantial (Chart 6) and significantly higher than pre-crisis levels (2008). In other words, the situation did not evolve significantly between 2010 and 2011; the main change was the transfer from the short-term to long-term unemployment categories.

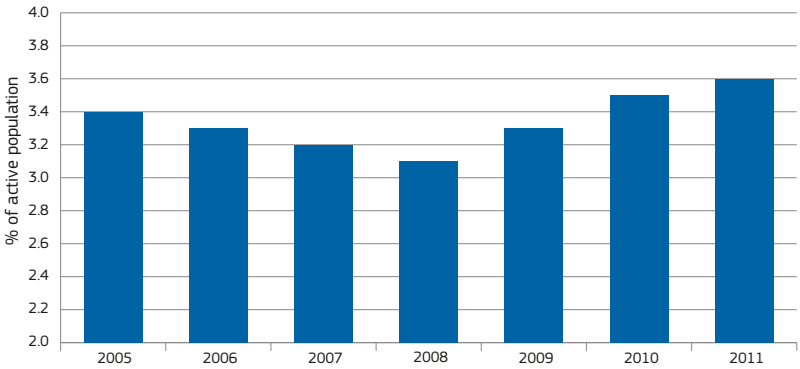
1.1.6. Until 2011, a moderate increase in the number of 'discouraged workers'

In addressing issues of unemployment, it is also important to analyse trends in inactivity, since a sharp increase in unemployment can lead those who are less likely to find a job to stop looking, to leave the labour market and thus to become inactive. In this case, they no longer appear in the unemployment statistics and, for this reason, Eurostat also publishes supplementary indicators to unemployment[8].

Chart 7 shows the number of persons available to work but not seeking a job as a percentage of the active population[9]. They are defined as persons who are neither employed nor unemployed, who wish to work and are available for work in the next two weeks, but who are not seeking work. While the 2005-08 period showed a reduction in the number of discouraged workers as a share of the active population as a whole, this trend has been reversed from 2009 onwards, increasing from 3.1% in 2008 to 3.6% in 2011.

In absolute terms, the number of 'discouraged workers'[10] increased from 7.3 million in 2008 to 8.6 million in 2011 (+1.25 million). Overall, however, this increase can be seen as limited when compared to the increase in overall unemployment of 6.4 million over the same period, confirming previous findings that there has not been a major drop in the activity rate in the EU during the recession[11]. However, this indicator is seen as important regarding future developments since any persistence of high levels of long-term unemployment could cause further increases in discouragement among job-seekers.

Chart 7: Persons available and willing to work but not seeking a job, as a percentage of the active population (EU-27)



Source: Eurostat, EU-LFS.

(8) See Eurostat, 2011, SiF 57/2011, *New measures of labour market attachment* and *European Commission*, 2012c, *EU Employment and Social situation Quarterly Review*, September 2012 (Special focus on LFS supplementary indicators to unemployment). Two other indicators that supplement the unemployment measure are underemployed part-timers and those seeking work but not immediately available.

(9) Strictly speaking, this is not a share, as the nominator (persons wishing to work, available for work but not seeking work and therefore considered economically inactive) is not part of the denominator (active population).

(10) The term 'discouraged workers' may not strictly apply to all these persons as only a limited proportion of inactive persons wishing to work declared in 2011 that they were not seeking a job because no jobs were available (5.2%); the main reasons quoted were participation in education or training programmes (32%), retirement (21%), illness or incapacity (14.1%) or other reasons (10.2%). Nevertheless, they may not have chosen to be in one of those situations and the overall increase in the number of inactive persons wishing to work but not searching in the 2008-11 period still seems to have been caused by a lack of job opportunities, especially for those already unemployed for a long period.

(11) At EU level, the activity rate even continued to rise slightly between 2008 and 2011 (from 72.3% to 72.5%), although at a much slower pace than before (having increased by more than 3 pps between 2001 and 2008).

Box 3: Relative importance of inactivity as a status: evidence from longitudinal EU-SILC data

Beyond the specific case of so-called 'discouraged workers' it is crucial to understand the dynamics of the process: many economically active individuals experience spells of unemployment but also of inactivity. *European Commission* (2010b) showed (on the basis of EU-SILC longitudinal data) that even in a period of high employment growth such as was seen in 2004-07, a large proportion (as high as 40%) of those who were economically active (at some point in the four-year period) experienced spells of being out of work (unemployment and/or inactivity).

On the basis of the most recent EU-SILC data (the three-year period from January 2007 to December 2009), it appears that around 28% of those aged 25-54 who were economically active at some point over the period experienced at least one spell out of work (i.e. of unemployment, inactivity or both). Moreover, among those who were out of work at least once during this three-year period, 54% were economically inactive at least once (and 35% experienced inactivity but were never unemployed). As pointed out in *European Commission* (2010b), this highlights the need to ensure that employment services do not focus simply on the unemployed but also offer guidance and support for inactive people wanting to work.

Finally, it should be noted that these patterns differ markedly by sex: a larger proportion of women (35%) than men (22%) experienced at least one spell out-of-work over the three-year time span. Moreover, among women who experienced at least one spell out of work, 66% were economically inactive at least once compared to 39% of men. According to *European Commission* (2010b), this relates partly to the unequal division of family responsibilities and the report underlined that, 'Employment services (both public and private) tend to deal primarily with individuals who are unemployed and actively seeking work, yet it is clear that many people, particularly women, have breaks from work in which they are not unemployed but inactive. It would be a major improvement in the functioning of the labour market if spells of unemployment could be avoided for individuals who have been inactive but want to return to the labour market'; see also Section 3.3.c on the role of employment services.

1.2. How do the EU Member States fare in terms of long-term unemployment?

The picture at EU level, as described above, represents an average position, within which there are heterogeneous situations and developments across Member States. Moreover, diversity has increased since 2008. This is illustrated by the unemployment rates across Member States in mid-2012 which range from around 5% among the best performing countries (Austria, Netherlands, Luxembourg and Germany) to around 25% in Spain and Greece.

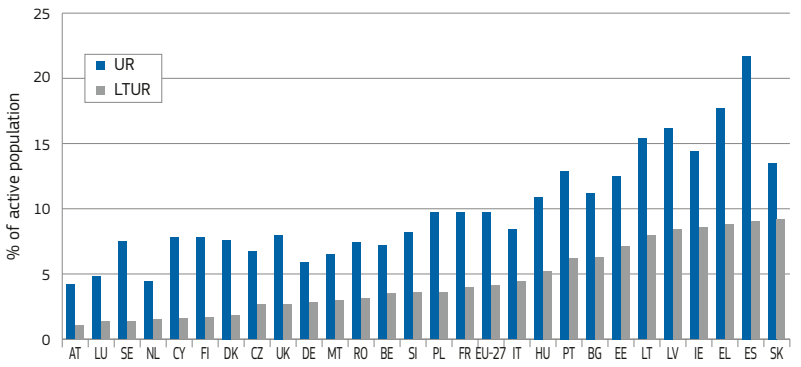
1.2.1. Large variations in the long-term unemployment rate across Member States

Chart 8 shows the 2011 unemployment and long-term unemployment rates for the 27 Member States. The countries which recorded the lowest level of long-term unemployment (less than 2%) in 2011 were Austria, Luxembourg, Netherlands, the Nordic countries (Sweden, Finland, Denmark) and Cyprus. Most of these countries (with the exception of Cyprus) are characterised by a high GDP per capita, a high rate of expenditure on social protection, a relatively flexible labour market, and above-average expenditures on active labour market policies (as a percentage of GDP). Moreover, these are countries that weathered the latest economic crisis relatively well, at least in terms of labour market impact.

At the other end of the spectrum, where 7% or more of the active population has been unemployed for at least one year, are the Baltic States, Ireland, Greece, Spain and Slovakia. Most of these countries did not have high rates of long-term unemployment before the recession (with the exception of Slovakia) but have been the hardest hit by it, as shown in Chart 9. Generally speaking, there seem to be geographic patterns, with high rates in the southern and most eastern Member States, low rates in the Nordic countries, and relatively low rates in the north-western Member States.

Across most Member States, the long-term unemployment rate seems (logically enough) to be correlated with the overall level of unemployment. There are, however, some variations (higher or lower-than-expected levels of long-term unemployment) due to the varying rates of incidence of long-term unemployment (see Chart 12). For instance, in 2011, Belgium had a slightly lower rate of unemployment than Sweden (7.2% and 7.5% respectively). However, due to a much higher incidence of long-term unemployment in Belgium, the long-term unemployment rate is 2.5 times greater than it is in Sweden (3.5% and 1.4% respectively).

Chart 8: Unemployment and long-term unemployment rates as a percentage of the active population, 2011



Source: Eurostat, EU-LFS.

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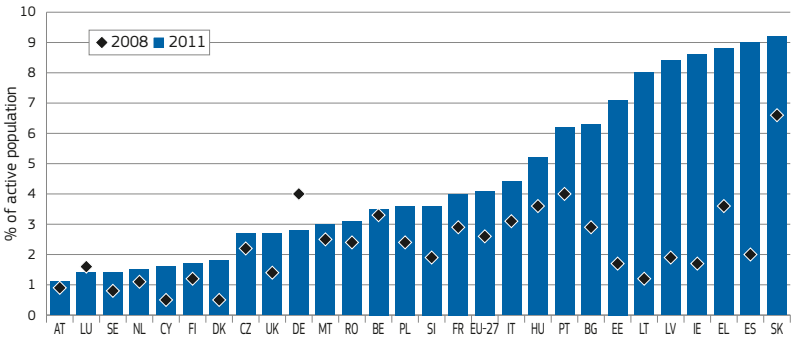
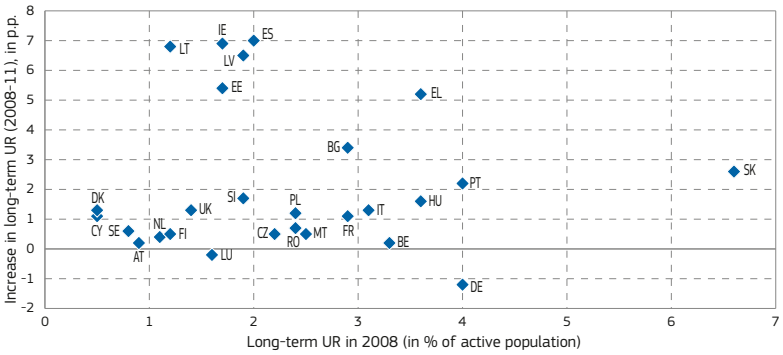
Chart 9: Long-term unemployment rate as a percentage of the active population, 2008 and 2011



Source: Eurostat, EU-LFS.

Chart 10a: Long-term unemployment rate as a percentage of the active population in 2008 and increase over 2008-11 (in percentage points)



Source: Eurostat, EU-LFS.

1.2.2. Increases in almost all countries but sharper rises in those most affected by the crisis

Chart 9 indicates the long-term unemployment rates in Member States in 2011 as compared with 2008, i.e.: when the overall EU rate was at its lowest in recent years and for many individual Member States[12]. This change in the 2008-11 period can therefore be considered as a measurement of the impact of the crisis on the long-term unemployment rate.

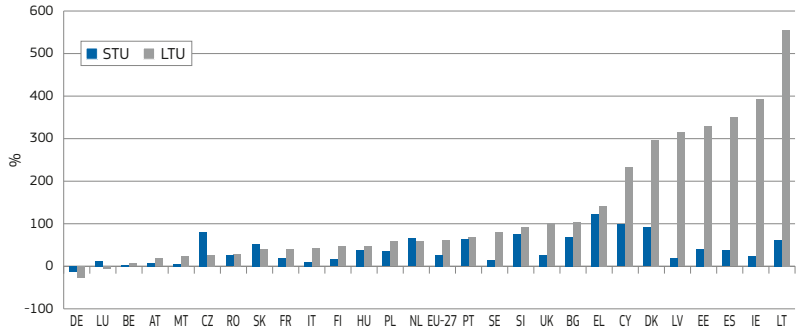
Between 2008 and 2011, the long-term unemployment rate increased in the great majority of Member States, with the notable exceptions of Germany (-1.2 pp) and Luxembourg (-0.2 pp), countries that are known to have weathered the economic recession well, or at least managed to limit the labour market impact. Moreover, the long-term unemployment rate increased only marginally in Austria, Belgium, Netherlands, Finland, Malta and Czech Republic. In other countries, however, the increase has been more substantial, particularly in Greece, the Baltic countries, Ireland and Spain, where it has ranged from 5 to 7 pps.

Generally speaking, the countries that had low rates of long-term unemployment (under 1.5%) in 2008 did not record large increases (Cyprus, Denmark, Sweden, Austria, Netherlands, Finland, Luxembourg). However, most of the countries in which long-term unemployment has increased substantially (more than 5 pps) since 2008 (Spain, Latvia, Ireland, Estonia, Lithuania) originally had rates below the EU average (and even below 2%), but were very adversely affected by the drop in output and employment that took place in 2008-09. In this respect, Greece is an exception in that it already had a high long-term unemployment rate in 2008 (3.6%, the fourth highest rate in the EU). Among other countries that recorded high rates of long-term unemployment in 2008, there were diverging trends: further increases in Slovakia, Portugal, Hungary and Bulgaria compared with moderate increases in Italy and Belgium, and even improvement in the case of Germany.

Germany is an exception in that while its 4.0% long-term unemployment rate was the third highest in 2008, this rate dropped to 2.8% in 2011. This can probably be explained by the country's resilience in the face of the crisis, not least of which through flexible adjustments to working time, but also through a general reduction in unemployment as a result of previous in-depth reforms of the unemployment benefits system (Harz reforms).

Overall, developments in the long-term unemployment rate across Member States appear highly correlated with the changes in economic conditions during and following the 2008-09 economic crisis, although the closeness of the association also depends on the reactions

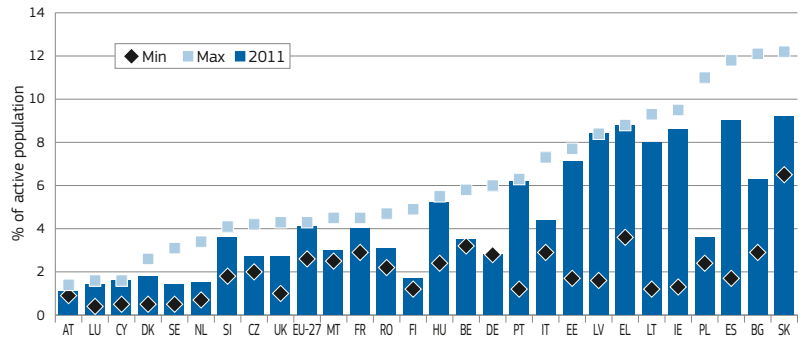
Chart 10b: Change in the number of unemployed by duration, EU-27, 2008-11 (%)



Source: Eurostat, EU-LFS.

(12) Considering the 2000-11 period, the minimum rate of long-term unemployment was reached in 2008 in 12 Member States, in 2007 in four Member States and in 2009 in four others. For the other countries, the minimum was reached before 2005, except for Germany where the minimum rate was reached in 2011.

Chart 11: Minimum and maximum reached since the 1990's together with 2011 levels in the long-term unemployment rate across EU Member States (as a percentage of the active population)



Source: Eurostat, EU-LFS.

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within national labour markets to those shocks which have varied considerably between countries[13].

The rise in long-term unemployment in most Member States can also be viewed in Chart 10b, based on relative changes in the total short and long-term unemployment figures over the 2008-11 period. It shows that long-term unemployment has more than doubled in the UK, Bulgaria and Greece, more than tripled in Cyprus and Denmark, and increased more than four-fold in the Baltic states, Ireland and Spain.

1.2.3. Most Member States have experienced higher long-term unemployment rates in the past

When comparing data across the entire period for which Eurostat data on long-term unemployment exists, (and which varies between countries)[14], it appears that in only a few Member States was unemployment at its highest in 2011 (Cyprus, Greece and Latvia – see Chart 11) or 2010 (Estonia, Hungary and Portugal).

Moreover, the peaks in the long-term unemployment rate that followed the 1993-97 recession were much higher than the levels recorded in 2011 in Denmark, Sweden, Finland, Belgium, Italy, the Netherlands and the UK, but also in Spain and Ireland, despite the very high levels reached in these countries recently. For Austria and Germany, the peak was recorded in the mid-2000s.

1.2.4. The incidence of long-term unemployment varies from 20 to 70% across Member States

Apart from the long-term unemployment rate, it is also appropriate to look at the incidence of long-term unemployment relative to total unemployment. Indeed, despite the limitations of this indicator (notably its inverse relationship with the economic cycle, see Section 1.1.d above) it remains an important variable for each Member State to take into account when considering how best to address its particular unemployment problem.

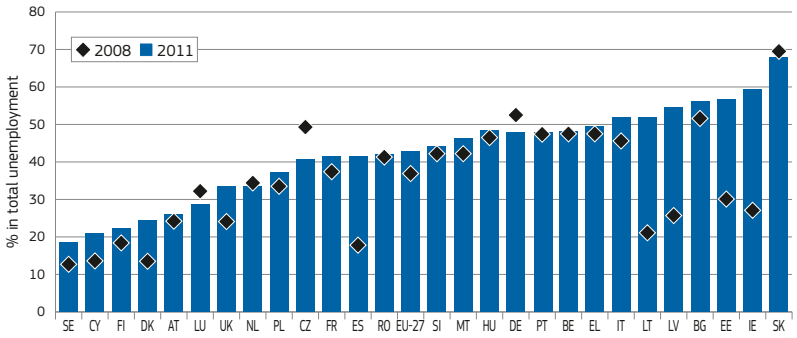
As shown in Chart 4, the incidence of long-term unemployment decreased from 2007 (43%) until the beginning of 2009 (33.2%) before it again increased in 2010 and 2011 (43%).

In 2011, the Member States in which long-term unemployment represented less than one-third of total unemployment were generally those that had a low level of unemployment (Austria, Netherlands and Luxembourg) but also those known to have dynamic labour markets with limited persistence rates in unemployment (such as the Nordic countries and the UK). For instance, in 2008, only around 13% of unemployed persons in Sweden and Denmark were unemployed for longer than one year and although this proportion has since increased, in 2011 the levels were still only 19% and 24% respectively.

At the other end of the spectrum, between 50% and 60% of the unemployed in 2011 had not worked for at least one year in the Baltic countries, Italy, Bulgaria, and Ireland; this rate was over 65% in Slovakia. Nevertheless, these countries represent different situations. In Italy, Bulgaria and Slovakia, the incidence of long-term unemployment was already high in 2008, and this is seen as a structural problem. On the other hand, in the Baltic States and Ireland it is largely a new phenomenon brought about by the particularly strong impact of the economic recession.

In Germany, there have been clear signs of improvement in labour market conditions since 2008, with a drop of almost 5 pps in the incidence of long-term unemployment, although it remained at 48% in 2011, far above the EU average.

Chart 12: Incidence of long-term unemployment (long-term unemployment as a percentage of total unemployment), 2008 and 2011, by Member State



Source: Eurostat, EU-LFS.

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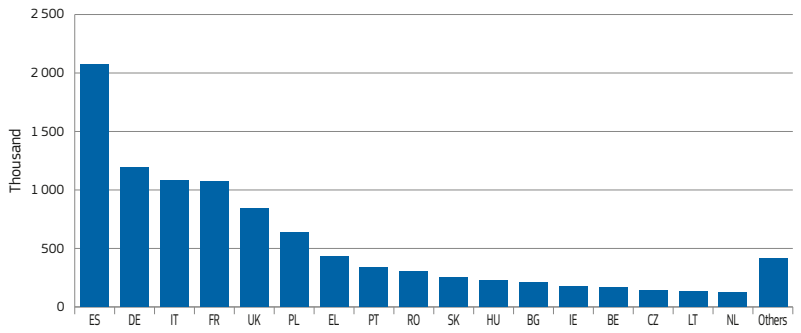
(13) European Commission, 2010c, Employment in Europe, Chapter 1.

(14) This period varies across Member States. The first years for which the data series is available are 1992 for Belgium, Denmark, Ireland, Greece, Spain, France, Luxembourg, Netherlands, Portugal, Sweden and UK; 1993 for Germany and Italy; 1994 for Austria; 1996 for Hungary and Slovenia; 1997 for Poland, Romania and Finland; 1998 for Czech Republic, Estonia, Lithuania, Latvia and Slovakia; and 2000 for the EU-27 aggregate, Bulgaria, Cyprus and Malta.

Chart 13: Number of long-term unemployed persons by Member State in 2011 (in thousands)



Source: Eurostat, EU-LFS.

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In Spain, the incidence of long-term unemployment was, in 2011, somewhat lower than the EU average, despite the country's critical unemployment problem. This can be explained by two factors:

- firstly, it had one of the lowest incidence of long-term unemployment before the recession (17.8 % in 2008) due to a relatively dynamic labour market[15] based partly on the extensive use of temporary contracts;
- secondly it continued to experience strongly rising unemployment throughout 2010-11, with substantial inflows into unemployment resulting in a relatively low rate of long-term unemployment as a share of total unemployment.

1.2.5. Concentration of the increase in Spain and a few other Member States

In terms of the overall number of long-term unemployed in the EU in 2011, 70 % are in the six largest Member States, which is roughly in line with their share of the total EU labour force.

However, in Spain alone there were more than two million long-term unemployed persons in 2011, or more than 21 % of the EU total (while accounting for less than 10 % of the total EU labour force) while Germany accounted for 12 % of the long-term unemployed (compared to its 18 % share of the EU labour force). Comparable figures for the UK were 8.5 % and 13 %. Member States accounting for much higher shares of long-term unemployment relative to their overall weight in the EU labour force are Greece, Portugal, Slovakia, Hungary, Bulgaria and Ireland.

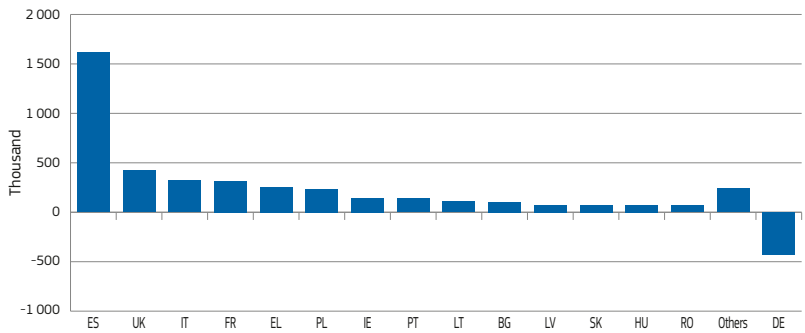
In terms of their contribution to the total number of long-term unemployed in the EU, the most striking evidence is seen in the net increase over the 2008-11 period (see Chart 14) during which Spain accounted for an increase of 1.6 million out of an EU total of 3.7 million (or 43 %). The UK accounted for 11 % of the net increase; Italy and France for around 8.5 % each; Greece and Poland for around 6 % to 7 %; and Ireland and Portugal for close to 4 %. Together these eight countries accounted for over 90 % of the net increase in long-term unemployment in the EU over the 2008-11 period, while accounting for less than 60 % of the total labour force.

1.2.6. Large variations in the share of discouraged workers across countries

Chart 15 shows the share of discouraged workers, defined as those who are inactive and wanting to work, but not seeking a job, as a percentage of the the active population. In 2011, there was tremendous variation between Member States, with high rates (around 5-8 %) in Hungary, Estonia, Latvia and Bulgaria, and nearly 12 % in Italy. Between 2008 and 2011, the share increased in 21 out of 27 Member States, particularly in those in which unemployment had increased significantly due to the crisis (Latvia, Estonia, Bulgaria, Ireland, Cyprus, Portugal and Denmark).

Cross-country differences in the share of discouraged workers also seem to be

Chart 14: Change in the number of long-term unemployed (2008-11) by Member State (in thousands)



Source: Eurostat, EU-LFS.

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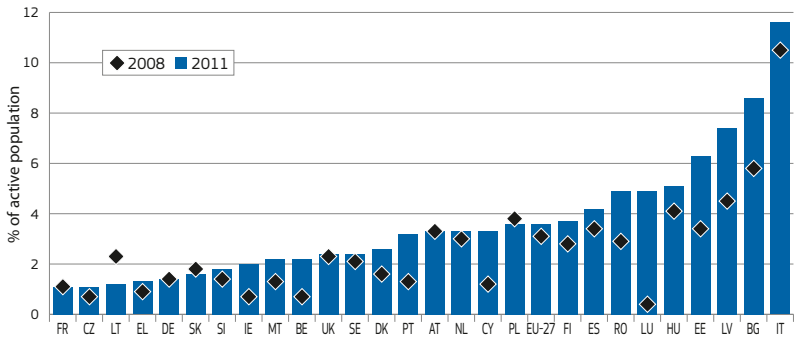
(15) ISG and RWI (2010) estimated country characteristics with respect to labour market transitions. They identified 'flexicurity'-type economies which feature low job stability and high levels of job-to-job transition, but also relatively high employment security (not necessarily in the same job) and high job-finding rates by the unemployed. These countries precisely included Spain, in addition to Denmark, Finland, the UK and the Baltic States. At the other end of the spectrum, with high job security but low exit rates from unemployment, they found, for example, Germany, Greece, and Italy.

Chart 15: Persons available and wanting to work but not seeking a job, as a percentage of the active population



Source: Eurostat, EU-LFS.

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influenced by the nature of the unemployment benefits system. In countries where the system is not generous (in particular in some Central and Eastern or Southern Member States) discouraged workers have relatively little to lose by becoming inactive rather than reporting themselves as unemployed. This may also explain the notable difference between Italy where long-term unemployed are practically not covered by unemployment benefits and Spain, both southern European Member States (See Section 3).

1.3. To what extent does short-term unemployment translate into long-term unemployment across EU Member States?

1.3.1. High correlation between increases in overall and long-term unemployment

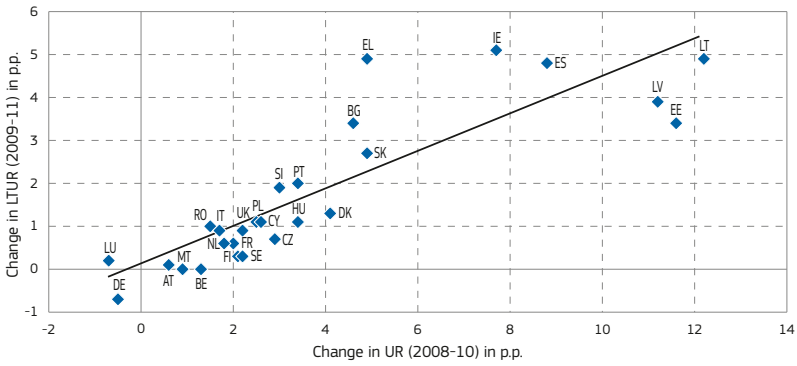
As underlined above, developments in long-term unemployment since 2008 have primarily been driven, with a certain lag, by the rise in unemployment that followed the economic downturn. Countries in which long-term unemployment increased substantially are obviously also those in which short-term unemployment had previously increased.

Chart 16 presents the relationship between changes in the unemployment rate in the first two years of the crisis (2008-10) and changes in the long-term unemployment rate one year later (2009-11). It shows that, on average, a one percentage point increase in the unemployment rate in the 2008-10 period translated into a 0.43 percentage point increase in the long-term unemployment rate in the 2009-11 period[16].

However, based on this relationship, some Member States (Greece, Ireland, Spain and Bulgaria) have displayed larger increases in long-term unemployment rate than might be expected based on the original increases in unemployment, while the Nordic countries (Sweden, Finland, Denmark) and Estonia, Latvia, Czech Republic and Belgium have had lower increases than expected. These differences can be explained both by cyclical factors (e.g. the more protracted crisis in Greece and Spain) and structural factors (e.g. the more favourable labour market institutions in Denmark); (see Section 3).

In other words, while it is clear that long-term unemployment is fuelled by changes in short-term unemployment, there are varying degrees of persistence in unemployment across EU Member States, as has been shown in previous studies (see Box 4).

Chart 16: Change in unemployment rate (2008-2010) and in long-term unemployment rate (2009-11), in percentage points



Source: DG EMPL calculations based on Eurostat, EU-LFS. Both rates are calculated as a percentage of the active population.

Notes: y = 0.4258x + 0.0958
R^2 = 0.7328

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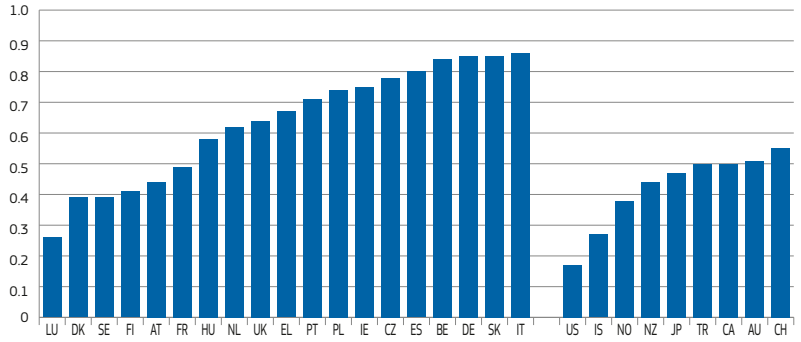
(16) At EU level, the unemployment rate increased by 2.6 pps in 2008-10 (from 7.1% to 9.7%) while long-term unemployment increased by 1.1 p.p. in the 2009-11 period (from 3.0% to 4.1%).

Box 4: Sensitivity of long-term unemployment to aggregate unemployment based on historical data

In order to assess the sensitivity of long-term unemployment to aggregate unemployment, Guichard and Rusticelli (2010) used historic data to develop simple dynamic regressions explaining long-term unemployment in terms of aggregate unemployment. They found that in the majority of OECD countries, long-term unemployment increases with aggregate unemployment. Most of the long-term impact of a sustained increase in unemployment on long-term unemployment takes place in three to four years and, in nearly all cases, this long-term effect is higher than the actual share of long-term unemployment. As a result, the incidence of long-term unemployment is expected to rise with unemployment.

What also comes out of their work is that cross-country differences are important and that the impact of a sustained increase in unemployment on its long-term component is quite different for the Euro area, Japan and the United States. After a permanent shock to unemployment, on average 70% of unemployed persons eventually became long-term unemployed in Europe, compared with under 50% in Japan and under 20% in the United States. However, within the Euro area, differences range from 25% in Luxembourg to over 80% in Italy (see Chart 17). A more recent analysis of the evolution of long-term unemployment in the US suggests, however, that the impact of the latest recession on long-term unemployment has been much greater than in the past[1].

Chart 17: OECD estimates of the effect of a unit shock to unemployment rate on long-term unemployment for EU and non-EU OECD countries (based on historical data)



Source: Guichard and Rusticelli (2010).

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(1) For instance, while during the recession at the beginning of the 2000's the incidence of long-term unemployment (among total unemployment) in the US had increased from 6.1% to 12.7% (over 2001-04), the increase has been much more severe in the latest recession (from 10.6% to 31.3% for the 2008-11 period).

1.3.2. The persistence rate in unemployment has increased and varies from 15% to 65% across Member States

An alternative way of measuring how short-term unemployment translates into long-term unemployment across countries is to calculate the ratio between those who have been unemployed for 12-24 months and those who were unemployed for fewer than 12 months one year earlier. This ratio can be interpreted as a **persistence rate in unemployment for the short-term unemployed** (less than 12 months)[17].

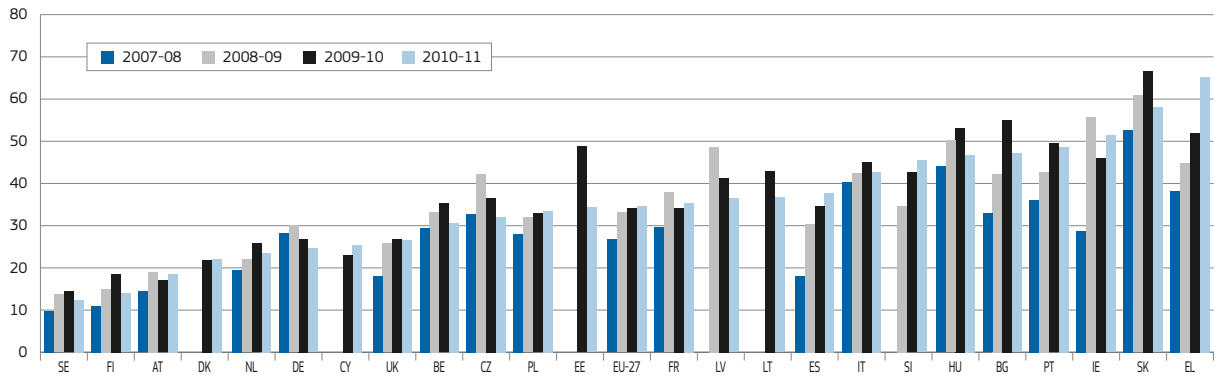
Chart 18 shows this ratio for various years[18] and for most Member States. At EU level, for instance, in 2010, there were 4.8 million persons unemployed for 12-24 months, compared to 14 million persons who were unemployed for fewer than 12 months in 2009, giving a persistence rate in unemployment of 34%. This ratio was much lower in 2007-08 (27%) but worsened in 2008-09 (33%). The most recent data available, for 2010-11, shows only a very limited increase, to 34.5%, which is largely due to the worsening situation in a few countries (particularly Spain and Greece) while there have been improvements in most other countries.

Indeed, for most Member States (18 out of 24), the highest persistence rates for the

(17) On a methodological note, it should be noted that in *OECD* (2012), the same calculation was made except that it is called the 'unemployment-exit probability' since the formula used was reversed: *one minus the ratio*. In our view, it may be preferable to calculate and label it as a 'persistence ratio in unemployment' since the term 'unemployment-exit probability' may imply that the individuals actually found a job, while they may simply have fallen into inactivity or may be unemployed again after a spell of employment (and therefore again be in the short-term unemployment category), see section 4.4.

(18) The rates for each year are the averages of the rates calculated for each quarter.

Chart 18: Persistence rate in unemployment for the short-term unemployed (ratio between the number of unemployed with a duration of 12-24 months and those unemployed for fewer than 12 months one year before)



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Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: Luxembourg, Malta and Romania are not shown due to missing data. No data for 2007-08 and/or 2008-09 for Denmark, Cyprus, Estonia, Latvia, Lithuania and Slovenia due to too low number of observations.

short-term unemployed were reached between 2008 and 2009 (six Member States) or between 2009 and 2010 (12 Member States) before the improvement in the last year for which data is available (2010-11). This reflects the impact of the moderate economic recovery on labour demand and the declining flows into short-term unemployment which have had a positive influence on the probability of exiting unemployment.

Over the last few years, the share of the short-term unemployed remaining in unemployment has been the lowest in the Nordic countries (Sweden, Finland, Denmark), Austria, Cyprus, Germany, the Netherlands and the UK. This low rate of persistence seems to be explained partly by favourable cyclical developments, but also by the labour market institutions in those countries. In Germany, the persistence rate decreased substantially between 2009 and 2011 after an initial increase during the first year of the crisis (2008-09).

On the other hand, a high persistence ratio is found in Greece, Slovakia, Ireland, Portugal, Bulgaria and Hungary, with more than 40% of the short-term unemployed still unemployed one year later. The largest increases in the persistence rate over the period analysed are found in Greece, Ireland and Spain[19] (with a 20 pps or more increase), with a particularly high persistence rate in Greece (65.2%).

Many factors contribute to explaining cross-country differences in the persistence rate in unemployment for the short-term unemployed. Labour demand is obviously one factor since the probability of staying in, or exiting from unemployment depends very much on the opportunities available in the labour market[20]. However, other structural or institutional factors also play a role. For instance, Member States that invest in active labour market policies seem to increase the chances of the unemployed finding jobs[21]. The various factors (and policies) influencing long-term unemployment are discussed in Section 3.

1.3.3. A higher persistence rate for the long-term unemployed

In terms of policy action, long-term unemployment can be tackled in two ways: by preventing the short-term unemployed from becoming long-term unemployed in the first place, or by ensuring that the long-term unemployed are able to exit and return to employment easily. Therefore, it is also important to look at the **persistence rate in unemployment for the long-term unemployed**, paying particular attention to cross-country differences. It can be calculated as the ratio between the number of unemployed with a duration of more than 24 months and those unemployed for more than 12 months one year before[22].

