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Employment in Europe 2002

Recent trends and prospects

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Directorate-General for Employment
and Social Affairs
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Foreword by the Commissioner

This year's *Employment in Europe* Report appears at a difficult time. After the strong, even dramatic, improvements in Europe's job creation performance over the past 5 years, we face serious uncertainties about our economic and employment performance.

We do not see any immediate risk of repeating the experiences of the mid-1990s slowdown, when our employment rate fell to little more than 60 per cent, and unemployment rose above 11 per cent. But we do see some worsening in unemployment in the short-term. And we recognise the uncertainties about consumer and business expectations, on which an early recovery partly depends.

We know that, in the past, our European economies and labour markets were insufficiently robust to shake off the effects of adverse external shocks. So they were unable to put us quickly back onto a path of consistent growth, and high employment, when difficulties came.

Today we are better placed to face such challenges. The successful introduction of the euro — which brushed aside all the unfounded pessimistic predictions — has given a new impetus to Europe's economy. And the development of the European Employment Strategy has contributed to much needed structural reforms, and improved employment performance.

Together they provide us with efficient policy tools at the European level. A single euro interest rate and a co-ordinated approach to employment policy enable us to pursue, on a coherent basis, our goals of high levels of employment and activity, and low levels of inflation.

Our focus in labour market reforms has also changed. After years of hostile pressure to simply de-regulate — effectively leaving those in the weakest position on the labour market to bear the brunt of adjustments — the value of positive, sustainable, reforms and actions is now appreciated.

Working to raise labour standards, invest in skills and abilities, and improve access to the labour market for all those with obstacles to overcome — whether due to lack of childcare support, physical disabilities, or simply lack of recent work experience.

Fostering productivity, too, by putting concerns about job quality alongside concerns about the quantity of jobs: seeing them as dual dimensions, not alternative approaches.

As the Report shows, quality in work is an economic as well as a moral imperative. People in temporary or low-quality jobs, without access to adequate training, face much greater risks of ending up unemployed than those in permanent posts with training opportunities.

That is why we need the right balance between flexibility and security in the design of employment and social policies. Building on the constructive approach taken by policy makers and social partners to new patterns of work and work organisation — part-time working, temporary jobs, flexible hours, tele-working. Making these new varieties of work practices integral parts of Europe's more flexible, adaptable, labour markets.

This means an even stronger focus on training and life-long learning, however. Preparing firms and workers for the future. Supporting access to the labour market. Using the current slowdown to improve the human capital base, not reduce it.

But we need to address other imbalances in Europe's labour markets, as well — notably those between men and women, and those across different regions.

As this Report shows, unacceptable gender imbalances abound — with women being paid, on average, some 16% less, for the same type of work, across almost all occupations and sectors.

There is nothing inevitable about such gender pay gaps. They can and must be removed through active and positive policies. Breaking-down segregation in the labour market. Promoting good practice. Exploiting positive peer-group pressure.

Likewise, we are concerned about our lack of progress in reducing regional disparities in employment in

Europe. Low skill levels are commonplace in low employment regions — linked often to low levels of female participation.

Meanwhile, the Union looks forward to enlargement — which will initially reduce our average employment rate a little, but which will also work to slow the ageing of the population.

Overall, enlargement offers us the possibility to create, not only the largest economic entity in the world, but a new multi-dimensional, multi-cultural global region. Not an imperial global power, as in the past, but a new, peaceful, Europe.

Able, not only to improve the well-being of its members, but to help its neighbours, and others, too. Many of whom desperately need, not only economic help and opportunities, but greater understanding of their personal, social, and religious goals and beliefs, as well as support for their self-determination.

This new enlarged Europe — high in employment, strong in growth — is now a realistic, and attainable, goal. Reflecting the aspirations of its people, especially the young. Who, as a recent Eurobarometer poll shows, want a Europe based on solidarity and democratic values, and who put unemployment, exclusion and poverty at the top of their concerns.

This Report provides the kind of analytical material on which Europe's successful employment policies have been built. I warmly recommend its contents to you. Just as I, and my fellow Commissioners, will continue to draw on its findings in developing our strategies and policies for the future.

Anna Diamantopoulou

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Economic context

After the slowdown in employment growth and some increase in unemployment …

Between the first and the second halves of 2001, employment growth slowed down from 1.5% to 1.0%, while the unemployment rate increased marginally in the first half of 2002 reaching 7.7% in June. The slowdown mainly affected the industry sector, where employment growth became negative in the second half of 2001, while services continued to create new jobs but at a slower pace.

… there are expectations of a gradual recovery from the second half of 2002 …

The EU employment slowdown followed the decline in EU GDP growth — which averaged 1.6% over the whole of 2001, but which fell by 0.1% in the fourth quarter of the year. This was in part the result of the contraction of US GDP in the third quarter of 2001, following the end of the longest US expansion in post-war history. According to the Commission Spring forecast, GDP growth was expected to be 1.5% in 2002, before rising to 2.9% in 2003. However, recent indicators suggest that the growth performance may be weaker than expected. In this context, moderate increases in unemployment cannot be excluded in the coming months. In the Spring forecasts, employment growth was forecast to be 0.3% in 2002, and to rise to 1.0% in 2003.

… but uncertainties remain.

The low level of interest rates and the weak inflationary pressures present good fundamentals for a recovery in EU economic activity. However, uncertainties on timing remain. The current favourable evolution of the industrial confidence indicator contrasts with an unchanged confidence indicator for retail trade and a fall in the confidence indicator for construction and consumers. Moreover, there has been an increase in major lay-off announced in the Euro zone since March 2002.

Progress towards the Lisbon and Stockholm employment rate targets continues– but rates for women and in particular older workers are a concern.

The Lisbon European Council established the ambitious employment rate target of 70% by 2010. So far, employment and participation have not been significantly affected by the recent economic slowdown. Over the period 1995–2001, 12 million jobs have been created. Between 2000 and 2001 the total employment rate in the EU increased further from 63.2% to 64%. During this year 63% of all the jobs created were taken by women and the female employment rate increased by 0.9 percentage points to 54.9%. Overall, since 1997 the employment rate gender gap has declined by almost 2 percentage points. On the other hand, the employment rate for older workers, at 38.6%, remains far below the 50% Stockholm target.

Structural improvements in the European labour market

Positive improvements in employment performance have been supported by the implementation of structural reforms.

The implementation of structural labour market reforms has paved the way for the recent improvements in the European labour market. Strong employment growth without inflationary pressures suggests that the gains in employment and participation and the decreases in unemployment are sustainable and structural in nature. There is evidence that in the second half of the 1990s, structural unemployment declined overall in the EU. This contributes to maintaining the conditions for low interest rates during the downturn and support the incoming recovery. Since the mid-1990s the cyclically-adjusted employment rate increased continuously, while structural unemployment declined steadily, accompanied by increases in the participation rate. Since 1997 the decline in structural unemployment has accelerated and has been accompanied by strong job creation. The European Employment Strategy (EES) has contributed to the creation of conditions for these improvements to be sustainable, by aiming to exploit fully the potential labour supply with more and better jobs.

Employment and labour market participation are more responsive over the cycle.

There is also evidence that the short-run responsiveness of employment and participation to economic growth increased during the 1990s. Over the period, when the economy picked up and GDP remained below the long-term trend, employment responded much more strongly than in the 1980s, thereby allowing unemployment to decline more markedly. When GDP moved above the trend the increase in participation accelerated and employment could continue to grow. Increases in the share of contracts of limited duration are associated with this development.

Growth has been faster and more employment-friendly thanks also to the actions of social partners.

Also in the medium-term, economic growth was translated into stronger employment growth in the 1990s than in the previous two decades. While other factors may also explain job-rich growth and a rising responsiveness of employment, wage moderation was certainly a key factor. With EMU providing a macro-economic framework within which the benefits of nominal wage restraint are more visible, the social partners have pursued more employment-friendly wage agreements, and contributed to the improved employment performance.

Employment challenges for Europe:
• advancing towards the attainment of full employment,
• raising quality and productivity at work,
• promoting social and regional cohesion.

Structural reforms must continue if the EU is to reach the employment targets …

The recent structural improvements in European labour markets lay a solid basis for the improvements, needed to reach the targets set by the Lisbon and Stockholm European Councils. Significant differences exist between Member States in terms of the levels achieved and the pace of improvement. Structural reforms, along the lines drawn by the EES, will continue to be needed in all Member States, but particularly those with low employment and participation rates.

Labour market reforms are necessary to make the recent improvements sustainable and to cope with the accelerating economic and social restructuring associated with globalisation, technological processes and the development of an inclusive knowledge and information society and economy. At the same time, labour market demands are changing with greater emphasis on the quality of jobs — especially for women. There is also particular concern about other structural issues relating to the ageing of the population, the reduction of regional disparities and enlargement.

… and to accommodate economic and social restructuring.

A life-cycle approach to active ageing

The ageing of the population is a major challenge for the European labour market. While changes in the age structure of our societies have not had a significant effect so far, they will become more relevant in the decade to come. The Stockholm European Council set a target of a 50% employment rate for the 55–64 age group and yet, between 1995– 2000 the employment rate for this age group increased by only 1.8 percentage points compared to 3.3 percentage points overall for the whole working age population. It did, however, increase by 0.8 percentage points in 2001. While this rate of improvement is helpful it is not sufficient to enable the EU to reach the Stockholm target.