Chart 19 shows this ratio for recent years in most Member States. The much higher persistence rate for the long-term unemployed (57% in 2010-11 at EU level) than for the short-term unemployed (34.5%) confirms the well-known fact that the chance of exiting unemployment decreases with duration. This is true for

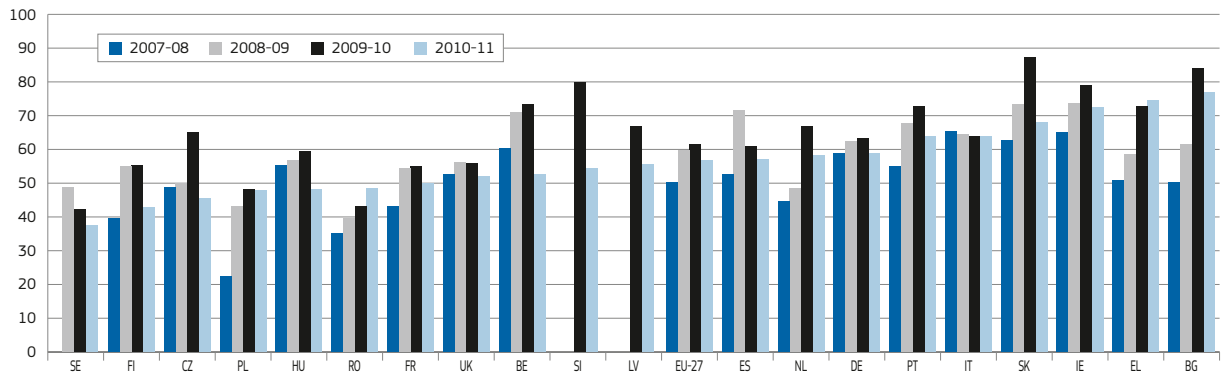
(19) In Spain, the persistence rate before the crisis (2007-08) was around 18%, far below the EU average (27%). This was presumably due to a dynamic labour market where exits out of unemployment were however not necessarily long-lasting due to the high prevalence of temporary contracts. Interestingly, even between 2008 and 2009, the persistence rate remained moderate (30%, versus 33% for the EU average). In the last year available (2010-11) the persistence rate in unemployment in Spain (at 38%) was lower than in eight Member States, but this rate applies to a very large pool of short-term unemployed (around 3 million) and therefore still ultimately results in a high number of long-term unemployed.

(20) The correlation coefficient between persistence rate in unemployment and job vacancy rate is indeed high and negative (-62%) for 2010.

(21) Considering the persistence rate in unemployment for the short-term unemployed presented above for the 'worst year' (2009-10), it appears that the correlation with expenditures in active labour market policies (including labour market policies) as a percentage of GDP is negative and relatively high (-47%). It should be noted that expenditures in ALMPs explain much better the variations in persistence rates in unemployment than variations in the overall long-term unemployment rates.

(22) In order to obtain a more precise measurement, it would be useful to calculate the persistence rate solely for those who have been unemployed 12 to 24 months, i.e., the ratio between those unemployed for 24 to 36 months and those unemployed 12 to 24 months one year before. However, such calculation cannot be performed since the DURUNE variable in the EU-LFS is disseminated by class and all those unemployed 24 to 48 months are grouped together.

Chart 19: Persistence rate in unemployment for the long-term unemployed (ratio between the number of unemployed with a duration of more than 24 months and those unemployed for more than 12 months one year before)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: Denmark, Estonia, Cyprus, Luxembourg, Lithuania, Malta and Austria: not shown due to missing data. No data for 2007-08 and/or 2008-09 for Latvia, Sweden and Slovenia due to low number of observations.

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Table 2: Comparing persistence rates in unemployment for the short vs. the long-term unemployed in 2010-11

Indicators		Persistence rate for STU		
		<33%	33-45%	>45%
Persistence rate for LTU	<50%	SE, FI, CZ	PL, RO, FR	HU
	50-60%	UK, BE, NL, DE	LV, LT, ES	SI
	>60%		IT	PT, SK, IE, EL, BG

Source: DG EMPL calculations based on Eurostat, EU-LFS.

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all the Member States for which data is available.

With regard to developments in recent years, the persistence rate for the long-term unemployed worsened markedly between 2007-08 (50%) and 2008-09 (60%) to reach 62% in 2009-10, before improving in 2010-11 (57%). The rate was the highest between 2009 and 2010 in 14 out of the 20 Member States for which data is available, and between 2008 and 2009 in three others. The only two Member States in which the persistence rate worsened further in 2010-11 were Greece (74.5%) and Romania (but to a relatively low rate of 48.5%).

Over recent years, the persistence rate for the long-term unemployed has been lowest in Poland, Romania, Sweden and Finland, with an average of less than 50%. However, more than two-thirds of the long-term unemployed remained unemployed in Slovenia, Bulgaria, Ireland and Slovakia (an average figure over the four years analysed). In the last year for which data is available (from 2010 to 2011) the highest persistence rates were found in Bulgaria, Greece, Ireland and Slovakia, with rates close to or above 70%. The largest increases (around 25 pps) since the period before the crisis (2007-08) occurred in Bulgaria, Greece and also Poland (but from a very low level).

The rankings across countries bear some similarities to the ranking based on the persistence rate for short-term unemployed, but with some differences (see Table 2). In particular, the Netherlands, Belgium, the UK and Germany have low persistence rates for short-term unemployed, but much higher rates for long-term unemployed. In other words, in these countries, a limited proportion of the unemployed become long-term unemployed but when they do, they have a very high persistence rate. In contrast, in Hungary, the two rates are almost equal.

Unlike the situation for the short-term unemployed, the persistence rate for the long-term unemployed is not closely correlated with either the job vacancy rate or active labour market policy (ALMP) expenditures[23]. This suggests that:

- Improvements in the economic and labour market situation have a greater impact on those with the strongest links to the labour market, namely the short-term unemployed. Thus there is uncertainty about the extent to which a future recovery will lead to a strong reduction in long-term unemployment.
- While active labour market policies can help to reintegrate the short-term unemployed (even if the transition may not always be long lasting) their impact on the exit rate out of long-term unemployment seems more limited. This may be because the long-term unemployed have limited access to such measures or lack strong incentives to participate. It may also be that the measures available are not efficient in ensuring their return to employment (see Section 3 for more details).

While the persistence rates in unemployment presented above have been calculated on the basis of aggregate cross-sectional data, Section 4 of this chapter contains analyses of the transition rates between various labour force statuses based on longitudinal data (also from EU-LFS), which provide a more refined analysis.

[23] For 2010-11, the coefficient of correlation with the job vacancy rate (in 2010) is around -23% (and R^2=0.05) and for the 2009-10, the coefficient of correlation with the level of expenditure in ALMPs is around -7% (R^2=0.005).

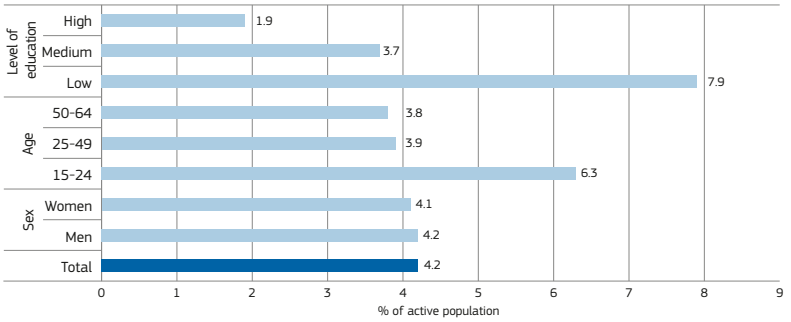
2. Who is affected by long-term unemployment?

From a policy perspective, it is important to identify not only the overall extent of long-term unemployment, but also the main groups of workers affected in terms of sex, age and education level, as well as in terms of their origin, reason for leaving employment, and previous sector/occupation. This section contains an analysis at both EU and Member State level, with a focus on the 2008-11 period in order to assess the impact of the recession.

2.1. Individual characteristics strongly influence levels of long-term unemployment

Charts 20a, 20b and 20c use different indicators to show how various sub-groups were affected in 2011: the long-term unemployment rate, the incidence of long-term unemployment as a percentage of unemployment, and the increase in the absolute number since 2008.

Chart 20a: Long-term unemployment rate in 2011, as a percentage of the active population (%)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

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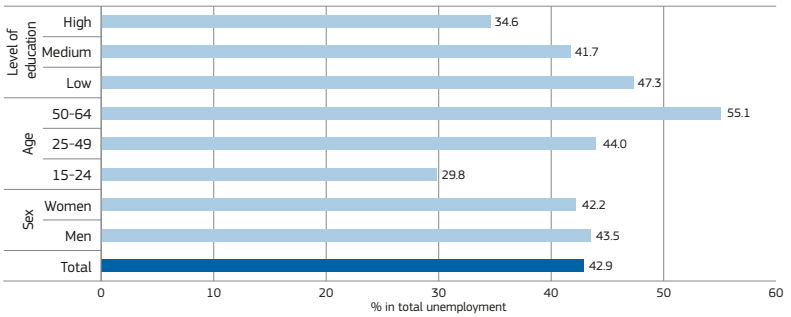
Chart 20b: Incidence of long-term unemployment within total unemployment in 2011 (%)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

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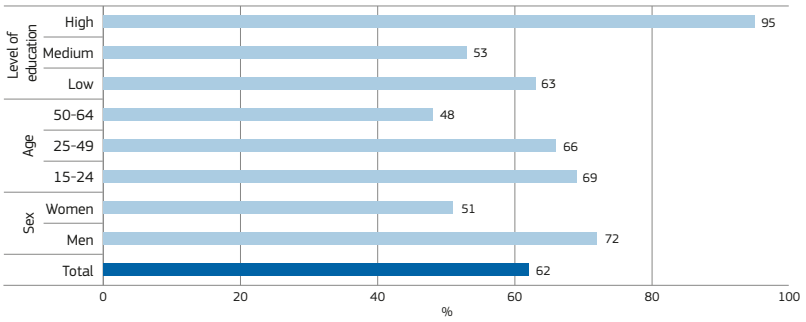
Chart 20c: Changes in the numbers of long-term unemployed, EU-27, 2008-2011 (%)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

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2.1.1. Greater increase in long-term unemployment among men

In 2011 at EU level, women and men experienced very similar rates of long-term unemployment (4.1 % and 4.2 % respectively); this represents a significant change from the situation in 2000 when women, on average, were much more affected than men (4.8 % vs. 3.5 %).

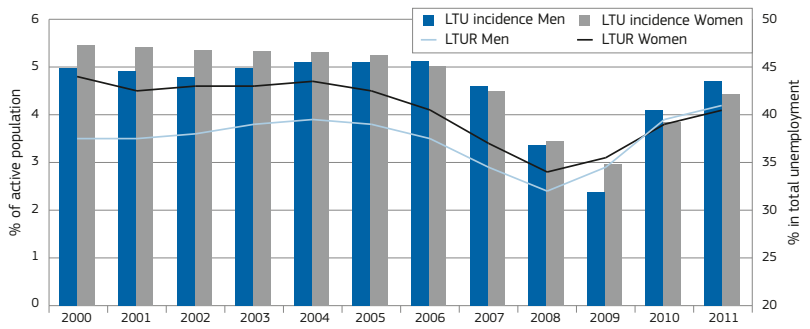
This change was the result of the sharp increase in long-term unemployment among men (from 2.4 % to 4.2 % between 2008 and 2011) compared to the more moderate increase among women (from 2.8 % to 4.1 %) which reflects the more serious impact of the crisis on sectors where men are over-represented, notably construction and manufacturing.

In 2011, 17 out of the 27 Member States had higher long-term unemployment rates for men than for women. This was particularly the case in Ireland (6.6 pps), Latvia (4.1 pps) and Lithuania (2.6 pps) – all countries that were strongly affected by the 2008-09 economic recession, notably in male-dominated sectors. At the other end of the scale, only Greece experienced a significantly higher rate for women than for men (11.6 % vs. 6.8 %). Italy, Czech Republic and Spain also had higher long-term unemployment rates among women than men, although the gender gap was much smaller, at around 1 pp.

Over the past decade, however, differences between women and men in terms of the long-term unemployment rate were mainly explained by differences in the overall unemployment rate (with a much higher rate for women in 2000-08) rather than the incidence of long-term unemployment (which was also higher for women, but with much smaller differences, even at the start of the 2000's).

In 2011, 43.5 % of unemployed men were long-term unemployed, compared to 42.2 % of women. Moreover, 20 Member States had a higher incidence of long-term unemployment among men than women, although the gender gap was only significant (>10 pps) in certain countries: Malta (18.6 pps), Ireland (18.2 pps), Latvia (10.5 pps) and the UK (10.2 pps). On the other hand, women were more often long-term unemployed in Greece (9 pps), and to a lesser extent in Belgium (2.7 pps), Spain (2.1 pps) and Poland (1.9 pps).

Chart 21: Long-term unemployment rate by sex as a percentage of the active population (left scale) and incidence of long-term unemployment as a percentage of total unemployment (right scale), EU-27



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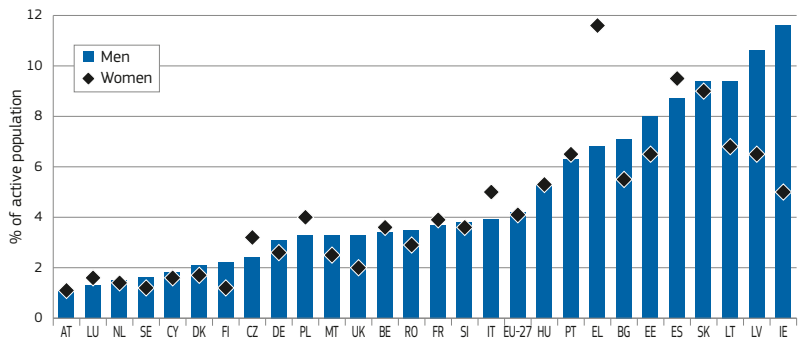
Source: DG EMPL calculations based on Eurostat, EU-LFS.

Chart 22: Long-term unemployment rate (for men and women) as a percentage of the active population, 2011



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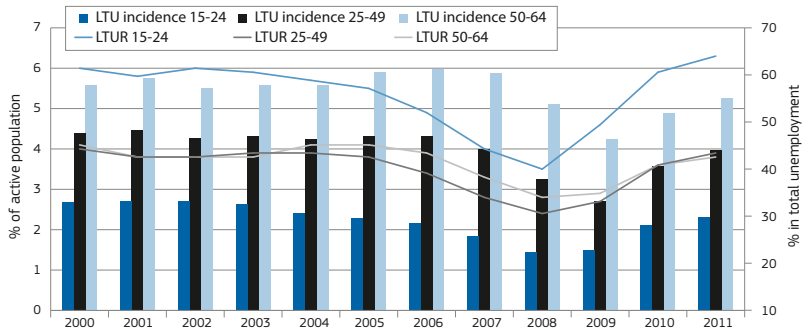
Source: DG EMPL calculations based on Eurostat, EU-LFS.

Chart 23: Long-term unemployment rate by age group as a percentage of the active population (left scale) and incidence of long-term unemployment, as a percentage of the total unemployment (right scale)



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Source: DG EMPL calculations based on Eurostat, EU-LFS.

Another result was that by 2011 at EU level, around 55% of the long-term unemployed were men and 45% were women (compared to a more balanced distribution in 2008 of 51.5% and 48.5% respectively)[24] with this pattern repeated in most Member States[25]. However, more than two-thirds of the long-term unemployed were men in Ireland, Malta and Finland and at least 60% were men in the UK, Latvia and Romania. Only in Greece, the Czech Republic and Poland were there more women long-term unemployed than men.

Over the 2008-11 period, the increase in the proportion of men in total long-term unemployed exceeded 10 pps in the Member States in which the impact of the recession on male-dominated sectors was particularly pronounced (Latvia, Greece, Finland, Spain and Lithuania). In four Member States (Estonia, Romania, the UK and Ireland) the share of women in long-term unemployed increased overall although most of the long-term unemployed were still men. In the UK, long-term unemployment increased more amongst women because of job losses in female-dominated sectors such as retail, financial services and public services[26].

2.1.2. Young people have higher long-term unemployment rates – but older persons have the lowest chances of escaping unemployment

In 2011, the long-term unemployment rates were very similar for prime-age (25-49) and older workers (50-64), at 3.9% and 3.8% of the active population respectively, while the rate for young people (15-24) was much higher, at 6.3% (compared to 3.5% in 2008). This situation is very close to that which existed at the beginning of the 2000's (see Chart 23). In other words, the high level of long-term unemployment among young people represents a return to a previously unsatisfactory situation rather than the development of a new pattern.

In contrast, the indicator concerning the incidence of long-term unemployment shows that those aged 50-64 who were unemployed in 2011 were much more likely to have been in that situation for more than one year (55%), compared to those of prime-age (44%), and even more than those who were youngest (just below 30%).

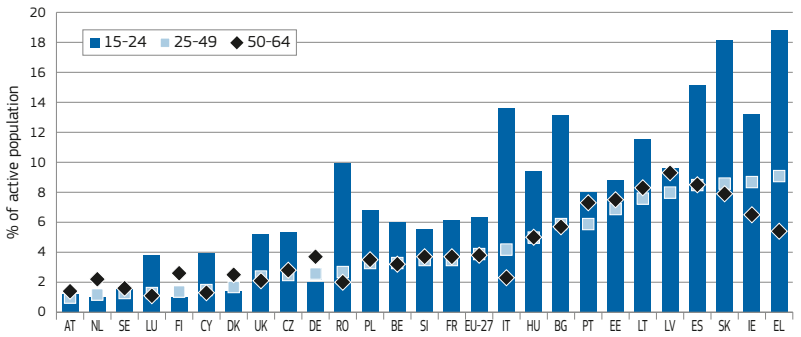
The evidence on young people indicates that their high overall rate of long-term unemployment is mainly due to their high level of unemployment (21.3% in 2011) and *not* to the incidence of long-term

(24) Detailed statistics on the level, distribution and changes of long-term unemployment by sex, age and education level are provided in the tables in annex.

(25) This is due to their slightly higher long-term unemployment rate but also to their overall higher activity rate: in 2011 there were more economically active men than women in all Member States, and in some Member States, men represent close to or more than 60% of the labour force.

(26) European Commission, 2012a, *EEO Review on long-term unemployment.*

Chart 24: Long-term unemployment rate, by age group, as a percentage of the active population, 2011



Source: DG EMPL calculations based on Eurostat, EU-LFS. MT: data not publishable due to too small sample size.

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unemployment as such, which is quite low compared to other age groups. On the other hand, those aged 50-64 have, on average, a relatively low unemployment rate (6.9% in 2011) but the majority of those who are unemployed are without a job for a long duration[27].

There are several obstacles preventing older workers from finding a job when they are unemployed, including negative stereotypes among employers resulting in discrimination in recruitment procedures and a greater risk of skill obsolescence. Moreover, their overrepresentation in economic sectors facing restructuring tends to inhibit their redeployment to new jobs[28].

In terms of the overall distribution of the long-term unemployed by age group in 2011, most (61%) were prime-age workers (25-49); 23% were aged 50-64, and 16% were young people[29]. Changes since 2008 have actually led to a decrease of the share of the oldest in overall long-term unemployment due to the fact that older workers have been, on average, less affected by employment losses during the crisis.

Young people have a higher long-term unemployment rate than other age groups in most Member States (23 out of 27). The rate for young persons is three times the overall rate in Romania and Italy, and twice the overall rate in Slovakia, Bulgaria, Greece, Cyprus and Luxembourg. In 2011, more than 15% of economically active young people had been unemployed for more than twelve months in Greece, Slovakia and Spain (and between 10% and 15% in Italy, Ireland, Bulgaria and Lithuania) due to both the high overall rate of unemployment among young people (around 30% or more in 2011) and the high incidence of long-term unemployment among the young (roughly 50%, except in Spain).

On the other side of the scale, a few countries had a lower rate of long-term unemployment among young people than among the average population (Finland, the Netherlands, Germany and Denmark). In these countries, less than 2% of young people were long-term unemployed, which was also the case in Austria and Sweden. In Finland and Sweden, this low rate is achieved despite a high overall rate of unemployment among young economically active persons (more than 20%) because only a very small proportion of those unemployed stay in that situation for more than a year (5% and 6% respectively). In these two countries, the low incidence of long-term unemployment among young people is achieved through specific measures[30] for young people (reinforced during the crisis) such as youth guarantee schemes involving early intervention, guidance and individual plans, providing young people with work experience and personal advisors for early school leavers, etc.

The strong deterioration of employment perspectives for young people in the EU over the last few years has pushed Member States to take specific measures. At EU level, the Council of Education Ministers adopted in May 2012 a benchmark on the contribution of education to employability[31]. It refers to the employment rate of people aged 20-34 who are no longer in education and training, within three years of graduating.

With regard to older workers (aged 50-64), the highest long-term unemployment rates are found in Spain, the Baltic States, Slovakia, Portugal and Ireland – in other words, in those countries that also have the highest long-term unemployment rate among the total population. Generally speaking, the rates for older workers are lower than or similar to the average. However, they do have higher than average rates in the Netherlands, Finland, Denmark, Germany and Sweden, countries in which the overall long-term unemployment rate is moderate or low. Consequently, it is also in those countries that older workers represent a major part of the total long-term unemployed population: more than one-third (compared to 23% at EU level) and rising to 46% in Finland. However, this evidence is also partially explained by the higher rate of labour force participation of this age group in these countries compared to other Member States.

Finally, prime-age workers (25-49) account for 61% of the long-term unemployed at EU level[32] (and more than two thirds in countries such as Italy, Luxembourg, Ireland and Greece), which

(27) This is even more the case as far as very long-term unemployment (unemployment for two years and more) is concerned. It affected around 34% of older workers (50-64) in 2011, compared to only 12.1% among young people (and around 23% of the prime-age workers).

(28) European Commission, 2012a, *EEO Review on long-term unemployment.*

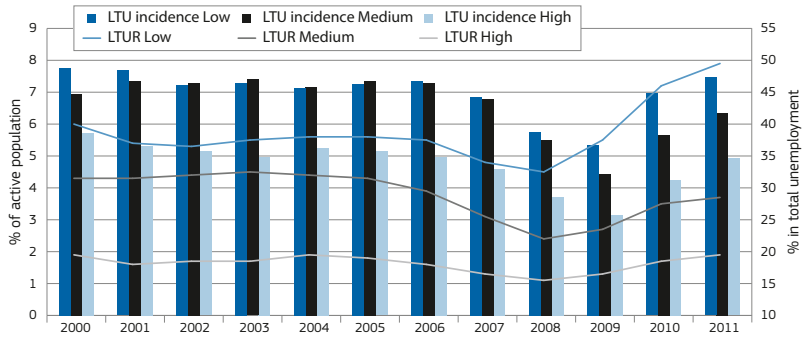
(29) Overall it is important to note that young people never represent a major part of the long-term unemployed (16% on average at EU level) – although the rate is close to 30% in RO and the UK (and a bit higher than 20% in Italy and Cyprus).

(30) European Commission, 2010d, *EEO Review on youth employment measures.*

(31) Council of the EU, Council conclusions on the employability of graduates from education and training, May 2012, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/130142.pdf.

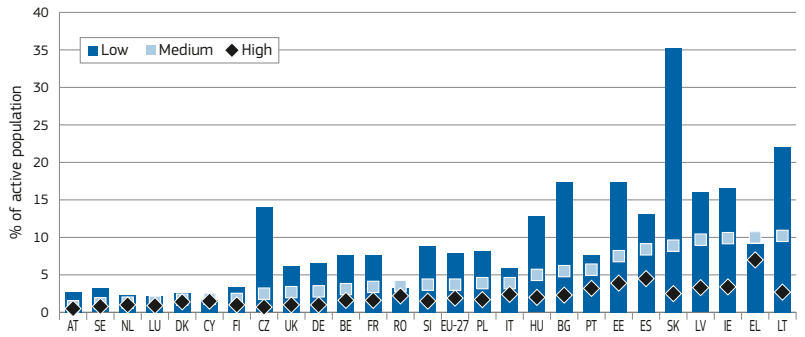
(32) Member States where prime-age workers represent only around half of the long-term unemployed population or even less than 50% are mainly those where older workers are an important share (as described above: Finland, Netherlands, Germany, Sweden), with the exception of the UK and Romania (high share of young people).

Chart 25: Long-term unemployment rate by education level as a percentage of the active population (left scale) and incidence of long-term unemployment, as a percentage of total unemployment (right scale)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

Chart 26: Long-term unemployment rate by educational level, as a percentage of the active population, 2011



Source: DG EMPL calculations based on Eurostat, EU-LFS. MT: data not publishable due to too small sample size.

underlines the importance of ensuring that policies to reduce or prevent long-term unemployed do not focus only on the youngest or the oldest segment of the population.

2.1.3. Education is a major factor in avoiding long-term unemployment

Against the backdrop of continuous restructuring and technological change in our economies, the education level plays a major and increasing role in determining the employability of individuals and hence their chances of finding new employment when they become unemployed. In 2011, the long-term unemployment rate was more than four times higher for those with lower education levels (7.9%) than it was for the highly educated (1.9%) and more than twice as high as it was for those with a medium education level (3.7%)[33].

The higher rate of long-term unemployment among persons with low and medium education levels results mainly from their higher level of overall unemployment (16.7% and 9.0% respectively, compared to 5.6% for the highly educated) rather than from differences in the incidence of long-term unemployment among all unemployed persons, which is much less pronounced (47% and 42% respectively compared to only around 35% among the highly educated). This also means, however, that while highly educated persons have a much lower probability of being unemployed, their risk of becoming long-term unemployed is relatively high if they do become unemployed.

It is notable, moreover, that the number of persons who are long-term unemployed despite having a high education level nearly doubled in the 2008-11 period (+95%), compared to less severe increases for other groups (+53% for those with a medium education level and +63% for those with a low education level). However, this increase took place from a very low level, and highly educated persons still represent only around 13% of all long-term unemployed persons (compared to 11% in 2008). In 2011, most of the long-term unemployed had a medium (around 44%) or low (around 43%) education level.

Relatively lower long-term unemployment rates among the highly educated segment of the active population compared with other groups is a characteristic of all Member States. However it is particularly pronounced in the Czech Republic, Slovakia and Lithuania (with rates more than three times lower than average) while it is less so in Romania, Denmark, and Greece. In Cyprus it appears that having a high education level brings only a limited advantage in terms of avoiding long-term unemployment.

The highest long-term unemployment rates are found in the least-educated segment of the population in every Member State. In some countries, the ratio compared to the overall rate (which is close to 2:1 at EU level) is extremely high: close to 3:1 in Lithuania and Bulgaria, close to 4:1 in Slovakia, and more than 5:1 in Czech Republic. In other Member States the disadvantage is less obvious and comparable to having a medium education level. In fact, long-term unemployment rates are very similar for both educational attainment groups in Portugal, Romania, Cyprus and Greece.

(33) Throughout the chapter the classification of educational levels is based on ISCED: low level of education means 'at most lower secondary' (ISCED 0-2), medium level of education means 'upper secondary and post secondary (non tertiary)' (ISCED 3-4), and high level of education means 'tertiary education' (ISCED 5-6).

Table 3: LTU rate by various sub-groups in the EU-27 (2011)

		Education Level			
Sex	Age groups	Low	Medium	High	Total
Men	15-24	10.4	5.4	2.6	6.9
	25-49	7.8	3.3	1.8	3.8
	50-64	6.5	3.6	2.0	4.0
	Total	7.8	3.6	1.9	4.2
Women	15-24	9.2	5.0	2.7	5.7
	25-49	9.1	3.9	2.1	4.1
	50-64	5.7	3.4	1.6	3.6
	Total	8.0	3.9	2.0	4.1

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Source: DG EMPL calculations based on Eurostat, EU-LFS.

Table 4: Incidence of LTU as a percentage of all unemployed by various sub-groups in the EU-27 (2011)

		Education Level			
Sex	Age groups	Low	Medium	High	Total
Men	15-24	36.9	28.9	15.8	31.6
	25-49	48.1	44.1	35.2	44.3
	50-64	56.2	54.1	52.4	54.7
	Total	46.8	42.1	36.2	43.3
Women	15-24	33.0	26.7	16.2	27.5
	25-49	49.9	43.7	34.8	43.6
	50-64	58.7	55.1	46.7	55.5
	Total	47.9	41.3	33.3	42.0

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Source: DG EMPL calculations based on Eurostat, EU-LFS.

Relative to all long-term unemployed, the low-skilled segment accounts for more than 45% of the total in France, Belgium and Italy (compared to 43% at EU level) and more than 60% in Spain, Portugal and Malta (almost 90%) – these being the three countries in which the share of low-skilled persons in the total economically active population is the largest. At the other extreme, the low-skilled segment as a share of the long-term unemployed is under 20% in Slovakia, Latvia, Cyprus, Romania, Poland and Lithuania – countries in which the share of low-skilled people in the overall active population is below the EU average.

In 11 Member States, more than half of those who are long-term unemployed have a medium education level (compared to 44% at EU level). The rate is particularly high in Romania, Czech Republic, and Latvia (around two-thirds) and Poland, Slovakia and Lithuania (above 70%). The proportion of people with a medium education level among the long-term unemployed has increased in 20 Member States[34], rising above 9 pps in Czech Republic, Bulgaria, Slovakia and Ireland.

2.1.4. Which sub-groups appear as most affected in cross-tabulations of socio-demographic variables?

In order to identify the most affected sub-groups, Tables 3 and 4 indicate the long-term unemployment rate and the incidence of long-term unemployment by cross-tabulating various socio-demographic variables. Unsurprisingly, the highest long-term unemployment rate is found among those with a low education level, particularly young men (10.4%) and young women (9.2%), with the slight gender gap possibly related to the higher incidence of early-school-leavers among men[35].

Among low-skilled workers, prime-age women are particularly affected by long-term unemployment (9.1% vs. 7.8% for men) and this may be particularly linked to the barriers they face upon entering or re-entering the labour market while coping with family responsibilities, given the frequent lack of affordable care facilities and substantial inactivity/unemployment traps for second-earners – both problems that are more acute for those on lower incomes.

Finally, men aged 50-64 with a low education level are slightly more affected than their female counterparts (6.5% vs. 5.7%). This may be explained by various factors including the fact that older men are over-represented in some of the sectors most affected in the crisis. Older men generally seem to experience higher rates of long-term unemployment than older women, whatever their education level.

In terms of the incidence of long-term unemployment, it is highest among older men and women: more precisely, the sub-groups most affected are older women and men with low and medium levels of education, although it also includes men with high education levels (with an incidence of long-term unemployment around 53%). As described above, the incidence of long-term unemployment and the probability of remaining unemployed increase with age. Conversely, it is lowest for young people, although it is much higher for young men than women (31.6% vs. 27.5%), notably for those with a low education level (36.9% vs. 33.0%).

2.1.5. High long-term unemployment among migrants

Apart from basic socio-economic variables such as sex, age or education, it is important to look at the long-term unemployment rate by origin since migrants[36] tend to have less favourable outcomes on the labour market, and this is reflected in their rates of

(34) See tables in annex. This contrasts with an overall decline (by 2.6 pps) when only the EU aggregate is considered – which is mainly due to changes in Germany (with a strong decline in the number of persons being long-term unemployed among the medium-skilled).

(35) European Commission, 2012a, *EEO Review on long-term unemployment*.

(36) For measurement issues, migrants are defined here as 'third-country nationals'.

unemployment[37]. In 2011, the unemployment rate for third-country nationals was around 20% in the EU-27, twice the average (9.7%), with a rate above 25% in France, Belgium, Sweden and Spain.

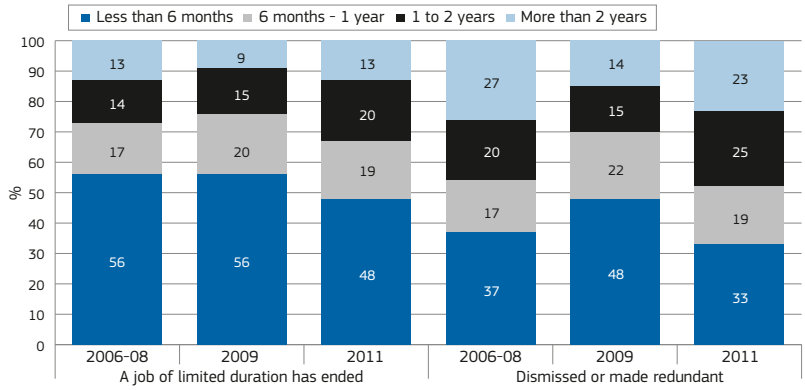
In terms of long-term unemployment, 8.6% of third-country nationals were affected in 2011 – again twice the overall EU rate of 4.3%. The highest rates were in Estonia, Belgium, Latvia, Spain and France where more than 10% of economically active third-country nationals were unemployed for at least one year[38].

However, the incidence of long-term unemployment among third-country nationals is close to, or even lower than, the level for the average population in the EU as a whole and in most countries. In other words, third-country nationals who are unemployed are *not* more likely to become long-term unemployed than average workers. Rather it is their higher overall rate of unemployment that explains their high long-term unemployment rate.

In the EU as a whole, third-country nationals accounted for 4.6% of the active population in 2011, but 9.5% of overall unemployment, and the same share of the long-term unemployed. In Estonia and Latvia, third-country nationals account for 32% and 26% of the long-term unemployed population, although this is due to their high representation in the overall active population. Other countries in which third-country nationals represent a substantial share (>10%) of the long-term unemployed are: Spain, Sweden, Germany, Austria, Denmark, Belgium and France. Compared to their weight in the overall active population, third-country nationals are notably over-represented among the long-term unemployed in Sweden (a ratio of 1 to 5), Belgium and Netherlands (around 1 to 4) and France and Denmark (around 1 to 3).

Beyond the issue of third-country migrants, ethnic minorities (including those who may have been residing for a long time in EU Member States) may also be over-represented among the long-term unemployed. This is the case, for instance, in Slovakia where the Roma minority is reported to represent around half of the long-term unemployed while accounting for less than 10% of the overall active population[39].

Chart 27: Distribution of unemployed by duration and reason for leaving the last job, EU-27



Source: DG EMPL calculations based on Eurostat, EU-LFS.

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2.2. The context in which the last job was lost matters

One factor that may impact the incidence of long-term unemployment is the context in which unemployed persons left their last job. This can be analysed by examining the distribution of the unemployed population across various unemployment durations, distinguishing those who were 'dismissed or made redundant' from the context of a temporary contract ('a job of limited duration has ended')[40].

In the 2006-08 period, immediately before the crisis, those who had lost their last job because of the temporary nature of their work contract (i.e. which had ended and not been renewed) had a much lower incidence of long-term unemployment (with 27% unemployed for more than one year, and 13% for more than two years) than did those who were dismissed or made redundant (47% and 27% respectively).

In 2009, the share of the short-term unemployed increased, particularly for those who had been 'dismissed or made redundant,' as a result of the reduction in labour demand and the sharp increase in redundancies. By 2011, however, the incidence of long-term unemployment among those who had been dismissed or made redundant had returned to its original level (48%) while for those who had lost their previous job due to their temporary contract ending, the incidence of long-term unemployment was higher (33%) than it had been before the crisis (27% in 2006-08).

This seems to indicate that temporary workers, who had previously experienced only limited spells of unemployment (possibly due in part to pressures to take any available work given their limited access to benefits) may currently be more affected by long-term unemployment. Moreover, while temporary workers may be less likely to become long-term unemployed that those who were dismissed or made redundant, they may be more exposed to the risk of recurrent unemployment[41].

The incidence of long-term unemployment among those who lost their last job due to the end of a temporary contract increased in most EU Member States (20 out of 27) between 2006-08 and 2011[42], with decreases in only a few countries (Austria, Poland, Hungary, Romania, Germany, Slovakia, Czech Republic) in which the share of temporary employment was limited (with the exception of Germany). Moreover, in several countries (such as the Netherlands, Spain, Luxembourg, Lithuania) in which the unemployment duration for temporary workers in 2006-08 was short, the incidence of long-term unemployment is now close to, or even above, the EU

(37) European Commission, *Employment in Europe 2008a*, Chapter 2.

(38) See figures in the Annex.

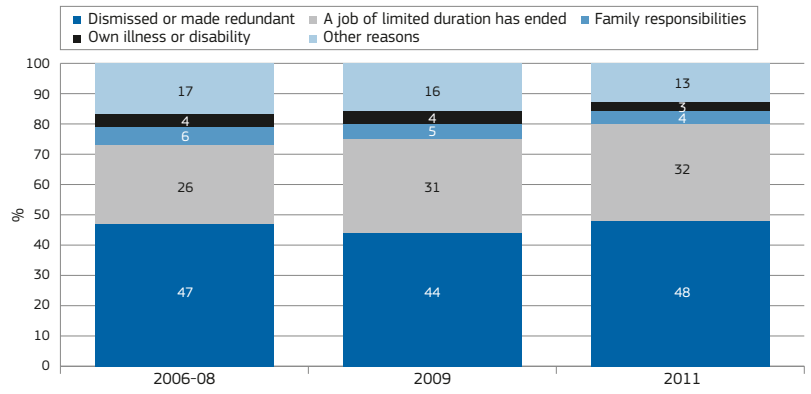
(39) European Commission, 2012a.

(40) On the basis of the EU-LFS variable, 'LEAVREAS'. 'Dismissed or made redundant' and 'a job of limited duration has ended' are numerically the most important categories but other reasons are analysed below.

(41) As pointed out in *European Commission*, 2012a, these variables interact with age as older workers are very well represented in redundancies and young people in fixed and temporary contracts. It is, however, difficult to determine whether the 'reason for leaving last job' or one's age was the decisive factor.

(42) See detailed country tables in annex.

Chart 28: Distribution of the long-term unemployed by reason for leaving last job, EU-27



Source: DG EMPL calculations based on Eurostat, EU-LFS.

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average. Large increases also occurred in France and Ireland where more than half of those who had lost their job because their work contract had ended were long-term unemployed in 2011. It should be noted, however, that a large part of the rise recorded at EU level is actually due to developments in Spain[43], where temporary work had been a major feature of the labour market, and where the incidence of long-term unemployment among temporary workers had leapt from 14% in 2006-08 to 34% in 2011.

The incidence of long-term unemployment among dismissed/redundant workers increased in 16 Member States, with the sharpest rises in the Baltic states, Ireland, Spain and France – all countries that had a lower than average incidence in 2006-08, but which experienced (with the exception of France) significant mass redundancies in the 2008-09 downturn. At the same time, however, the long-term unemployment rates for dismissed/redundant workers decreased in 11 Member States, and particularly so in Slovenia, Romania, Luxembourg, the Czech Republic, the Netherlands and Poland.

For around 32% of the long-term unemployed, their reason for leaving their last job[44] was that it was the end of a temporary contract (compared to 26% in 2006-08), while 48% had been 'dismissed or made redundant' (close to 47% in 2006-08). In addition, 3% left their job because of illness or disability, and 4% because of family responsibilities. Compared to the overall share of temporary contract workers in total employment (around 14% at EU level in both 2008 and 2011), this shows that temporary workers are strongly over-represented among the long-term unemployed and even more so among the short-term unemployed (40%).

In terms of differences between Member States, the share of the long-term unemployed having left their last job because of a temporary contract is particularly high in Finland (55%), Spain (52%) and France (42%), followed by Italy (35%), Slovenia (33%), Belgium (31%) and Sweden (30%). Over-representation compared to the share of temporary contracts in total employment is particularly pronounced in Belgium and Finland (in which the share in long-term unemployment is almost four times higher than in total employment), in France and Italy (around three times higher), and even in countries with a low incidence of temporary employment, such as Romania, Lithuania, Estonia, Luxembourg and Bulgaria (where the ratios are between four and seven times higher). On the other hand, there are countries in which the share of temporary workers in long-term unemployment is close to the share of temporary contracts in total employment (Portugal, Germany, Poland, Austria), or even lower, as in the case of Denmark, Netherlands and Cyprus.

Illness and disability seem to play a larger role in people entering and remaining in long-term unemployment in Austria (12%), Denmark (10%), Netherlands (13%) and the UK (8%), although this may not necessarily be due to a higher incidence of illness or disability among workers from these countries, but rather to the benefit system which led to transfers of unemployed persons from unemployment benefits to sickness/disability schemes, as an escape route from the labour market[45].

With regard to 'family responsibilities' as a reason, this accounts for a significant share of the long-term unemployed in Cyprus (15%), Latvia (12%), Slovakia (12%), Estonia (9%), the UK (8%), Poland (7%), Czech Republic (6%) and Ireland (6%); this may be linked to insufficient access to childcare and other care facilities for dependent persons[46].

According to ISG and RWI (2010), one explanatory variable of a longer unemployment duration across many EU countries is the number of elderly people living in the household. A policy implication could be to improve access to care facilities or to implement labour market institutions which allow individuals to combine care provisions and paid work, such as the possibility of part-time employment or tax breaks for workers who must pay for care provision.

Finally, among the long-term unemployed, the distribution of their reasons for having left their last job varies

(43) Without Spain, the incidence of long-term unemployment for those having lost their jobs due to the end of a temporary contract increased in the EU by less than 2 pps (from 30.8% to 32.7%), compared to more than 6 pps when this country is included (from 26.8% to 33.2%).

(44) The statistics given here refer only to the long-term unemployed for which the EU-LFS provides information on the reason for having left one's last job. Overall they represent around 68% of all long-term unemployed workers. The remaining share of 32% have not been asked the question either because they have never had a job or because the last time they worked was more than eight years ago (they are excluded from this question in order to avoid recall problems).

(45) See Eichhorst and Konle-Seidl, 2008

(46) Most of these countries have a coverage rate of children under three by formal childcare facilities below the EU average, see also European Commission, 2008b, *Report on Implementation of the Barcelona objectives concerning childcare facilities for pre-school-age children*, COM(2008) 638 final.

between men and women: the female long-term unemployed are slightly more likely to have previously been temporary workers (34 %) than men (32 %), and notably less likely to have been dismissed or made redundant (43 % of women compared to 52 % of men). The most significant gender difference is in the share of those who left their job for family responsibilities before becoming long-term unemployed: 7.5 % among women compared to 2.2 % among men.

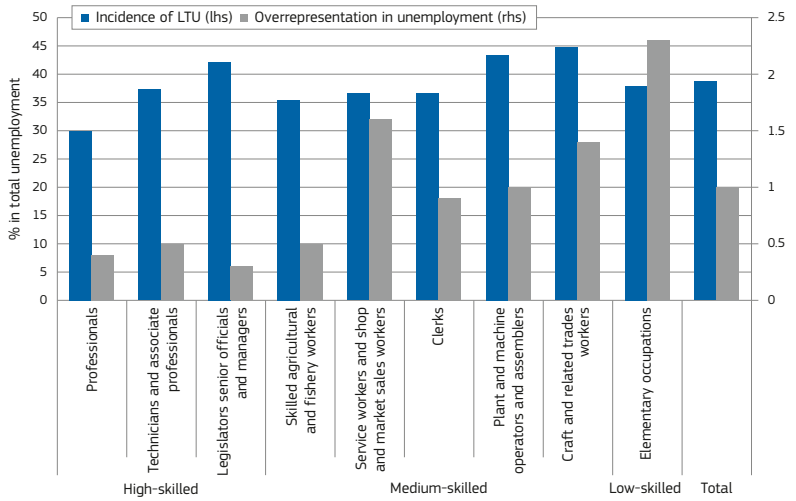
2.3. The strong influence of the previous occupation on long-term unemployment reflects the importance of the skill level

The previous sector of activity or occupation of a currently unemployed person is also a factor that can affect the likelihood of finding (or not finding) a job and, hence, the risk of becoming long-term unemployed. In this regard, the economic crisis has had a strong sectoral bias, notably affecting construction and manufacturing[47], and those employed in medium or low skilled occupations in particular[48]. In addition, structural changes in some sectors or occupations have also been driven by global competition and the associated restructuring.

In considering the previous occupation of the unemployed, two indicators stand out as important (see Chart 29):

- First, the overall probability of being unemployed, which can be estimated by a ratio of over/under-representation (by comparing the overall share of the occupation in total unemployment, compared to the overall share in employment).

Chart 29: Overrepresentation in unemployment and incidence of long-term unemployment, by previous occupation group, in 2011, EU-27



Source: DG EMPL calculations based on Eurostat, EU-LFS. The ratio of over-representation in unemployment is calculated as the share of the occupation group in total unemployment divided by the share of the occupation group in total employment.

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- Second, the risk, if unemployed, of becoming long-term unemployed, which can be estimated by the incidence of long-term unemployment among the unemployed.

The occupation groups that are over-represented in terms of unemployment compared to employment are: 'elementary occupations' (a ratio of around 2.3), followed by 'service workers and shop and market sales' (1.6) and 'craft and related trades workers' (1.4). At the other end of the scale, the 'high-skilled' occupations (ISCO groups 1, 2 and 3) all display a much lower chance of being unemployed.

The incidence of long-term unemployment is highest for those who were previously categorised as 'craft and related trades workers' (44.7 %) or 'plant and machine operators and assemblers' (43.4 %). Perhaps more surprising is the high rate of those previously employed in the high-skilled occupational group, 'legislators, senior officials and managers' (42.1 %) although this may be linked to favourable treatment in terms of unemployment benefits (due to more stable contracts and work history) and a high reservation wage (which may limit the incentive to find a new job quickly and encourage a more extensive job search). Moreover, in comparison to other high-skilled occupations, their curriculum may be of a more general nature, less specific and therefore in lower demand than those working as 'professionals' or as 'technicians and associate professionals,' where the incidence of long-term unemployment is lower (30.0 % and 37.3 % respectively). Also, 'legislators, senior officials and managers' have the least chance of becoming unemployed (ratio of 0.3), and represent only 2.6 % of all long-term unemployed in the EU.

With regard to the 'professionals' category, they are strongly under-represented among the unemployed (accounting for only 6.4 % of the unemployed as opposed to 15 % of employment) and, when unemployed, they have the lowest incidence of long-term unemployment (30 %) of all the groups.

Overall, the categories that account for the majority of the long-term unemployed are those previously employed in 'elementary occupations' (21.9 %), as 'craft and related trades workers' (21.9 %), or as 'service workers and shop and market sales workers' (21.0 %).

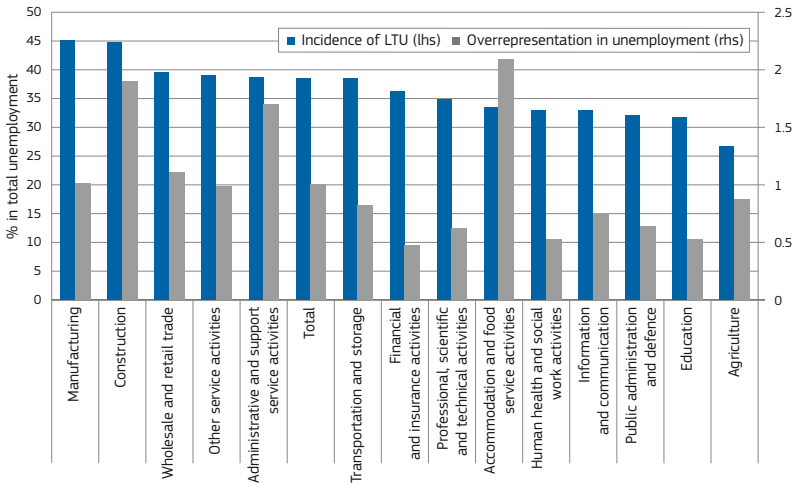
Compared to the pre-crisis period, i.e. pre-2008, the already adverse over-representation in unemployment of 'craft and related trades workers' and 'service workers and shop and market sales workers' has worsened further[49], while it has improved for 'legislators, senior officials and managers' and 'technicians and associate professionals'. Moreover, the incidence of long-term unemployment (which has increased in most occupation groups) has risen in particular for 'craft and related trades workers' (+12 pps)

(47) Between 2008 and 2010, manufacturing recorded a net loss of 3.8 million jobs (-10 %) and employment in construction declined by almost 2 million (-11 %). Important drops were also recorded in wholesale and retail trade (1 million or -3 %) and transportation and storage (0.5 million or -5 %).

(48) At aggregate level (group of ISCO occupations at 1-digit level), it involved a drop in employment (over 2008-10) of 'Craft and related trades workers' by 2.9 million (-10 %), almost 1.5 million among 'Plant and machine operators and assemblers' (-8 %) and around 600 000 among 'Elementary occupations' (-3 %). For 'clerks,' the decline in employment volume (-700 000 or -3 %) was less sector-specific and rather linked to overall declining growth, while the small decline in the group of high-skilled occupations named 'Legislators, senior officials and managers' (-400 000 or -2 %) was also of a general nature (driven by many sectors).

(49) See detailed tables in annex.

Chart 30: Overrepresentation in unemployment and incidence of long-term unemployment, by previous sector, in 2011, EU-27



Source: DG EMPL calculations based on Eurostat, EU-LFS. The ratio of over-representation in unemployment is calculated as the share of the sector in total unemployment divided by the share of the sector in total employment.

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and 'plant and machine operators and assemblers' (+11 pps). This implies that unemployed people who were previously employed in these occupations will face particular difficulties in returning to employment without appropriate re-skilling given the on-going structural changes in the EU economy[50].

2.4. The previous sector of activity also matters: the influence of restructuring

The impact of the previous sector of activity of unemployed persons can also be measured on the basis of the same indicators: their probability of being unemployed (measured through the ratio of over/under representation) and their incidence of long-term unemployment (see Chart 30).

In 2011, the following sectors displayed a higher than average probability of unemployment: accommodation and food service activities, construction, administrative and support service activities. On the other hand, financial and insurance activities, education, human health and social work activities, professional activities and public administration all showed lower than average probabilities.

The incidence of long-term unemployment was:

- highest for those previously employed in manufacturing (45.1%), construction (44.7%), wholesale and retail trade (39.5%).
- lowest among those previously employed in agriculture (26.6%), education (31.7%), public administration (32.1%), information and communication (32.9%), human health (33.0%) and accomodation and food services activities (33.5%).

To summarise, some sectors are characterised by a relatively low chance of *becoming* unemployed and a limited probability of *remaining* unemployed more than twelve months: education, public administration, information and communications, human health, and, to some extent, professional, scientific and technical activities, and financial and insurance activities.

On the other hand, workers from 'administrative and support service activities' and 'construction' (as well as 'accommodation and food service activities,' 'transportation and storage,' 'wholesale and retail trade' and 'manufacturing') seem to have a double disadvantage, being more likely to *become* unemployed, and more likely to *remain* unemployed.

This analysis seems consistent with the experience of the recession, which impacted heavily on the construction, manufacturing and related sectors. In 2011, most of the long-term unemployed in the EU were found in manufacturing (18.8%), construction (17.1%), wholesale and retail trade (16.2%), accommodation and food service activities (8.1%), and administrative and support service activities (6.6%). In one sense this is not surprising given the importance of these five sectors in global employment. In fact, however, they account for 67% of all long-term unemployed persons[51] but only 46% of total employment.

Compared to 2008, the main change in the relative probability of being unemployed by sector has been in the construction sector, where the ratio reached almost 2:1 in 2011, i.e. where the share of construction workers in the unemployment figures was twice their share in total employment. Adverse changes also occurred in the 'public administration' and 'mining and quarrying' sectors but workers in these two sectors still had a relatively lower than average probability of being unemployed in 2011 (ratio lower than 1).

The incidence of long-term unemployment has increased on average and in most sectors since 2008, but it has had a particular impact on those previously employed in construction (+18 pps), financial and insurance activities (+14 pps up from a very low level), manufacturing (+10 pps), professional, scientific and technical activities (+9 pps up from a relatively low level), wholesale and retail trade (+9 pps) and tranportation and storage (+8 pps).

It is notable that, before the crisis, construction workers losing their job were less likely to become long-term unemployed than the average unemployed person (26.8% vs. 30.4%). In other words, while they may have had a higher than average probability of becoming unemployed, they had a higher than average chance of finding another job relatively quickly, i.e. of not remaining unemployed for more than a year.

(50) Considering the 2000-10 period, the number of jobs in the occupations groups, 'Craft and related trades workers' and ' Plant and machine operators and assemblers' has been reduced by 12% and 5% respectively (compared to a 7% increase in overall employment). This trend had started before the crisis since these two occupation groups had seen their total employment level stagnate in 2000-08 while employment was rising by 10% overall.

(51) It should be noted, however, that this concerns only those who were asked the question about their previous sector of activity since one-third of the long-term unemployed in 2011 either had never had a job or had left their last job more than eight years ago and were therefore not asked the question in the EU-LFS.

Given the fact that some of the sectors most affected by long-term unemployment, such as construction and manufacturing, account for a relatively large share of total employment and contain various sub-sectors that may not all be affected to same extent, it was considered useful to conduct similar analysis at a more detailed level (NACE 2 digit)[52]. The conclusion is that all of the sub-sectors displaying a high incidence of long-term unemployment belonged to either construction or industry. Workers previously employed in the manufacture of textiles, leather, clothes, as well as basic metals and furniture show an incidence of long-term unemployment that is higher than 50%, as is also the case of those previously employed in the 'construction of building' sector.

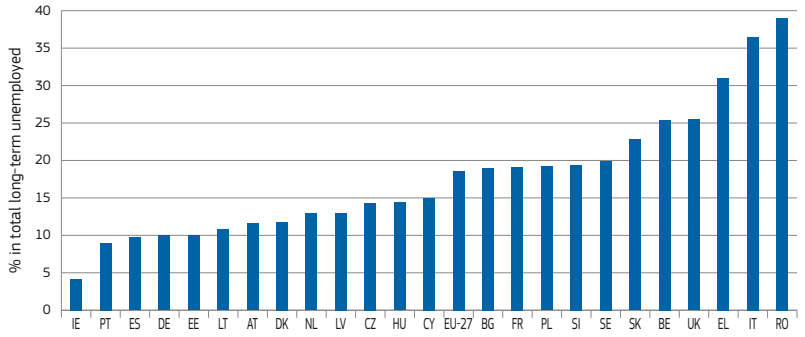
Of course the incidence of unemployment and long-term unemployment by previous sector of employment is linked to the overall demand for labour in each sector. In terms of its evolution over the past decade, the sectors in which employment suffered from both structural decline (2001-07) and economic recession (2008-10) were manufacturing, mining and quarrying, and, to a certain extent, transportation and storage. In the case of construction and wholesale and retail trade, employment increased in the first period but was then badly affected during the recession. Some sectors nevertheless saw their volume of employment grow over the two periods, namely education, health, real estate, and business services.

2.5. One fifth of the long-term unemployed have never had a job

One important point is that there is probably a general assumption that those who are long-term unemployed have had a job, lost it, and, for one reason or another, have not been able to find another. In fact, some 1.8 million of the nearly 10 million long-term unemployed in 2011 have never actually been in employment.

This raises significant policy issues, not least that a substantial part of the long-term unemployed have no work experience and are likely to need various forms of support in order to find a first job, as well as concerns regarding access to benefits and the risk of social and economic marginalisation given that, in most Member States, access to unemployment benefits is usually restricted to those who have previously worked.

Chart 31: Share of the long-term unemployed that have never had a job, 2011 (%)



Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: Cyprus and Austria: unreliable figures due to small sample size. Finland, Luxembourg and Malta: no data publishable due to small sample size.

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Among the long-term unemployed, the share of those that have never worked is, not surprisingly, much higher (62%) among young people (15-24) and those aged 25-29 (29%), much lower (9%) among other prime-age workers (30-49), and very low (2%) among the older age group (50-64). In fact, young people (15-24) represent 53% of all the long-term unemployed who have never had a job – a figure that rises to around 75% if those aged 25-29 are also included.

Here again, the education level is a significant factor. High-skilled individuals represent less than 15% of the long-term unemployed who have never had a job, those with a medium education level account for 41%, and those who with a low education level account for 44%. Such differences are even more notable with regard to young people (15-24) where the shares are respectively 6%, 48% and 46%. However, the 25-29 age class displays rather different patterns. Among them, 35% of the long-term unemployed who have never had a job are highly educated, which may be due to the late entry into the labour market of tertiary level graduates, and the difficulties that some may find in obtaining an appropriate first job.

In five Member States (Belgium, the UK, Greece, Italy and Romania), more than a quarter of the long-term unemployed have never had a job and in two of them (UK and Romania) this seems to be linked to the high share of young people among the long-term unemployed (close to, or higher than, 30%, compared to 16% for the EU as a whole).

At the other extreme, in Portugal, Spain, Germany and Estonia, roughly 10% or less of the long-term unemployed have never had a job, in Ireland the figure is just over 4%. In these countries, the issue of long-term unemployment seems to be linked much more to problems faced by people who were employed, lost their job and could not find another, rather than difficulties in entering the labour market in the first place.

3. What drives long-term unemployment?

This section aims to help interpret the analytical findings in this chapter by briefly reviewing theoretical insights and relevant national empirical evidence. The factors most commonly put forward in the literature fall into two main groups: first, labour demand and economic activity in general, and second, the institutional settings in the different Member States. In this sense, differences in the design of labour market institutions can help explain why countries with similar trends in GDP and labour demand may have divergent experiences in terms of their LTU rates[53].

The most important institutional factors covered by the literature relate to the design of the unemployment benefit (UB) and social security systems, and the structure and effectiveness of active labour market policies, including the role

(52) See results in table in annex.

(53) On the role of labour market institutions, see Nickel and Layard (1999), Davis (1998).

of public employment services. Other institutional variables that are seen to matter are the tax system (particularly the tax wedge), employment protection legislation, skill mismatches and geographical mobility.

3.1. Aggregate demand is the first factor

The first factor influencing development in long-term unemployment is aggregate demand and the resulting inflows to and outflows from unemployment: an obvious factor, but one that should not be under-estimated given the current labour market slack in many Member States.

In Section 1 it was noted that the countries in which long-term unemployment rates increased the most between 2008 and 2011 were also those in which employment declined severely. Indeed, most of the Member States that had the highest long-term unemployment rates in 2011 (the Baltic countries, Spain and Ireland) had had a long-term unemployment rate below the EU average (and much below that of Germany) three years earlier. Among the worst performers in 2011, only Slovakia, and to a certain extent Greece, had had a very high long-term unemployment rate before the crisis (in 2008).

Broadly speaking, the countries that managed to limit or contain the increase in long-term unemployment have been those in which:

- the recession has been limited (e.g. Poland);
- the impact of the economic shock on the labour market has been cushioned through adjustments in working time, notably through short-time working schemes (e.g. Germany, Belgium, Luxembourg);
- the decline in aggregate demand led to increased inflows into unemployment but most of those affected were able to find a new job relatively quickly (e.g. Denmark, Netherlands, Sweden, Finland).

The first two points are beyond the scope of this chapter, which is focussed primarily on the third point, and it seeks to show how some countries have managed to limit the flow from short-term to long-term unemployment (persistence rate) and achieve a higher rate of return to employment.

Chart 32: Persistence rate in unemployment for short-term unemployed (2010-11) and job vacancy rate in 2010

Source: For persistence rate: DG EMPL calculations based on Eurostat, EU-LFS; For job vacancy rate: Eurostat, annual data on job vacancy rates for NACE sectors B to S. The chart only covers countries for which data is available for both indicators.

Notes: y = -14.424x + 51.644
R^2 = 0.3845

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Aggregate demand is clearly fundamental in that the probability of staying in, or exiting, unemployment depends significantly on available job opportunities. As Chart 32 shows, there is a clear negative correlation between the persistence rate in unemployment (for the short-term unemployed) and the job vacancy rate.

Other studies also confirm the relevance of developments in aggregate demand in explaining changes in long-term unemployment, particularly in the current recession.

For instance, the relatively limited increase in structural unemployment (estimated by the NAIRU, see *OECD*, 2012) compared to the overall increase in unemployment (see Box 2) is a sign that, in the current crisis, unemployment is mainly driven by changes in aggregate demand and that, in order to prevent/reduce long-term unemployment, priority should be given to encouraging economic growth and labour demand.

Moreover, the *European Commission* (2011)[54] also underlined that 'in contrast to previous periods, the recent rise in structural unemployment appears to be driven by persistent demand shocks, whereas institutional factors limiting the efficiency of the labour market (e.g. tax wedge, employment protection) seem to be less relevant'. Moreover, the same analysis concluded that 'given the severity of the demand shock and its far-ranging implications for sectoral adjustment, a significant decline of unemployment over the forecast horizon is not to be expected'.

Another indication of increased structural unemployment is available through an analysis of the Beveridge curve which compares the joint evolution of job vacancies and unemployed job seekers over time. The European Employment Observatory (2012) found that, during the crisis, there was an increase in labour market mismatches in many Member States (e.g. Belgium, Sweden, Bulgaria, Slovakia, Cyprus), while for others (for instance, Greece) the movement was along the curve, showing that most of change was cyclical.

The lesson is that additional job creation is needed in order to reduce and avoid long-term unemployment since boosting labour demand will simultaneously reduce inflows into unemployment and increase the outflows from unemployment.

However, stimulating labour demand will not be sufficient, particularly in countries in which long-term unemployment has increased considerably (Spain, Greece, Ireland, Baltic countries). Supply-side policies to raise the employability of the unemployed and prepare them for more viable jobs are equally important.

Moreover, aggregate demand only partially explains developments in long-term unemployment. The chart above shows that some countries, such as the Netherlands, Sweden and Finland have lower persistence rates in unemployment than might be expected on the basis of their levels of labour demand as measured by the job vacancy rate. In other words, there are other country-specific

(54) European Commission, 2011a, p.77.

factors behind the variations in persistence rates in unemployment among EU Member States.

These factors are analysed in detail below. They mainly relate to the unemployment and/or social benefit system, the design of active labour market policies, the role of public employment services and other factors such as the tax system and employment protection legislation.

3.2. Unemployment benefit system

The following sub-section looks at key dimensions of the unemployment benefit system and their role in relation to the prevention or persistence of unemployment.

3.2.1. Large benefits do not necessarily increase the persistence of unemployment…

Partial equilibrium job search models emphasize the disincentive effects of high levels of unemployment benefits, pointing out that they tend to increase the reservation wage of the unemployed, thereby prolonging the job search process. However, unemployment benefits also act as search subsidies, which may raise productivity by improving the match between jobs and vacancies. Furthermore, the extent of any disincentive effect depends on the overall design of the unemployment benefit system (how replacement rates fall over the unemployment period, the duration of entitlement, the strictness of requirements for their administration) and appropriate activation strategies (e.g. active labour market policies). Cross-country evidence shows, for example, that countries with some of the highest benefits (e.g. the Nordic countries) nevertheless feature among those with the lowest LTU rates.

There is a substantial literature showing that unemployment benefits do not necessarily prolong unemployment although there are also empirical studies that have found that they do. FEDEA (2012), for example, finds that, in Spain, unemployed workers who do not receive unemployment benefits are twice as likely to find jobs compared to the rest of the unemployed. This, they explain, is due to the fact that job search requirements for obtaining unemployment benefits are not very rigorous.

Chart 33a: Net replacement rates, 2007 and 2010

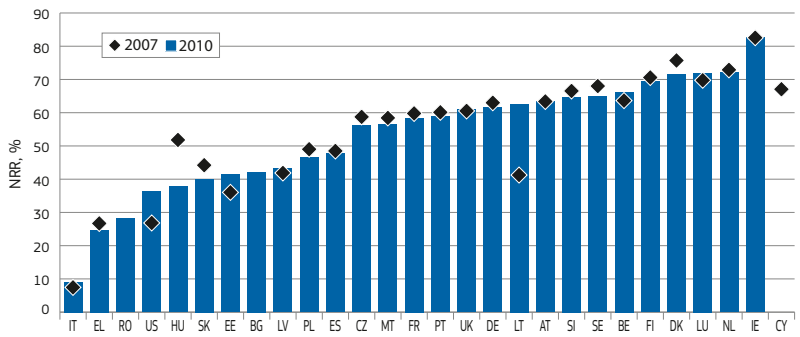
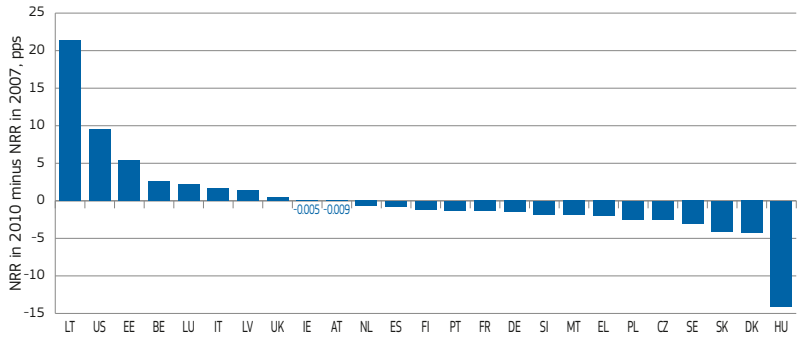


Chart 33b: Change in net replacement rates, 2007-10



Source: OECD, Tax-benefit model[1].

(1) Assumptions of the OECD tax-benefit model: Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. The net replacement rates are calculated after tax and including unemployment and family benefits. Social assistance and other means-tested benefits are assumed to be available subject to relevant income conditions. NRRs presented in the chart are simple averages of the NRRs for 4 family types (single individuals, lone parent with 2 children, one earner couple with and without children) and 2 previous earnings levels (67% and 100% of average wage). They represent an average over NRRs after 1, 2, 3, 4 and 5 years of unemployment.

Bassanini and Duval (2006) and Blanchard and Wolfers (2000), find a positive relationship between the replacement rate and the unemployment rate and *OECD* (2009) indicates that higher benefit replacement rates tend to reduce unemployment outflow rates, which would imply longer periods of unemployment.

On the other hand, *European Commission* (2009), Chapter 2 does not find the impact of financial incentives (unemployment trap variable, net replacement rates) on the incidence of LTU to be significant. Similarly, ISG and RWI (2010) do not find a link between the replacement rate of unemployment insurance and the unemployment duration. Junankar (2011) shows that the higher the replacement rate, the lower the increase in the rate of long-term unemployment. Interestingly, in the case of Belgium, Desmet (2011) even found that a higher level of unemployment benefits equates with a greater probability of re-entering the labour market.

The disincentive effects of unemployment benefits may be offset by other factors such as income redistribution and the quality of job matching. In the Nordic countries, where the benefits are in general more generous or longer, these systems are matched by effective activation measures such as stricter job search requirements for benefit receipt, a focus on in-work benefits, and efficient labour offices.

Chart 33a and Chart 33b show the diversity in the level of replacement income between Member States, together with the change between 2007 and 2010[55]. Net replacement rates (NRR) in Italy (7%) and Greece (26%) are the lowest in the EU, followed by most of the new Member States, while in the Nordic countries, Luxembourg and Ireland they are above 70%. During the crisis, net replacement

(55) The changes in NRRs 2007-10 may be the result of reforms that took place before the recession. In this sense the changes presented in the chart should not be interpreted as strictly 'crisis-driven'.

Chart 34a: Min/Max duration of unemployment benefits, 2011

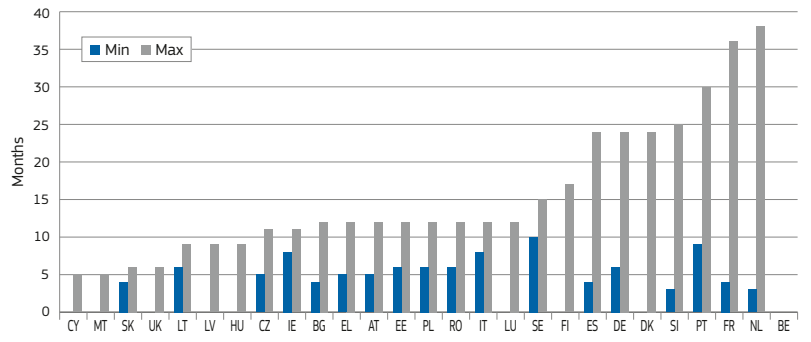
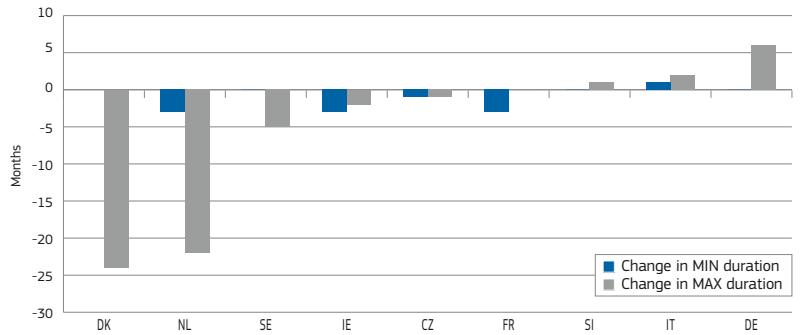


Chart 34b: Change in duration, 2007-11



Source: MISSOC database.

Note: No legal maximum of duration of UBs in Belgium.

rates decreased slightly in most Member States, although they increased in the three Baltic states, Belgium, Luxembourg and Italy[56].

3.2.2. ...and neither does the duration of unemployment benefits

Durable benefits i.e. those that last for lengthy periods, can increase the persistence of unemployment. However this is not necessarily the case if they are flanked by successful activation elements in the unemployment benefit system or ALMPs.

There is considerable literature concerning the effect of the duration of unemployment benefits on the average duration of unemployment. Job search models point out that longer entitlement periods may lead to moral hazard problems, i.e. they reduce the need or incentive to look for work, thereby raising the persistence of unemployment, particularly when combined with high levels of replacement income. Using data for the US, Moffitt (1985) and Katz and Meyer (1990), for example, suggest that an extension of the entitlement period results in a significant rise in the average duration of unemployment, and Van Ours and Vodopivec (2004), using data for France and Slovenia, arrive at similar results, showing a significant increase in the exit rate out of unemployment around the time when the benefit expires. On the other hand, as mentioned before, unemployment benefits also serve several other positive purposes, including providing income support, enabling continued labour market participation, and encouraging better job matching.

Chart 34a and 34b present the maximum and minimum duration of unemployment insurance benefits and the change between January 2007 and July 2011[57]. The long-term unemployed seem to be covered by unemployment insurance benefits where the maximum duration exceeds 12 months in around two thirds of the countries, and the very long-term where the maximum duration exceeds 24 months in only five Member States (Belgium, Netherlands, France, Portugal, Slovenia).

As a result of the crisis, unemployment benefit regimes have changed in a number of countries, although the direction has not always been the same. The Member States that had the longest lasting benefits in 2007 decreased the duration of payment over the period. The maximum duration decreased in Denmark (by two years), the Netherlands (22 months), Sweden (5 months), the Czech Republic and Ireland, while it was increased in Slovenia, Italy and, more significantly, in Germany (by six months). In Luxembourg the prolongation ranged between 6 and 12 months depending on age and years of work. Several Member States that had the longest lasting benefits in 2007 decreased the duration of payment over the period.

In the context of insufficient labour demand, benefits that are too restrictive may lead to increasing poverty and social exclusion without necessarily achieving successful activation. During the recent recession, some countries such as Latvia, Estonia, Luxembourg and Germany acted counter-cyclically by increasing the level of replacement income and/ or by extending eligibility, while others (e.g. Ireland, France, Netherlands, Denmark) decreased the generosity of their unemployment benefits. In many cases, the countercyclical measures are of a temporary nature and may be reconsidered once the recovery gains momentum in order to strengthen the focus on activation. In their joint assessment of the crisis and recovery measures, the OECD and the Commission both recommend a cautious approach on increasing the generosity of benefits, while recognising the need in certain cases (including in Italy and Finland) to extend their coverage or duration for social reasons as well as to enhance beneficiaries' integration into the labour market[58].

3.2.3. Social assistance schemes affect level and duration of replacement income

It is not possible to discuss the effect of contribution-based unemployment benefit systems on the exit rate out of unemployment/duration of unemployment without taking into account social assistance schemes that effectively provide income support to the long-term

(56) The net replacement rate measures net income while out of work (unemployment benefits or means-tested social assistance, housing benefits) relative to the net income previously earned in a given point in time, e.g. after 6 months of unemployment.

(57) Missoc database, reference 1st January 2007 and 1st July 2011.

(58) European Commission (2010a), Stovicek and Turrini (2012), OECD (2011), p. 277.

Box 5: Unemployment insurance benefits extended through social assistance: example of Malta

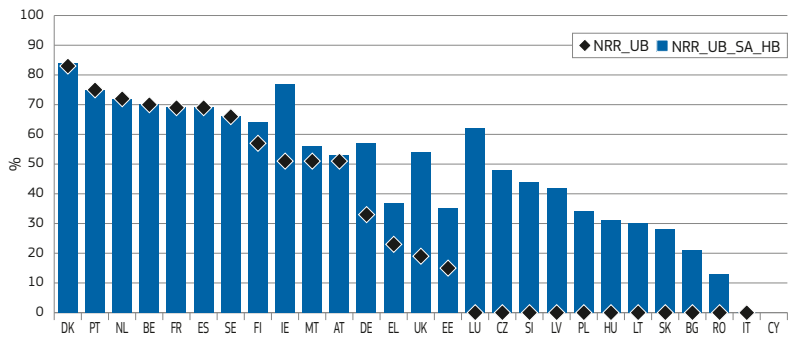
According to the European Employment Observatory,[1] in Malta, 49% of the unemployed are caught in a benefit trap. Unemployment insurance benefits cease after 156 days, but the social assistance package (*Ghajnuna Socjali*) is of unlimited duration and comparable to the minimum wage. Given that 80% of the unemployed are low-skilled, the scheme would not appear to offer any strong financial incentive to take up work paying only the minimum wage. The Maltese government's expenditure on long-term unemployment assistance is much higher than on short-term unemployment benefits. Zerafa (2007) shows that persons receiving special unemployment benefits or married persons would lose money if they found a part-time job or become self-employed.

(1) *European Commission* (2011b), p. 15. This is confirmed also by data presented in Chart 36.

unemployed in many Member States[59]. The following example illustrates the potential interaction between contribution-based benefits and publicly funded social assistance.