The ageing of the working population and the low participation of older people …

Creating a policy framework that allows and encourages older workers to remain in employment longer is crucial. This requires reforms in the tax, benefit and pension systems as well as fundamental change in societal attitudes, in employers' recruitment and training practices as well as in quality of work, in particular work organisation and working conditions. Efforts will need to start early in the life cycle and should focus on supporting a long-term sustainable working life, including making life-long learning a reality for people of all ages. In response to this challenge, the Barcelona Council called for measures to increase the incentives for older workers to remain in the labour market through flexible and gradual retirement formulas, guaranteed access to life-long learning, and a rise of about five years in the average age at which people stop working to be achieved progressively by 2010.

… call for a dynamic, life cycle approach to retain workers longer in employment.

Investing in human capital

Globalisation and technological progress are changing both the structure of markets and the nature of work relationships. Between 1995–2001, employment growth in the high-tech sector increased at 2.2% a year and in knowledge-intensive services by 2.9% a year. The former is responsible for the creation of almost 20% of the jobs between 1995 and 2001 and currently employs just over 11% of total employment. The latter contributed to more than 70% of net employment creation during the same period and now accounts for a third of total employment.

Globalisation, rapid technological progress and the advances of the knowledge economy and society …

Almost 30% of those employed in the high-tech sector are high skilled (having completed tertiary education), while in knowledge-intensive services the share is as high as 42%. Improvement in the education and skills levels of the workforce are fundamental to good long-term employment performance. Since 1996, the share of the low skilled in the working age population has fallen sharply, although it still amounts to almost 40% overall and

…demand increased efforts to raise skill levels for all, in particular low skilled women.

more than 20% among the 25–30 age group for both, men and women. The gap in employment rates between groups with different educational levels remains substantial.

Building synergies between more and better jobs: fostering productivity

Synergies between quality in work, productivity and employment:

Quality in work — including training, career prospects and work organisation — makes a valuable contribution towards increasing employment and productivity as well as social cohesion. Improvements in the quality of work may increase the efficiency of production processes by allowing employers to exploit fully the potential of new technologies. They are further likely to increase employees' motivation and job satisfaction. The Lisbon objective of more and better jobs therefore requires that Member States design their policies with a view to building on the synergies between improving quality in work and increasing employment rates.

Higher quality of work goes hand in hand with higher participation and better employment performance …

Quality in work and subjective job satisfaction are found to be positively correlated with employment performance and labour market participation. In particular for women, greater shares of jobs of higher quality are associated with higher female labour force participation and employment. In several Member States, recent increases in employment rates have been accompanied by quality improvements, not only for higher-skilled people but also for the low skilled. Improvements in the quality of work have a key role to increasing labour force participation (see the Joint Council Commission Report on Labour Force Participation and Active Ageing).

… as well as with higher productivity.

Higher productivity goes hand in hand with higher job quality, subjective job satisfaction and training — both at the aggregate and at sectoral level. Among the various dimensions of job quality, training in particular is shown to have a strong positive impact on labour productivity. Similarly, those regions that have the highest shares of skilled workers and participation rates in continuous training were those with the strongest increases in productivity, while sustaining high levels of employment.

The role of low quality jobs:

In Europe, up to a quarter of all full-time employed and more than two thirds of those involuntarily in part-time work are in low quality jobs — i.e. low-paid, low-productivity jobs that do not offer any of the following: job security, access to training, career development opportunities. Those employed in low quality jobs also generally show relatively strong dissatisfaction with their job in general and the work content or working conditions in particular.

Easing the re-entry into the labour market for some; increasing the risk of repeated spells of low-paid, low productivity employment and unemployment for others.

While in many cases, such jobs of low quality might ease the access of unemployed people into the labour market, those employed in jobs of relatively low quality face a much higher risk of unemployment and inactivity than those in jobs of higher quality. Of those in jobs of low quality, indeed more than half remain in these jobs over two years and up to 25% become either unemployed or inactive within two years — five times as many as in the case of high quality jobs. Once in unemployment, they also face a strongly reduced probability of moving back into employment in general, and into

higher quality jobs in particular, implying the risk of 'vicious circles' between low quality employment and unemployment.

Promoting transitions into jobs of higher quality and with training helps strengthening integration into the labour market.

This highlights the need for supporting those who take up low quality jobs and for promoting their transition into more stable jobs. Although the employment prospects of those previously unemployed who have taken up a low quality job are clearly better than those of the long-term unemployed, there is compelling evidence that they are much less favourable when compared to those who have taken up a job which offers further training or career development prospects. Those who leave unemployment to take up a job with access to training are half as likely to become unemployed again compared to those who start a job without training. At the same time, those who move up from low quality jobs into jobs of higher quality — in particular through training — are much less likely to become unemployed again compared to those who remain in low quality jobs.

The role of temporary contracts:

An appropriate balance between flexibility and security is an important element of job quality. While temporary contract work can offer flexibility to some, it is seen as lacking job security by others. Movements out of temporary jobs improved in the second half of the 1990s, with more than 45% entering a permanent job within three years. On the other hand, the risk of becoming unemployed is still up to four times higher than it is for people on permanent contracts.

They open access to jobs of better quality mainly for young and high skilled …

Furthermore, the labour market dynamics of different age and skills groups are not the same. At least half of the young and the high skilled move from a temporary job to a permanent one over three years. For many of them, temporary jobs thus play the role of a stepping stone into jobs of higher quality. The same does not necessarily apply to older and low skilled people, however, of which less then a third and less than 40%, respectively, move from a temporary to a permanent job within three years.

… but do not perform equally well for many low skilled and older workers.

For these same groups, the risk of becoming unemployed is more than twice as high: 20% of older people and 15% of the low skilled who were employed on temporary contract jobs in 1995 were unemployed three years later, compared to 12% of young people and 7% of the high skilled. While there is evidence that these jobs help re-integrate the previously unemployed into the labour market, they are clearly less effective as stepping stones into more stable employment for the low skilled and older workers.

Major improvements are needed to exploit to the full Europe's potential for job creation in the next decade.

The observed labour market transitions in certain segments of the labour market could hamper future improvements in employment rates. Not only are inflow rates from unemployment to employment still too low and outflow rates from — in particular low quality — employment too high. Also transitions into jobs of high quality remain in many cases unfavourably low. Improved upward quality dynamics — an important aim in itself — can increase not only the *quality* but also the *quantity* of employment. While ensuring that measures to ease access to the labour market and improve quality in work reinforce each other, care should be taken that incentives to create and accept employment opportunities are sustained. Higher job quality, together with efforts to raise participation substantially, is key to achieving more flexible and adaptable labour markets as well as to using the full potential of the whole workforce over the long-term and hence to

make employment increases sustainable. The scope for sustainable employment creation will depend crucially on the capacity to exploit these interdependencies between quality and quantity.

Tackling regional disparities

The success of the Lisbon strategy hinges also upon regional cohesion …

The regional dimension is one of the key elements for ensuring the sustainability of labour market improvements and for social cohesion, as recognised by the Lisbon and Nice Councils. The skills and gender gaps and the age imbalances that exist at regional level hamper social cohesion and constrain economic growth.

… but gaps between best and worst performing regions are widening …

During 1995–2000 regional performance in terms of income, productivity levels and unemployment rates has been quite varied, while progress has been more even in terms of employment rates. In particular, persistently low performance in terms of employment, unemployment and productivity characterises the worst performing regions.

… and skills gaps affect regional employment and unemployment performance.

Wide disparities in regional employment performance between 1995 and 2000 are partly explained by differences in the skills composition of the working age population and by differences in sectoral specialisation which affect the ability to mobilise female participation, and reduce GDP per head. The share of high skilled in the working age populations differs by more than one to two between regions and this accounts for a large part of the variance in employment rates. As emphasised in the Action Plan for Skills and Mobility, removing skills gaps is a stepping stone towards more integrated labour markets and a more cohesive Europe.

Life-long learning and raising participation of women are vital to the challenge of reducing regional disparities.

Raising productivity is an important challenge for most European regions, although some are better equipped to do this than others. Decisive action needs to be taken in the area of life-long learning. Raising participation of women is a challenge that needs to be addressed at the regional level as the difference between the best and worst performing regions is about 20 percentage points.

Employment in candidate countries

In candidate countries GDP growth slowed in 2001.

While enlargement is likely to reduce the overall EU employment rate by around 1.5 percentage points, the structural employment challenges for an enlarged EU will be increased. This is against the background of the economic slowdown in candidate countries at the end of 2001 resulting from the worsened international outlook and the continuing need to pursue economic and social restructuring. The labour market situation is forecast to improve in 2003, however.

With participation and employment still adjusting, unemployment has increased.

Since 1997, employment in the candidate countries has fallen even more rapidly than participation, leading to an increase in unemployment. A significant increase in employment in services has been achieved, but it has not yet been sufficient to compensate for the ongoing adjustment and job losses in agriculture and industry. Employment rates are generally below that of the EU with high unemployment in Bulgaria, Slovakia, Poland and Lithuania.

Restructuring in agriculture is expected to continue while the manufacturing sector has seen productivity gains.