There are considerable differences between Member States in terms of what they offer as unemployment assistance. Some Member States do not operate explicit unemployment assistance schemes, while others have schemes that last indefinitely[60]. Chart 35 shows the importance of unemployment assistance and other benefits such as housing benefits in terms of the level of replacement income they represent after one year of unemployment. They indicate both the level of the net replacement rate (NRR) based on unemployment benefits alone, and the NRR including social assistance and housing benefits in addition to unemployment benefits.

Chart 35: NRRs based on UB vs. NRRs based on UB, social assistance and housing benefits



Source: OECD tax benefit model[1].

(1) The chart refers to 2010. The model is calculated for a single person earning 67% of the average wage in the 13th month of unemployment.

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For the first year of unemployment (see Chart A1 in the Annex) in the majority of Member States there is little difference between the replacement rate based on unemployment benefits alone and the rate that includes social assistance since most of the replacement income is provided through UB.

In the second year of unemployment (see Chart 35), the additional effect of social assistance is still not felt in countries such as Denmark, Belgium, Netherlands, Portugal and France since they have particularly durable unemployment benefits (maximum duration of benefits exceeding 24 months, see Chart 34a). However, in some other countries, notably the majority of the new Member States, unemployment insurance expires after one year of unemployment, leaving many of the long-term unemployed to rely on additional replacement income from social assistance schemes. This means that the level of replacement income provided by the social assistance system can also play an important role in terms of creating work disincentives.

Data for the fifth year of unemployment shows that the level of replacement income for the (very) long-term unemployed in almost all Member States is mainly determined by what is provided by the social security system (see Chart A2 in the Annex). Its level is more significant in the Nordic countries (Denmark, Finland, Netherlands and Sweden) and Luxembourg. For these countries, it is important that the replacement income fall sufficiently quickly when transitioning from unemployment insurance to unemployment assistance in order to counterbalance possible negative effects on work incentives (see also next section, time profile and section on ALMP) while, at the same time, ensuring that effective job activation strategies for the long-term unemployed and social assistance recipients are in place. Box 6 provides two examples from this group of countries.

(59) Unemployment benefit systems consist of two main instruments: unemployment benefits and unemployment assistance. Unemployment benefits are typically contribution-based and time-limited. They are payable to job losers who within a certain reference period have completed a minimum period of employment and/or paid contributions. They are based on the insurance principle: when the event occurs (i.e. the person becomes unemployed), the claim has to be satisfied subject to the fulfilment of a set of preset eligibility conditions. Therefore, when unemployment rises, an increasing number of claims need to be awarded, and expenditure on unemployment benefits rises. Unemployment assistance aims at preventing unemployment-related poverty, and is usually means-tested and paid to the long-term unemployed with insufficient means who have exhausted their unemployment insurance benefits or who do not qualify. To qualify for unemployment assistance the unemployed often do not need to have any employment/ contribution history or it is much shorter than for insurance benefits. In many countries assistance is not contribution-based.

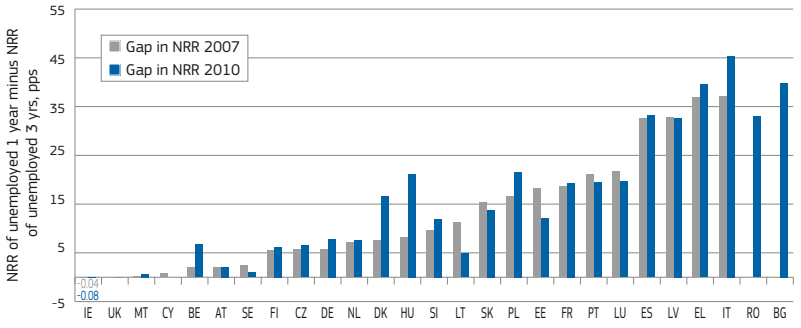
(60) For example, the unemployment allowance in the UK ('Jobseekers' allowance'), Ireland ('Assistance'), Austria ('Notstandshilfe'), Germany ('Sozialgeld' and 'Arbeitslosendgeld II'), Finland ('Labour market support: työmarkkinatuki') and Malta ('Ghajnuna Socjali') are of unlimited duration. In France and Portugal the benefit is limited (six months in France). In Belgium the insurance benefit is of unlimited duration and there is no special unemployment assistance scheme. Many new Member States do not operate assistance schemes, even though the insurance benefit payment is of limited duration, usually between 9 and 12 months. *Source:* MISSOC database and OECD country reports.

Box 6: Addressing the work disincentives of social assistance: examples of Finland and the Netherlands.

Many countries that operate social assistance schemes provide additional conditionalities for recipients in order to reduce the incentive to remain on welfare for long periods. In Finland, for example, full social benefits are conditioned on participation in ALMPs; participation in 'rehabilitative work' has been also made mandatory since 2010.

In the Netherlands, UB recipients can decline a job if it pays less than 70 % of their previous income, while a social security benefit recipient (social security benefits being paid on expiration of UB) must accept any job available, regardless of how much it pays. Furthermore, the social security benefit is considerably lower than the UB.

Chart 36: Gaps in net replacement rates: initial phase of unemployment vs. long-term unemployment



Source: OECD, Tax-benefit model.

However, it is also important that social assistant recipients have the same access to employment services as unemployment benefits recipients, and the fact that they are often covered by multiple institutions may create a risk that labour offices pay insufficient attention to this group when designing and targeting programmes.

3.2.4. Time profile of unemployment benefits can contain activation elements

The risk of benefit dependence increases with the duration of unemployment transfers (unemployment benefits or assistance), and is stronger when replacement rates do not fall substantially over the unemployment period. Chart 36 shows the difference (or gap) in average NRRs for those who are in the first year of unemployment and those who are in the third year of unemployment in 2007 and 2010 respectively.

As the chart shows, in all Member States net replacement rates are higher for those in the initial phase of unemployment than for the long-term unemployed[61]. The higher the bars, the greater the difference between the replacement incomes of the short-term and long-term unemployed. Thus, in countries such as Belgium, Austria, Sweden and Malta the short-term and long-term unemployed receive approximately the same replacement income in both cases, pointing to a risk of low work incentives. However, Belgium adopted a reform of the unemployment benefit system which was to be implemented in November 2012 to increase the unemployment benefit in the initial phase of unemployment, but reduce it more quickly over time.

At the other extreme are countries such as Romania, Bulgaria, Italy, Greece, Spain and Latvia in which the difference between replacement income for the short-term and long-term unemployed is significant. In these cases the entitlement period elapses relatively quickly (usually between nine months and one year) and the importance of unemployment allowance schemes is negligible. In the UK and Ireland the duration of benefits is small, but the unemployment assistance schemes compensate accordingly.

Furthermore, there have been changes in the structure of the net replacement rates over time. The gap between the replacement income for those in the initial phase of unemployment and those who are long-term unemployed increased from 2007 to 2010 in countries such as Hungary, Poland, Italy, Denmark and Belgium; this generally reflects a move towards a decrease in replacement income for the long-term unemployed as compared with those who are unemployed for shorter durations (Hungary, Denmark[62]), with an increase in the replacement income for those unemployed for shorter periods and a decrease in the replacement income for the long-term unemployed in the case of Poland. On the other hand, in countries such as Portugal, Slovakia, Estonia, and Lithuania, the gap between the two decreased, which can be seen as reflecting an extension of the social protection system in these countries, where LTU increased substantially during the crisis.

3.2.5. Eligibility conditions/ coverage rates

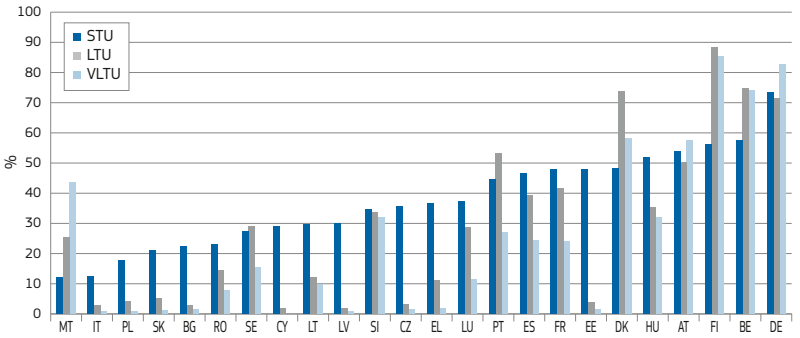
Eligibility criteria include conditions that the unemployed must fulfil in order to qualify for benefits which determine who is able to access unemployment benefits and the extent to which the unemployment benefit system will provide income protection, help integrate the unemployed into the labour market, and provide general support to labour demand.

Chart 37 shows the unemployment coverage rates for the short-term, long-term and very-long unemployed in 2010. In the new Member States, Greece and Italy, the coverage rates for the short-term unemployed are higher than for the long-term unemployed, and coverage of the very long-term unemployed

(61) The OECD data refers to those in the first year of unemployment/ benefit receipt compared to those in the third year of unemployment/ benefit receipt. For Ireland the difference is minus 0.08 (2010) and minus 0.04 (2007), and for the UK it is 0.

(62) In Denmark the decrease in net replacement income for the long-term unemployed reflects a decrease in the maximum duration of benefit receipt (from 4 to 2 years), which is a clear sign of a policy shift toward strengthening incentives.

Chart 37: Coverage rates by unemployment benefits/ assistance, 2010



Source: DG EMPL calculations based on data from Eurostat, LFS[1].

(1) The coverage rate is the ratio of the unemployed who receive unemployment benefits or assistance. Data for Ireland are missing, and data for Netherlands and the UK are not reliable. The short-term unemployed are those who are unemployed for up to one year, the long-term unemployed are those who remain unemployed between 12 and 24 months, and the very long-term unemployed are who remained unemployed for longer than two years.

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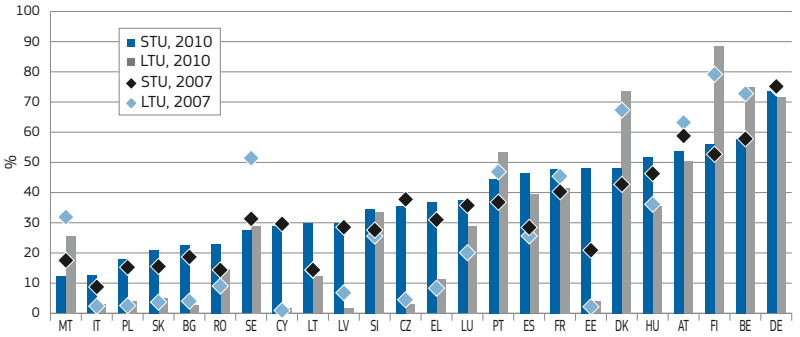
Chart 38: Coverage rates by unemployment benefits/ assistance, 2010 and 2007



Source: DG EMPL calculations based on data from Eurostat, LFS. Ireland: no data, Netherlands, the UK: data not reliable.

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is negligible. This is mainly due to the fact that unemployment insurance benefits expire by the end of the first year of unemployment, and unemployment/ social assistance schemes do not play an important role in these countries.

On the other hand, in the Nordic countries, Belgium and Portugal, coverage of the long-term unemployed is higher than it is for the short-term unemployed due to longer benefit and assistance schemes. Corroborating data from the sub-section on social assistance, coverage of the very long-term unemployed is high only in countries which operate durable unemployment or social assistance schemes such as the Nordic countries, Austria, Germany, Malta, and Portugal[63].

Chart 38 shows how coverage has evolved in the Member States since the onset of the crisis. It was extended slightly in most of the new Member States, Italy and Greece in order to provide social protection to new vulnerable groups (notably, the low-skilled and difficult-to-place unemployed) and to contribute to their integration into the labour market. In these countries coverage was among the lowest before the crisis and it was extended mostly for the short-term unemployed. Coverage was increased the most in Estonia, but again only for the short-term unemployed.

(63) The LFS data on this variable is based on personal reporting on the receipt of benefits and/ or social assistance payments, which is subjective and could lead to skewed results. Registration with employment services is a prerequisite for benefit receipt in many Member States. Looking only at the coverage rates of those who are registered leads to the same results.

Coverage for the long-term unemployed was increased in Luxembourg and Spain in particular, and more moderately in Denmark and Finland. In a few countries, such as Sweden, Austria and Malta, coverage was reduced for both unemployed groups.

3.2.6. Accumulation of benefits improves early activation

Allowing unemployment benefits to be received while undertaking part-time work or self-employment has proved to be a useful policy to address long-term unemployment, enabling beneficiaries to retain close links with the labour market. Some countries, including Belgium, Germany and Austria, have strengthened in-work benefit schemes as a way of incentivising the unemployed to take up employment. As noted in the *European Commission* (2012a), a strand of the Hartz labour market reforms in Germany addressed this by promoting 'mini and midi jobs,' and the so-called 'one-euro jobs' which are in-work benefit schemes. In Austria, the 'new combination wage' ('Kombilohn neu') available since 2009 has made it possible for certain groups of those who have been unemployed for more than six months to receive in-work top-up benefits when they take full-time jobs. In Belgium, the ALE programme allows the long-term unemployed to work a certain number of hours per month while retaining their unemployment benefit.

Likewise, a lump-sum payment to those who find a job before the benefit entitlement period ends, as in Slovakia and Romania, or incentives to take low-paid work, as in Ireland, Slovakia, Malta, Netherlands, Austria, Portugal, France and Sweden, can also encourage early activation. While such measures help overcome benefit dependency, the risk of which is highest among low-wage workers, they need to be accompanied by policies that ensure satisfactory job quality in order to protect them from falling into in-work poverty[64].

(64) European Commission (2011c), Chapter 4.

3.3. Active labour market policies

In order to improve the employability of the unemployed and to avoid the moral hazard associated with unemployment benefits, benefits are sometimes made conditional on requirements such as:

- the requirement to undertake a job search and demonstrate availability for suitable jobs within a reasonable geographical range;
- participation in active labour market policies such as training, job counselling, individual action plans;
- maintaining regular contact with employment services.

In some cases there may be sanctions for non-compliance, for example in terms of a reduction in the benefit amount. In some Member States there is a requirement to undertake socially useful work. In Finland, for example, receipt of full social benefits has been conditional on participation in ALMP and on participation in 'rehabilitative work' since 2010. An increasing number of Member States link not only the receipt of unemployment benefits to participation in ALMP but also the receipt of social assistance.

3.3.1. Spending and participation in ALMP decrease long-term unemployment…

Many econometric studies show the positive effect of spending or participating in ALMP on decreasing the duration of unemployment after controlling for the economic cycle (e.g. Nickel and Layard 1999). The following two charts present this link in a country-specific setting.

In particular, Chart 39 shows the relationship between the *level* of long-term unemployment and the rate of participation by job seekers in ALMP.

Participation in activation programmes helps to reduce LTU by facilitating outflows from unemployment rather than by affecting inflows into unemployment, which are largely cyclical. The countries with the lowest level of long-term unemployment (Denmark, Luxembourg, Finland, Netherlands, Austria) are among those in which the level of participation in ALMP is the highest, while the countries with the highest level of LTU, such as the Baltic states and Greece, have the lowest level of participation in ALMP.

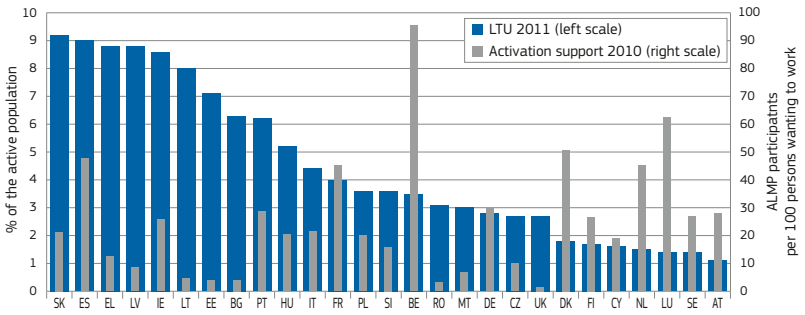
Nevertheless, some countries such as the UK and most of the new Member States have similar levels of participation in ALMP, but divergent LTU rates ranging from above 9 % in Slovakia to around 3 % in the UK. Likewise, while participation rates in ALMP are similar in Portugal and Sweden (Austria), the rates of LTU are not. These differences pick up notably cyclical effects, but they also underline the importance of ensuring the effectiveness of ALMP programmes.

Chart 40 plots expenditure on ALMP as a percentage of GDP against an indicator of the persistence of unemployment (as measured in Section 1.3).

This chart shows that, overall, the Nordic and continental countries tend to have the highest levels of expenditure on ALMPs coupled with the lowest persistence rates in unemployment, while the Central and Eastern Member States, and some South European countries such as Italy and Greece, show a low level of expenditures on ALMPs and generally high persistence rates of unemployment.

As indicated by the chart on activation support, there are Member States which spend similar amounts on ALMP but achieve very different results in terms of reducing LTU, which serves to underline, apart from cyclical effects, the importance of factors such as the efficiency of ALMP programmes, the stringency of activation obligations,

Chart 39: Participation in active labour market programmes (right scale) and long-term unemployment rate as a percentage of the active population (left scale)



Source: Eurostat, LMP[1].

(1) Data on the long-term unemployment rate (as a percentage of the active population) refers to 2011, which is one year later than the latest data on participation in ALMP, which is for 2010. The latter ALMP indicator shows the number of participants in regular activation measures (Categories 2-7 in the LMP database) in relation to 100 persons wishing to work. Data for activation support in the UK refers to 2009. Data on activation support is flagged as unreliable in Czech Republic, Ireland, Spain, France, Italy, Lithuania, Luxembourg, Hungary, Poland, Portugal, Slovakia and Sweden. Estimates are used for the Netherlands, Cyprus and Denmark.

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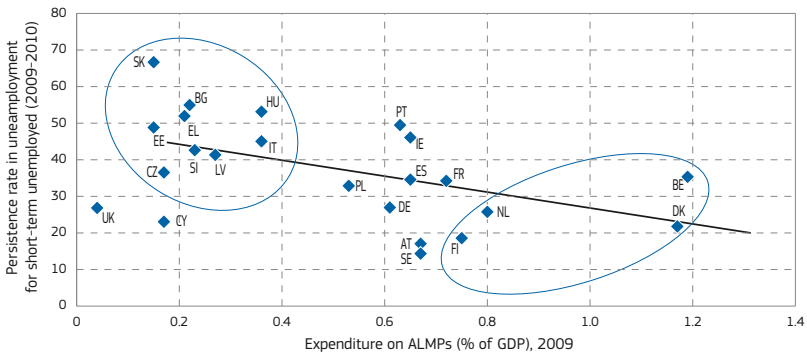
Chart 40: Persistence rate of unemployment and expenditure on ALMPs



Source: For persistence rate: DG EMPL calculations based on Eurostat, EU-LFS. Expenditures on ALMPs: Eurostat LMP database.

Notes: spending on active labour market policies includes categories 2-7 in the LMP database.

$y = -20.404x + 46.979$

$R^2 = 0.2227$

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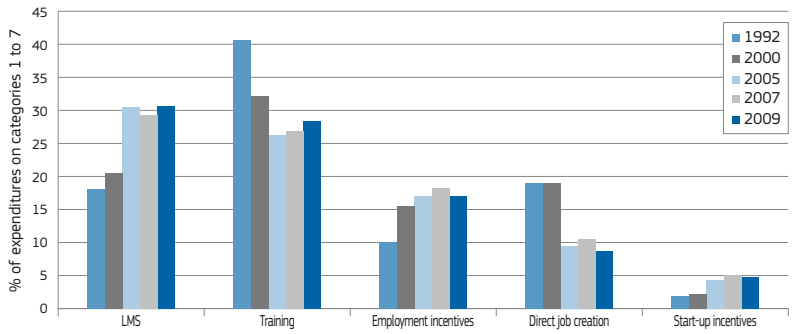
the role of PES and the design of the unemployment benefits system. Extensive and expensive training programmes, as found in Spain, or long-lasting and high levels of benefits, as found in Belgium, may explain why these countries have similar or even greater levels of expenditure on ALMP than Austria, Finland or Sweden, but experience a much higher persistence of unemployment.

Chart 41: Share of expenditure on categories 1 to 7 (LMS and LMP measures) by category, 1992-2009



Source: Eurostat, LMP for 2005, 2007 and 2009. For 2000 and 1992 the data is complemented by the OECD database as it is not available in Eurostat.

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3.3.2. ...but the type and design of ALMP matters

The success of ALMP depends not only on expenditure levels but also on the design of the measures involved and the way they are implemented, as indicated by various econometric studies using macroeconomic and microeconomic data[65].

The following paragraphs recall, or update, the findings of an in-depth review of the effectiveness of ALMP presented in the 2006 *Employment in Europe* report. The following paragraphs are organized around five categories of the LMP database: labour market services (LMS, category 1), training (category 2), employment incentives (category 4), direct job creation (category 6) and start-up incentives (category 7).

In this respect, over time, Member States have on average adapted the structure of their activation measures, mainly by reducing expensive and less immediately effective policies such as long-term and general training or direct job creation in favour of cheaper interventions such as job search assistance, counselling and monitoring, and specific short training arrangements. This can be seen in the evolution of the shares of each category mentioned above in the total expenditure on LMS and LMP measures (i.e. in the

Box 7: Costs and benefits of ALMP

Benefits. The availability of high-quality employment service support, including, for example, job counselling, individual interviews, job search assistance and job brokerage, can reduce the cost and improve the efficiency of job searching. Likewise, profiling can contribute to the early identification of at-risk groups and the adoption of appropriate measures. Well-targeted and tailored training can likewise help in the acquisition of the right skills, in order to increase the employability of beneficiaries and help the adjustment process. Incentive programmes and direct job creation may likewise boost labour demand while contributing to the preservation of skills, work attitude and ties with the labour market.

Costs. Apart from the direct financial costs of ALMP programmes, the possibility of unintended consequences must also be taken into account[1].

Crowding-out effects can occur if jobs created under ALMP lead to the destruction of existing jobs as, for example, when an increase in production and market share by a subsidized company leads to a loss of market share for other companies and consequently to a reduction of regular employment in these companies. The crowding-out effect is most likely to occur in the case of subsidized employment and direct job creation.

Substitution effects occur when ALMP participants find employment at the expense of non-participants. Firms may replace their employees with government-assisted workers or may prefer ALMP participants to non-participants when hiring. If the substitution effect is strong, the effect of ALMP is to change the composition of the labour force rather than to decrease unemployment. This risk is more likely in the case of supported and subsidized employment than it is in relation to training.

Lock-in effects: over the course of a given programme, participants may put less effort into their job search than non-participants because they have less free time or because unemployment is no longer such a burden. This risk is more relevant to training, particularly when it is long-lasting.

Fiscal distortion effects: ALMP programmes are financed through taxes and tax systems may affect decisions made by labour market participants, e.g. taxing labour may lower its supply and reduce employment levels. This effect is more likely to be of concern in the case of large-scale active labour market policies.

Deadweight loss effects are deemed to have occurred if an ALMP participant would have reached the same result without participating in a programme. All activation policies involve the risk of deadweight loss, particularly if such programmes are directed to broadly defined and heterogeneous target groups; profiling of the unemployed can help to reduce this.

(1) See Cahuc and Zylberberg (2004).

(65) For relevant references, please refer to the respective categories of programmes in the following paragraphs.

total expenditure on categories 1 to7) as illustrated in Chart 41[66].

3.3.3. Public employment services are best suited to address heterogeneous groups of unemployed persons

Because of their access to personal data and the possibility of a personalized approach, public employment services (PES) are in the best position to reach heterogeneous groups of unemployed persons and offer tailored solutions, increasing programme efficiency. Not surprisingly, the share of LMS in the total expenditure on categories 1-7 (LMS and LMP measures) increased from 18% in 1992 to around 31% in 2009 (see Chart 41 above). The countries with the highest percentage spent on labour market services in 2010 were Malta (75%), Romania (50%), Germany and Sweden (both around 40%). The least was spent in Greece (5%), Latvia and Italy (7%). For the period 2007-10, this percentage increased more significantly in Romania, Sweden, Denmark and Bulgaria[67].

Preventing and tackling LTU requires different policy solutions, and this underlines the importance of profiling the unemployed with the aim of early identification of groups at higher (and lower) risk of becoming long-term unemployed. Early profiling allows for a more precise targeting of measures and optimizes the use of resources. For example, early intervention through expensive programmes for those at low risk of becoming long-term unemployed involves a deadweight loss (as many of these individuals would have found a job without extensive help). On the other hand, intervening too late for those who are at high risk of becoming long-term unemployed will involve more costly re-activation programmes once these individuals are long-term unemployed, and a higher risk of failure.

Box 8: Gains from profiling: Best practices from Denmark, Sweden and Ireland

International experience has shown that targeting ALMP programmes to precisely determined groups of recipients increases their effectiveness, therefore, a number of Member States have designed tools to 'profile' the unemployed. In Denmark, econometric models using data from 1993-03 are used to predict length of unemployment based on variables such as age, marital status, the local unemployment rate, education, district of residence, participation in an ALMP, and the individual labour market record.

The model estimates the probability that a person who registers in a labour office will still be jobless six months later, with individuals assigned to 'high' or 'low' risk groups. In the second stage, detailed individual interviews are conducted. The aim is to identify the strengths and weaknesses of the unemployed (Rosholm et al. 2004). The Swedish PES recently (2012) introduced a similar system of statistical profiling.

In Ireland, the Probability of Exit (PEX) profiling model assigns to each registered unemployed a high, middle or low score, on the basis of which it is decided whether he or she will only receive help with the job search, receive guidance with respect to which support programmes they need to attend, or receive one-to-one support from an advisor, and individuals may be redirected to particular work experience or training programmes.

For the short-term unemployed at low risk of becoming long-term unemployed, short and inexpensive programmes such as job search assistance and counselling are often sufficient.

For the short-term unemployed who are at a high risk of becoming long-term unemployed, additional training (up-skilling or re-skilling) may be necessary, particularly for those coming from restructuring sectors. And these programmes need to be undertaken at an early stage to prevent them from falling into long-term unemployment.

For those who have already been long-term unemployed, more complex and costly programmes (often in the form of individual action plans) involving several stages (job search assistance and counselling, longer training programmes and employment incentives/ job creation schemes) may be necessary. The Irish example in Box 8 illustrates the differentiation between ALMP programmes by unemployment group[68].

Profiling, targeting and reasonable programmes are only possible when labour offices operate appropriately. Contracting out labour services to the private sector is one way to increase their efficiency (e.g. Netherlands, the UK). Contracting out increases the diversification of actions taken, improves their quality and lowers costs. Nevertheless, the deregulation of labour services may be associated with certain unintended consequences such as high administrative costs due to the tendering process (a barrier for small companies) and open procedures used on a small scale, an insufficient focus on monitoring and evaluation, and the so-called 'creaming' effect where in a bid to maximise the share of people returning to the labour force after completing

(66) It should be noted that the concept of ALMP includes LMP measures (i.e. categories 2-7) and only a subcategory of LMS called Individual case management (sub-category 1.1.2).

(67) Eurostat, LMP database.

(68) The empirical findings also show that job search assistance (job brokerage, counselling) is a cheap and effective ALMP measure facilitating the transition to employment. For relevant references see, for example, Weber and Hofer 2004; Van der Heul, 2006; and the Polish Ministry of Labour (2007). In some countries, including the UK, PES implement the entire range of activation policies, meaning that job search counselling and monitoring are combined with other measures including training, wage subsidies, etc., and it is difficult to disentangle the isolated effects of each of these measures within the package. In other countries such as Austria, Germany, and to some extent the Netherlands, there is a clearer separation of measures, and this allows for an estimation of the effect of participation in some measures such as job searching or job counselling.

the programme, companies primarily help those who already stand a better chance of finding a job[69].

Employment offices (both public and private) tend to deal primarily with people who are unemployed and actively seeking work. Yet there are many inactive people (e.g. women who take breaks from work, discouraged people, students, etc.) who do not fall under the strict definition of 'unemployed,' who wish to find a job but are faced with difficulties. The appropriate response seems to be for labour market intermediaries to be proactive and seek to reach these people before they become inactive long term. This depends first on contacting these individuals rather than waiting for them to come for help, but the mechanisms for doing so depend significantly on the institutional set-up in each country and the extent to which there is co-ordination between employment offices and benefit agencies[70].

Due to their potential to reach heterogeneous groups of people, PES's can be very effective in both preventing and decreasing long-term unemployment and enhancing their role, and expanding the scope of their services will serve both those who have recently fallen into unemployment and those facing multiple challenges (long-term unemployment, a low skill level, etc.) But this depends a lot on the experience, efficiency and administrative capacity of labour offices, and last but not least on the individuals who register with the labour office.

3.3.4. Training is expensive and needs to be customised

Training is among the very costly ALMP measures, and in order to be efficient, must be well targeted and tailored to the needs of particular unemployed groups in terms of content and duration. It captured the largest share of spending in the early 90s (40% of total expenditure on LMS and regular activation programmes). This share decreased over the following decade, however, and is now commensurate with spending on employment services (30%, see Chart 41). The Member States that spent the most on training as part of their total budget for categories 1-7 in 2010 were Austria (61%), Portugal (57%), Finland (53%), Ireland and Italy (around 45%), and those that spent the least were Slovakia (2%), Bulgaria (3%) and Poland (5%)[71].

The results from empirical evaluations of training are mixed. In particular, a series of studies tend to show little or no impact in the short run but widely acknowledged positive impacts in the medium and long run (e.g. Card et al. 2010, Fitzenberger and Speckesser 2007, Estevao 2003, Van der Haul 2006, Weber and Hofer 2003, Meager and Evans 1998[72]).

Furthermore, training seems to be more effective for smaller scale schemes targeted to specific groups (being particularly effective for the young and low-skilled) and to specific occupations, rather than for larger general schemes (e.g. Lechner, Miquel and Wunsch 2007, O'Connell and McGinnity 1997, McGuinness et al. 2011, Polish Ministry of Labour 2007, Meager and Evans 1998[73]). This can be attributed to dead-weight loss and lock-in effects, with such risks appearing to be greatest in large-scale programmes. Likewise, Dorsett (2006), McVicar and Podivinsky (2003) point to the much higher effectiveness of the first, least costly, stage of the UK New Deal for Young People programme which includes targeted, short-term training, job assistance and counselling as compared to the second stage which includes subsidized jobs, a return to full-time education, etc. Positive effects are recorded in particular in the case of on-the-job training (Card et al. 2010, Kuddo 2009).

The relationship between this type of targeted training and general education/ vocational training systems varies between countries. Studies show that general programmes contribute to a better matching of skills, particularly after the first entry into the labour market (Verhaest and Van der Velden 2010) while (certified) vocational training programmes (workplace-based or combined with school-based) have been shown to be very effective in facilitating the transition from education to work in that they are based on a more targeted and market-oriented background[74]. In order to accommodate the higher distance from the labour market of general education, higher respect is given to dual training systems, such as those found in Germany, which combine education with work experience through internships that ease the transition to employment.

An obligation to participate in some form of training is almost always included as an eligibility requirement for those receiving unemployment benefits (or even social benefits in some Member States), given the desire to up-skill or reskill the unemployed. The European Commission in the 2012 Annual Growth Survey invited Member States to maintain, and even reinforce, the coverage and effectiveness of training schemes for the unemployed[75]. PES can help by profiling people and ensuring better targeting of programmes. They can help identify those coming from declining sectors, or those undergoing major restructuring, and help them to re-skill (e.g. promote acquisition of skills demanded in new, growing sectors). This both increases the employability of participants and their chances of getting a job and enhances competitiveness in growing sectors[76].

(69) However there are studies (e.g. Koning 2009) which find no evidence of cream-skimming. This they say is attributable to the short leeway given to service providers, i.e. only a few weeks between signing a contract and placing the unemployed.

(70) For more details, see Mobility in Europe 2010, p.30-31.

(71) Eurostat, LMP database.

(72) For example, Weber and Hofer 2003 found that participation in training reduced the transition rate from unemployment to employment by 12% in a target group of newly unemployed and long-term unemployed individuals who had recently finished a programme targeted at improving their employability.

(73) The Irish study by McGuinness et al. (2011), for example, found that unemployed persons who participated in a short (less than 6 months) training programme provided by FAS, Ireland's national training and employment authority, were 11% less likely to be unemployed 13 months after the start of the programme compared to a control group of unemployed persons who were either referred to FAS for job search assistance or interviewed. The Polish Ministry of Labour (2007) showed that participating in training increased the probability of moving from unemployment to employment by almost 80% as compared to non-participation in the programme, and by 43% through participation in an apprenticeship or on-the-job training.

(74) Walther and Pohl (2005), CEDEFOP (2012). See Chapter 6, Section 4 of this publication.

(75) European Commission (2011d).

(76) It would be useful to have an insight into participation numbers in training programmes by socio-demographic characteristics such as gender, age and level of education. Unfortunately such a level of disaggregation is not possible in the LMP database. If we consider the indicator of LLL (participation in education or training) which is available by gender and labour status, there does not seem to be a large difference between unemployed men and women: in 2011, 10.3% of females vs. 8.1% of males participated in LLL.

Box 9: Training, country examples

Germany has created a comprehensive 'transition system' ('*Berufsvorbereitende Maßnahmen'*/ Preparatory measures programme) designed to ease entry into the regular vocational education or training system. The National Employment Office in Belgium has set up a scheme which removes the obligation to look for work from those long-term unemployed who take up studies in one of the listed 'shortage occupations'. In Luxembourg, the Fit4Job initiative organises reskilling through tailor-made training programmes adapted to the demand for sectoral skills.

An economic downturn is a good time to invest in training since the opportunity cost is lower and this time can be used to prepare the unemployed for the recovery phase when more jobs will be available. The portion of the total budget for categories 1-7 spent on training increased considerably in Portugal, Latvia, Ireland and the Czech Republic (between 10 pps and 18 pps) in the 2007-10 period. Nevertheless, many Member States decreased their spending on training in favour of other measures, notably employment incentives (e.g. Estonia, Greece, Luxembourg and Poland), labour market services (e.g. Denmark) and direct job creation (e.g. Hungary)[77].

3.3.5. Employment incentives

Employment incentives are another relatively important category of expenditures, accounting for slightly less than 20% of total expenditure on categories 1-7. They boost labour demand and facilitate the recruitment of particular groups such as the low-skilled, the long-term unemployed, and women returning from maternity leave. Under these programmes, employers receive support from the government in the form of wage subsidies, reductions in social security contributions, tax exemptions, tax credits, etc. when they hire individuals from particular unemployment categories, usually those which are more difficult to be placed.

According to the LMP database, countries' attitudes toward these measures vary widely, with the percentage of spending dedicated to employment incentives ranging between 7% and 71% in 2010. The Member States with the highest rates of spending were Cyprus (71%), Luxembourg (67%), Greece (46%) and Belgium (41%). At the other extreme were Ireland, Austria and Finland (6-8%). Some countries increased this type of expenditure considerably in the context of the crisis, i.e. between 2007 and 2010: Cyprus (27 pps), Poland, Slovakia and Estonia (20-25 pps), Luxembourg (15 pps).

Moral hazard issues can arise with employment incentives if, for example, employers substitute people from these programmes with their regular workers in order to reduce labour costs[78] (see Box 7). Displacement and deadweight loss effects are likely to be much higher when programmes are run on a large scale (Meager and Evans (1998)). In order for such measures to be effective in reducing unemployment in the long run, and not just in substituting one group of employees for another, mechanisms need to be in place which provide obligations or incentives for employers to retain workers after the subsidies expire[79], and/or are combined with other ALMP measures in order to improve the employability of beneficiaries (e.g. integrated retraining/skill upgrading, job search assistance) within integrated programmes (see Box 10).

(77) Eurostat, LMP database.

(78) A Hungarian study (O'Leary, Koledziejczyk, Lazar 1998), for example, finds that participation in a wage subsidy programme has zero or negative impact on employment probability. The authors explain this finding by the fact that the subsidy is available after six months of unemployment and many employers postpone the recruitment of higher educated graduates until they have been unemployed for at least six months in order to obtain the subsidy. Some studies, Jaenichen (2002, 2005), Jaenichen and Stephan (2011) for Germany, and Sianesi (2008) for Sweden showed that participants (both short-term and long-term unemployed) in different types of targeted wage subsidy schemes subsequently had much higher employment rates than similar unemployed persons who did not take a subsidized job. In another study on Germany, Schuenemann, Lechner and Wunsch (2011) focused on eligibility for a subsidy receipt rather than participation in the programme for long-term unemployed. They find no impact on transition rates from unemployment to employment.

(79) The usual duration of the subsidy ranges from several months to one year. In exceptional cases, e.g. Sweden for older workers, it reaches 10 years (Duell 2012).