The importance of agriculture for the economies of the candidate countries remains significantly greater than in the EU although restructuring is likely to continue after membership. This is all the more important given that the high share of agricultural workers in many of the candidate countries is not reflected in a proportionately higher share of gross valued-added, and productivity levels are very much below the EU average. Despite the dynamism of manufacturing, in most central European countries, net job creation has been subdued or negative reflecting the productivity gains from restructuring and the introduction of new technologies. Output grew strongly in manufacturing, in particular in the more skill-intensive engineering industries, largely due to inflows of FDI. Net employment creation has been weak or negative, however, because of the contraction of other industries.

There is a strong potential for increasing employment in services.

The integration of the new Member States into the EU single market is likely to benefit the service sector. Increasing wealth will result in higher demand for services such as financial and business activities, hotels and restaurants and social services. It can also be expected that, as in the EU, a rising demand for services will result from increases in female participation and population ageing, which will stimulate demand for care provision, recreational activities and health care. Care should be taken to ensure that these services are available to all, including low-income individuals and families.

Gaps between agricultural regions and service centres are widening.

These sectoral shifts are likely to affect some regions more sharply than others. Agricultural regions in candidate countries share several common characteristics — not least poor average education levels. Since job creation in services mainly takes place in the capital cities, this could widen the gap in employment and unemployment, and increase regional disparities in the medium-term. Such increasing regional disparities in employment and income would also be registered in an enlarged EU. For example, the bottom 10% of the population in the poorest regions would have an income of only 31% of the EU27 average, compared to 61% in today's EU15.

Improving skill levels and training is necessary to cope with changes in labour demand.

The ongoing process of restructuring has also heightened the disparities in the employment outcomes of different skills groups. The employment rate of the high skilled is markedly higher than that for the low skilled — even more so than the already very high EU differentials. This is also reflected in much higher unemployment rates for the lower-skilled. The expected shifts in the sectoral employment structures in these countries suggest that the demand for a more qualified labour supply will increase further. Employment challenges in an enlarged Union might well be exacerbated by these disparities.

Conclusions

Achieving the employment rate targets calls for decisive action to

- *raise participation and employment,*
- *foster quality and productivity,*
- *increase social and regional cohesion.*

The overall employment rate could reach 65% in 2003 — within sight of the intermediate target of 67% in 2005. Recent employment developments are encouraging, but progress in the coming year may be slower than expected due to the slowdown. Progress in raising the employment rates of older people has been limited. Moreover employment gaps related to gender, skills, regions and nationality continue to hold back the EU's overall performance. Increased effort and continued reforms will be needed to respond to, and

promote, change. Promoting female participation and active ageing, upgrading human capital, reducing regional inequalities, ensuring access to the labour market for all and improving quality in work will all be crucial elements to reach employment rate targets, contribute to economic growth through productivity increases and establish inclusive labour markets.

Chapter 1 Panorama of the European labour markets

Introduction

Europe felt the impact of the recent economic downturn in the last quarter of 2001 but progress towards the employment targets set by the Lisbon, Stockholm and Barcelona Council is still on track. Chapter 1 gives a closer look at the recent labour market developments highlighting some key factors which have contributed to these developments, such as the evolution of part-time and fixed-term contracts, the role played by skills, the labour market situation of non-EU nationals and the sectoral dynamics.

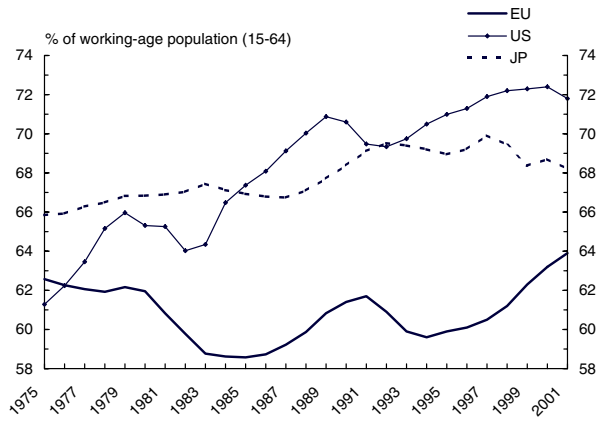
Against this background a few important issues will be discussed in the following chapters. Firstly, how changes in the structural features of European labour markets have affected their ability to withstand economic downturns, and have improved the job creation capacity of the EU (chapter 2). Secondly the issue of quality in work, highlighted by the Lisbon commitment to create not only *more* but also *better* jobs, and its role for making recent improvements in employment sustainable (chapter 3). Thirdly, the challenges posed by regional disparities to the attainment of the employment targets and to European cohesion (chapter 4). Finally, chapter 5 will look at recent developments in the candidate countries and at some labour market characteristics of an enlarged Union.

Recent labour market performance

The year 2001 was characterised by a slowdown in GDP growth in both the EU and the US. Although economic growth in the EU almost halved to 1.7%, between 2000 and 2001, employment grew by 1.2%. This was equivalent to a net employment increase of about 2 million jobs, most of which created in the first half of the year. Employment performance in the EU was less negatively affected by the economic slowdown than in the US, where GDP grew by 1.2% and where net employment fell. Meanwhile in Japan employment losses continued (charts 1 and 2).

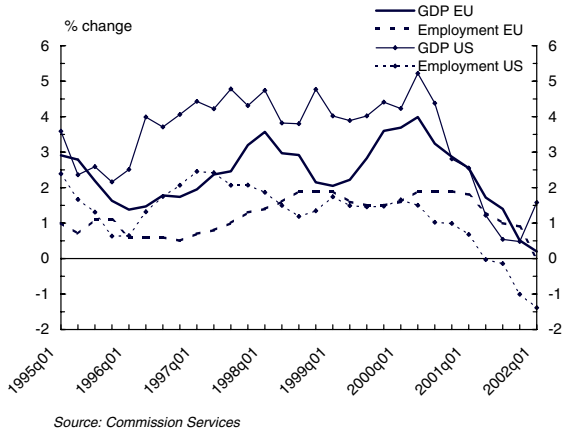
The slowdown in economic growth hit the EU only in the fourth quarter of 2001. Though there is uncertainty on the future growth prospects, its impact could be relatively short-lived. It does not seem, therefore, strictly comparable with the slowdown which occurred between the second quarter of 1992

1 Employment rates in the EU, the US and Japan, 1975-2001



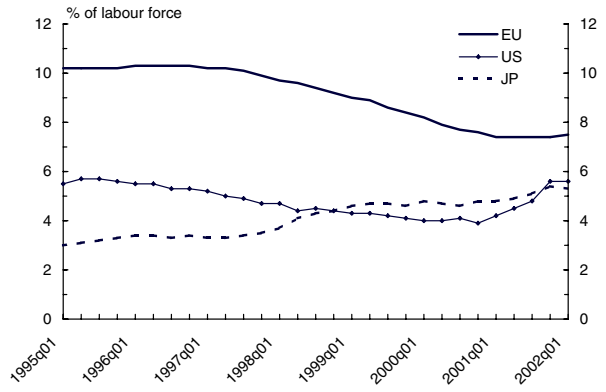
Source: Commission Services

2 Employment and GDP growth in the EU and the US, 1995-2001
(quarter over quarter of the previous year)



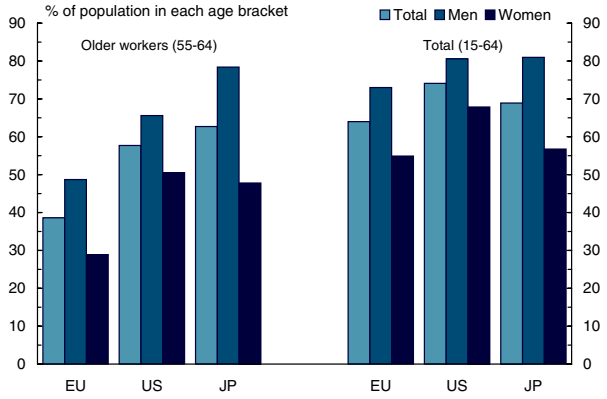
Source: Commission Services

3 Evolution of unemployment rates in the EU, US and Japan, 1995-2001
(seasonally adjusted quarterly data)



Source: Eurostat, harmonised series on unemployment

4 Employment rates for older workers and total working-age population in the EU, US and Japan, 2001



Note: Employment rate for the US refers to persons ages 16 to 64.
Source: Eurostat for the EU, OECD for the US and Japan

and the first quarter of 1993 and led to a negative annual growth rate in Europe's GDP in 1993. It is striking, however, that in 2001 Europe's labour markets absorbed the effect of the economic slowdown better than has been the case in the past, thanks in part to the structural reforms that have occurred in recent years. In the previous slowdown, in fact, the negative effect on employment was particularly strong and lasted until 1994. The employment level in that year was about 5 million lower than in 1991.[1]

After the fall in the unemployment rate in the fourth quarter of 2001, the first six months of 2002 saw moderate increases. In June 2002 7.7% of Europe's labour force was unemployed, up from 7.4% a year earlier, with Luxembourg having the lowest unemployment rate and Spain the highest. Unemployment increased in 2001 in both Japan and the US, with the latter particularly affected. In the US the upward trend in unemployment that had been visible since the beginning of the year was reinforced by a marked increase in the last quarter. As a result, by the end of the year the US unemployment rate was slightly above Japan's, although still more than 2 percentage points lower than the EU's (chart 3).