Box 10: Employment incentives, country examples

In Germany, the Hartz reform introduced a new type of wage subsidy for newly created jobs with a social or ecological utility. 'Job Perspektive' is another programme that provides wage subsidies to employers (up to 75 % of gross wage costs), targeting long-term unemployed persons with at least two employment 'barriers'. Integration wage cost subsidies (*Eingliederungshilfen)* are meant to compensate employers for productivity disadvantages when employing difficult-to-place jobseekers. The objective is to integrate these individuals into regular, long-term, employment. Evaluations of these programmes have shown that, in general, the match between wage subsidies and jobseekers with particular placement difficulties is satisfactory (Brussig et al. 2011).

In Belgium, there are a number of programmes which grant employers a reduction in social contributions or wage subsidies when they take on the long-term unemployed (ACTIVA and ACTIVA APS plans, SINE programme, etc.). In Sweden, the Nystartjobb programme offers subsidized employment to the long-term unemployed, with the wage subsidy proportional to the jobseeker's unemployment duration.

Sweden offers a three-stage integrated programme (Jobb- och utvecklingsgarantin) combining job search assistance, special training and subsidized employment, all targeted at the long-term unemployed. Similarly, The UK New Deal for Young People programme, which targets young unemployed people, consists of two phases: the first includes targeted, short training programmes, job assistance and counselling, while the second includes subsidized jobs and a return to education.

In Luxembourg, crisis payments for companies hit by the economic slow-down, previously available for six months, are being extended in 2012. Companies can have a part of their wage bill subsidised by a state fund, enabling them to retain skilled staff who might otherwise have to be made redundant.

3.3.6. Direct job creation

Direct job creation programmes are comparatively rare these days, with many Member States having either scaled back or phased them out altogether, such that they currently account for only 8.5 % of all expenditure on categories 1-7. Where they continue, the jobs are generally reserved for the long-term unemployed and other groups very difficult to place, and are mostly undertaken in sectors not in direct competition with the private sector, usually with a social or ecological purpose. The countries with the highest share of spending dedicated to direct job creation schemes in 2010 were Hungary (63 %), Bulgaria (53 %) and Latvia (38 %). Significant amounts, between 20 % and 30 %, were also spent in France Belgium, Ireland and Slovenia[80].

The reason for the general decline of these programmes is largely their high cost and concerns about crowding-out and substitution effects. Another concern with such jobs is the extent to which the beneficiaries will be able to move to regular employment once the temporary job ends. Factors such as a lack of competitiveness, inadequate skills or skills which do not match needs of employers, stigmatization, etc. can explain why the transition of participants to regular jobs can be impeded.

Nevertheless, investment in direct job creation programmes can be useful in times of recession since it creates additional opportunities for the long-term unemployed and helps to avoid the heavy long-run costs of social exclusion and poverty (see Chapter 2). Indeed, since the onset of the recession, several countries (Latvia, Hungary, Slovenia, Portugal, the Czech Republic) have re-launched these kinds of programmes, usually as the last stage of integrated programmes complementing job search assistance and training. These programmes allow the unemployed to maintain links to the labour market, retain their skills, and serve as a 'work test' for employers. Moreover, earlier evaluations of direct job creation schemes were generally concerned with people who were difficult to place, while the 'new long-term unemployed' are often people who were well integrated in the labour market prior to the onset of the crisis.

The evidence shows, however, that in order to be successful in reducing unemployment in the long-term, direct job creation programmes (like subsidized employment programmes) need to be run on a smaller scale and be combined with other ALMP measures, such as adequate and appropriate (re-)training that can increase the value of beneficiaries to potential employers.

Box 11: Direct job creation programmes, country examples

In Germany, Kommunal Kombi is a federal direct job-creation programme co-financed through federal and ESF funding which expires at the end of 2012. It concentrates on job creation for the long-term unemployed in regions with exceptionally high unemployment rates. The follow-up programme of Kommunal Kombi is the Bürgerarbeit programme, which is implemented at regional level and focuses on activation of the long-term unemployed. In Finland, participation in 'rehabilitation programmes,' which are of social utility has been mandatory since 2010 for recipients of full social benefits.

(80) Eurostat, LMP database.

3.3.7. Start-up incentives

Start-up incentives (e.g. start-up grants or allowances and tax credits) increasingly target unemployed workers, with the aim of promoting their re-integration into the labour market and preventing long-term unemployment. The share of these incentives in total expenditure on LMS and LMP measures (i.e. categories 1-7) has steadily increased over the past two decades, from 2% in 1992 to 5% in 2009 (see Chart 41). These incentives usually complement other more general job-creation policies, which are overviewed in Section 3.1[81].

The costs associated with these programmes depend on their particular design: whether there are continuing rights to unemployment compensation and for how long; how claims are dealt with in case of failure (i.e. how the cost of failure is shared between the beneficiary and the state). As elsewhere, deadweight loss is of concern, i.e. does this create an incentive to register as unemployed before starting a business in order to qualify for the subsidy? Nevertheless, the available evidence suggests that start-up incentives are viewed as highly effective with regard to improving employment prospects[82].

3.4. How do the Member States stack up in relation to their UB and ALMP schemes?

Box 12 presents the main characteristics of the unemployment benefit systems (and active labour market policies) in the Member States by groups, and illustrates the extent to which the various elements complement each other or balance out.

(81) In order to receive start-up grants/allowances under ALMP start-up programmes, the potential beneficiary has to prove eligibility to unemployment compensation, which is not necessarily a requirement for more general job-creation initiatives.

(82) Caliendo, Kuenn and Wiessner (2010) evaluate the effectiveness of two German programmes, UBG (bridging allowance or Ueberbrueckungsgeld) and EGZ (start-up allowance or Existenzgruendungszuschuss). They find that five years after programme entry, participants show a remarkably higher probability of employment than non-participants for both programmes. The Polish Ministry of Labour (2007) also found that beneficiaries of start-up incentives in Poland had about a four times greater probability of moving to employment than non-beneficiaries. Eurofound (2010) pointed out that in the context of supported employment for people with disabilities the transition from sheltered employment to regular jobs on the open market is considerably impeded.

Box 12: Classification of unemployment benefit systems[1]

Nordic countries (Denmark, Finland, Sweden) and the Netherlands**:** These countries are characterised by a very generous unemployment benefit system both in terms of entitlement conditions and income support. Long benefit duration is often coupled with high net replacement rates, in particular in the first two years of unemployment. The benefit system is highly redistributive, with caps on maximum benefits reducing the generosity of benefits for higher wage persons. In order to ensure that work incentives remain high, activation and active labour market policies play a prominent role, with strict conditions on job search and work availability.

Continental countries (Austria, Germany, Belgium, France, Luxembourg): These countries have a reasonably generous unemployment insurance system in general, but benefit duration is generally shorter and net replacement rates are lower than in the Nordic countries. Unemployment assistance often complements income support. The benefit coverage is extensive and ensures that the bulk of those unemployed receive benefits. A prominent role is given to job search and activation strategies in order to address the risk of reduced incentives.

Anglo-Saxon countries (IE, the UK, Malta, Cyprus): Unemployment insurance benefits are relatively modest and of short duration, while unemployment assistance (means-tested) is very important (usually indefinite and often exceeding non-means-tested benefits). Benefit dependency is an issue, mainly due to the long-lasting and almost flat-rate unemployment assistance. Job-search activity obligations are strict, although spending on other active labour market policies is minimal.

Southern countries (Spain, Italy, Portugal): Unemployment insurance benefits vary widely depending on one's age and contribution period (those having contributed for longer periods and older persons are entitled to longer-term benefits, with high replacement rates). Coverage is lower due to strict entitlement conditions. Unemployment assistance is limited, as well as the risk of inactivity traps. Participation in active labour market policies is widespread, though often ineffective.

Central and Eastern countries (Bulgaria, Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia, Latvia, Lithuania, Romania, Greece): Unemployment benefits are limited in terms of both level and duration. Net replacement rates can in some cases be high at the beginning of the unemployment spell, but drop sharply after the first year of unemployment. Access is strict and rates of coverage low. Unemployment assistance plays a minor role. In many of these countries, the role of PES and the range of available services are not well developed, with limited monitoring or obligations to participate in activation strategies.

(1) This classification follows Stovicek and Turrini (2012). The grouping of countries proposed in the study is based on the European Commission's flexicurity model, see *European Commission* (2007), Chapter 3.

As Section 4 will show, the Nordic countries, which combine relatively generous benefits with strong activation requirements and high participation in ALMPs, exhibit high transition rates *out* of unemployment, showing that high benefits need not necessarily lead to high long-term unemployment, if flanked by activation policies.

On the other hand, many of the new Member States and Southern countries with stringent unemployment benefit regimes, less flexible labour markets and relatively low spending on and participation in ALMPs, are much less successful in helping people move back to employment once they become unemployed.

According to some studies (e.g. ECORYS and IZA 2012, Duell 2012), a period of labour market slack is an appropriate moment to invest in (re-)training when the opportunity cost of the time spent on training or in education is lower. At the same time, it prepares the unemployed for new and more viable jobs that will emerge once the labour demand recovers. Even costly ALMP programmes such as job creation and employment incentives may be worth undertaking in times of crisis (provided that any unintended impact on the private sector due to displacement is offset) because they help to avoid the major long-run costs of the social exclusion of the long-term unemployed and the aggravation of poverty. At the same time, however, it is necessary to ensure that, as recovery occurs, the policy emphasis shifts to activation measures in order to provide stronger incentives for the unemployed to return to work.

3.5. Other institutional factors

3.5.1. Tax wedge: Benefit dependency and traps.

The interaction between tax systems and benefit or welfare systems influences the labour supply by affecting incentives with regard to work. If the income from work is taxed away, or the foregone benefits on returning to work outweigh the gain from the new wage income, it may not pay the benefit recipient to return to work. In particular, generous and long-lasting transfers to the unemployed (contribution-based unemployment benefits or assistance) can increase the risk of unemployment traps and benefit dependence, and contribute to the entrenchment of long-term unemployment[83].

The OECD tax-benefit model suggests that unemployment traps are much higher for low-wage persons given that they tend to have higher net replacement rates. This is one of the factors that explain why low-wage persons are, in general, more at risk of unemployment and, in particular, of becoming long-term unemployed. In most Member States, replacement rates are not considered to create disincentives for those on higher incomes. However, in some Member States (e.g. Portugal, France, Spain) differences between income levels are smaller, and this can create a risk of unemployment traps and low-wage traps even at higher income levels.

Data from an OECD tax-benefit model shows that, in all Member States, both the short and long-term unemployed with children have higher net replacement rates than those without children at all income levels. This reflects the fact that the accrual of family benefits and the provision of higher unemployment benefits is conditional on having children in order to compensate parents for the additional cost of having children.

The difference in NRRs between the unemployed with children and without children is very small at low income levels (pointing to the smaller role of family benefits and other family compensations at low incomes) while it is large at high income levels in some Member States (e.g. Ireland, Denmark, Netherlands and Luxembourg regardless of the duration of employment). Such a design provides good incentives for second earners to take up work or move to better paying jobs and longer hours of work when they have children while in Member States such as Latvia, Slovakia, Lithuania (for short-term unemployed) and Lithuania, Bulgaria, Poland, France (for long-term unemployed), the opposite holds true[84].

3.5.2. Employment protection legislation (EPL)

EPL refers to all types of employment protection measures concerning hiring (e.g. rules favouring disadvantaged groups, conditions for using temporary and fixed-term contracts) and firing (e.g. redundancy procedures, mandated prenotification periods, severance payments, special requirements for collective dismissals, short-time work schemes). The nature of these restrictions on a firm's freedom to adjust its labour input are seen to depend on the overall degree of stringency, the precedural details, and the attitude and behaviour of courts with regard to appeals by fired workers in the Member States[85].

It would be logical to expect EPL to reduce both job destruction and job creation, leaving the net effect on average employment and unemployment as an empirical issue. On the one hand, strict EPL decreases flows into unemployment, but on the other, it also reduces the propensity to hire in so far as employers fear that such decisions will be difficult or costly to reverse in the future. To the extent that EPL favours those with permanent employment contracts, it may be an important factor behind the expansion of temporary jobs, together with the fact that the latter may allow more flexibility in relation to changes in labour demand. While temporary jobs undoubtedly help reduce long-term unemployment, if carried out on a large scale, they can lead to segmentation and dual labour markets (as for example in Spain) with potentially serious drawbacks in terms of job quality (lack of job security, reduced social protection, poor transitions, lower wages and higher risk of in-work poverty) and protracted periods of repetitive unemployment[86].

The empirical evidence on the effect of EPL on the duration of unemployment is mixed. One of the more frequently used measures of strictness of EPL is the OECD EPL index. For instance, several econometric analyses[87] have found that EPL does have an impact on long-term unemployment. Other studies (e.g. IZA 2011, RWI), on the other hand, found no significant effect of the EPL variable. One should interpret the findings from the econometric studies using the EPL index

(83) For more extensive coverage of the subject, please refer to Chapter 3.

(84) See Charts A3 and A4 in the Annex based on OECD tax-benefit model.

(85) Bassanini, A. A. Garnero, P. Marianna and S. Martin (2010), Boeri, T. and J. van Ours (2008), Clark, A. and F. Postel-Vinay (2009), Venn, D. (2009).

(86) See *European Commission* (2011c), Chapter 4. See also the analytical focus on the macroeconomic implications of Employment Protection Legislation in the European Commission (2012d), part II, Section 2.

(87) For instance, see Guichard, S. and E. Rusticelli (2010).

with caution since the most recent year for which it is available is 2009, while EPL has been undergoing considerable reforms in many Member States (e.g. Spain, Portugal, Italy, Greece) and these changes will probably help to improve the outflow rate from unemployment and thus prevent future transitions into long-term unemployment.

4. What can be learned from longitudinal data on labour market transitions to and from long-term unemployment?

This section uses longitudinal data on labour market transitions in order to better understand the dynamics of long-term unemployment over the last few years and complement the findings presented in previous sections. Using new data on transitions from the longitudinal section of the EU-LFS, this section aims to:

- describe recent changes across Member States in the rates of transition between various labour force statuses, with a focus on unemployment duration through a distinction between short and long-term unemployment;
- identify the main factors driving the exit rate out of unemployment;
- examine the impact of policy-related variables on these transition rates.

The first sub-section describes the longitudinal data and its added value compared with the cross-sectional data[88] used in sections 1 and 2; this section goes on to describe how labour market transitions changed in the EU during the crisis, with the transition rates to and from unemployment described in detail at Member State level. A sub-section seeks to measure the impact of certain policy-related variables on the transition rate out of unemployment. A final section is based on econometric work and aims to summarise the main lessons that can be drawn from the data on labour market transitions.

Box 13: How has longitudinal data on labour force status been extracted from the EU-LFS?

The transition data presented below was produced by Eurostat using the methodology described as follows. In most countries LFS respondents are interviewed several times throughout a period of up to six quarters (eight in Sweden). Eurostat targeted the respondents whose interviews were separated by an interval of four quarters, e.g. in 2009Q1 and again in 2010Q1. Only a part of the sample fulfilled this condition, therefore the results obtained are based on only part of the EU-LFS sample. Eurostat linked the answers of these respondents period by period and grossed them up. This gave the estimated flow of people moving from one labour situation to another between e.g. 2009Q1 and 2010Q1, 2009Q2 and 2010Q2, etc. The four quarterly flows were then summed in order to obtain the flow volume for the whole year. Finally, transition probabilities were derived, calculated as the ratio between the persons who changed their status between e.g. 2009 and 2010 and the number of persons in the initial status in 2009. Some Member States have successfully used this technique in their national LFS for years but it is not straightforward to use it at EU level to obtain results comparable across countries.

In order to exploit the longitudinal data, Eurostat needed to identify and link responses from the same respondents within households during repeated interviews. This was carried out on the basis of the household identifiers (variables HHNUM, and HHSEQNUM), SEX and AGE. However, this technique was only successful in 17 Member States: Bulgaria, Cyprus, Czech Republic, Estonia, Ireland, Spain, Finland, France, Greece, Hungary, Italy, Lithuania, Malta, Netherlands, Romania, Sweden and Slovakia. For Austria, Denmark, Latvia, Portugal, Poland, Slovenia and the UK it was not possible to link a part of the sample representative of the changes in the overall population while, for Belgium, Germany and Luxembourg, there is no repeated interview, which is required for the method to succeed. Finally, the 'EU-13' figures reported below are the sum of the 13 of the 17 Member States for which data could be estimated for every quarter in the 2005-11 period, namely the 17 Member States less Netherlands, Ireland, Lithuania and Malta.

To summarise, the data used in this section is based on quarterly data that has been averaged to produce an estimate for each year, from 2005-06 through 2010-11, with the data corresponding to **year-to-year**[1] transition rates between the three main labour force statuses: E (Employed), U (Unemployed) and I (Inactive). Moreover, the 'unemployed' category has been broken down into several sub-categories according to the length of time spent unemployed (fewer than six months, less than one year, and more than one year).

(1) In order to analyse changes in a shorter term period, quarter-to-quarter transition rates could also be produced and analysed. However, since this chapter is focussed on long-term unemployment, we are more interested in longer periods (such as one year) and this is why priority was given to producing and analysing year-to-year transition rates.

(88) This section uses the term 'cross-sectional data' to mean standard LFS data regarding stocks, e.g. the number of long-term unemployed at a certain point in time.

4.1. What is the added value of using longitudinal data?

This section of the chapter is based on data from the longitudinal section of the EU-LFS which follows individuals from one year to another and it is therefore important to understand how it contributes to an understanding of the dynamics of long-term unemployment.

In the first section of the chapter, the use of cross-sectional data on long-term unemployment provided valuable information on levels of long-term unemployment across EU countries and across various subgroups, with rates of persistence in unemployment estimated by country and over time for both the short and long-term unemployed. Moreover, labour market dynamics can also be studied using cross-sectional data by looking at the numbers of persons who started or left jobs recently (e.g. over the last three months)[89].

However, cross-sectional data does not allow for an analysis of the most dynamic aspect of movements into and out of long-term unemployment. While comparing cross-sectional data across time provides information on changes in the average situation in the labour market, it does not show changes in individual situations[90]. Moreover, as pointed out in Chapter 2, longitudinal data allows you to measure whether a phenomenon (e.g. poverty, unemployment) is persistent for the same (low number of) individuals, or whether there is a strong turnover i.e. many individuals experiencing relatively frequent transitions between different statuses.

In the past, data on individual transitions between labour force statuses have been computed from the EU-LFS, but on the basis of a *retrospective question* put to respondents concerning their labour force status one year earlier[91]. While it has enabled researchers and institutions to study transition and persistence rates between labour force statuses (and the cross-country differences), this variable has some clear weaknesses compared to real longitudinal data (see Box 14).

Box 14: Using EU-LFS data to analyse transitions: differences between the retrospective question and the longitudinal data

The EU-LFS has been used in the past to analyse transitions between, or the persistence of labour force statuses from one year to the next on the basis of a so-called *retrospective question (*variable WSTAT1Y, or 'situation with regard to activity one year before survey'*)*. In effect, respondents are asked in a given year about their labour force status 12 months earlier. This variable can then be compared to the variable MAINSTAT (the variable indicating the 'self-declared' main labour force status in the current year) in order to produce transition matrices between the three main labour force statuses: E (employed), U (unemployed) and I (economically inactive).

Most analyses based on this data and method have produced results that seem consistent with expectations and findings from the literature. For instance, the analyses show a higher risk of becoming inactive for women than men; higher employment persistency among middle-aged workers than young and older workers; higher escape rates from unemployment for younger workers than for older workers; the exit rate from unemployment increasing with skill level; and lower transition rates to unemployment and inactivity for high-skilled workers than for medium and low-skilled workers[1].

However, use of the 'WSTAT1Y' variable has some disadvantages. Firstly, as with any retrospective question, people may not recall when exactly their labour force status changed one year before, i.e. 12 months before.

Secondly, the variable 'WSTAT1Y' indicates the 'self-declared' main labour force status. Therefore, it can only be compared to the MAINSTAT variable, and not to the more useful ILOSTAT variable which indicates the actual labour force status of the individual using strict ILO definitions. The differences between MAINSTAT and ILOSTAT are most important for unemployment.

This can have a strong impact on the results. A comparison of transition rates between E, U and I obtained through retrospective questions (explained here) and the longitudinal data (explained in Box 13) provide quite similar results, except for the transition rates of unemployed persons. According to the data based on the retrospective question, around two-thirds are still unemployed one year later (and less than 10 % become inactive), while the longitudinal data points to a lower persistence rate in unemployment (lower than 50 %), and a much higher (almost 25 %) transition rate to inactivity[2].

These differences are largely due to the different definitions of the MAINSTAT and ILOSTAT variables. They stem in particular from the fact that some people unemployed for a certain period of time tend to still consider themselves as being 'unemployed' and not economically inactive although, using the ILO criteria, they fall into the inactive category (for instance, because they are currently not available or actively seeking work). In other words, the way the labour force status is defined and measured greatly influences transition rates between labour force statuses[3].

(1) See For instance, ISG and RWI (2010), Section 4.

(2) The transition rate to employment is quite similar for both methods (around 25-30 %).

(3) See also Eurostat (2011).

(89) See European Commission, 2012b, *EU Employment and Social situation Quarterly Review,* March 2012, pp. 32-33.

(90) For instance, with cross-sectional data, the persistence rate in unemployment could be estimated – but one does not know whether those who have not become long-term unemployed are now employed, inactive or again short-term unemployed.

(91) It has been used, for instance, in *European Commission*, 2009, Chapter 2 and ISG and RWI (2010), Section 4.

Table 5: Transition matrix (age 25-49), EU-13[1] (%)

	From E to:			From U to:			From I to:		
	E	U	I	E	U	I	E	U	I
2010-11	94	2.8	3.0	32	49	19	13	10	77
2008-09	93	3.6	3.0	33	44	23	13	9	78
2006-07	95	1.7	3.0	39	40	21	15	7	78

Source: Eurostat, EU-LFS, ad-hoc transitions calculations. The years indicated in the first column are the two reference years used for the calculation of the transition rate. 2010-11 indicates that the rates are calculated as the ratio between persons having the status i in 2010 and status j in 2011 over persons having status i in 2010.

(1) As detailed in Box 14, the EU-13 aggregate refers to the 13 countries for which transition probabilities could be produced by Eurostat for the full period under analysis (2005-11): Bulgaria, Cyprus, Czech Republic, Estonia, Spain, Finland, France, Greece, Hungary, Italy, Romania, Sweden and Slovakia. Overall this aggregate is quite representative of the EU-27 Member States as it contains almost half of the Member States (13 out of 27), almost half of the EU-27 labour force (48.4% in 2011), and all geographical areas are represented. However, it should be noted that the labour market indicators are less favourable for the EU-13 than for the EU-27 aggregate, with a lower employment rate (60.2% versus 64.3%), higher unemployment rate (11.9% versus 9.7%) and higher impact from the crisis (decline of employment by 3.9% over 2008-11 versus 2.0%).

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While longitudinal data of individuals surveyed several times has significant added value (see method described in Box 13), there are also caveats:

- the EU-LFS is primarily designed to measure stocks, such as the number of unemployed persons at a point in time, rather than flows, such as the number of persons falling into or leaving unemployment across a time span. Since the use of longitudinal data from the EU-LFS is relatively new, the analysis developed in this section should be considered as experimental and the results should be interpreted cautiously;
- the data is only available for a limited number of Member States. In addition, only a fraction of the LFS sample can be used, and because of the limited sample size, the results can only be broken down into a limited number of variables for analysis;
- the longitudinal data from the EU-LFS does not allow comparisons for periods longer than one year (unlike the longer period of the EU-SILC which allows for a much deeper understanding of transitions, see Chapter 2).

This section focuses mainly on transitions between various labour force statuses, with a specific emphasis on unemployment periods of various durations. Other types of transitions, in particular job-to-to transitions, are not analysed here (for example, studying the probability of temporary workers obtaining an indefinite term contract, of part-timers becoming full-time workers, or of lower-paid workers gaining higher paid jobs).

4.2. How have transitions between labour force statuses changed in the EU during the crisis?

Before focusing on detailed analyses of transitions between unemployment and employment with a focus on duration of unemployment, the current subsection presents transition rates between the three main labour force statuses (E=employment, U=unemployment and I=Inactive) at EU level over the last few years. The analysis is also done for various subgroups (age, sex, education level).

4.2.1. Increasing inflows into unemployment, decreasing outflows from unemployment

Due to the crisis, labour market transitions have changed in a negative direction over the last few years as more persons have become unemployed, while the rate of return to employment[92] for both unemployed and inactive persons has decreased and the persistence in unemployment increased.

Table 5 presents, for the 25-49 age group[93], year-to-year transition and permanence rates between the three main statuses for three years: the pre-crisis period (from 2006 to 2007), the recession year (from 2008 to 2009) and the last year available (from 2010 to 2011), characterised in most countries by a moderate recovery.

The permanence rate in employment (the probability of remaining employed in the following year) decreased from a pre-crisis level of 95% to 93% in 2008-09 before improving to 94% in 2010-11. The drop in 2008-09 was mainly due to the transition from employment to unemployment doubling between 2006-07 (1.7%) and 2008-09 (3.6%) before returning to lower levels (2.8% for 2010-11). These changes reflect the patterns observed during the crisis (increases in job losses followed by a decrease but no complete recovery).

The data also confirms the declining exit rate out of unemployment to employment from 39% in 2006-07 to 33% in 2008-09 and, more worrying still, the decline in the two most recent years for which data is available (less than 32% in 2010-11). In other words, unemployed persons in the EU have an increasingly lower chance of finding a job. Consequently the persistence rate in unemployment, the probability of remaining (or being again) unemployed

(92) By 'rate of return' to employment, we refer in this section to the transition rate out of unemployment and towards employment. However, it should be borne in mind that not all those unemployed previously had jobs (see Section 2.5) and that the term 'return' can therefore be misleading.

(93) As transitions from and to inactivity are very different for the youngest (15-24) and oldest (50-74) age group, it is preferable to use the 25-49 age group as the group of reference to analyse simple transition matrices. However, transition rates for every age group are analysed below. All the tables in the current section use the 25-49 age group, except where another age group is specified.

from one year to the next increased continuously, from 40% in 2006-07, to 44% in 2008-09, to around 49% in 2010-11, almost 10 pps above the pre-crisis level. This means that almost half of all unemployed persons remained in the same situation from one year to the next.

Finally, the transition rate from unemployment to inactivity has decreased in recent years (following an initial increase in 2008-09[94]), which seems to show a limited incidence of 'discouragement'. This confirms previous analyses[95] that have shown a limited increase in inactivity compared to developments in previous recessions, despite the difficulties of finding a job. This lower transition rate to inactivity is a positive signal in terms of labour supply and the desire to remain economically active. However, as it applies to a much larger number of unemployed persons than before the crisis (i.e. the number of unemployed persons has increased by almost 40% between 2008 and 2010) the absolute number of people falling into inactivity from unemployment has nevertheless increased compared to the past.

Interestingly, there has been a slight increase in the share of inactive persons exiting inactivity (entering or re-entering the labour force), although it has taken place mainly in the direction of unemployment rather than employment.

4.2.2. Transition rates vary across population subgroups

In applying the same simple transition matrix to subgroups (sex, age, education), interesting patterns can be identified which are broadly consistent with the analysis of long-term unemployment rates and incidence in Section 2.

Table 6: Transition matrix for men and women (age 25-49), EU-13, from 2010 to 2011

	From E to:			From U to:			From I to:		
	E	U	I	E	U	I	E	U	I
Men	95	2.9	2.0	34	51	14	19	15	67
Women	93	2.8	4.2	29	46	25	12	8	80

Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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With regard to **gender** differences, we observe that:

- women generally have a lower persistence rate in employment and higher transition rate to inactivity;
- while men were initially more affected by the crisis than women (with a stronger increase in the transition rate from employment to unemployment[96]), the gap disappeared in the most recent year and both rates remain (at almost 3%) much higher than in the pre-crisis level;
- unemployed men have a higher chance of remaining unemployed than women (51% vs. 46%) but also have a higher chance of subsequent employment (34% vs. 29%), due to a much higher probability of unemployed women becoming inactive (25% compared to 14% for men);
- once women become inactive, they are more likely than men to remain so (67% vs. 80%);
- most of these patterns already existed before the crisis – except that the overall persistence rate in unemployment increased more for men than for women and consequently the rate of return to employment decreased more sharply for men than for women.

Concerning differences in transition rates by **age group**, it appears that:

- the permanence rate in employment is the highest among prime-age adults who also have a very low transition rate towards inactivity (3%);
- among young people, the permanence rate in employment is much lower (83%) due to both high transition rates to unemployment (8%) and to inactivity (10%) including returning to education[97];
- older persons exiting employment mainly go to inactivity, with most of them entering normal retirement schemes (this is also due to the large age group considered, from 50 to 74);
- for the unemployed, the probability of remaining unemployed increased only slightly with age (47% for the youngest vs. 49% for the oldest); the gap (currently at 2 pps) was larger before the crisis (5 pps in 2007-08) pointing out again the sharper labour market impact of the crisis on younger compared to older persons;
- on the other hand, unemployed young people have much higher rates of return to employment (30%) than do older persons (21%) but the highest rate is among prime-age adults (32%) while in 2006-07 the highest rate of return to employment was among young people, at a high level of 40%;
- in short, not only do young people suffer more than before from unfavourable transitions (from employment to unemployment), they are also **less** likely to have favourable transitions compared to prime-age workers and compared to the pre-crisis situation.

Finally, **education levels** also lead to quite different patterns in terms of labour market transitions:

- The permanence rate in employment increases with the education level, from 90% for persons with low education levels to 96% for the highly

(94) The initial increase in 2008-09 of the 'discouragement rate' may be due to the fact that during this year of crisis, those who had already been unemployed for some time realised that they had an even lower chance of finding a job than they had before (due to declining labour demand and increased competition with other jobseekers) and therefore became inactive in higher numbers. Later, the discouragement rate decreased, especially among the long-term unemployed. This trend may be explained by the changing characteristics of the unemployed in the crisis which now includes more experienced workers with a stronger attachment to the labour market, see *OECD* (2012), page 44.

(95) European Commission (2012b), EU *Employment and Social Situation Quarterly Review*, March 2012

(96) The transition rate from employment to unemployment increased for men from 1.6% in 2006-07 to 3.8% in 2008-09 (+2.2 pps) while the increase was less sharp for women (from 1.9% to 3.2%, or +1.3 pp).

(97) According to the EU-LFS, in 2011, *between 85% and 95% (depending on the Member State) of inactive young people (15-24) were students (MAINSTAT variable).*

Table 7: Transition matrix, by age group, EU-13, from 2010 to 2011

	From E to:			From U to:			From I to:		
	E	U	I	E	U	I	E	U	I
15-24	83	8	10	30	47	24	8	7	85
25-49	94	2.8	3.0	32	49	20	13	10	77
50-74	90	1.7	9	21	49	30	2.0	1.0	97

Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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Table 8: Transition matrix, by educational attainment, EU-13, from 2010 to 2011

	From E to:			From U to:			From I to:		
	E	U	I	E	U	I	E	U	I
Low	90	4.8	4.8	27	52	21	9	9	81
Medium	95	2.3	2.7	32	49	20	14	9	76
High	96	2.1	2.1	41	42	16	25	14	62

Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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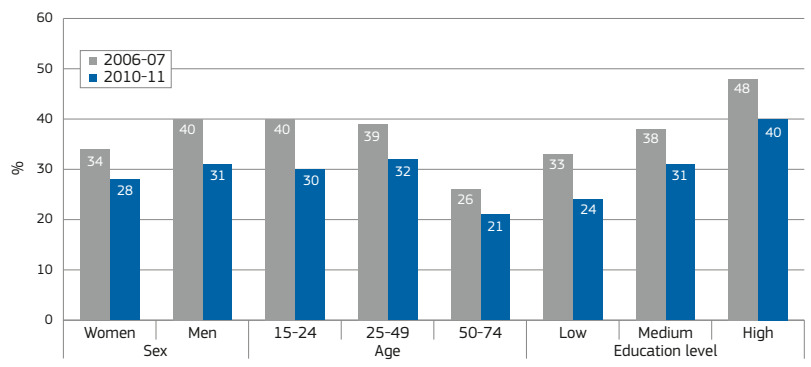
Chart 42: Transition rate from unemployment to employment, by individual characteristics, EU-13, 2006 to 2007 and 2010 to 2011 (%)



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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educated; this gap was previously less pronounced in 2006-07, reflecting the fact that those with a low education level have been hardest hit by the crisis[98].

- In 2010-11, transition rates from employment to both unemployment and inactivity strongly decreased with the education level – this had previously already been the case, but the gaps are now more pronounced than they were in 2006-07.

- In terms of unemployed persons, their persistence rates decrease with the increase in education (52% for the less educated vs. 42% for the highly educated). In other words, people with an advanced education are less likely to remain unemployed, although the rates increased for all groups and the trend has not been reversed for either group.

- Similarly, rates of 'good transition' from unemployment to employment have decreased since the crisis for all three groups by much the same amount, with no reversal of this trend. At 41%, the transition rate is, nevertheless, much higher for those with a high level of education: nearly 10 pps higher than for the medium-educated, and 15 pps higher than for the low-educated.

- In brief, low-skilled workers have the double disadvantage of being more likely to become unemployed (either through a layoff or the end of a temporary contract) than high-skilled workers and then less likely to get out of unemployment.

- Among the inactive, the share of those who remain inactive after one year is the largest among the least-educated persons (81% vs. 62% for the high-skilled) and transitions out of inactivity to employment improve with the education level (25% for the high-skilled and only 9% for the low-skilled) which reflects better employability of those with a higher education level even after a period of inactivity.

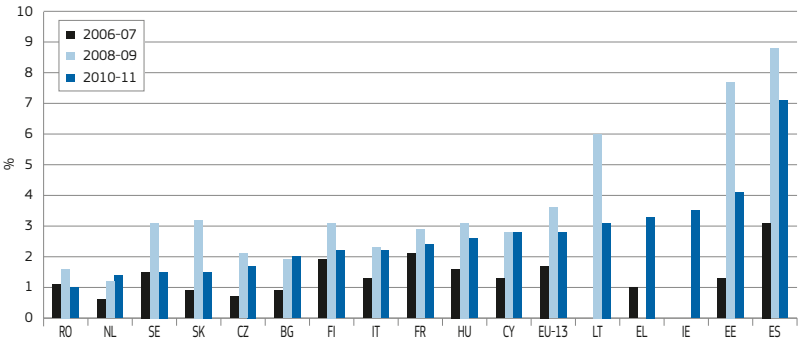
Chart 42 shows the decline in the transition rate from unemployment to employment between 2006-07 and 2010-11, which is more pronounced for men than for women, for young people than for other age groups and for the low skilled, although the differences with the other categories are limited.

4.3. How do rates of entry and exit from unemployment vary across EU Member States?

This sub-section is focussed on two crucial types of transition – from employment to unemployment and from unemployment to employment – and their level and evolution across the Member States over the last few years. While the share of those losing their jobs strongly increased during the crisis before returning to lower levels in most (but not all) countries, the rate of return to employment for

(98) For instance, in 2008-09, the transition rate to unemployment was at 5.8% for workers with a low education level, 3.0% for those with a medium education level and 2.5% for the highly educated.

Chart 43: Transition rate from employment to unemployment for those aged 25-49, for various years (%)



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

Note: data of limited reliability due to small sample size: Bulgaria, Cyprus and Slovakia in 2006-07.

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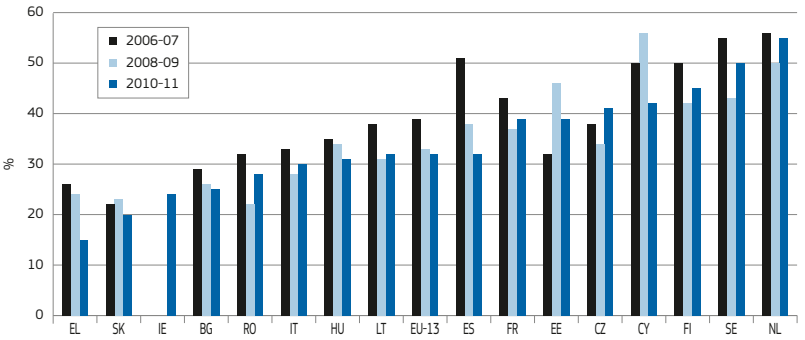
Chart 44: Transition rate from unemployment to employment for those aged 25-49, before and after the crisis (%)



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

Note: data of limited reliability due to small sample size: Cyprus and Lithuania in 2008-09 and Cyprus in 2006-07. For 2008-09, values for Greece are an average of values in 2009-10 and 2007-08.

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the unemployed has not recovered in most countries and is very low in some cases, fuelling long-term unemployment. Economic developments explain part of the difference across countries but there are also country-specific factors, some of which are related to the policies implemented.