The contraction of GDP in the last quarter of 2001 has had a marked impact on the average EU GDP growth rate for the year 2002 but the rate is expected to recover gradually from the second half of the year. The Commission's Spring Economic Forecasts for the current

Table 1 — Annual change in employment growth, by quarter

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
1999q03	1.5	2.0	1.3	-1.9	3.3	1.8	6.5	1.0	5.0	2.4	1.4	1.0	2.8	1.8	1.1	1.5
1999q04	1.7	0.7	1.3	-2.0	2.8	2.0	6.2	1.1	5.1	2.5	1.5	1.6	2.6	1.9	1.1	1.5
2000q01	1.5	1.1	1.7	-2.2	2.5	2.2	5.9	1.2	5.6	2.4	0.8	1.6	1.8	1.8	0.9	1.6
2000q02	1.5	1.7	2.2	-0.4	2.9	2.4	4.9	1.6	5.5	2.3	0.8	1.4	1.8	2.2	1.3	1.9
2000q03	1.7	0.0	1.5	0.3	3.4	2.5	4.2	2.1	5.5	2.3	0.3	2.9	2.2	1.9	1.2	1.9
2000q04	1.8	0.2	1.2	1.0	3.7	2.6	3.9	2.6	6.0	2.3	0.1	2.0	1.8	2.4	0.8	1.9
2001q01	1.8	0.3	0.6	0.5	3.8	2.6	3.7	2.3	6.1	2.3	0.5	1.8	1.9	2.9	1.1	1.8
2001q02	1.4	0.4	0.2	0.0	2.5	2.3	2.8	1.6	5.9	2.2	0.3	1.8	1.2	1.7	1.0	1.3
2001q03	1.1	0.3	0.1	0.0	2.0	1.9	2.8	1.3	5.6	2.0	0.0	1.5	0.6	2.0	0.6	1.0
2001q04	0.5	0.0	-0.2	-0.9	1.8	1.5	2.5	1.3	4.9	1.8	0.1	1.5	1.2	0.9	0.9	0.9

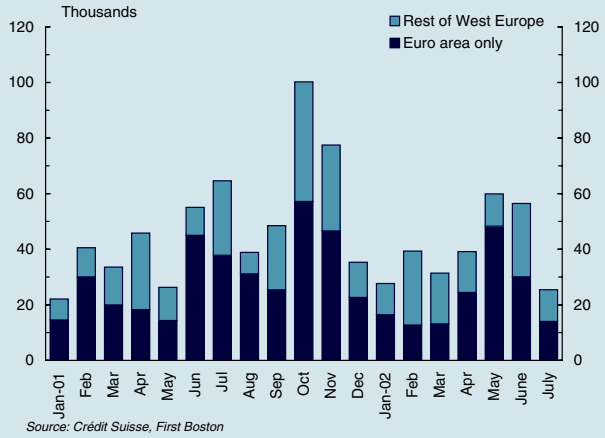
Source: Eurostat, QLFD

[1] For a further analysis of the employment implications of the recent economic slowdown, the role of confidence for employment performance and the Union's resilience to macroeconomic shocks, see: European Commission (2001), "Employment in Europe 2001 — Autumn Update", DG Employment and Social Affairs, December 2001. The full report is available online at: http://europa.eu.int/comm/dgs/employment_social/key_en.htm.

Box 1 — Evolution of layoff announcements

The 11 September attack worsened the economic climate for all sectors, not only for air transport and tourism, as consumers and producers were facing a new type of threat that lead to a confidence crisis. In early 2001, the EU economy had already been hit by decreasing demand and major Western European companies had started to announce job cuts. Following the 11 September events, however, the EU companies moved quickly and accelerated the employment cutbacks (chart 5). From February 2001 to July 2002 the cumulated number of jobs losses announced in Western Europe amounted to more than 850 000 with the bulk concentrated between July–October last year. However, since December, the number of job cuts announcements has levelled off at lower levels, even though their number picked up again in April and May in particular for the euro zone.

5 Job cuts announced by major companies
(as affecting European workers)

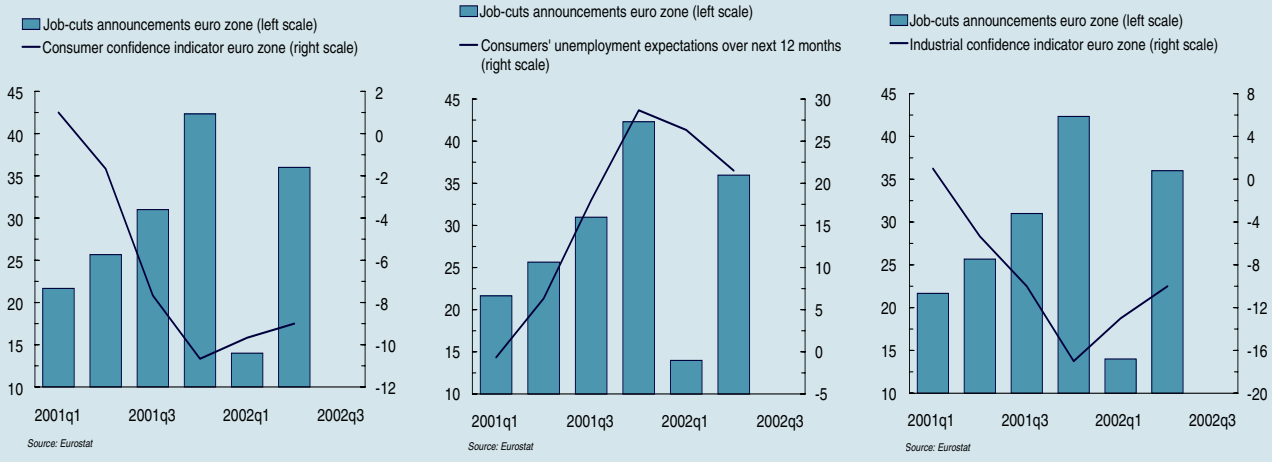


Source: Crédit Suisse, First Boston

This increase reflects the uncertainty of both the timing and the strength of the incoming recovery. Notwithstanding the strong pick-up in the industrial confidence indicator and in the production expectations for the months ahead, the consumers' confidence still appears to be subdue (chart 6). Indeed, the modest pick-up of consumers' confidence is associated with a still high level of the index on their unemployment expectations for the next months, and reflects the significant number of job-cuts announced in May.

Looking at the sectoral composition of the job cuts announcements, sectors that had been the driving engine of employment creation between 1995 and 2001, — high tech and telecom, finance, vehicles and airlines and leisure — experienced the highest numbers of job loss announcements during the recent downturn (table 2). More recently, the telecom and vehicles sectors have shown layoff announcements figures comparable to those registered at the height of the crisis of the 11th of September. This could indicate that restructuring may continue in these sectors in the near future.

6 Confidence and job cuts announcements



Source: Eurostat

Table 2 — Sectoral composition of layoff announcements in Western Europe, thousands

	Finance	Tech/ telco	Media	Chem./ pharma	Constr.	Metals inc. steel	Vehicles	Other manufac.	Retail	Utilities	Energy	Trans-port/ leisure
May 01	0.2	10.0	0.1	3.8	0.0	0.4	1.0	1.7	0.0	7.9	0.0	1.3
June 01	8.1	20.1	0.4	1.7	1.2	0.4	1.0	2.1	1.3	11.8	0.0	7.1
July 01	1.0	32.2	5.3	3.2	2.7	0.0	1.9	12.2	5.4	0.0	0.0	0.0
Aug. 01	2.7	14.5	0.6	8.3	0.6	0.0	4.0	0.3	0.5	2.8	0.0	3.4
Sept. 01	9.3	15.7	0.9	3.5	0.1	1.1	1.9	1.2	0.4	2.0	0.0	12.1
Oct. 01	12.6	32.1	1.2	1.6	1.0	1.2	11.9	5.4	0.0	15.5	0.0	17.7
Nov. 01	16.0	14.9	5.2	1.8	0.6	3.3	13.1	7.7	1.4	0.0	2.2	11.3
Dec. 01	4.1	6.6	4.3	0.1	0.7	3.6	12.2	2.0	0.0	0.0	0.1	1.5
Jan 02	3.1	6.9	0.0	0.0	0.1	0.0	7.1	2.8	1.6	1.0	4.0	1.1
Feb. 02	4.8	5.9	0.3	5.8	2.5	1.8	4.3	3.3	0.0	3.5	1.3	5.8
Mar. 02	2.2	6.7	2.1	0.9	0.4	0.0	3.0	1.9	2.0	12.2	0.0	0.0
April 02	8.7	21.5	1.4	0.5	1.6	0.0	1.7	2.1	0.0	0.0	0.4	1.3
May 02	2.8	29.9	3.2	2.5	3.7	0.0	10.0	2.1	1.0	3.2	0.0	1.4
June 02	7.8	17.7	1.2	0.2	0.0	0.8	2.5	2.3	0.0	24.0	0.0	0.0
July 02	3.9	11.8	1.3	1.2	0.0	1.4	0.1	2.5	0.0	0.0	2.1	1.2
Total	87.2	247.5	27.6	35.1	15.1	13.9	75.8	49.5	13.5	83.9	10.1	56.9

Source: CSFB based on media reports

year expected GDP to run at 1.5% before rising to 2.9% in 2003.

After continuous strong employment growth in 2000 and the first quarter of 2001, employment growth started decelerating in the second quarter of 2001 and continued slowing through the second half of the year. In the last quarter of 2001, employment contracted in Greece and Germany and stagnated in Denmark and Austria (table 1).