4.3.1. Large disparities in entry and exit from unemployment

Chart 43 shows the transition rate from employment to unemployment for the same three typical years analysed above (see Table 5). The patterns are very consistent with the well-known differential impact of the crisis across countries:

- the rate of people becoming unemployed increased in all countries between 2006-07 and 2008-09: the increase has been sharp in Spain, Estonia and Lithuania while it has been limited in Romania, Netherlands, Italy and France;
- in 2010-11 the transition rate from employment to unemployment returned to (or approached) pre-crisis levels in Sweden, Romania, Slovakia, Finland, France;
- in contrast, the rate remained extremely high in Spain (7%), Ireland and Greece (around 3%) and also in Estonia and Lithuania but major improvements were seen in these two countries compared to conditions in 2008-09.

The transition from employment to unemployment mainly seems to reflect the economic situation and resulting labour demand. In fact, increasing unemployment at the time of an economic downturn is not necessarily bad in itself if it is short in duration, since it provides flexibility to the labour market to respond to changes as a result of restructuring. This is precisely the alleged advantages of a flexicurity approach (such as implemented in Denmark or the Netherlands): it promotes easier firing and hiring by making the labour market more flexible, and ensures high employment security (rather than job security) by helping the unemployed to quickly find a job through notably active labour market policies. It is therefore important to jointly analyse transition rates from employment to unemployment and from unemployment to employment to see what the various patterns in these countries are.

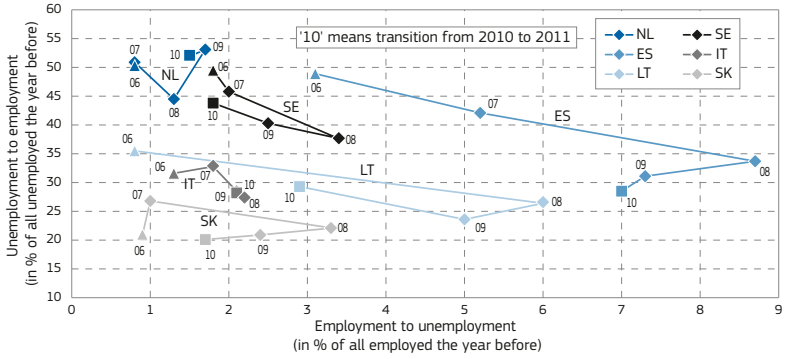
Chart 44 shows the precise extent to which the unemployed are able to find a job (transition rate from unemployment to employment) for all countries. It appears that:

- in 2010-11, the rates of exit from unemployment to employment were particularly low (below 20%) in Greece and Slovakia and also below 30% in Ireland, Bulgaria and Romania; in contrast, high exit rates were found in Netherlands, Sweden and Finland;
- compared to the past, the exit rates out of unemployment to employment have decreased in most Member States;
- the slowdown has been particularly apparent in Spain and Greece. For instance, in 2006-07, Spain had one of the highest exit rates out of unemployment (51%) while four years later (2010-11) the rate was only just above 30%, close to the EU-13 average;
- in Estonia and the Czech Republic the exit rate out of unemployment was higher in 2010-11 than it was before the crisis (2006-07) and for the Netherlands the drop has been limited (only 1 pp).

The effect of the crisis on transition rates between employment and unemployment is visible in charts 45a, 45b and 45c for selected Member States.

While the rate of transition from employment to unemployment has returned to lower levels for all countries (following an increase during the crisis), the recovery in the exit rate out of unemployment

Chart 45a: Transition rates between employment and unemployment for selected countries over the 2006-07 and 2010-11 periods, for those aged 15-74



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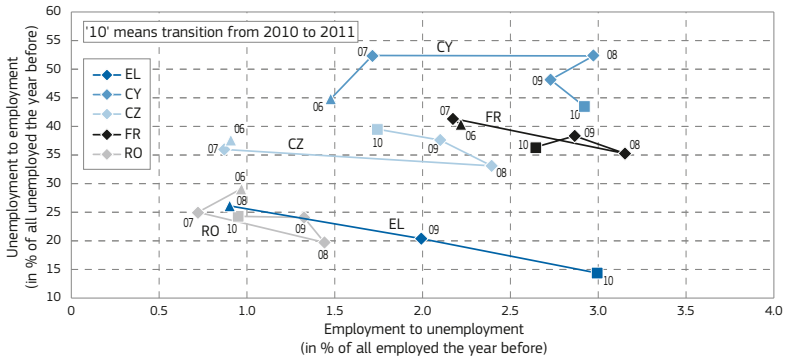
Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

Chart 45b: Transition rates between employment and unemployment for selected countries over the 2006-07 and 2010-11 periods, for those aged 15-74



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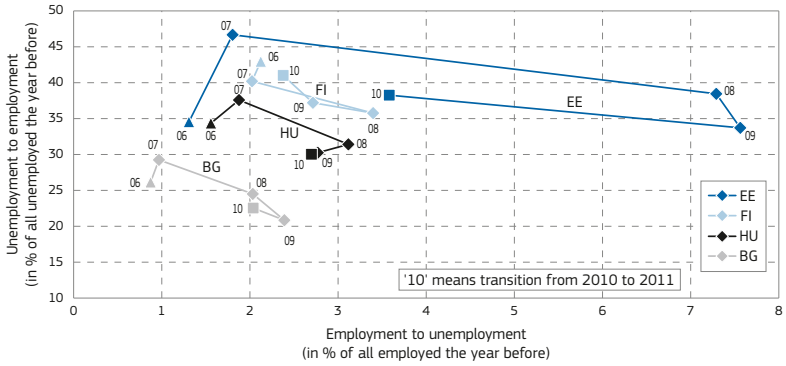
Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

Chart 45c: Transition rates between employment and unemployment for selected countries over the 2006-07 and 2010-11 periods, for those aged 15-74



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Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

since 2008-09 is apparent (for instance in chart 45a) in some countries (Netherlands, Sweden, Lithuania) but not in others (Spain, Italy, Slovakia). This is a sign of divergent labour market performance across countries.

The second point is that even if the crisis has pushed most countries further to the bottom and to the right of the chart, the overall position of the countries with regard to each of these transition rates did not change significantly between 2006-07 and 2010-11 (Spain being an important exception). This seems to show that, beyond the impact of the crisis, there is some stability in the overall level of transition rates that is explained by structural differences.

4.3.2. Despite the impact of the crisis on transition rates, some stable patterns across countries

This is confirmed in Charts 46a and 46b, which show, for all the available countries, the two transition rates before the crisis (2006-07) and for the last year available (2010-11), demonstrating that there are two large groups of countries for which the patterns are quite stable:

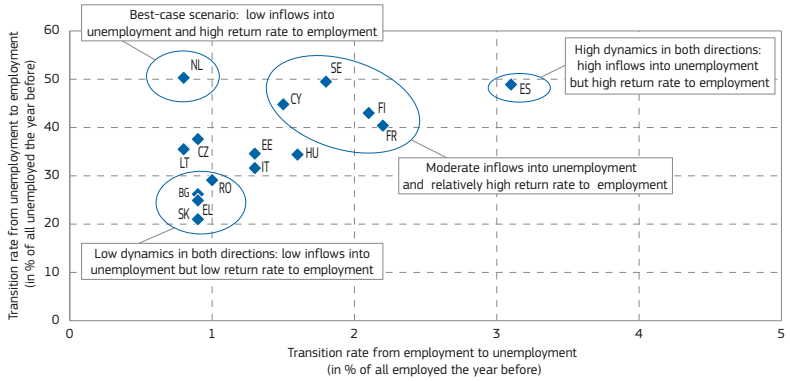
- some countries were characterised in both years by a relatively high exit rate out of unemployment and moderate inflows into unemployment. This is the case in the Netherlands and also characterises Sweden, Finland and to a certain extent, France and Cyprus although transition rates worsened slightly in those countries;

- on the other side, there are countries with low labour market dynamics (relatively low inflows into unemployment but low return to employment) and in which both transition rates worsened: Italy, Bulgaria, Slovakia, Romania and to a certain extent, Hungary;

In contrast, a few countries[99] have been subject to significant changes in the transition rates between employment and unemployment:

(99) In the case of Ireland, although the time comparison is not possible due to a lack of reliable data for previous years, one can assume that the situation also changed radically compared to the pre-crisis period (with increasing inflows into unemployment and a decreasing exit rate out of unemployment).

Chart 46a: Transition rates between employment and unemployment between 2006 and 2007, for those aged 15-74



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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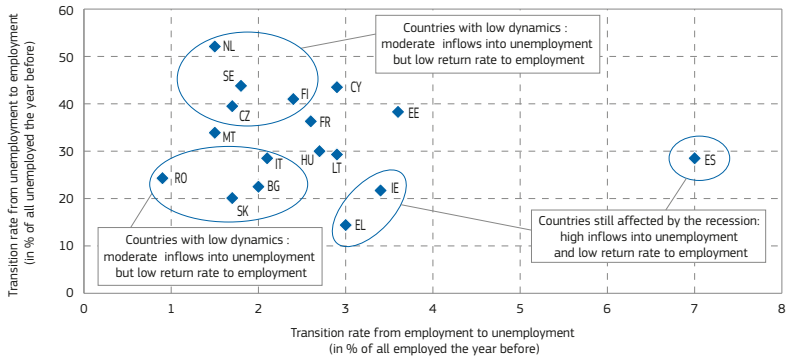
Chart 46b: Transition rates between employment and unemployment between 2010 and 2011, for those aged 15-74



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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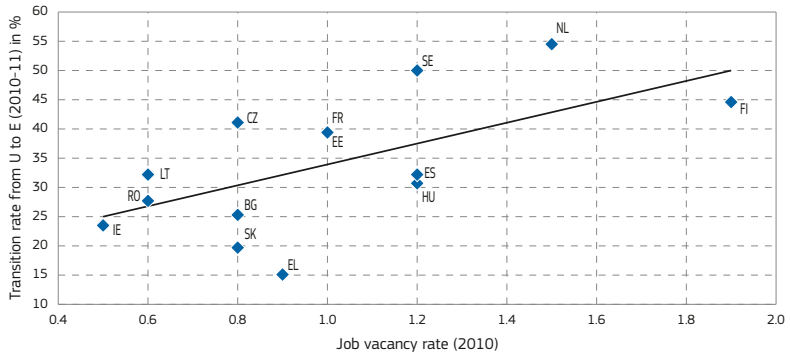
Chart 47: Transition rate from unemployment to employment for those aged 25-49, 2010-11, and job vacancy rate, 2010



Source: for transition rates: Eurostat, EU-LFS, ad-hoc transitions calculations. For job vacancy rates: Eurostat, annual data on job vacancy rates for NACE sectors B to S. The chart only covers countries for which data is available for both indicators.

Notes: y = 18.9x + 15.073
R^2 = 0.3949

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- Spain, originally with a high rate of return to employment but high inflows into unemployment and where both transitions rates worsened very significantly;
- Greece, which originally had low dynamics (relatively low inflows into unemployment but a low rate of return to employment) and where both transition rates also worsened very strongly;
- the Czech Republic and Estonia, countries which had a moderate rate of return to employment and where (unlike all other countries for which data is available) the rate of return to employment improved substantially.

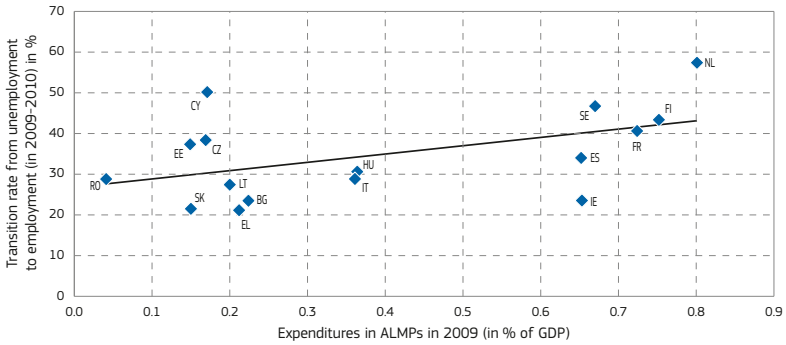
4.3.3. Exit rates out of unemployment are influenced by the economic cycle, but also by country-specific factors

The overall level of labour demand (measured by the job vacancy rate) seems to partially explain cross-country differences. There is indeed a positive correlation[100] between the job vacancy rate in each country (in 2010) and the probability of an unemployed person being employed one year later (in 2010-11). However, some countries display higher than expected (Sweden, Netherlands, Czech Republic) or lower than expected (Greece, Slovakia, Hungary) probabilities of exiting unemployment, indicating that other country-specific factors (such as labour market institutions) are at work.

As already pointed out in Sections 1 and 3, one important factor may be how much the countries invest in active labour market policies. The correlation between the exit rate out of unemployment and spending in active labour market policies as a percentage of GDP is indeed positive as showed in Chart 48. Moreover, some of the countries having a higher exit rate out of unemployment than expected from their job vacancy rate (such as Sweden, Netherlands and France, see Chart 47) are also those spending large amounts in ALMPs – while the inverse is true for those spending small amounts (such as Greece, Bulgaria and Slovakia). However, again this only explains part of the country differences.

(100) Coefficient of correlation around 63%.

Chart 48: Transition rate from unemployment to employment for those aged 25-49, 2009-10 and expenditures in active labour market policies, 2009



Source: for transition rates: Eurostat, EU-LFS, ad-hoc transitions calculations. For expenditures in ALMPs: Eurostat, LMP database.

Notes: expenditures in ALMPs include categories 2-7.
y = 19.853x + 26.781
R^2 = 0.2348

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The current analysis is not aimed at identifying the relative weight of the various factors impacting the exit rate out of unemployment. However, Section 4.6 is an attempt to measure the relative influence of the economic environment vs. country-specific factors (among which labour market institutions possibly play a large role).

4.4. How do transitions differ for the short and long-term unemployed?

This sub-section analyses transitions out of unemployment, focusing on the distinction between the two groups of short-term and long-term unemployed persons. It confirms that the duration of unemployment negatively impacts the rate of return to employment and positively impacts the persistence in unemployment, as well as the withdrawal into inactivity. Some countries (Netherlands, Sweden) perform better than others in ensuring the return to employment for both the short and long-term unemployed while others have very low exit rates out of unemployment (Greece, Bulgaria, Slovakia). The long-term unemployed have a very high persistence rate in unemployment in most countries, confirming that once an individual has already been unemployed for one year, it becomes difficult to exit. In some countries such as Italy, however, many of the long-term as well as the short-term unemployed fall into inactivity. Using longitudinal data, it is also possible to identify countries in which there is a high recurrence of (shorter than a year) unemployment spells (Spain, Greece, Cyprus, but also Sweden and Finland). Finally, there exist some specificities as regards sub-groups of the population: for instance, men's advantage (over women) in the exit rate of unemployment is less pronounced for the long-term unemployed; the recurrence of short unemployment spells is more frequent among young people; the unemployment duration may matter more than education level in that the low-educated short-term unemployed have a higher chance of transitioning to employment than the highly educated who have been unemployed for more than one year.

4.4.1. Persistence in unemployment and transition to inactivity increase with duration

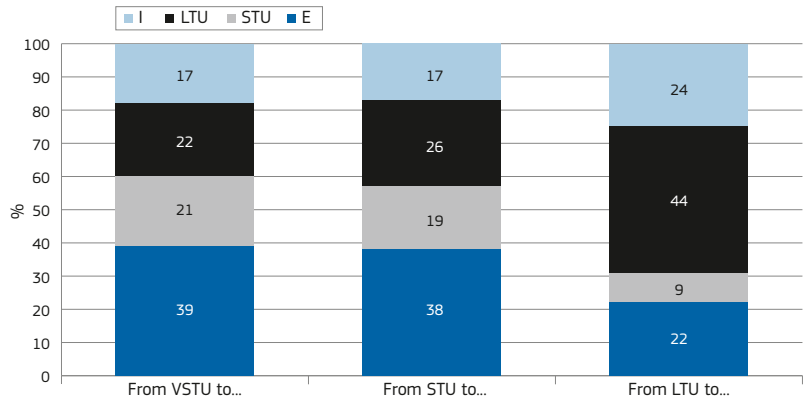
When addressing long-term unemployment, it is important to analyse the different probabilities of returning to employment or falling into protracted spells of unemployment/inactivity according to the time spent in unemployment. In the chart below this has been done for three categories:

- very short-term unemployment: those who spent fewer than six months unemployed;
- short-term unemployment: those who spent fewer than 12 months unemployed;
- long-term unemployment: those who spent more than 12 months unemployed.

Not surprisingly, this indicates that the rate of return to employment decreases with the duration spent in unemployment. At EU level, nearly 40% of those unemployed for fewer than six months in 2010 were employed one year later, with the rate for those unemployed fewer than 12 months very close, at 38%. However it falls to only 22% for those who were already unemployed for more than 12 months. The long-term unemployed have a high probability of remaining unemployed (44%) or falling into inactivity (24%). Spending a long time without a job negatively affects one's chances of finding employment and highlights the important role of early activation policies to prevent people from becoming long-term unemployed.

The very short-term unemployed have a lower chance (22%) than the short-term unemployed (26%) of becoming long-term unemployed but a higher chance (21% vs. 19%) of again being short-term unemployed (<12 months) one year later. Moreover, they both have the same rate of transition to inactivity. As the

Chart 49: Transition rate from unemployment to various statuses (employment, short-term unemployment, long-term unemployment and inactivity), by duration of unemployment, in 2010-11, age 25-49, EU-13



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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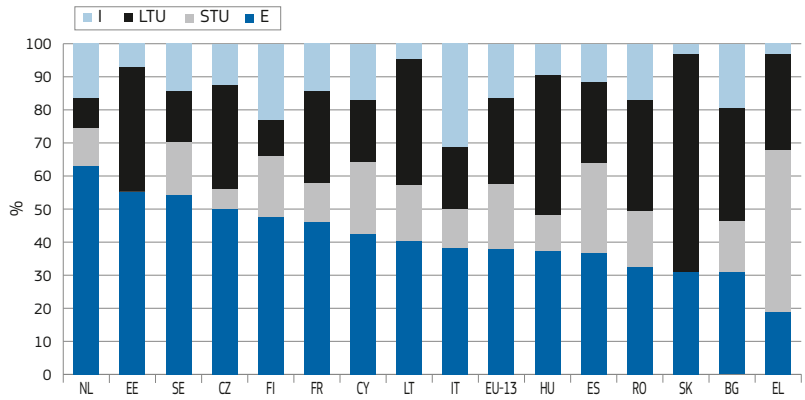
differences between those two categories are limited, the analysis of transition rates that follows will focus only on differences between short and long-term unemployed (no further analysis of the *very* short-term unemployed category).

Compared to the pre-crisis period (2006-07), the exit rate out of unemployment has decreased by 10 pps (from 48% to 38%) for the short-term unemployed and the transition rate to long-term unemployment subsequently increased by 8 pps (from 18% to 26%). Transitions for the long-term unemployed have also worsened but to a lesser extent (5 pps) as the exit rate out of long-term unemployment has decreased from 27% to 22% while the persistence rate has increased from 39 to 44%.

Chart 50: Transition rate from short-term unemployment to various other statuses (employment, short-term unemployment, long-term unemployment and inactivity), 2010-11, aged 25-49



Source: Eurostat, EU-LFS, ad-hoc transitions calculations. Data of limited reliability due to small sample size for Lithuania, Netherlands and Finland.

Note: for Estonia and Slovakia, those in STU the second year (2011) are included in the LTU category.

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4.4.2. Transition for short vs. long-term unemployed by country

Charts 50 and 51 show the transition rates of the short and long-term unemployed for all Member States for which the data is available.

Regarding **short-term unemployment**, it appears that:

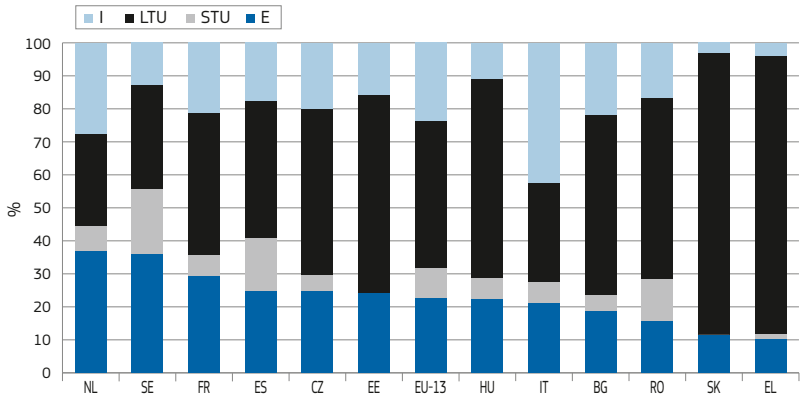
- More than half the short-term unemployed are employed one year later in the Netherlands (63%), Estonia, Sweden and the Czech Republic and more than 45% in Finland and France; at the other end of the spectrum, the rate is below one-third in Romania, Slovakia and Bulgaria and reaches the very low figure of 19% in Greece.
- The share of the short-term unemployed becoming long-term unemployed is the highest in Slovakia (66%) and between 35-45% in Hungary, Lithuania and Estonia, while it is the lowest in the Netherlands, Finland and Sweden. This is consistent with findings from Section 1.3 concerning the persistence rate in unemployment.
- Interestingly, in Finland, Spain and Cyprus and even more in Greece, most of the short-term unemployed do not become long-term unemployed but rather are again short-term unemployed one year later: this shows the importance of the phenomenon of recurrence of unemployment spells (shorter than a year) in those countries[101], driven partly by the prevalence of temporary contracts; this phenomenon was already prevalent before the crisis.
- Italy seems to be a specific case since 31% of the short-term unemployed are inactive one year later – this may be linked to the ungenerous unemployment benefits system and the relatively limited expenditures on active labour market policies. This is even more the case among the long-term unemployed (43%, see Chart 51).
- Compared to the pre-crisis situation (2006-07, not shown in the graph), the rate of return to employment has decreased in most Member States and particularly so in Spain (-20 pps), Cyprus (-14 pps), Greece (-13 pps) and Bulgaria (-10 pps). In contrast, it has returned to the original level in the Czech Republic, Lithuania and increased in Estonia.

Considering those in **long-term unemployment** in 2010, one can note that:

- The highest rate of return to employment was reached, once again, in the Netherlands, Finland and Sweden, with a rate around 36-37% while

[101] It is also the case in Sweden and Netherlands – although in these countries the share of the short-term unemployed who again have the same status one year later is lower (16% and 11% respectively).

Chart 51: Transition rate from long-term unemployment to various other statuses (employment, short-term unemployment, long-term unemployment and inactivity), in 2010-11, aged 25-49



Source: Eurostat, EU-LFS, ad-hoc transitions calculations. Data of limited reliability due to small sample size for Estonia, Greece, Netherlands and Romania.

Note: for Estonia and Slovakia, those in STU the second year (2011) are included in the LTU category.

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only around 10% of the long-term unemployed in Greece and Slovakia were employed one year later.

- Consequently, very high persistence rates in unemployment are found in Slovakia and Greece with more than 80% of the long-term unemployed remaining at the same status, followed by Hungary and Estonia (around 60%) while the lowest persistence rates are found in the Netherlands and Sweden.

- A substantial share of the long-term unemployed find themselves in short-term unemployment one year later in Sweden (20%), Spain (16%) and Romania (13%); this means that they have transited through another status (most probably a short-term job). It is a positive sign that they manage to exit long spells of consecutive unemployment – on the other hand, the fact that they are again in unemployment shows that the 'good transition' (exiting unemployment) was only temporary.

- Compared to the pre-crisis situation (2006-07), the rate of return to employment has decreased in most Member States and particularly so in Romania (-10 pps), Greece (-10 pps), Spain (-9 pps), Lithuania (-9 pps) but also Sweden (-7 pps). In contrast, it has only declined slightly in Estonia (-1 pp) and increased slightly in Czech Republic (+ 1 pp).

Box 15: Recurrence of unemployment spells and unemployment duration: more data from the EU-LFS and EU-SILC longitudinal data

As pointed out in Box 1, the recurrence of unemployment spells shorter than one year in some countries implies that the long-term unemployment rate is an imperfect measure of long-term joblessness. Indeed those having spent fewer than 12 consecutive months in unemployment are not included in the measure, even if they are unemployed regularly for long periods. Taking into account the recurrence of unemployment spells shorter than one year (as in Chart 50) somewhat qualifies the favourable performance of countries such as Sweden, Finland (or Spain before the crisis) in terms of the low persistence rate of unemployment (as measured on the basis of cross-sectional data in Section 1.3.b).

Beyond this methodological issue, the recurrence of unemployment spells is also a policy challenge as it means that many individuals manage to exit unemployment, but only on a temporary basis. Two factors may drive this phenomenon: the prevalence of temporary contracts coupled with frequent transitions back and forth to unemployment/inactivity and participation in labour market programmes that only 'reset' the duration of the unemployment spell without necessarily leading to a transition to a stable job (see OECD, 2002[1]).

Interestingly, the phenomenon of a strong rate of recurrence of unemployment spells shorter than one year was already prevalent before the onset of the crisis. Using LFS longitudinal data, the proportion of the short-term unemployed again short-term unemployed one year later in 2007-08 was even slightly higher (18%) than the share of those becoming long-term unemployed (17%). In the latest year (2010-11) those figures were around 19% and 26% respectively, showing that it is mainly the transition rate to long-term unemployment that has increased the most at EU level and in most countries.

In order to better understand patterns of unemployment duration, it is important to consider labour market experiences over periods longer than one year. Longitudinal data from the EU-SILC presented below provide information over a period of 36 consecutive months (from January 2007 to December 2009) on the (self-declared) labour force status of individuals aged 25-54 who were unemployed in the middle of the period (July 2008). Three indicators are considered[2]:

- the first measure indicates, among all the unemployed in July 2008, the share of those having already spent 12 consecutive months unemployed i.e. prior to July 2008. It corresponds to the standard measure of incidence of long-term unemployment (using spells-in-progress data);
- the second indicator gives an indication of the completed spells of unemployment by providing, among all the unemployed in July 2008, the share of those that went on to experience 12 or more consecutive months of unemployment (by the time their current spell had finished, thus including the period after July 2008);
- finally, the third indicator measures, among all the unemployed in July 2008, the share of those that had spent at least 12 months unemployed, even if not consecutively (the various spells of unemployment over the 36-month period are summed up).

Table 9 shows that:

- in July 2008 in the EU, almost half of the unemployed (aged 25-54) had already spent at least twelve months unemployed (see first column) and the country ranking was very similar to the one resulting from the EU-LFS indicator of incidence of long-term unemployment;
- however, a further 34% of the unemployed (aged 25-54) ended up experiencing a complete spell of unemployment lasting 12 months or more (see difference between first and second columns). On this basis, around 83% of the unemployed in the EU were 'long-term unemployed';
- finally, according to the third indicator measuring the sum of all the unemployment spells that occurred in the three-year period, almost 90% of the unemployed (aged 25-54) went on to spend 12 or more months in unemployment in total[3]. This shows the importance of the recurrence of unemployment spells and the need to take this into account when monitoring unemployment and evaluating policy measures.

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(1) OECD (2002), '2002 Employment Outlook,' Chapter 4, The ins and outs of long-term unemployment.

(2) These indicators are inspired from *OECD* (2002) and *European Commission* (2009).

(3) The countries for which the third indicator is significantly higher than the second one are also those pointed out above (on the basis of longitudinal EU-LFS data) as being characterised by the recurrence of short unemployment spells, in particular: Sweden, Finland, Spain and to a certain extent Greece and Cyprus.

Table 9: Percentage of all persons unemployed in July 2008 (aged 25-54) who experienced at least 12 months of unemployment as measured by:

Country	1. those having already spent 12 consecutive months unemployed in July 2008 (i.e.: standard measure of incidence of LTU, using spells-in-progress data)	2. those that went on to experience 12 or more consecutive months of unemployment, by the time their current spell had finished, thus including the period after July 2008 (i.e.: measure of completed duration of unemployment spell)	3. those that had spent at least 12 months unemployed, even if not consecutively (the various spells of unemployment over the 36-month period are summed up)
SE	13	39	57
UK	17	64	70
SI	23	66	75
ES	26	73	86
AT	28	83	89
CY	28	55	63
LV	30	76	84
HU	32	78	84
LU	34	80	85
EE	35	79	83
PT	41	89	92
LT	45	74	84
FI	45	68	78
PL	46	80	85
EL	47	81	89
EU	49	83	89
BE	51	91	95
IT	51	92	94
NL	53	74	95
RO	55	89	90
FR	58	84	91
CZ	65	86	88
MT	66	84	87
BG	67	91	94
DE	67	91	93

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Source: DG EMPL calculations based on Eurostat, EU-SILC longitudinal data. EU: estimates. No data for Ireland and Slovakia. Data not presented for Denmark due to reliability issues.

The figures reported in Table 9 may appear relatively high compared to other estimates (such as those derived from the EU-LFS[1]) and they should therefore be interpreted cautiously due to the experimental nature of the EU-SILC monthly calendar data, the limited sample size, and the fact that it is the self-declared labour force status which is reported (not comparable to the ILO status as pointed out in Box 14).

(1) Part of the difference is explained by the fact that the age class used in the two datasets is different and that the incidence of long-term unemployment among persons aged 15-24 (that are excluded from the EU-SILC calculations above) is lower than among those aged 25-54.

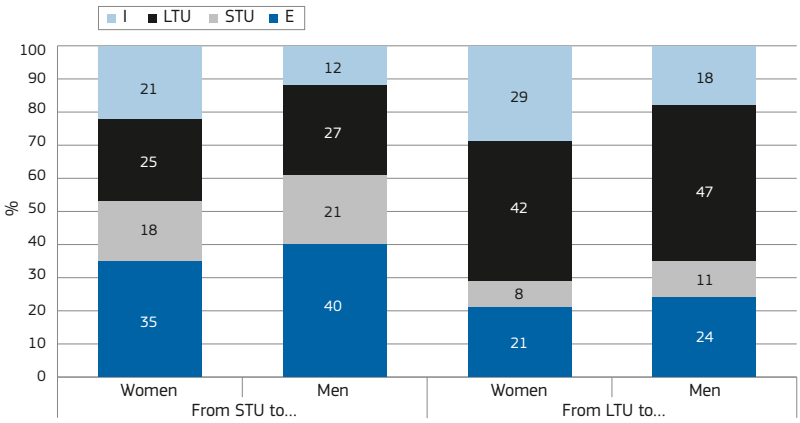
4.4.3. Transition for short vs. long-term unemployed for various subgroups

When breaking down the transition rates for the short and long-term unemployed by various sub-group (sex, age, education), interesting differences can be identified.

As regards **gender differences**, one can point out that:

- Men have an overall higher rate of return to employment than women but men's advantage is more pronounced for the short-term unemployed (5 pps, 40% vs. 35%) than it is for the long-term unemployed (3 pps, 24% vs. 21%).
- In terms of the short-term unemployed, 21% of women are inactive one year later compared to only 12% of men, and 29% of long-term unemployed women find themselves inactive one year later, compared to 18% of men. It can also be seen that, when they are long-term unemployed, women transit more often towards inactivity than employment (29% vs. 21%), while the contrary is true for men (18% and 24% respectively).
- Comparing the rates before and during the crisis, the performance of women and men have moved in the same direction but sometimes with different timing; for instance, the rate of return to employment from long-term unemployed declined sharply for men during the crisis (from 31% to 22% from 2006-07 to 2008-09) while the rate for women diminished by only 1.5 pp. However, since 2008, the rate for women has worsened further (reaching a low of 21% in 2010-11) while there has been some improvement in the case of men (from 22% to 24%).

Chart 52a: Transition rate from short or long-term unemployment to various statuses (employment, short-term unemployment, long-term unemployment and inactivity), in 2010-11, by sex, age 25-49



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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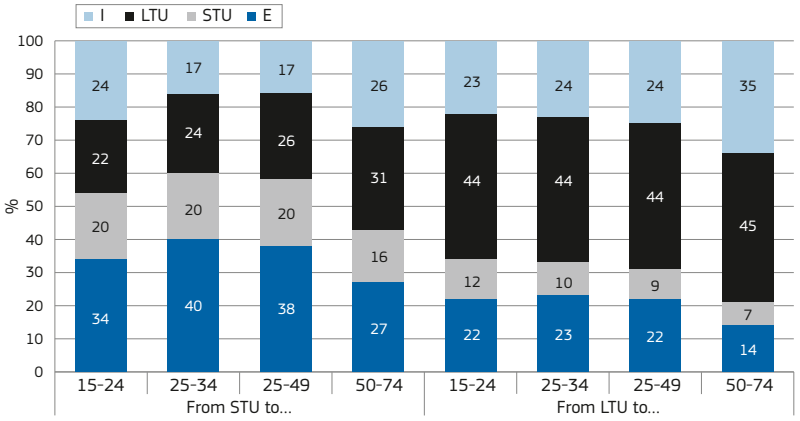
Chart 52b: Transition rate from short or long-term unemployment to various statuses (employment, short-term unemployment, long-term unemployment and inactivity), in 2010-11, by age group



Source: Eurostat, ad-hoc calculations based on longitudinal section.

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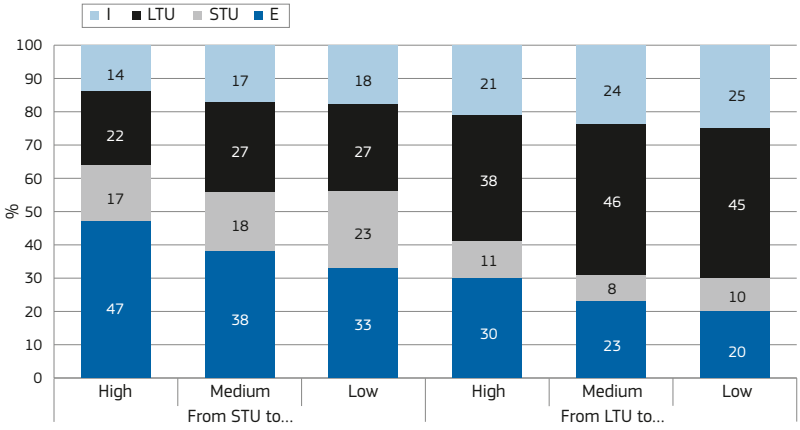
Chart 52c: Transition rate from short or long-term unemployment to various statuses (employment, short-term unemployment, long-term unemployment and inactivity), in 2010-11, by education level (aged 25-49)



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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Differences among **age groups** can also be identified:

- Unsurprisingly, the older unemployed (50-74) have the lowest return to employment (as low as 14% once they have already spent at least one year unemployed); they also have high transition rates to inactivity (26% for the short-term unemployed and 35% for the long-term unemployed).

- The recurrence of short unemployment spells (measured as a transition from short-term to short-term unemployment compared with a transition to long-term unemployment) seems particularly prevalent for those aged 25-34, and even more so for the 15-24's. This is consistent with the well-known difficulties faced by young people in entering the labour market on a stable, long-term basis given the widespread use of temporary and short-term contracts.

- Among young people (15-24) who are unemployed for a short-duration, around 34% manage to be employed one year later. This rate is particularly high in the Netherlands (65%), Cyprus (61%) and the Czech Republic (56%) while it is below 20% in Romania and Greece. For the 25-34 age group, the highest rates are reached in the Netherlands (66%), Sweden (58%) and Finland (55%) and the lowest in Romania and Bulgaria (around 30%) and in Greece (18%).

Finally, a comparison of transition rates for the short-term vs. long-term unemployed by **educational attainment** confirms that positive transitions are more frequent for the high-skilled unemployed than the low-skilled, and that the long-term unemployed achieve weaker transition rates whatever their education level. However it also appears that:

- In some cases unemployment duration may matter more than the education level; for instance, the low-skilled who are unemployed for less than one year have a higher chance of transiting to employment (33%) than do the highly-educated in long-term unemployment (30%) – and also a lower chance of falling into inactivity.

- For those who have previously been short-term unemployed, the recurrence of short-term unemployment

spells is more frequent for high-skilled and low-skilled workers than it is for the medium-skilled.

- Since the crisis, the persistence rate in unemployment has increased substantially for the low-educated (+10 pps) but also for the highly educated (9 pps) more than for the medium-skilled (+ 6 pps) who already had a high rate in 2006-07 (22%) compared with other groups.

4.5. Impact of policy-related variables on the transition out of unemployment

This sub-section attempts to measure the impact of various labour market interventions on the exit rate out of unemployment by using the few policy-related variables that exist in the EU-LFS. For instance, participation in lifelong learning (education or training) by unemployed persons improves their transition rates out of unemployment. However participation in lifelong learning is currently limited in many Member States, particularly among low and medium-skilled workers. Another finding is the positive effect of being registered with the public employment service, particularly when receiving unemployment benefits. However this impact partly hides a compositional effect (linked to the different exit rates from unemployment among short vs. long-term unemployed).