Employment growth is expected to slow to 0.3% in 2002, in a reaction to the faltering GDP growth, before reaching 1.0% in 2003. The recent evolution of the industrial confidence indicator points to a rebounding of economic activity, although uncertainty still remains, as pointed out also by the less encouraging evolution of the consumer confidence indicator and by the recent evolution of layoff announcements (box 1).

Employment rates

The EU continued to make progress towards reaching the Lisbon targets (box 2). In 2001, the employment rate in the EU reached 64%. The employment rate for women rose by about 1 percentage point to almost 55%. The change for men was less strong and the rate reached 73%.

Substantial disparities persist in the employment rates of different age groups. Employment rates among the young (aged 15–24) stood at about 41% at EU level in 2001 — ranging from below 30% in Greece, Italy, Belgium and France, to more than 60% in Denmark and the Netherlands. At the same time, the employment rate of older people (aged 55–64) in the EU reached less than 39% and ranged from more than 50% in Denmark, Sweden, the UK and Portugal to below 30% in Austria, Italy, Luxembourg and Belgium (chart 4).

At least partial complementarity seems, however, to characterise employment creation for different groups in most Member States, notwithstanding the progress made by some groups *vis-a-vis* others (for example: women with respect to men or the high skilled with respect to the low skilled). Such complementarity seems to have become stronger over time. Finland and the Netherlands, in particular, are examples of parallel improvements in the employment rates of both young and older people. Their examples show that efforts to improve the employment prospects of older workers are not necessarily detrimental to those of younger workers (charts 7, 8 and 9).

Gender differences in participation, employment and pay

In 2001 the gender gaps between women's and men's participation and employment rates were further reduced. The differences between the activity rate of men and of women at the EU level stood at about 18 percentage points in 2001. An almost identical gap was observed in their employment rates (chart 10). As discussed below, skills represent an important facet of these gaps. The strongest decreases in the gender gap in the

Box 2 — Progress towards achieving the Lisbon targets

In 2001, the employment rate in the EU stood at 64% overall, 54.9% for women and only 38.6% for older workers. Given demographic projections for the current decade, the EU must create about 15 million jobs between 2002 and 2010 if it is to increase the overall employment rate by the 6 percentage points needed to achieve the 70% target set in Lisbon for 2010. Over the period 1995–2001, the EU managed to increase the number of people in employment by about 12 million. Strong employment growth was reflected in an increase in the employment rate from about 59.9% in 1995 to 64% in 2001 (4.1 percentage points in six years). Reaching the 70% target will require the continuation of structural reforms to allow the employment rate to increase by 6 percentage points over the next eight to nine years.

Given the individual country performances in the last three years, the EU is still on target to achieve the Lisbon objective (table 3) — compared with the scenario discussed in *Employment in Europe 2000*. This scenario showed that attaining the 70% employment rate target is indeed feasible and that its achievement is likely to be associated with a female employment rate of around 63%.

The employment rate for women stood at 54.9% in 2001. It seems clear that continuing the long-term increases in activity for women observed in many Member States is essential to achieve the employment growth needed and meet not only the over-60% female employment target but also the overall 70% target. The Barcelona European Council agreed that "*Member States should remove disincentives to female labour force participation and strive, taking into account the demand for childcare facilities and in line with national patterns of provision, to provide childcare by 2010 to at least 90% of children between 3 years old and the mandatory school age and at least 33% of children under 3 years of age*".

In 2001, the employment rate of older workers stood at less than 38.6%, which is about 11 percentage points below the envisaged Stockholm target. Substantial structural reforms aimed at keeping older workers in the labour force longer will be crucial to meet this objective and developments in France, Italy and Germany will be particularly influential because of the size of their populations. Furthermore, increasing participation for older workers (the 55–64 age group) means keeping today's middle-aged workers (those who will be 55–64 in 2010) in the labour force longer over the next 10 years. The Barcelona's Council concluded that "*early retirement incentives for individuals and the introduction of early retirement schemes by companies should be reduced. Efforts should be stepped up to increase opportunities for older workers to remain in the labour market, for instance, through flexible and gradual retirement formulas and guaranteeing real access to life-long learning. A progressive increase of about 5 years in the effective average age at which people stop working in the European Union should be sought by 2010*".

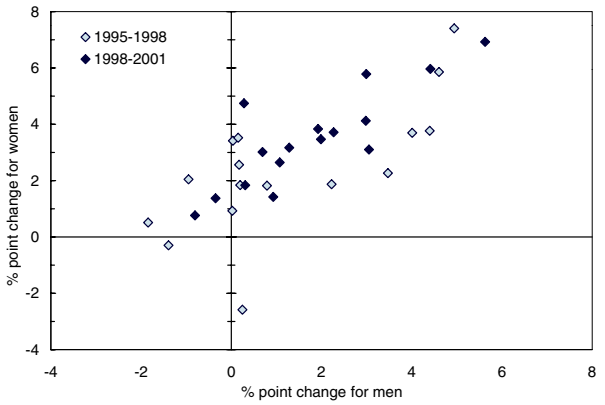
As shown in chapter 2, the change in the skills structure of the working age population contributed greatly to the recent positive evolution of the overall employment and participation rates. The achievement of the Lisbon target requires that increases in the skills levels are associated with life-long learning strategies that support improvements in employment opportunities for less-skilled people.

Table 3 — Progress towards the Lisbon and Stockholm targets

	Total employment rate			Female employment rate			Older workers' employment rate		
	2001	Change 2000-01	Change 1995-01	2001	Change 2000-01	Change 1995-01	2001	Change 1995-01	Change 2000-01
B	59.9	-0.7	3.8	50.5	-1.0	5.4	24.1	-2.2	1.2
DK	76.2	-0.1	2.8	72.0	0.4	5.3	58.0	2.3	8.2
D	65.8	0.4	1.1	58.8	0.9	3.5	37.7	0.2	0.0
EL	55.4	-0.3	0.8	40.9	-0.2	2.8	38.0	-0.7	-3.0
E	56.3	1.4	10.4	41.9	1.6	10.7	38.9	2.1	6.8
F	63.1	1.1	3.6	56.1	1.0	4.0	31.0	0.7	1.4
IRL	65.7	0.6	11.4	55.0	0.9	13.4	46.8	1.5	7.7
I	54.8	1.1	4.0	41.1	1.5	5.7	28.0	0.3	-0.5
L	62.9	0.3	4.2	50.9	0.8	8.3	24.4	-2.3	0.7
NL	74.1	1.2	9.6	65.2	1.8	11.6	39.6	1.4	10.5
A	68.4	-0.1	-0.4	60.1	0.5	1.1	28.6	-0.2	-1.5
P	68.9	0.6	6.2	61.1	0.8	6.9	50.3	-0.7	5.3
FIN	68.1	0.9	6.4	65.4	1.1	6.4	45.7	3.7	11.2
S	71.7	0.9	1.8	70.4	1.1	1.1	66.5	1.7	4.0
UK	71.7	0.2	3.2	65.1	0.3	3.3	52.3	1.5	4.8
EU	63.9	0.7	4.0	54.9	1.0	5.3	38.5	0.8	2.6
2010 Target	70%			More than 60%			50%		

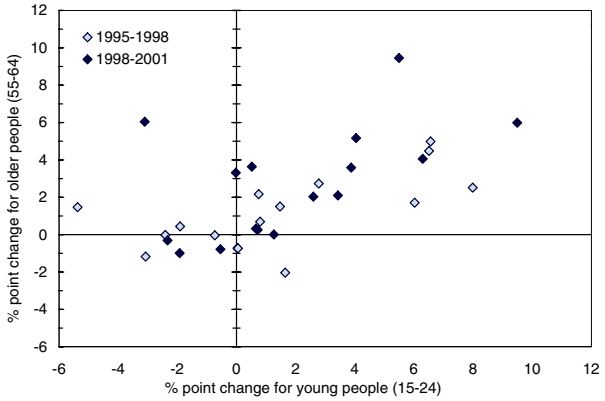
Source: Eurostat, QLFD

7 Changes in employment rates in the EU by gender, 1995-2001



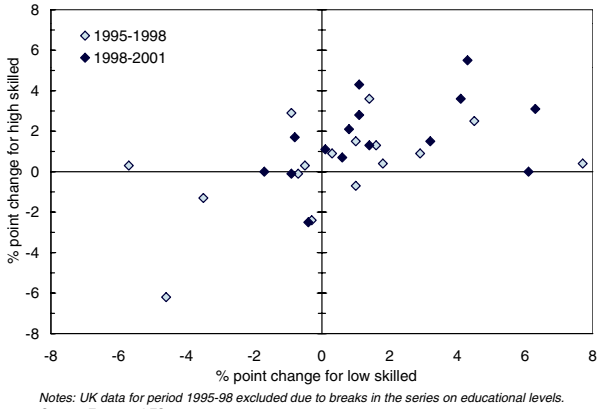
Source: Eurostat, QLFD

8 Changes in employment rates in the EU by age group, 1995-2001



Source: Eurostat, QLFD

9 Changes in employment rates in the EU by skill level, 1995-2001



Notes: UK data for period 1995-98 excluded due to breaks in the series on educational levels.
Source: Eurostat, LFS

employment rate were observed in the Netherlands, Germany and Austria. In the case of the latter two countries, this was partly due to the unfavourable employment performance of men. Chart 7, though, shows that reductions in gender gaps are possible in a context where improved performance characterises both genders.