4.5.1. Participation in lifelong learning increases rate of return to employment

The previous analysis showed that education has an importance influence on the transition rates from unemployment to employment (and vice versa) and on unemployment/ inactivity persistence rates, particularly for young people (15-24). Apart from initial educational attainment, lifelong learning possibilities (either while employed or unemployed/ inactive) can boost positive transitions on the labour market.

Training to improve the occupational mobility of workers is seen as particularly relevant in times of high unemployment, when people may lose jobs in declining occupations and need to be trained for new occupations. This is seen to apply specifically to older workers. In the case of the Netherlands, Van der Heul (2006) found that the effectiveness of training increased for older workers in a time of high unemployment. At the time of the study, 2003, the majority of the unemployed not only found a new job, but even a new job in a different sector. However, Ecorys and IZA (2012) have found that retraining needs to be accompanied by job search assistance in order to be effective.

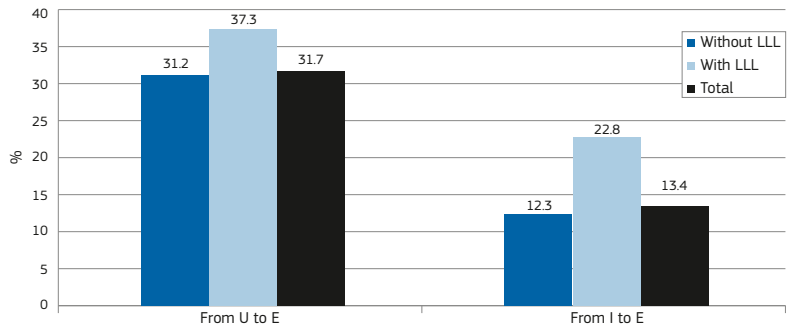
Transition rates from short and long-term unemployment can be analysed separately, depending on whether or not the unemployed person has had access to lifelong-learning in the previous year[102]. The results suggest that participation in lifelong learning can increase the frequency of positive transitions (from unemployment or inactivity to employment) and reduce the frequency of negative transitions (staying in unemployment or in inactivity).

In particular, the transition rate out of unemployment to employment is 6 points higher for those having had some lifelong learning opportunities (37% vs. 31%), as also mirrored in a lower persistence rate in unemployment (44% vs. 49%).

Making a comparison over time it appears that the labour market advantage of participating in lifelong learning was somewhat higher before the crisis (2006-07) – with a rate of return from unemployment to employment 9 pps higher for participants compared to non-participants (47% vs. 38%) – in contrast to the 6 pps advantage in 2010-11.

The difference in the transition rate to employment between those without lifelong learning and the overall rate is low,

Chart 53: Transition rate to employment for unemployed and inactive persons, depending on participation in lifelong learning, 2010-11, EU-13



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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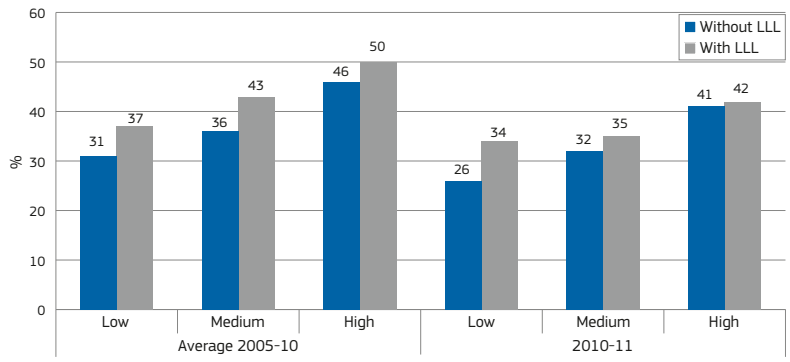
Chart 54: Transition rate to employment for the unemployed, depending on participation in lifelong learning and by education level, average 2005-10 and 2010-11, EU-13



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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(102) In the EU-LFS, the indicator on lifelong learning denotes the percentage of persons aged 25 to 64 who received education or training in the four weeks preceding the survey. The information collected relates to all education and training, whether relevant to the respondent's current or possible future job or not. It includes formal and non-formal education and training. This means general activities in the school/university systems but also courses, seminars, workshops, etc. outside the formal education system, regardless of the topic.

reflecting the fact that participation in lifelong learning in the overall population is very low, at less than 9% at EU level, in 2010, for adults (aged 25-64)[103].

In 2010-11, participation in lifelong learning had a stronger impact for those with a low education level, with a transition rate from unemployment to employment 8 pps higher for participants, compared to the medium-skilled (3 pps) and high-skilled, for which the effect is negligible (1%). Considering the 2005-10 period, it seems, however, that the positive effect of participation in lifelong learning was substantial for all education groups.

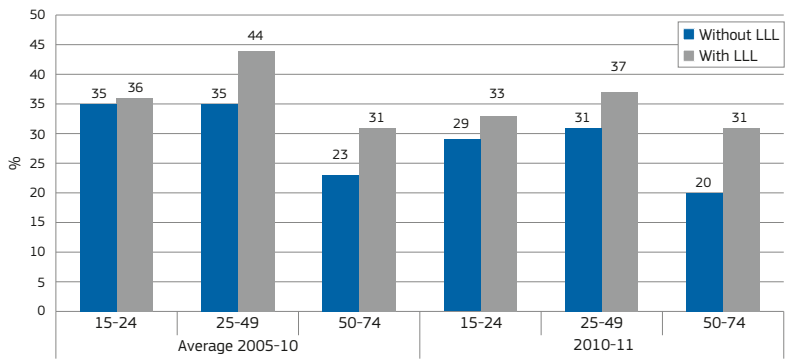
This contrasts with the fact that high-skilled workers are much more likely to participate in lifelong learning (16.0%) than medium-skilled (8%) and low-skilled (4%) workers. To summarise, only a limited share of the adult population participates in lifelong learning[104] (education or training) but, when they do, it seems to have a positive impact on their probability of transitioning out of unemployment and inactivity, particularly for the medium and low-skilled segment.

In terms of age groups, among the unemployed, participation in lifelong learning is seen as particularly beneficial to the older age group (50-74), with a rate of return to employment 10 pps higher for participants, and a much lower incidence of inactivity.

The positive impact of participation in lifelong learning on the transition rate from unemployment to employment can be seen in all Member States for which data is available, with the exception of Sweden in which the impact appears to be negative (around 5 pps)[105].

Finally, in terms of the impact of lifelong learning, taking account of the different lengths of time spent unemployed does not make a large difference. Participation in lifelong learning has a positive impact on the rate of return to employment for both the short-term unemployed (+5 pps) and the long-term unemployed (+6 pps). Among the long-term unemployed, the impact of lifelong learning can also be seen in a strong reduction in the persistence of long-term unemployment (-11 pps), although this is partly offset by a rise in the transition to short-term unemployment (+5%), which may be explained by temporary exits as a result of the training (which reset the unemployment duration to zero).

Chart 55: Transition rate to employment for the unemployed, depending on participation in lifelong learning and by age group, average 2005-10 and 2010-11, EU-13



Source: Eurostat, EU-LFS, ad-hoc transitions calculations.

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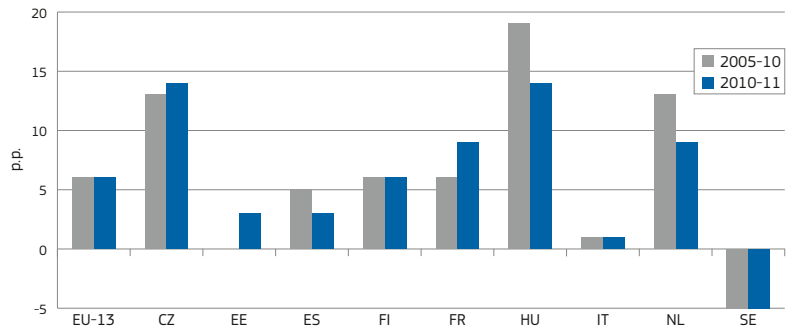
Chart 56: Impact of participation in lifelong learning on the transition rate from unemployment to employment (in percentage points) for those aged 15-74, in 2005-10 (average over the period) and in 2010-11



Source: Eurostat, EU-LFS, ad-hoc transition calculations. Limited reliability due to small sample size for Hungary and EE in 2010. For EE: no data for 2005-10 average.

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4.5.2. The impact of being registered in the PES and of receiving benefits

For unemployed persons, both passive and active labour market measures may play an important role in helping them to return to employment. Using longitudinal data from the EU-LFS, it is possible to see the extent to which registration with the national Public Employment Service, and receipt of unemployment benefits influences the transition out of unemployment, and to determine the degree to which these two factors individually affect transition rates from unemployment[106].

The chart below presents the transition, for those people unemployed the year before, to unemployment, employment or inactivity, depending on whether the person was registered with the national Public Employment service, and whether they were receiving unemployment benefits.

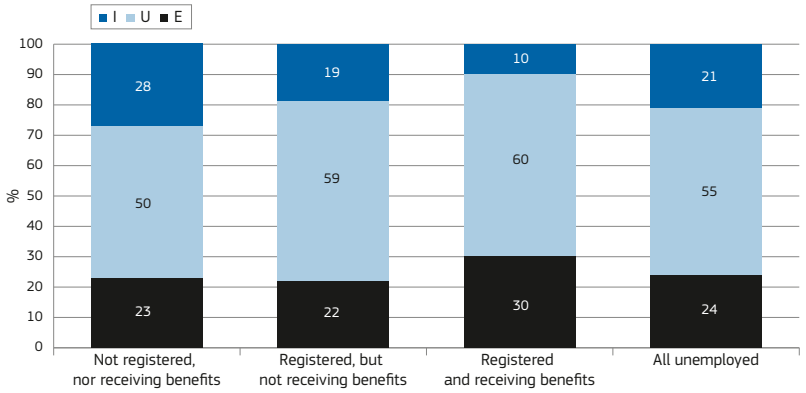
(103) With tremendous variety across EU Member States: rates as high as 25.0% in Sweden and 32.3% in Denmark and lower than 3% in Greece, Hungary, Romania and Bulgaria.

(104) For the EU-27 average, in 2011, among the adult population (25-64), 9.5% of those in employment participated in lifelong learning, compared to 9.1% for the unemployed and 6.9% for the inactive.

(105) There is no straightforward explanation for the findings for Sweden. However, it worth noting that, for those participating in lifelong learning in that country, the persistence rate in unemployment is also lower than it is for non-participants because they more often become inactive; this may be linked to longer training programmes.

(106) This can be done on the basis of the EU-LFS variable REGISTER which summarises replies to two questions: whether the respondent is 'registered at a public employment office' and whether he/she 'receives benefit or assistance'. The data used therefore corresponds to self-declared information and not to precisely defined administrative data.

Chart 57: Transition from unemployment to various statuses, for EU-9[1] (2010 to 2011), for those aged 15-74, depending on whether they were registered with the PES and receiving benefits



Source: Eurostat, EU-LFS, ad-hoc transitions calculations. As very few persons receive benefits without being registered with the PES, the values for this category are not reliable and therefore not shown.

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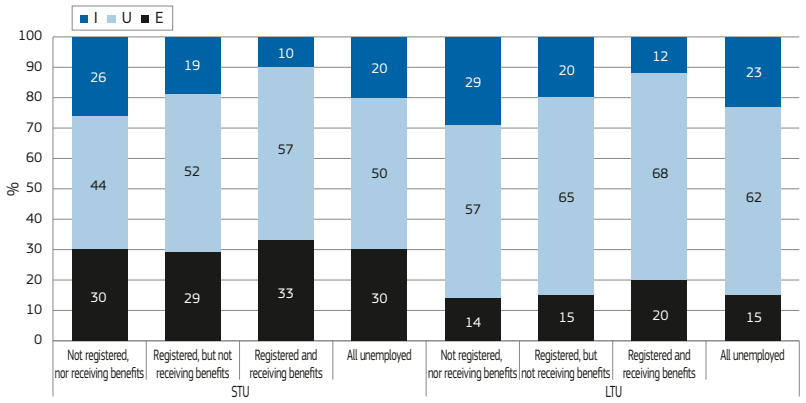
(1) As REGISTER is a yearly variable, the longitudinal data used in this sub-section are based on yearly estimates and differ from the previous sub-sections (based on quarterly estimates). For those yearly estimates the EU aggregate is made of nine Member States: Estonia, Romania, Cyprus, GR, Hungary, Italy, Malta, Sweden and Slovakia.

Chart 58: Transition rates for the short-term and long-term unemployed (15-74), EU-9, 2010-11



Source: Eurostat, EU-LFS, ad-hoc transitions calculations. As very few persons receive benefits without being registered with the PES, the values for this category are not reliable and therefore not shown here.

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The best outcomes are for those who are both registered and receiving benefits, with around 30% returning to employment, compared with slightly over 20% for the two groups of unemployed people not receiving benefits (whether or not they are registered with the PES).

It seems, therefore, that receiving benefits does influence the probability of exiting from unemployment, and that registration with the PES alone is not sufficient. Registration with the PES, despite often being a necessary condition to receiving benefits, does not necessarily imply access to the services or labour market programmes (such as training, etc) that are potentially available.

In practice, the PES may limit its active measures to those who receive unemployment benefits and therefore represent a cost. Moreover, even if those registered with the PES without receiving benefits do have access to services and programmes, the fact that they are not entitled to benefits may limit their own incentive to participate actively in the programmes.

Furthermore, those not registered with the PES and not receiving benefits are characterised by a very high transition or 'discouragement' rate to inactivity (28%).

These average EU patterns for the latest year (2010-11), namely that those registered and receiving benefits have a higher rate of return to employment one year later, also apply to the 2005-10[107] period across all countries[108].

However, a series of factors other than registration in a PES and receipt of benefits can influence the rate of transition of unemployed persons, and the evidence needs to be interpreted cautiously. In practice, there may be a bias in the sense that those registered and receiving benefits have characteristics that make them more employable in general. For instance, having long work experience tends not only to increase the likelihood of receiving benefits, but also to improve the chances of finding a job again compared to someone who has never worked, or worked only irregularly.

If the education level is taken as a proxy of employability, this does not seem to affect outcomes since the impact of registration/benefits is still significant across all levels of education. However, differentiating the transition rates based on the time spent in unemployment (short-term vs. long-term unemployed) leads to a weakening of the effect (see Chart 58). Indeed, when looking separately at the short and long-term unemployed, it appears that the effect of registration/receiving benefits on the transition rate to employment is (at around 3-5 pps) lower compared to a situation when the unemployed are considered altogether (7-8 pps).

This is due to the fact that the short-term unemployed, who are more likely to transit to employment (as shown several times before), also account for the majority (78%) of those who are registered and receiving benefits. On the other hand, the long-term unemployed (who

(107) However, the gap with the two other categories diminished in 2008-09 and 2009-10. This can be interpreted to mean that for these particular years, the fall in employment and labour demand was so high that even for this category, receiving PES did not make a significant difference.

(108) Across all EU countries for which data is available, except Malta, the transition rate from unemployment to employment was, from 2010-11, larger for those registered in the PES and receiving benefits. The gap between those registered but not receiving benefits is the largest in EE (23 pps), Italy (18 pps), Lithuania (14%), Cyprus (13 pps) and Sweden (10 pps).

have lower transition rates to employment) account for more than half (54%) of those who are registered but not receiving benefits[109].

From Chart 58, it can also be interpreted that:

- For both the short-term and long-term unemployed, the transition rate to employment is higher when registered and receiving benefits compared with the other groups.

- Those not registered with the PES, nor receiving benefits, fall into inactivity at a high rate, particularly among the long-term unemployed (around 30%). In other words, not receiving benefits while being long-term unemployed does not seem to encourage the unemployed to intensify their job search activity (or at least does not lead to a higher rate of return to employment). This finding may be counterintuitive and not in line with existing studies showing an increase in the job finding rate when the period of receipt of benefits is close to an end. However section 3.2.b already pointed out the overall mixed evidence about the impact of the level and duration of benefits on unemployment duration.

- While being registered and receiving benefits may lead to a higher persistence rate of unemployment (68% vs. 57%), it can also be argued that it leads to a much lower rate of transition to inactivity (12% vs. 29%).

- Among the short-term unemployed not receiving benefits, the rate of return to employment is slightly higher (1 pp) when they are not registered with the PES than when they are. This seems to show that the short-term unemployed do not necessarily need the support of the PES in order to get back into employment. This may be related to the findings of Section 3, namely that activation measures for the recently unemployed may not be efficient, and that there may be a risk of 'deadweight' losses when applying active measures to them. However, the validity of this finding obviously depends on the characteristics of each unemployed person (some of whom may need more support than others in order not to fall into long-term unemployment). This reinforces the argument that public employment services should better profile and target those who are most likely to become long-term unemployed.

Finally, it should be added that:

- When looking at the same indicators by country, one finds higher rates of return to employment for those who are registered and receiving benefits compared with other categories of unemployed, except for the short-term unemployed in Slovakia, Romania and Cyprus.

- For the young unemployed, the lower transition rates to employment are for those 'not registered or receiving benefits'. This suggests that, for young people, the early involvement of the PES seems to play a small but positive role in moving the youngest members of the workforce out of unemployment, even when they do not receive benefits.

4.6. Supplementary econometric analysis: A regression analysis on the LFS transition data

The analysis carried out so far has shown that transition rates between the different labour statuses are strongly influenced by socio-economic characteristics and the general economic climate. In order to supplement the descriptive analysis of transition rates, a multinomial logistic regression analysis will be applied. The year-to-year transition rates from employment into short and long-term unemployment and vice versa will be the dependent variable.

In a first analysis these transition rates are regressed against sex (SEX variable), age (variable AGE: three age groups: 15-24 years, 25-49 years and 50-74 years of age), the educational attainment level (variable EDUC: three groups, i.e. ISCED 0-2 as low, ISCED 3-4 as medium, ISCED 5-6 as high education) participation in lifelong learning in the last year before observation (variable LLL: dichotomous). In addition, to capture the macro-economic conditions, the overall unemployment rate (variable URATE), will be taken on board as a supplementary independent variable. Note that the transition rates observed in year t refer to the socio-economic characteristics one year before the observation (t-1), so the actual period taken into account is from 2005 to 2010. Finally, another dummy variable is introduced to capture the years of crisis, i.e. equal to 1 for 2008 and later, 0 otherwise.

In the second analysis on the transition from unemployment into employment, whether or not the individual is registered as unemployed with the PES and whether she or he receives unemployment benefits/assistance (both dichotomous) is taken into account, controlling for age, sex, the unemployment rate (by age and sex), and the year, but dropping lifelong learning and educational attainment as independent variables because of data quality problems at disaggregated levels.

Data is only available for 17 countries[110]. Moreover, given the necessary disaggregation, a number of gaps occur, particularly for smaller countries. Country fixed effects could therefore only be included for the countries in which sufficient observations had been made. In addition, some of the transition rates are classified as 'unreliable' due to limited sample size. In view of data quality problems, the results must be interpreted with care.

(109) These percentages have been calculated for the year 2010 for the EU-9 aggregate used in this sub-section. It should be noted that this aggregate does not seem representative of the EU-27 average situation. For instance, in the EU-9 aggregate used here, only 17% of all unemployed persons are registered and receive benefits, compared to 38% at EU-27 level.

(110) Bulgaria, Cyprus, Czech Republic, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Lithuania, Malta, the Netherlands, Romania, Sweden, Slovakia and Spain.

Table 10: Linear regression of transition rates (independent variable) from…

	…short-term unemployment into employment		…long-term unemployment into employment		…employment into unemployment	
	Coefficient	Sign	Coefficient	Sign	Coefficient	Sign
(Constant)	38.348	0.000	23.700	0.000	6.547	0.000
AGE	-4.570	0.000	-6.608	0.000	-2.439	0.000
EDUC	8.038	0.000	6.797	0.000	-1.419	0.000
LLL	4.954	0.000	11.155	0.000	0.053	0.742
SEX	3.317	0.000	2.438	0.004	0.256	0.050
URATE	-0.164	0.101	0.195	0.122	0.337	0.000
DUM_Crisis	-7.018	0.000	-4.820	0.000	1.761	0.000
Is FI	0.985	0.484	11.958	0.000	0.871	0.001
Is FR	2.815	0.033	6.912	0.000	1.180	0.000
Is IT	-5.616	0.000	-3.700	0.016	-0.298	0.250
Is NL	15.364	0.000	14.459	0.000	-0.106	0.720
Is SE	4.219	0.002	7.699	0.000	0.881	0.000

Source: Eurostat LFS, DG EMPL calculations.

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4.6.1. Transition rates out of and into (long-term) unemployment

Table 10 gives the results for the simple multivariate regression, including country fixed effects for Finland, France, Italy, the Netherlands and Sweden.

Despite many gaps, the sample size for the three regressions is still 1805, 1105 and 1781, respectively. The results for all three transitions are straightforward. The respective left column contains the non-standardised coefficients, the right column the significance level resulting from a test that these coefficients be equal to zero, i.e. having no impact on the respective transition rate.

All coefficients contain the expected signs, except the (insignificant) impact of the overall unemployment rate on transitions into employment. However, this result is only a consequence of country fixed effects being included, i.e. the negative fixed effect for Italy captures the main effect of unemployment. Without fixed effects, the coefficient for overall unemployment on transition rates into employment is clearly negative: higher unemployment hinders 'good transitions' and triggers transitions into unemployment.

Having a higher education clearly helps the short and long-term unemployed to find a job, and the risk of becoming unemployed is significantly lower for higher educated people. Likewise, having participated in LLL measures in the year before the observation clearly resulted in higher 'good' transition rates and the positive effect of LLL is particularly significant for the long-term unemployed. However, for transition into unemployment ('bad' transition), the impact of LLL becomes insignificant. The risk of becoming unemployed is obviously less influenced by LLL activity.

A higher age reduces the transition probability both into and out of unemployment: more generous benefits and/or the option to retire early may hinder older unemployed workers from applying for new jobs. On the other hand, due to stronger job protection, they are less exposed to the risk of being dismissed.

The crisis dummy is highly significant in all transitions considered. From 2008 on, transition rates out of unemployment slowed significantly, whereas the probability of falling into unemployment shifted.

The SEX variable shows positive coefficients across all transitions. That is, the transition rates for men are higher than for women in both directions.

4.6.2. Transition rates out of (long-term) unemployment: The impact of registration and benefits

A second regression on transition rates from short-term and long-term unemployment into employment was run without the variables EDUC and LLL, but taking on board two new dummy variables: 'Benefit' is equal to 1 if the unemployed person received any kind of unemployment benefit (or assistance), otherwise it is 0. The variable 'Reg' captures whether or not the person is registered as unemployed.

The respective dataset used for the regression contains only 12 countries[111] – for some of which data quality is very limited with numerous gaps. If all 12 countries were included for fixed effects, none of those fixed effects would be significant. The inclusion of country fixed effects actually adds instability also to the other parameter estimations. Therefore, fixed effects will not be included in this regression.

The number of observations is 897 in the case of transition from short-term, 584 in the case of transition from long-term unemployment.

Receiving a benefit clearly favours higher transition rates out of short and long-term unemployment and back into employment. This finding goes against the argument that benefits raise the incentives not to search for a new job.

On the other hand, being registered plays a much less significant role in explaining transitions out of unemployment. At a 3.5 % significance level the impact of being registered is actually even negative

(111) Bulgaria, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Malta, Romania, Sweden and Slovakia.

Table 11: Linear regression of transition rates (independent variable) from…

	…short-term unemployment into employment		…long-term unemployment into employment	
	Coefficient	Sign	Coefficient	Sign
(CONSTANT)	44.879	0.000	33.170	0.000
AGE	-3.557	0.000	-5.055	0.000
SEX	3.447	0.000	3.029	0.008
BENEFIT	5.631	0.000	5.852	0.000
REG	-2.271	0.035	-1.507	0.226
URATE	-0.382	0.002	-0.344	0.049
DUM_CRISIS	-2.041	0.027	-0.228	0.840

Source: Eurostat LFS, DG EMPL calculations.

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in the case of transition out of short-term unemployment. Lower significance for registration (in a regression together with receiving benefits as independent variables) could reflect registration often being a precondition for benefit receipt. Correlation between 'Benefit' and 'Reg' is indeed positive, but its levels (below 0.5 and below 0.4, respectively, for the two regressions) do not hint at this conditionality to apply everywhere. If the regressions above are run for the two variables 'Benefit' and 'Reg' separately, it turns out that receiving a benefit remains highly and positively significant whereas being registered indeed becomes completely insignificant in both regressions. Therefore, there is strong evidence that being registered with the PES may in itself not be very supportive in finding a new job if unemployed – a result which may call for improving efficiency of employment services.

5. Conclusions

During the 2008-09 financial and economic recession, most EU Member States experienced a major economic downturn that led to a sharp deterioration in their labour markets. At EU level, the unemployment rate increased from 7.1% in 2008 to 9.7% in both 2010 and 2011, and up to 10.4% in 2012 Q2, a historically high level. Consequently, long-term unemployment also increased substantially, with a roughly one year lag compared to overall unemployment, from 2.6% at the end of 2008 to 4% at the end of 2010 and 4.5% in the beginning of 2012. Given that the long-term unemployment rate tends to continue to increase even when the rate of unemployment has stabilised, long-term unemployment is clearly set to increase further and will remain a policy challenge for several years.

Measured as a share of total unemployment, the incidence of long-term unemployment decreased at the start of the recession, reaching a minimum in 2009 (33%) due to the inflows of recently unemployed people. As the short-term unemployed either found a job or became long-term unemployed, the incidence of long-term unemployment increased to 43% in 2011. This share is similar to five years before but now applies to a much larger overall number of unemployed people (25 million, compared to fewer than 17 million before).

The rise in the average rate and incidence of LTU hides increasing diversity across the Member States. Between 2008 and 2011, the **long-term unemployment rate** increased in almost all Member States but rose particularly sharply (more than 5 pps) in Greece, Spain, Ireland and the Baltic countries. Consequently, these countries recorded a long-term unemployment rate higher than 7% in 2011 (which is also the case in Slovakia where long-term unemployment was previously already very high). On the other hand, rates below 2% were found in the Nordic and some continental (Austria, Luxembourg, Netherlands) countries. Germany is the only country in which the long-term unemployment rate has substantially declined since 2008. Overall the changes in long-term unemployment across countries are highly correlated with the change in aggregate demand and in employment since the onset of the crisis.

In 2011, the countries in which the **incidence of long-term unemployment** was the lowest (below 33%) had either a low level of overall unemployment (Austria and Luxembourg) or a dynamic labour market with a low persistence rate in unemployment, as was found in the Nordic countries and the UK, or both (e.g the Netherlands). At the other end of the scale, between 50% and 60% of the unemployed in the Baltic countries, Italy, Bulgaria, and Ireland and over 65% in Slovakia were long-term unemployed. Until 2008, Spain also had a 'dynamic' labour market with high transition rates, nevertheless characterised by the extensive use of temporary contracts and the recurrence of short spells of unemployment. Since then the incidence of long-term unemployment has more than doubled, yet remained below the EU average.

Using LFS cross-sectional data on unemployment duration, it is possible to estimate the **persistence rate in unemployment.** In recent years, less than one-quarter of the short-term (<12 months) unemployed remained unemployed the following year in the Nordic countries, Austria, Cyprus, Germany, the Netherlands and the UK. On the other hand, a high persistence rate (around 45-65%) was found in Greece, Slovakia, Ireland, Portugal, Bulgaria and Hungary. The largest increases since 2007 took place in Greece, Ireland and Spain, due to the protracted recession in those countries. Unsurprisingly, the long-term unemployed have higher persistence rates than the short-term unemployed, due to *negative duration dependence*. However both rates have increased with the crisis and have not recovered since, although inflows *into* unemployment have returned close to pre-crisis rates in most countries.

In order to formulate policies that effectively target the populations at risk, it is necessary to take account of the fact that long-term unemployment is **more pronounced for some population sub-groups than for others:**

- While women were much more affected by long-term unemployment than men in 2000, the gap has been reversed, at least for the moment, because of the **sharper increase in the rate among men,** due to the stronger impact of the crisis on sectors in which men are over-represented, notably in construction and manufacturing. At EU level, men represent the majority (55%) of the long-term unemployed (which is also due to their higher activity rate), and this is also the case in most Member States.

- **Young people (15-24)** have a higher long-term unemployment rate compared to other age groups and have seen their situation worsen rapidly since 2008, although the level recorded in 2011 (6.3%) is similar to the situation in 2000. However those aged 50-64 who are unemployed have the highest chance of remaining long-term unemployed, although more than 60% of the long-term unemployed are prime-age persons (25-49) signalling the need for policies which do not just focus on the youngest or the oldest sections of the population. There are also large disparities between countries: in 2011, more than 15% of economically active young people had been unemployed for more than one year in Greece, Slovakia and Spain – while the rate was below 1.5% in the Nordic countries, where specific measures for young people exist, notably through early interventions.

- The **education level** strongly influences the chance of an unemployed person finding a new job: in 2011, the long-term unemployment rate was more than four times higher for persons with a low education level than those with a high education level. Nevertheless, when they become unemployed, jobseekers with a high education level can also face difficulties, with as many as 35% long-term unemployed, although close to 90% of the long-term unemployed have a low or a medium education level. In this respect, the analysis based on longitudinal data shows that participation in lifelong learning (general education or vocational training) improves transition rates out of unemployment for those with a low or medium education level.

The **context in which the last job was lost** also plays a role in explaining the levels of incidence of long-term unemployment across individuals:

- The crisis had a disproportionate impact on **temporary workers** such that, in 2011, they had a much higher incidence (33%) of long-term unemployment than previously (27%) in the EU as a whole, although most of this change was due only to changes in Spain. Moreover, while they remain less likely to become long-term unemployed than those who have been dismissed or made redundant (47%), temporary workers may be more exposed to the risk of recurrence of unemployment.

- One's **previous occupations and economic sectors** are also factors affecting the likelihood of finding a job and, hence, the risk of becoming long-term unemployed. Compared to the pre-crisis period, the incidence of long-term unemployment has risen particulary for craft and related trades workers, and for plant and machine operators and assemblers. Moreover, former workers from construction, accommodation and food service activities, transportation and storage, wholesale and retail trade and manufacturing seem to have a double disadvantage: they are more likely to become unemployed, and then more likely to remain unemployed for more than one year. Given the on-going structural changes in the EU economy, it appears that jobseekers previously employed in these occupations and sectors will face particular difficulties in returning to employment without appropriate re-skilling.

- Finally, almost 20% of the long-term unemployed in 2011 had **have never had a job**. Among them, three quarters were aged below 30, which mainly reflects the difficulties that many young people encounter in finding their first job (including those with tertiary level education). They may also face a high risk of social marginalisation given that, in most Member States, access to unemployment benefits is usually restricted to those who have previously worked. Policies that promote transitions from education to work (e.g. dual education systems, including interships, on-the job-training programmes, job shadowing, etc.) are seen as particularly relevant in contributing to the alleviation of the problem.

The findings based on EU-LFS cross-sectional data are confirmed by an analysis of longitudinal data, also from the EU-LFS. Though it is based on a limited number of Member States (due to data availability), the **analysis of year-to-year transition rates** demonstrates that:

- The duration of unemployment reduces the rate of return to employment, and increases the persistence in unemployment as well as the transition to inactivity. Overall the long-term unemployed have a very high persistence rate in most countries, confirming that once an individual has spent one year in unemployment, it becomes difficult to exit.

- In some cases, the unemployment duration may matter even more than the education level: for instance, the low-educated short-term unemployed have a higher chance of transition to employment than the highly-educated long-term unemployed.

- Some countries (Netherlands, Sweden) perform well in ensuring a return to employment for both the short and long-term unemployed, while other countries have very low exit rates out of unemployment (Greece, Bulgaria, Slovakia).

- Following the crisis, the probability of unemployed persons finding a job has decreased in most countries, for both the short and long-term unemployed. However this decrease has been particularly pronounced in Spain (from 50% to around 30%) and Greece (from 25% to 15%). On the other hand, the rate has remained stable in the Netherlands and improved in the Czech Republic and Estonia.

- In terms of population sub-groups, the rate of return of the unemployed to employment diminished most

strongly for men, young people and the low-skilled (the rate for high-skilled also dropped strongly, but from a much higher level).

- In Spain, Greece and Cyprus (as well as in Sweden and Finland) there seems to be a high recurrence of short unemployment spells, linked partly to the importance of temporary contracts: people move out of unemployment to employment (or to a labour market programme such as training) but find themselves unemployed again one year later.

- Since the onset of the recession, the transition rate from unemployment to inactivity has decreased, which seems to suggest a limited incidence of 'discouragement' (although in countries such as Italy it is much higher than average). This is a positive sign in terms of the labour supply and the desire to remain economically active, given that previous recessions have led to decreases in activity rates. However, as this transition rate applies to a much larger number of unemployed persons than before the crisis, the absolute number of people falling into inactivity from unemployment has nevertheless increased.

- Due to the recurrence of short unemployment spells and also to discouragement among jobseekers who have become economically inactive, the standard measure of the long-term unemployment rate may underestimate the extent of long-term joblessness.

The findings in the existing literature and the results of the econometric analysis performed in this chapter outline **two underlying groups of factors that lead to the increase in long-term unemployment: persistent aggregate demand shocks and institutional factors**, with the former seeming to explain a larger part of the increase in the long-term unemployment rate (and flows in and out of unemployment) during the recession. A deterioration in economic activity and labour demand explains why the countries that were most severely hit by the crisis (e.g. Baltic countries, Ireland, Greece, Spain) also experienced the largest increases in long-term unemployment, while countries that weathered the crisis somewhat better (such as Germany, Austria, Netherlands and the Nordic countries) experienced much smaller increases in long-term unemployment.

Therefore, job creation is critical to reducing and preventing long-term unemployment. Boosting labour demand would both reduce the inflows into unemployment and increase the outflows from unemployment, thereby reducing or avoiding long-term unemployment. Moreover, given the sectoral nature of the current labour market slack, encouraging job creation in growing sectors (e.g. green jobs, ICT, etc.), coupled with appropriate, timely retraining schemes and employment incentives, could be seen as a way to move jobseekers who have lost their jobs in declining occupations and sectors into more viable jobs.

However, structural unemployment also seems to have become increasingly significant in a number of Member States (Estonia, Greece, Ireland, Portugal and ES) such that an expansion of aggregate demand would not, in itself, be sufficient to bring unemployment back to pre-crisis levels.

Moreover, even if cross-country differences can generally be explained by changes in economic conditions and labour demand, there are certain strong country specificities confirmed by the econometric analysis. This can be illustrated by the **stability of the country patterns in terms of transition rates** (from employment to unemployment and from unemployment to employment) despite important changes in terms of labour demand over the last five years. Indeed the picture from 2006-07 was very similar to that we witnessed in 2010-11 in that:

- One group of countries (Netherlands, Sweden, Finland and to a certain extent France) have moderate inflows into unemployment and a relatively high exit rate out of unemployment. These are also countries that combine relatively generous benefits with strong activation requirements and high participation in ALMPs to increase employability and work incentives. This combination shows that stringent benefit systems are not a precondition for limiting long-term unemployment.

- A second group of countries (Italy, Bulgaria, Slovakia, Romania and to a certain extent, Hungary) have limited labour market dynamics: relatively low inflows into unemployment but a low return to employment, and a worsening of both transition rates. These countries have relatively rigid labour markets with low replacement income provided by the social and unemployment benefit systems, a short duration for benefits, and strict eligibility conditions, all of which make falling into unemployment very unattractive. Moreover, they have very low spending and participation in ALMPs, which render transitions back to employment very difficult for those who become unemployed, leading to higher unemployment persistence.

Finally, a few countries *did* experience significant changes between 2007 and 2011: on the one hand, Spain and Greece, where both transition rates worsened severely, but on the other hand, Estonia and the Czech Republic, where the rate of return to employment improved. In the latter countries, policies have been adopted over the last few years to make the labour market more flexible, with a special focus on activation policies.

This evidence points to the need to promote a favourable institutional setting: namely, a well-adapted policy mix of unemployment benefits, ALMP, EPL, and in-work benefits that both protect and activate the unemployed. The appropriate policy mix is, however, country-specific and there is no universal solution.

Efficient spending and participation in activation measures (job search requirements, training programmes, etc) seem to reduce the level of long-term unemployment and facilitate upward labour market transitions. The countries with the highest expenditures and participation rates, such as the Netherlands, Finland, Denmark and Luxembourg are among those that also have the lowest long-term unemployment rates.

Nevertheless, high spending and participation in ALMP is not sufficient to ensure low persistence of unemployment: high efficiency in labour market programmes is also crucial. A country such as the UK manages to achieve a lower persistence of unemployment with participation and spending levels much lower than other countries (such as Hungary, Portugal, Spain, Belgium).