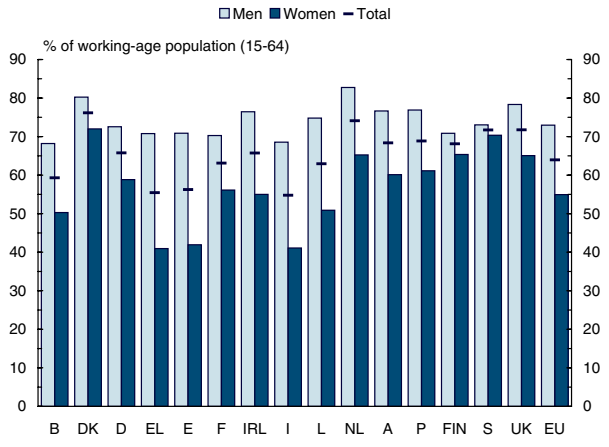
EU-level activity rates for women increased to about 60%, while those of men have remained constant at 78% since 1999. These increases in female labour market participation have been strongest in the Netherlands, Spain, Portugal, Italy, Germany and Ireland. The three first countries were — along with Finland — the only Member States in which the male activity rate also increased slightly throughout 2001. In Austria and Greece, male participation fell notably (-0.5 pc) in 2001.

In addition to the above differences in participation and employment, differences in pay between men and women persist. According to the latest available data, women's gross hourly earnings remain, on average, 16% below those of men. The gender pay gap ranges from less than 10% in Portugal, Italy and Belgium to more than 20% in the Netherlands, Austria and the UK. A preliminary assessment of the factors associated with the gender pay gap is provided in box 3 at the end of this chapter.

Unemployment

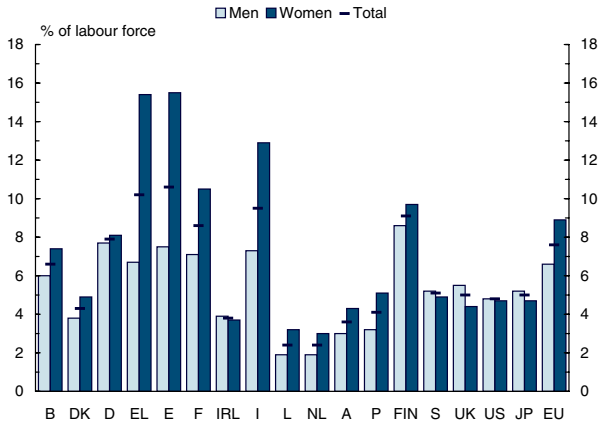
The overall increase in the employment rate in 2001 led to a decrease in the unemployment rate. The EU unemployment rate for 2001 was 7.4%, although it still remains above the US and Japan. A reduction in the unemployment rate occurred in all Member States

10 Employment rate by gender, 2001



Source: Eurostat, QLFD

11 Unemployment rate by gender, 2001



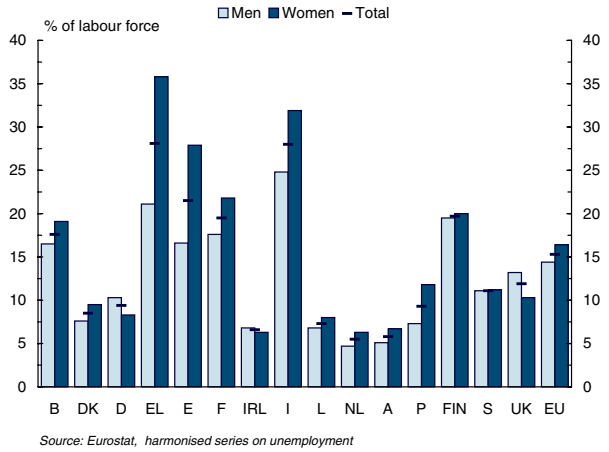
Source: Eurostat, harmonised series on unemployment

except Germany and Portugal. Despite the progress made, the unemployment rate remains particularly high in Spain, Italy and Greece, especially for women.

Also in terms of unemployment there are gender gaps, as on average women are more susceptible to unemployment than men, with an unemployment rate of 8.7%, compared to 6.4% for men (chart 11). This pattern holds for all Member States, with the exception of the UK, Ireland and Sweden. Youth unemployment is twice as high as the overall unemployment rate and is generally experienced more by women than men, with the exceptions of Ireland, the UK and Germany (chart 12).

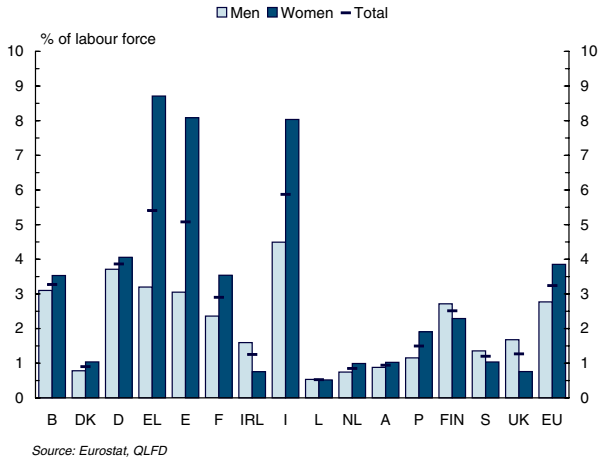
Long-term unemployment affects 3.3% of the EU labour force, but it is above 5% in the case of Italy, Greece and Spain. These three countries also have the greatest gender disparity in this indicator. At the EU level long-term unemployment continued to decline, gradually so since the peak of 1997. A few countries have long-term unemployment rates of around 1% and performance is stagnating at this level. By contrast Italy, Spain and Greece have high but falling levels of long-term unemployment. There are no significant gender differences in the pattern of reduction across countries, although long-term unemployment, on average, is experienced more by women than by men, with the exception of Sweden, the UK, Ireland and Finland (chart 13).

12 Youth unemployment rates, 2001



Source: Eurostat, harmonised series on unemployment

13 Long-term unemployment rates, 2001



Source: Eurostat, QLFD

Evolution of part-time and fixed-term contracts

In 2001, 18% of workers were employed on part-time contracts, virtually unchanged from the previous year. Most of the growth in the employment rate has, therefore, been due to an increase in full-time jobs. The creation of new part-time jobs slowed significantly, in fact, and marked increases in the share of part-time jobs over 2000–2001 were registered only in Sweden, Austria, Germany and the Netherlands. In the last two part-time work continues to increase very rapidly — in the case of the Netherlands it covers 42% of total employment (chart 14).

Part-time work remains a predominant feature of female employment. In the EU, one third of women in employment have a part-time job, compared to 6% for men. In Spain, Italy or Greece, the low proportion of women in part-time work may still reflect obstacles to female participation. At the other extreme, more than 70% of women in the Netherlands were in part-time work in 2001.

Fixed-term contracts were held by some 13% of EU employees, ranging from 32% in Spain to 4% in Ireland. The only countries where fixed-term contracts grew more rapidly than permanent jobs in 2001 were Luxembourg, the Netherlands, Austria, Portugal and Finland.

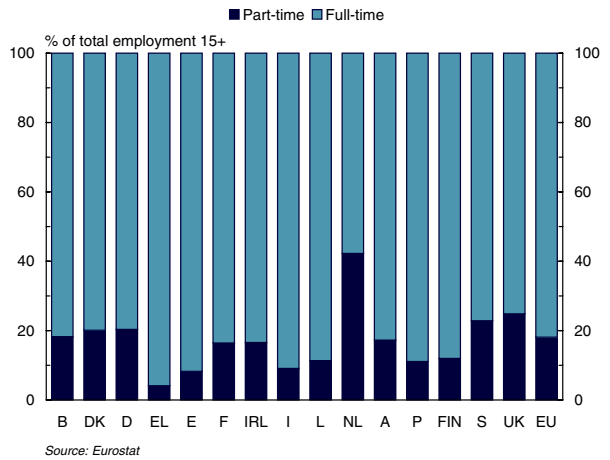
Analysing the evolution of fixed-term contracts over the cycle can provide information on their role in the labour market compared with permanent contract jobs. In chapter 2 the impact of the increase in the fixed-term content of employment on the reactivity of employment over the business cycle is analysed in detail. In general, if these two types of contracts are complementary responses to different needs of employers, both will decrease during an economic slowdown. If, on the contrary, they act as substitutes for each other they will follow different patterns.

There is evidence that these contracts have played different roles in the Member States over the 2000–2001 period (chart 15).[2] In Ireland, Finland, and to a certain extent France and Spain, the overall cyclical employment component has decreased but the cyclical component of the share of fixed-term contracts has increased. Some substitution between different types of contracts has, therefore, taken place. By contrast in countries such as Germany, the UK and Luxembourg the cyclical components of both total employment and temporary contracts have increased together over the cycle suggesting that fixed-term contracts have been used to cope with uncertainty in production of goods and services at least in the last two years.