The efficiency of ALMP programmes improves with the use of techniques such as profiling of the unemployed and targeting of programme. Short and inexpensive programmes such as job search assistance and counselling are often sufficient for the short-term unemployed who are at a low risk of becoming long-term unemployed, although training (up-skilling or re-skilling) may be necessary for the short-term unemployed at higher risk, such as those coming from restructuring sectors. For the long-term unemployed, more complex and costly programmes involving several stages (job search assistance and counselling, longer training programmes and employment incentives/ job creation schemes) are appropriate. Although these programmes are costly, they might still be envisaged, particularly in countries with high and increasing levels of long-term unemployment, because the high and prolonged persistence of long-term unemployment incurs high social and economic costs such as obsolescence of skills, exit from the labour market, and the aggravation of poverty and social exclusion.

Labour offices have raised their profiles in terms of providing substantial assistance to those facing unemployment. However, profiling, targeting and the development of meaningful programmes are only possible when they operate appropriately and effectively. The longitudinal data analysis confirms the positive effect of being registered with a labour office in terms of transiting out of unemployment, particularly for those receiving benefits. The countries in which these services have been well developed perform better at curbing long-term unemployment (e.g. Netherlands, Nordic countries, the UK). Moreover, labour offices, in cooperation with other institutions (benefit-paying agencies), can act pro-actively to reach many inactive people who, although not formally classified or registered as unemployed, may nevertheless be willing to work.

Despite the stronger impact of the crisis on men, women still have an overall lower rate of return to employment and are more likely to fall into and remain in inactivity. Moreover, analysis shows that family reasons and insufficient/ non-affordable care facilities (for children and other dependent persons) can be a reason both for becoming and for remaining long-term unemployed and/or economically inactive, especially in the case of prime-aged women. Improving access to care facilities, allowing individuals to combine care provisions and paid work (e.g.: possibility of part-time employment; tax breaks for workers who must pay for care provision) and reducing the inactivity/unemployment traps for second earners could help in this matter.

Annex

Table A1: Changes in long-term unemployment by sex, age and education level, 2008-11 (%)

Country	Total	Men	Women	15-24	25-49	50-64	Low	Medium	High
AT	18	21	14	4	18	28	12	20	:
BE	6	11	1	20	3	8	7	-4	32
BG	103	138	68	113	116	69	53	147	202
CY	233	*235*	*230*	:	*281*	:	*145*	*234*	*316*
CZ	26	37	18	54	24	20	-8	46	92
DE	-27	-22	-32	-34	-28	-23	-27	-26	-28
DK	296	338	251	:	283	281	253	328	*256*
EE	329	283	406	*161*	469	255	279	317	*472*
EL	142	224	102	117	144	161	122	139	188
ES	350	503	252	369	388	255	330	383	391
FI	47	77	9	:	53	35	38	65	26
FR	41	41	42	38	39	49	38	52	28
HU	47	45	48	41	42	63	21	56	121
IE	392	375	446	236	451	387	229	633	*595*
IT	42	61	26	51	37	59	36	52	32
LT	556	781	384	:	644	*419*	*336*	627	:
LU	-5	12	-18	*-8*	-6	*5*	*-34*	*0*	*55*
LV	315	404	219	306	344	268	291	323	316
MT	24	*29*	:	:	*25*	:	25	:	:
NL	58	68	48	77	73	40	60	57	56
PL	58	68	50	65	56	59	37	54	153
PT	68	87	52	67	71	63	60	126	48
RO	29	16	54	14	35	39	-1	29	152
SE	81	89	71	118	95	54	114	73	60
SI	92	117	67	*109*	95	74	104	96	*52*
SK	40	65	18	53	36	45	-11	65	131
UK	101	90	124	106	103	88	65	126	180
EU-27	62	72	51	69	66	48	63	53	95

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: (:) means figures not publishable; italics: limited reliability due to small sample size.

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Table A2: Incidence of long-term unemployment (rate of long-term unemployment within total unemployment) by sex, age and education level (%)

Country	Total	Sex		Age			Education Level		
		Men	Women	15-24	25-49	50-64	Low	Medium	High
AT	25.9	27.6	24.2	14.1	26.0	46.9	31.8	23.5	*20.0*
BE	48.3	47.1	49.8	32.0	49.0	69.8	54.6	45.5	40.6
BG	56.1	57.1	54.8	49.1	56.6	60.8	64.2	53.2	47.0
CY	20.9	21.7	20.0	*17.2*	20.9	*27.6*	*20.7*	20.6	21.4
CZ	40.6	40.5	40.6	29.2	41.7	47.3	56.6	38.0	23.0
DE	47.6	49.0	45.9	23.6	47.1	62.4	49.5	47.9	41.5
DK	24.4	26.3	22.3	9.9	25.2	44.2	22.5	24.5	25.9
EE	56.8	59.8	53.4	39.4	58.0	67.2	63.6	57.9	47.7
EL	49.6	45.0	54.0	42.4	50.6	52.4	49.2	49.6	49.9
ES	41.6	40.6	42.7	32.4	40.9	54.6	44.9	39.0	35.2
FI	22.0	26.0	16.8	*5.0*	23.2	41.5	20.7	21.8	24.6
FR	41.1	41.8	40.3	27.4	41.8	57.4	49.9	37.9	30.2
HU	47.9	47.5	48.3	35.9	48.4	56.1	51.3	46.8	44.3
IE	58.8	64.7	46.7	44.9	61.5	65.5	69.0	57.9	44.5
IT	51.3	50.7	51.9	46.6	52.2	55.3	54.6	49.8	43.6
LT	51.9	52.3	51.5	35.0	53.8	60.4	55.8	53.3	41.9
LU	28.6	33.1	25.0	*22.5*	29.3	*34.5*	*27.0*	*32.5*	*25.7*
LV	54.6	59.0	48.5	32.9	57.6	65.1	57.2	55.0	48.1
MT	46.2	53.3	*34.7*	:	54.9	:	52.3	:	:
NL	32.9	34.6	31.0	13.1	33.6	54.6	33.1	32.8	34.2
PL	37.2	36.3	38.2	26.4	38.8	46.8	42.7	37.3	31.3
PT	48.1	47.8	48.3	26.5	48.8	66.2	52.5	42.7	34.1
RO	41.9	42.6	41.0	41.5	41.3	45.8	38.6	42.8	43.4
SE	18.1	20.0	15.9	6.3	22.2	35.0	19.0	17.4	18.4
SI	44.2	45.1	43.1	35.3	44.2	52.3	61.9	42.1	30.9
SK	67.8	69.1	66.2	54.4	70.0	75.4	83.3	66.9	42.3
UK	33.4	37.6	27.5	24.6	37.3	43.4	42.4	30.8	23.5
EU-27	42.7	43.3	42.0	29.8	44.0	55.1	47.3	41.7	34.6

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: (:) means figures not publishable; italics: limited reliability due to small sample size.

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Table A3: Composition of the long-term unemployed by sex, age and education level in 2011 and changes since 2008

	Sex				Age						Level of education					
	Composition in 2011		Change in composition 2008-2011 (in p.p.)		Composition in 2011			Change in composition 2008-2011 (in p.p.)			Composition in 2011			Change in composition 2008-2011 (in p.p.)		
	Men	Women	Men	Women	15-24	25-49	50-64	15-24	25-49	50-64	Low	Medium	High	Low	Medium	High
AT	55.2	44.8	1.4	-1.4	15.0	57.6	27.5	-2.0	-0.2	2.2	41.6	49.9	8.5	-2.2	0.9	:
BE	53.0	47.0	2.4	-2.4	15.2	62.9	22.0	1.7	-2.1	0.4	47.2	35.5	17.4	0.4	-3.8	3.4
BG	59.1	40.9	8.6	-8.6	15.3	62.5	22.2	0.7	3.8	-4.6	37.7	52.8	9.5	-12.4	9.3	3.1
CY	57.2	42.8	0.4	-0.4	20.5	61.0	18.5	:	7.7	:	21.1	41.8	37.0	-7.5	0.1	7.4
CZ	48.8	51.2	3.9	-3.9	13.9	59.4	26.7	2.5	-1.0	-1.5	28.3	67.2	4.5	-10.6	9.1	1.5
DE	57.8	42.2	3.4	-3.4	8.1	54.2	37.7	-0.9	-1.1	2.0	33.2	57.0	9.9	-0.4	0.5	-0.1
DK	57.3	42.7	5.5	-5.5	12.1	51.9	36.0	:	-1.8	-1.4	36.2	40.0	23.8	-2.8	4.5	-1.6
EE	55.5	44.5	-6.8	6.8	13.0	58.2	28.8	-8.3	14.3	-6.0	24.5	56.1	19.4	-3.2	-1.6	4.8
EL	44.4	55.6	11.2	-11.2	13.8	71.9	14.3	-1.6	0.6	1.0	31.6	45.9	22.5	-2.9	-0.6	3.6
ES	52.6	47.4	13.3	-13.3	13.9	65.1	21.0	0.6	5.1	-5.7	61.1	22.1	16.8	-2.9	1.5	1.4
FI	66.5	33.5	11.3	-11.3	7.1	47.1	45.8	:	2.1	-4.0	30.0	48.4	21.5	-2.0	5.5	-3.5
FR	50.7	49.3	-0.2	0.2	16.0	59.3	24.7	-0.4	-0.9	1.3	46.8	39.2	14.0	-1.2	2.7	-1.5
HU	53.7	46.3	-0.5	0.5	12.3	63.7	24.0	-0.5	-1.9	2.4	31.6	59.5	9.0	-6.8	3.8	3.0
IE	73.9	26.1	-2.6	2.6	15.3	67.9	16.7	-7.1	7.3	-0.2	39.1	44.3	16.6	-19.4	14.5	4.8
IT	52.3	47.7	6.1	-6.1	20.8	66.1	13.1	1.2	-2.6	1.4	48.2	42.4	9.4	-2.1	2.8	-0.7
LT	58.2	41.8	14.9	-14.9	12.3	60.6	27.1	:	7.2	-7.2	14.9	73.0	12.1	-7.5	7.1	:
LU	51.1	48.9	7.6	-7.6	16.9	66.7	16.4	-0.6	-1.0	1.5	32.8	39.9	27.2	-13.5	2.6	10.9
LV	62.8	37.2	11.1	-11.1	11.9	59.3	28.8	-0.2	3.9	-3.6	21.5	67.3	11.1	-1.3	1.3	0.0
MT	71.3	28.7	3.0	:	:	61.3	:	:	0.9	:	89.4	:	:	0.3	:	:
NL	56.5	43.5	3.2	-3.2	11.0	49.2	39.8	1.2	4.1	-5.2	40.4	38.5	21.1	0.5	-0.3	-0.3
PL	49.7	50.3	2.9	-2.9	17.6	59.7	22.8	0.7	-0.8	0.1	17.1	70.5	12.4	-2.6	-2.1	4.7
PT	51.6	48.4	5.2	-5.2	10.5	62.0	27.5	-0.1	1.0	-0.9	71.9	18.9	9.2	-3.6	4.9	-1.3
RO	60.0	40.0	-6.6	6.6	28.5	57.4	14.1	-3.8	2.8	1.1	21.1	66.6	12.3	-6.2	0.2	6.0
SE	58.6	41.4	2.4	-2.4	14.0	52.3	33.7	2.4	3.6	-6.0	38.3	43.1	18.6	5.4	-2.6	-2.8
SI	55.2	44.8	6.5	-6.5	13.1	65.3	21.6	1.1	1.0	-2.2	28.0	60.6	11.5	1.8	1.3	-3.0
SK	56.7	43.3	8.4	-8.4	16.6	62.4	21.0	1.3	-2.0	0.6	22.4	72.4	5.2	-12.8	10.7	2.1
UK	65.5	34.5	-3.6	3.6	28.3	52.0	19.7	0.7	0.7	-1.4	43.0	42.9	14.1	-9.1	5.0	4.1
EU-27	54.7	45.3	3.3	-3.3	16.0	60.9	23.1	0.7	1.5	-2.1	42.8	43.9	13.3	0.3	-2.6	2.3

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: (:) means figures not publishable; italics: limited reliability due to small sample size.

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Table A4: Long-term unemployment by sex, age and education level, 2011

	Long-term unemployment rate (% active population)									Rate by group compared to the overall rate							
	Total	Sex		Age			Level of education			Sex		Age			Level of education		
		Men	Women	15-24	25-49	50-64	Low	Medium	High	Men	Women	15-24	25-49	50-64	Low	Medium	High
AT	1.1	1.1	1.1	1.2	1.0	1.4	2.7	0.8	0.5	1.0	1.0	1.1	0.9	1.2	**2.5**	0.8	0.4
BE	3.5	3.4	3.6	6.0	3.3	3.2	7.7	3.1	1.6	1.0	1.0	**1.7**	0.9	0.9	**2.2**	0.9	0.4
BG	6.3	7.1	5.5	13.1	5.9	5.7	17.4	5.5	2.3	1.1	0.9	**2.1**	0.9	0.9	**2.7**	0.9	0.4
CY	1.7	1.8	1.6	3.9	1.5	1.3	1.7	1.8	1.5	1.1	0.9	**2.3**	0.9	0.8	1.0	1.1	0.9
CZ	2.8	2.4	3.2	5.3	2.5	2.8	14.0	2.5	0.7	0.9	1.2	**1.9**	0.9	1.0	**5.1**	0.9	0.2
DE	2.9	3.1	2.6	2.0	2.6	3.7	6.6	2.8	1.0	1.1	0.9	0.7	0.9	1.3	**2.3**	1.0	0.4
DK	1.9	2.1	1.7	1.4	1.7	2.5	2.6	1.7	1.4	1.1	0.9	0.8	0.9	1.3	1.4	0.9	0.7
EE	7.2	8.0	6.5	8.8	6.9	7.5	17.4	7.5	3.9	1.1	0.9	1.2	0.9	1.0	**2.4**	1.0	0.5
EL	8.9	6.8	11.6	18.8	9.1	5.4	9.1	10.0	7.0	0.8	1.3	**2.1**	1.0	0.6	1.0	1.1	0.8
ES	9.0	8.7	9.5	15.1	8.5	8.5	13.1	8.4	4.5	1.0	1.1	**1.7**	0.9	0.9	1.4	0.9	0.5
FI	1.7	2.2	1.2	1.0	1.4	2.6	3.4	1.8	1.0	1.3	0.7	0.6	0.8	**1.5**	**2.0**	1.0	0.6
FR	3.8	3.7	3.9	6.1	3.5	3.7	7.6	3.4	1.6	1.0	1.0	**1.6**	0.9	1.0	**2.0**	0.9	0.4
HU	5.3	5.3	5.3	9.4	5.0	5.0	12.8	5.0	2.0	1.0	1.0	**1.8**	0.9	1.0	**2.4**	0.9	0.4
IE	8.6	11.6	5.0	13.2	8.7	6.5	16.6	9.9	3.4	1.3	0.6	**1.5**	1.0	0.7	**1.9**	1.1	0.4
IT	4.4	3.9	5.0	13.6	4.2	2.3	5.9	3.9	2.4	0.9	1.1	**3.1**	1.0	0.5	1.3	0.9	0.5
LT	8.1	9.4	6.8	11.5	7.6	8.3	22.1	10.2	2.7	1.2	0.8	1.4	0.9	1.0	**2.7**	1.3	0.3
LU	1.4	1.3	1.6	3.8	1.3	1.1	2.2	1.4	0.9	0.9	1.1	**2.7**	0.9	0.8	**1.6**	1.0	0.7
LV	8.5	10.6	6.5	9.6	8.0	9.3	16.0	9.7	3.3	1.2	0.8	1.1	0.9	1.1	**1.9**	1.1	0.4
MT	3.0	3.3	2.5	:	3.0	:	4.8	:	:	1.1	0.8	:	1.0	:	**1.6**	:	:
NL	1.5	1.5	1.4	1.0	1.2	2.2	2.3	1.3	1.0	1.1	0.9	0.7	0.9	**1.5**	**1.6**	0.9	0.7
PL	3.6	3.3	4.0	6.8	3.3	3.5	8.2	3.9	1.7	0.9	1.1	**1.9**	0.9	1.0	**2.2**	1.1	0.5
PT	6.4	6.3	6.5	8.0	5.9	7.3	7.7	5.7	3.2	1.0	1.0	1.2	0.9	1.1	1.2	0.9	0.5
RO	3.2	3.5	2.9	9.9	2.7	2.0	3.3	3.5	2.2	1.1	0.9	**3.1**	0.8	0.6	1.0	1.1	0.7
SE	1.4	1.6	1.2	1.5	1.3	1.6	3.2	1.2	0.8	1.1	0.9	1.0	0.9	1.2	**2.3**	0.9	0.6
SI	3.7	3.8	3.6	5.5	3.5	3.7	8.9	3.7	1.5	1.0	1.0	**1.5**	0.9	1.0	**2.4**	1.0	0.4
SK	9.2	9.4	9.0	18.1	8.6	7.9	35.3	8.9	2.5	1.0	1.0	**2.0**	0.9	0.9	**3.8**	1.0	0.3
UK	2.7	3.3	2.0	5.2	2.4	2.1	6.2	2.7	1.0	1.2	0.7	**1.9**	0.9	0.8	**2.3**	1.0	0.4
EU-27	4.2	4.2	4.1	6.3	3.9	3.8	7.9	3.7	1.9	1.0	1.0	**1.5**	0.9	0.9	**1.9**	0.9	0.5

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Notes: (:) means figures not publishable; italics: limited reliability due to small sample size. Figures in bold indicate that the rate for the group is >1.5 times the overall rate.

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Table A5: Unemployment and long-term unemployment among third-country nationals and share of third country nationals in overall active population, unemployment and long-term unemployment

Country	Indicators for third-country nationals			Share of third-country nationals overall:		
	Unemp. rate	LTU rate	Incidence of LTU	Active population	Unemployment	LTU
AT	9.7	2.2	22.6	6.7	15.5	13.5
BE	27.8	14.3	51.5	3.0	11.5	12.2
CY	5.0	:	:	8.7	5.5	:
CZ	5.9	:	:	0.8	0.7	:
DE	13.9	7.0	50.4	5.6	13.0	13.8
DK	19.5	6.3	32.2	3.8	9.7	12.8
EE	22.0	14.5	66.0	16.0	27.6	32.1
ES	34.6	14.2	40.9	10.7	17.1	16.8
FI	21.7	:	:	1.3	3.7	:
FR	25.1	11.6	46.3	3.5	9.5	10.7
EL	22.3	8.6	38.8	7.4	9.3	7.3
IE	15.0	8.6	57.3	3.2	3.2	3.2
IT	12.3	5.5	44.6	6.9	10.0	8.7
LU	(13.8)	:	:	4.5	(12.5)	:
LV	21.3	14.2	66.7	15.5	21.1	25.8
NL	13.7	5.2	38.1	1.9	5.8	6.7
PT	23.5	9.5	40.4	3.2	5.6	4.7
SE	30.9	6.8	21.9	2.9	11.9	14.4
SI	(11.8)	(5.7)	(48.4)	2.0	(2.9)	(3.2)
UK	12.0	4.0	33.0	4.5	6.6	6.5
EU-27	20.1	8.6	42.8	4.6	9.5	9.5

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: T.C.N. are third-country nationals. Figures in brackets: limited reliability due to small sample size. Data not publishable due to small sample size for: Bulgaria, Hungary, Lithuania, Malta, Poland, Romania and Slovakia.

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Table A6: Incidence of long-term unemployment broken down into two main reasons for leaving last job, 2006-08 and 2011

Country	Job of limited duration		Dismissed/made redundant	
	2006-08	2011	2006-08	2011
AT	18%	15%	30%	30%
BE	36%	37%	49%	45%
BG	41%	43%	59%	60%
CY	8%	9%	15%	23%
CZ	40%	24%	54%	41%
DE	43%	30%	53%	46%
DK	15%	15%	22%	32%
EE	31%	39%	48%	62%
ES	14%	34%	20%	48%
FI	17%	19%	35%	31%
FR	30%	50%	45%	64%
GR	28%	35%	44%	46%
HU	30%	24%	46%	49%
IE	34%	53%	31%	68%
IT	26%	32%	42%	49%
LT	20%	31%	42%	59%
LU	16%	27%	35%	25%
LV	21%	26%	25%	65%
MT	33%	34%	44%	55%
NL	15%	38%	71%	56%
PL	32%	27%	55%	38%
PT	35%	36%	56%	55%
RO	25%	15%	57%	49%
SE	8%	13%	26%	33%
SI	33%	37%	52%	44%
SK	63%	49%	71%	67%
UK	20%	22%	23%	33%
EU-27	27%	33%	47%	48%

Source: DG EMPL calculations based on Eurostat, EU-LFS.

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Table A7: Distribution of long-term unemployed according to reason for leaving last job, 2011

Country	A job of limited duration has ended	Dismissed or made redundant	Own illness or disability	Family responsibilities	Other reasons
AT	(10)	44	(12)	:	30
BE	31	34	8	(3)	24
BG	21	63	:	(3)	12
CY	(10)	51	:	(15)	(21)
CZ	11	71	7	6	4
DE	16	60	1	4	18
DK	8	68	10	(6)	8
EE	13	65	:	9	10
ES	52	33	3	2	10
FI	55	27	:	:	16
FR	42	41	5	5	7
GR	29	53	:	5	12
HU	10	79	3	3	6
IE	11	72	:	6	9
IT	35	51	3	4	6
LT	14	47	:	(6)	30
LU	(27)	(32)	:	:	(23)
LV	7	70	(2)	12	9
MT	:	:	:	:	:
NL	15	49	13	(3)	20
PL	29	46	4	7	14
PT	26	50	4	3	17
RO	9	83	:	:	(6)
SE	30	49	5	:	13
SI	33	48	(3)	:	(15)
SK	14	64	4	12	6
UK	15	43	8	8	26
EU-27	32	48	3	4	13

Source: DG EMPL calculations based on Eurostat, EU-LFS. Figures in brackets: limited reliability due to small sample size.

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Table A8: Unemployment and LTU indicators by previous occupational group, in 2011 (EU-27)

Previous occupational group (ISCO, 1 digit)	Number of LTU (000s)	Incidence of LTU	Share in:			Ratio (a)/(b)
			LTU	(a) unemployment	(b) employment	
Professionals	288	30.0	5	6.4	14.7	0.4
Skilled agricultural and fishery workers	95	35.4	1.6	1.8	4.0	0.5
Service workers and shop and market sales workers	1216	36.6	21.0	22.3	14.3	1.6
Clerks	507	36.6	8.8	9.3	10.8	0.9
Technicians and associate professionals	447	37.3	7.7	8.0	16.8	0.5
Elementary occupations	1263	37.9	21.9	22.3	9.8	2.3
Legislators, senior officials and managers	151	42.1	2.6	2.4	8.3	0.3
Plant and machine operators and assemblers	551	43.4	9.5	8.5	8.2	1.0
Craft and related trades workers	1265	44.7	21.9	19.0	13.1	1.4
Total	5783	38.7	100	100.0	100.0	1.0

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: the share in total employment was calculated in 2010. Overall, only 5.8 million long-term unemployed are included in this table (out of a total of 9.8 million) due to not answering the question or more frequently because of not being interviewed (i.e. those never having worked or whose last job was more than 8 years ago).

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Table A9: Unemployment and LTU indicators by group of previous occupational group, in 2011 and 2008 (EU-27)

Previous occupational group (ISCO, 1 digit)	Incidence of LTU		Ratio of over-representation in unemployment	
	2008	2011	2008	2011
Professionals	27.3	30	0.35	0.44
Craft and related trades workers	32.4	44.7	1.31	1.44
Service workers and shop and market sales workers	27.8	36.6	1.47	1.56
Total	**30.0**	**38.7**	**1.00**	**1.00**
Elementary occupations	29.7	37.9	2.30	2.29
Skilled agricultural and fishery workers	36.0	35.4	0.46	0.45
Plant and machine operators and assemblers	32.5	43.4	1.06	1.04
Clerks	28.2	36.6	0.93	0.86
Technicians and associate professionals	29.5	37.3	0.56	0.48
Legislators, senior officials and managers	32.4	42.1	0.37	0.29

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Note: The ratio of over-representation in unemployment is calculated as the share of the occupation group in total unemployment divided by the share of the occupation group in total employment.

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Table A10: Unemployment and LTU indicators by previous sector, in 2011 (EU-27)

Previous sector (NACE rev 2, 1 digit)	Number of LTU (000s)	Incidence of LTU	Share in total:			Ratio (a)/(b)
			LTU	(a) unemployment	(b) employment	
Agriculture	187	26.6	2.8	4.1	4.7	0.87
Arts, entertainment and recreation	101	28.9	1.5	2.0	1.6	1.29
Education	213	31.7	3.2	3.9	7.4	0.53
Public administration and defence	257	32.1	3.9	4.7	7.3	0.64
Information and communication	122	32.9	1.8	2.2	2.9	0.75
Human health and social work activities	311	33.0	4.7	5.5	10.4	0.53
Accommodation and food service activities	532	33.5	8.1	9.3	4.4	2.09
Professional, scientific and technical activities	182	34.9	2.8	3.0	4.9	0.62
Financial and insurance activities	90	36.2	1.4	1.4	3.0	0.47
Transportation and storage	279	38.5	4.2	4.2	5.1	0.82
Administrative and support service activities	439	38.7	6.6	6.6	3.9	1.70
Other service activities	161	39.1	2.4	2.4	2.4	0.99
Wholesale and retail trade	1 069	39.5	16.2	15.8	14.2	1.11
Activities of households as employers	140	41.4	2.1	2.0	1.2	1.64
Electricity	22	41.4	0.3	0.3	0.8	0.40
Real estate activities	45	41.8	0.7	0.6	0.8	0.83
Mining and quarrying	22	43.3	0.3	0.3	0.4	0.74
Construction	1 130	44.7	17.1	14.7	7.8	1.90
Manufacturing	1 244	45.1	18.8	16.1	16.0	1.01
Water supply; sewerage	58	45.2	0.9	0.7	0.7	1.01
Total	**6 605**	**38.5**	**100**	**100**	**100**	**1**

Source: DG EMPL calculations based on Eurostat, EU-LFS.

Notes: (1) the share in total employment is calculated for 2010.
(2) in total only 6.6 million of the long-term unemployed are included in this table (out of a total of 9.8 million) because of those not answering the question or not interviewed (because of never having worked before or because their last job was more than 8 years ago). All NACE sectors except U (activities of extra-territorial organisations and bodies).

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Table A11: Overrepresentation in unemployment by previous sectors (ratio between the share of the sector in total unemployment and the share in total employment), 2008 and 2011, EU-27

Previous sector(NACE rev 2, 1 digit)	2008	2011	Difference
Construction	1.63	1.90	0.27
Public administration and defence	0.55	0.64	0.09
Mining and quarrying	0.67	0.74	0.07
Accommodation and food service activities	2.05	2.09	0.03
Administrative and support service activities	1.67	1.70	0.03
Professional, scientific and technical activities	0.61	0.62	0.01
Transportation and storage	0.81	0.82	0.01
Agriculture	0.86	0.87	0.00
Total	**1.00**	**1.00**	**0.00**
Activities of households as employers;	1.65	1.64	-0.01
Wholesale and retail trade	1.12	1.11	-0.01
Information and communication	0.76	0.75	-0.01
Manufacturing	1.03	1.01	-0.02
Financial and insurance activities	0.49	0.47	-0.02
Education	0.55	0.53	-0.02
Arts, entertainment and recreation	1.35	1.29	-0.06
Electricity	0.47	0.40	-0.06
Water supply; sewerage	1.10	1.01	-0.09
Human health and social work activities	0.63	0.53	-0.10
Real estate activities	0.95	0.83	-0.12
Other service activities	1.14	0.99	-0.16

Source: DG EMPL calculations based on Eurostat, EU-LFS. All NACE sectors except U (activities of extra-territorial organisations and bodies).

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Table A12: Incidence of long-term unemployment by previous sector of activity, 2008 and 2011, EU-27

Previous sector(NACE rev 2, 1 digit)	2008	2011	Difference
Construction	26.8	44.7	17.9
Activities of households as employers	26.7	41.4	14.7
Real estate activities	27.7	41.8	14.1
Financial and insurance activities	22.5	36.2	13.7
Manufacturing	35.4	45.1	9.7
Professional, scientific and technical activities	25.5	34.9	9.4
Wholesale and retail trade	30.6	39.5	8.8
Total	**30.4**	**38.5**	**8.1**
Transportation and storage	30.6	38.5	8.0
Accommodation and food service activities	26.7	33.5	6.8
Electricity	34.7	41.4	6.7
Administrative and support service activities	32.0	38.7	6.7
Arts, entertainment and recreation	22.3	28.9	6.6
Information and communication	28.9	32.9	4.0
Human health and social work activities	29.5	33.0	3.5
Other service activities	35.8	39.1	3.3
Education	31.4	31.7	0.2
Agriculture	27.7	26.6	-1.1
Public administration and defence	34.1	32.1	-2.1
Mining and quarrying	49.0	43.3	-5.7
Water supply; sewerage	51.1	45.2	-5.9

Source: DG EMPL calculations based on Eurostat, EU-LFS. All NACE sectors except U (activities of extra-territorial organisations and bodies).

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Table A13: Incidence of long-term unemployment by previous sector of activity, 2008 and 2011, EU-27 (NACE rev.2, two digit)

Previous sector(NACE rev 2, 2 digits)	NACE code	Total number of LTU (2011)	Incidence of LTU		
			2011	2008	change
Manufacture of textiles	13	58	60	42	18
Manufacture of basic metals	24	52	55	50	4
Manufacture of leather and related products	15	26	55	54	1
Manufacture of wearing apparel	14	85	53	41	12
Construction of buildings	41	600	50	22	28
Manufacture of furniture	31	65	50	31	20
Manufacture of electrical equipment	27	56	49	33	16
Printing and reproduction of recorded media	18	44	49	41	8
Manufacture of other non-metallic mineral products	23	62	49	30	19
Manufacture of wood and of products of wood and cork,...	16	63	48	36	12
Manufacture of motor vehicles, trailers and semi-trailers	29	89	46	35	11

Source: DG EMPL calculations based on Eurostat, EU-LFS. Only the top ten NACE-2 digit sectors in terms of incidence of LTU in 2011 are shown.

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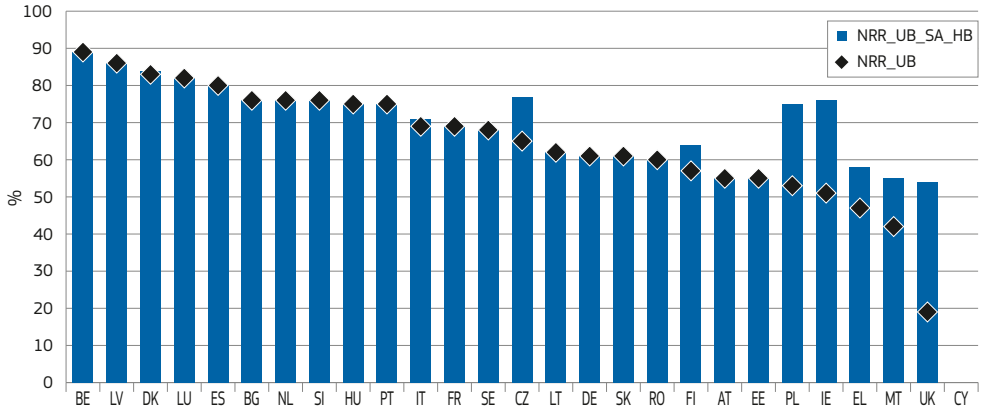
Chart A1: NRRs based on UB vs. NRRs based on UB, social assistance and housing benefits, 2 months unemployment



Source: OECD tax benefit model[1].

[1] The chart refers to 2010. The model is calculated for a single person earning 67 % of the average wage in the second month of unemployment.

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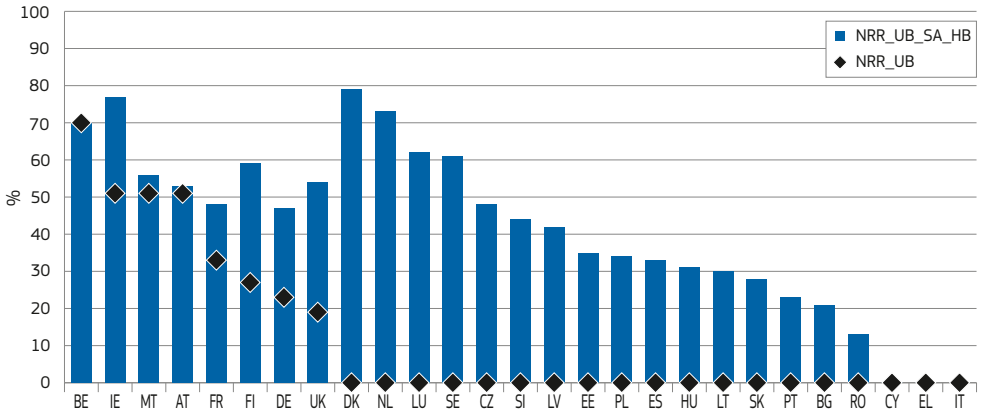
Chart A2: NRRs based on UB vs. NRRs based on UB, social assistance and housing benefits, 5 years unemployment



Source: OECD tax benefit model[2].

[2] The chart refers to 2010. The model is calculated for a single person earning 67% of the average wage in the fifth year of unemployment.

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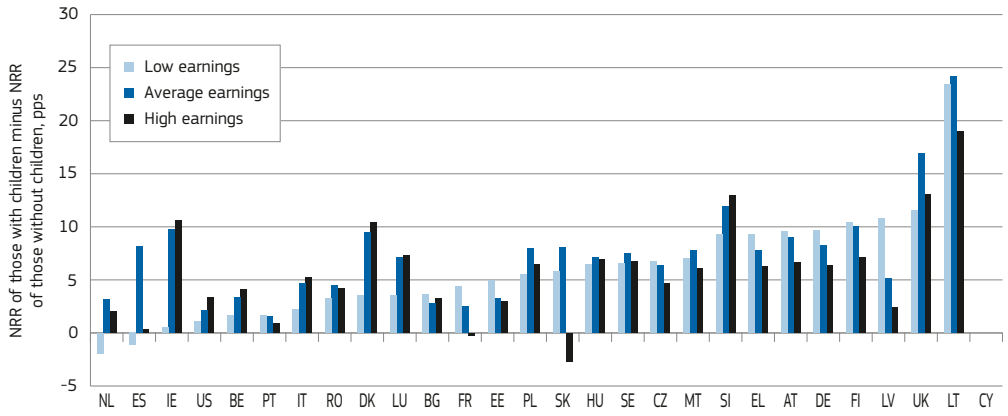
Chart A3: Gap in NRRs between STU with and without children, 3 income levels



Source: OECD tax-benefit model. The data refers to 2010. STU are those in the first year of unemployment[3].

(3) The NRRs are presented for unemployed respectively with and without children at 3 previous (full-time) earnings levels: low – 67% of the average wage, average – 100% and high –150% of the average wage. The NRRs are unweighted averages over the disaggregated NRRs for 4 family types, with and without children respectively: single person/lone parent; one-earner couple; two-earner couple, where second spouse earns 67% of the average wage; two-earner couple where the second spouse earns the average wage. For couples, the percentage of AW relates to the previous earnings of the 'unemployed' spouse only; in one-earner couples the second spouse is assumed to be 'inactive' with no earnings and no recent employment history, and in two-earner couples the second spouse is assumed to work full time and have earnings respectively at 67% and 100% of the average wage. Calculations for families with children assume two children aged 4 and 6 and neither childcare benefits nor childcare costs are considered.

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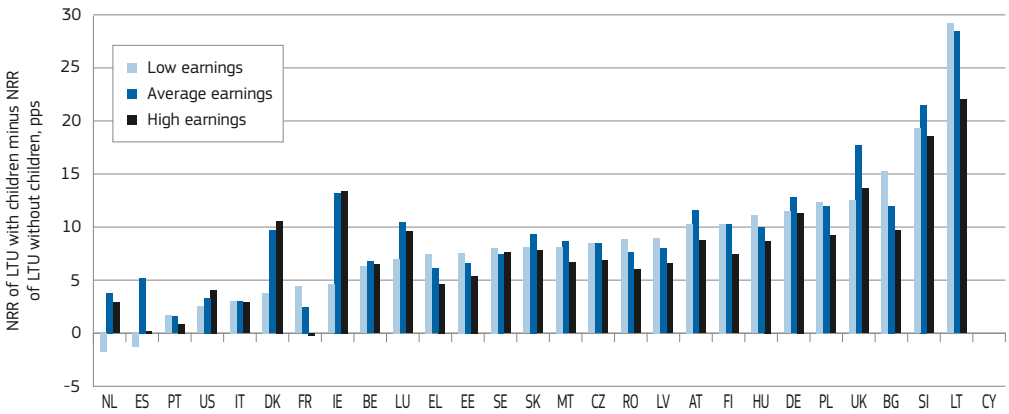
Chart A4: Gap in NRRs between LTU with and without children, 3 income levels



Source: OECD tax-benefit model. The data refers to 2010. LTU are those in the second year of unemployment. For more details, see the description above.

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