Skills and employment

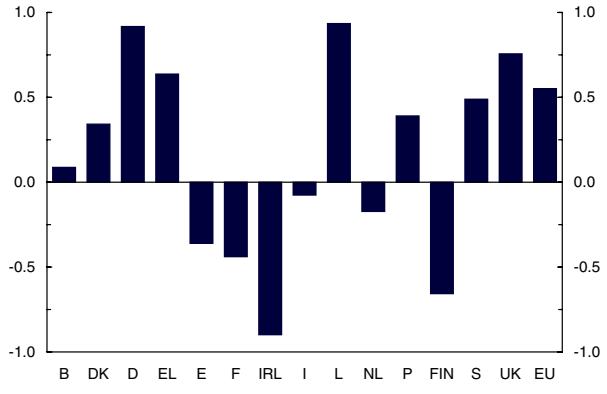
The skills content of employment in the EU is rising for all age groups (chart 16). This shift in the levels of human capital will influence future employment patterns and skills and also play an important role in determining sectoral dynamics

14 Full-time and part-time employment, 2001



Source: Eurostat

15 Share of temporary contracts and employment
(correlation between cyclical components)



Note: The correlation is the highest when it equals 1.
Source: Commission Services

[2] The cyclical components are calculated as deviations of employment and the share of temporary contracts from their respective trends. The trends have been established by the Hodrick-Prescott filter applied over the 1991q1-2001q4 period with 100 as smoothing parameter. Data are from QLFD. The correlation between the cyclical components is calculated for the period 2000q1-2001q4.

(discussed later in this chapter) and regional disparities (chapter 4).

Currently the high skilled represent 24% of the employed, while the low skilled represent 29%. As the share of low skilled in the working-age population is twice as high as the share of high skilled, the employment rates for the high skilled are clearly much higher than for the low skilled (tables 4 and 5).

There are important variations among member states. The highest number of low skilled people in the working-age population is found in Portugal. The highest share of the high skilled is that of Finland. In this country, as well as in the Netherlands and Ireland, the employment rate increases for the low skilled over recent years (1998–2001) has been stronger than for the high skilled, partly indicative of the increasing labour shortages in these countries.

The employment rate is generally higher the higher the educational attainment level. At the EU level, in 2001, the employment rate for high skilled (tertiary education completed) was 83%. That of medium skilled individuals (upper secondary completed) stood at 70%, whereas less than 50% of the low skilled (less than upper secondary) was at work. The range in the employment rate across Member States is significantly higher for the low skilled. The employment rate for the high skilled ranges from 76% in Spain to 90% in Portugal, while for the low skilled it goes from 41% in Belgium to 68% in Portugal.

The relative significance of skills/education for working opportunities is more important for females than for males. Low skilled women had a strikingly low employment rate in 2001, at 37% for the EU as whole. Low educated women also show the highest variation from country to country, ranging from 58% in Portugal to only 27% in Italy. As *Employment in Europe 2001* showed, the bulk of the differences in the overall employment rate by skill levels is accounted for by very strong variations in the employment rate of older workers across Member States (particularly for low and medium skilled).

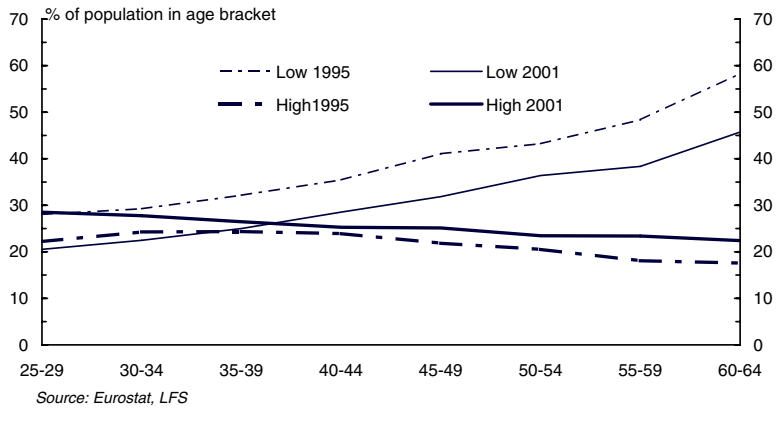
Variations in the skills structure of the workforce explain more of the differences in employment between countries than differences in skills-specific employment rates — a finding that also holds for regions (chapter 4.) Further, as already discussed, there is not necessarily a trade-off between high employment rates for both high- and low skilled (chart 9). For example, three of the five countries with the highest employment rate for the high skilled (Denmark, the Netherlands and Portugal) also have high employment rates for the low skilled. Belgium, Italy, Germany, France and Austria, by contrast, have an exceptionally low employment rate for the low skilled.

Labour market situation of non-EU nationals

At the overall EU level, non-EU nationals are disadvantaged compared to EU nationals, in terms of participation, employment and unemployment. Their participation rate (62%) was significantly lower than that of EU nationals (69%). Their employment rate (52%) was sharply lower than that of EU-nationals (64%). This shows into unemployment rates for non-EU nationals that are twice as high as for EU nationals (charts 17 and 18).

In Greece, Spain and Italy, however, the employment rate of non-EU nationals was above that of EU-nationals in 2001. In these three Member States there appears to be a significant share of non-EU nationals concentrated in sectors traditionally characterised as low skilled including "agriculture", "construction" and "private households with employed persons". Thus, the

16 Skill content of population in the EU, 1995 and 2001
(high skilled and low skilled, aged 25-64)



Source: Eurostat, LFS

Table 4 — Employment, unemployment and activity rates by educational levels in 2001 (age-group 15–64)

	Total education			High			Medium			Low		
	ER	UR	AR	ER	UR	AR	ER	UR	AR	ER	UR	AR
	Total											
B	59.7	6.2	63.6	83.6	3.1	86.3	66.2	5.0	69.7	40.8	10.9	45.8
DK	75.9	4.2	79.2	87.2	3.3	90.2	80.0	3.7	83.1	59.1	6.4	63.2
D	65.7	7.8	71.3	83.2	4.2	86.9	69.9	8.1	76.1	44.9	11.7	50.8
EL	55.6	10.4	62.1	79.0	7.4	85.3	56.2	13.4	64.8	48.2	9.0	53.0
E	56.1	13.0	64.5	76.1	10.2	84.7	54.6	13.5	63.1	51.2	14.3	59.8
F	62.7	8.6	68.6	79.5	4.9	83.6	69.7	7.6	75.4	46.6	13.3	53.7
IRL	65.1	3.7	67.6	85.6	1.6	87.0	70.9	3.0	73.1	49.0	6.5	52.4
I	54.5	9.7	60.3	81.4	5.6	86.2	64.5	9.2	71.0	44.5	11.2	50.0
L	63.0	1.9	64.2	83.7	-	85.0	69.5	-	70.6	51.0	-	52.3
NL	74.1	2.1	75.7	86.8	1.6	88.3	79.8	1.7	81.1	61.0	3.1	62.9
A	67.8	4.0	70.7	86.2	1.9	87.9	73.3	3.6	76.1	47.2	7.1	50.8
P	68.8	4.1	71.7	89.9	2.7	92.4	62.9	4.4	65.8	67.7	4.3	70.8
FIN	69.1	10.4	77.1	85.5	4.3	89.3	73.2	10.6	81.9	49.4	17.8	60.1
S	71.1	5.5	75.3	82.7	3.0	85.3	77.5	5.7	82.2	55.7	8.4	60.8
UK	71.6	4.7	75.2	87.8	2.2	89.8	77.3	4.9	81.3	52.1	9.2	57.4
EU	63.8	7.6	69.0	82.8	4.5	86.7	70.2	7.2	75.7	49.0	10.8	55.0
	Men											
B	68.5	5.7	72.7	87.2	2.9	89.8	75.7	3.7	78.7	52.3	10.2	58.2
DK	80.2	3.7	83.3	89.6	3.4	92.8	83.9	3.1	86.6	65.4	5.4	69.1
D	72.6	7.8	78.8	86.5	3.8	89.9	75.5	8.2	82.3	51.9	13.1	59.8
EL	70.9	6.9	76.2	84.4	4.7	88.6	70.7	8.7	77.5	66.7	6.1	71.1
E	70.8	9.0	77.8	83.2	6.7	89.1	66.0	8.7	72.3	70.3	10.1	78.3
F	69.8	7.0	75.1	83.9	4.3	87.7	76.7	5.6	81.2	54.4	11.3	61.3
IRL	76.0	3.8	79.0	91.5	1.6	93.0	82.2	2.7	84.5	63.5	6.6	67.9
I	68.1	7.5	73.7	87.7	3.9	91.2	74.1	7.0	79.7	61.6	8.6	67.4
L	74.9	1.6	76.1	90.2	-	91.2	80.2	-	81.0	64.1	-	65.9
NL	82.7	1.8	84.2	90.2	1.6	91.7	86.5	1.4	87.7	74.1	2.5	76.0
A	75.9	4.0	79.0	88.9	1.6	90.4	80.1	3.7	83.2	55.4	7.4	59.8
P	76.9	3.1	79.3	92.6	1.8	94.3	68.7	3.5	71.1	77.0	3.2	79.5
FIN	71.6	10.0	79.6	87.3	3.9	90.8	77.5	9.7	85.9	52.7	16.7	63.2
S	72.6	6.0	77.2	82.8	3.8	86.1	79.5	5.9	84.5	58.7	8.5	64.2
UK	78.2	5.2	82.5	90.2	2.4	92.4	81.5	5.2	86.0	57.5	11.6	65.0
EU	72.8	6.7	78.0	86.8	3.7	90.1	77.0	6.3	82.2	61.6	9.3	67.9
	Women											
B	50.7	6.9	54.5	80.2	3.4	83.0	56.1	6.8	60.3	29.3	12.2	33.4
DK	71.4	4.8	75.0	85.1	3.2	88.0	75.4	4.6	79.0	53.2	7.5	57.6
D	58.7	7.8	63.7	78.1	4.9	82.1	64.3	8.0	69.9	39.5	10.2	44.0
EL	41.2	15.6	48.8	73.0	10.6	81.7	42.8	19.6	53.2	31.2	14.2	36.4
E	41.6	19.0	51.4	69.1	14.1	80.4	43.6	19.7	54.3	32.5	22.0	41.7
F	55.7	10.5	62.3	75.5	5.5	79.9	61.9	10.2	69.0	39.6	15.6	46.9
IRL	54.0	3.5	56.0	80.2	1.7	81.6	60.3	3.4	62.5	32.5	6.3	34.7
I	40.9	13.1	47.1	75.0	7.5	81.1	55.0	12.0	62.5	27.3	16.4	32.7
L	50.8	2.2	52.0	74.9	-	76.3	57.5	-	58.8	39.9	-	40.8
NL	65.3	2.5	66.9	82.7	1.6	84.1	72.7	2.0	74.2	49.3	3.8	51.2
A	59.8	4.1	62.3	82.4	2.4	84.4	65.9	3.5	68.3	41.6	6.9	44.6
P	61.0	5.3	64.5	88.1	3.3	91.1	57.8	5.3	61.1	58.4	5.7	61.9
FIN	66.6	10.8	74.7	84.0	4.7	88.1	68.6	11.6	77.6	45.7	19.1	56.5
S	69.7	5.1	73.4	82.7	2.3	84.6	75.3	5.5	79.7	52.0	8.4	56.8
UK	64.9	4.1	67.7	85.2	2.0	86.9	72.7	4.4	76.0	47.5	6.7	50.9
EU	54.7	8.9	60.1	78.4	5.4	82.9	63.2	8.2	68.9	37.4	13.2	43.0

Source: Eurostat, LFS

Table 5 — Share of the population 15–64 by educational attainment levels in 2001

	Total			Men			Women		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
B	42.4	33.4	24.3	42.2	34.1	23.7	42.5	32.6	24.9
DK	27.4	50.2	22.4	26.3	53.3	20.4	28.5	47.1	24.5
D	24.6	55.5	20.0	21.0	54.8	24.1	28.2	56.1	15.7
EL	48.0	37.7	14.3	47.3	37.2	15.5	48.6	38.1	13.3
E	58.8	20.2	21.0	58.8	20.0	21.2	58.8	20.3	20.9
F	39.1	40.2	20.7	37.3	42.9	19.8	40.8	37.6	21.6
IRL	40.7	38.8	20.4	43.2	37.3	19.4	38.3	40.4	21.4
I	57.1	34.4	8.5	57.2	34.3	8.5	57.0	34.6	8.4
L	43.3	40.7	16.0	39.2	42.5	18.3	47.5	38.8	13.7
NL	36.6	42.7	20.7	34.2	43.2	22.6	39.0	42.2	18.8
A	27.3	60.2	12.5	22.3	63.1	14.7	32.3	57.4	10.4
P	78.5	13.8	7.7	80.5	13.3	6.2	76.6	14.4	9.0
FIN	31.0	41.8	27.1	33.1	42.9	24.0	29.0	40.8	30.2
S	26.3	46.8	26.8	28.0	47.5	24.5	24.6	46.2	29.2
UK	18.3	56.1	25.7	16.2	57.2	26.6	20.4	54.9	24.7
EU	38.5	42.6	18.9	36.9	43.2	19.9	40.2	41.9	17.9

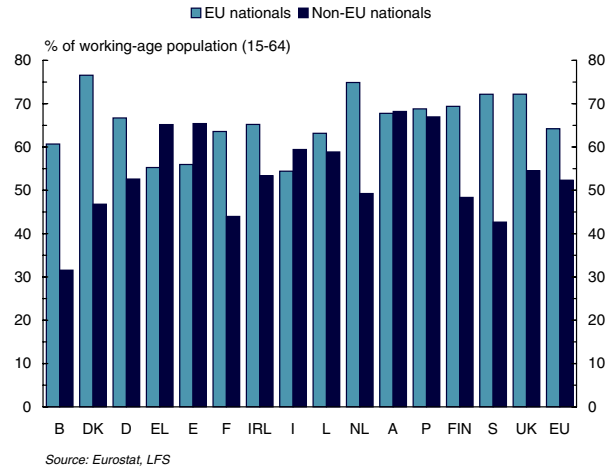
Source: Eurostat, LFS

observed high employment rates for non-EU citizens in these countries may reflect an increasing demand for workers that cannot or is unlikely to be met by EU-nationals.

At the EU level, however, the employment rate of non-EU nationals is very low. In terms of unemployment, differences are proportionally higher. Non-EU nationals are twice as likely to be unemployed as EU nationals, with unemployment rates of about 16% in 2001. In relative terms, non-EU nationals are more disadvantaged in employment terms in Denmark, Sweden and Belgium. Their employment rates are about 30 percentage points below their EU-national counterparts. Moreover, non-EU nationals find it harder to find work in Belgium, France, Finland and Sweden where their unemployment rates are 17–21 percentage points higher than for EU nationals.

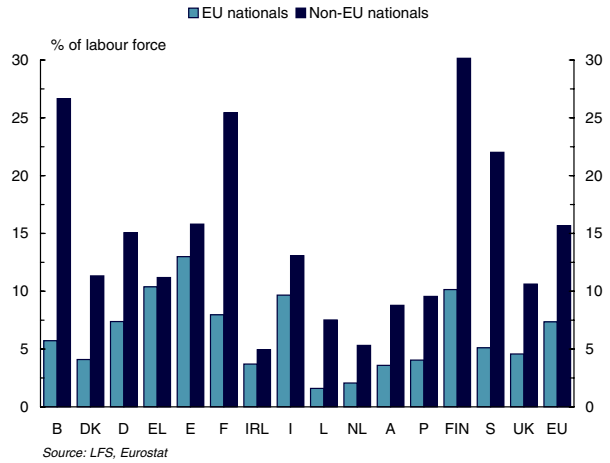
The vulnerability of non-EU nationals to cyclical fluctuations may be explained by the large proportion who are employed in fixed-term contracts. In 2001, about 20% were on fixed-term contracts compared to

17 Employment rate of non-EU nationals, 2001



Source: Eurostat, LFS

18 Unemployment rate of non-EU nationals, 2001



Source: LFS, Eurostat

Table 6 — Employment rates and temporary work for non-EU nationals by skill levels

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
Employment rate for high skilled (having completed tertiary education)																
Non-EU nationals	49.4	54.5	64.5	68.5	74.5	57.2	67.6	63.9	71.0	68.2	79.9	95.0	58.9	55.0	74.8	65.8
EU nationals	84.4	87.9	84.0	79.3	76.1	80.1	86.3	81.6	84.5	87.2	86.6	89.8	85.7	83.7	88.2	83.3
Employment rate for low skilled (less than upper secondary education)																
Non-EU nationals	26.8	44.7	45.6	63.7	62.2	38.8	33.4	57.3	55.5	40.0	58.5	66.7	37.6	35.6	33.5	44.9
EU nationals	41.6	59.6	44.8	47.6	51.1	47.2	49.0	44.3	50.7	62.3	45.2	67.8	49.6	56.6	52.8	49.2
Percentage of employees of working age in fixed-term contracts																
Non-EU nationals	18.5	18.6	17.0	21.8	58.2	20.8	4.5	11.2	7.5	32.4	8.8	55.6	32.5	35.3	17.9	20.2
EU nationals	8.6	9.3	12.2	12.3	31.2	14.7	3.6	9.5	4.2	13.8	8.1	19.7	17.8	13.9	6.3	13.0

Source: Eurostat, LFS

about 13% of EU nationals (table 6). In Spain and Portugal, this share is above 50%. In all Member States, however, the share of non-EU national employees on fixed-term contracts is clearly above that of EU nationals. In the UK, Portugal, Sweden, the Netherlands, Belgium and Denmark non-EU nationals are twice as likely to have a fixed-term job than EU nationals.

The differences between EU and non-EU nationals are even more striking when the employment rate is disaggregated by skills. The employment rate for high skilled EU nationals (those having completed tertiary education) was about 83% at the EU level in 2001, compared to only 66% for non-EU nationals. The widest gaps are found in the Nordic countries and Belgium. Even though the employment rate for the low skilled is lower than for the high skilled, the differences at the EU level are very small, with only 4 percentage points between EU and non-EU nationals. This seems to reflect the concentration of non-EU nationals in low skilled sectors and occupations.

Despite the fact that employment rates for the low skilled at the EU level are fairly similar for both groups, the unemployment rate for low skilled non-EU nationals is twice as high as for EU nationals. Further, as shown by the report *The social situation in the European Union 2002*,[3] the distribution of occupational status for non EU-nationals varies by country of origin, and some groups hold a higher share of low skilled positions than EU-nationals, despite having a significantly lower share of low skilled people in the working-age population. In times of high demand for high skilled individuals, underemployment and a high rate of unemployment for high skilled non-EU nationals (about 13% in 2001, compared to only 4% for EU-nationals) is a cause for concern.

Demographic trends

The total population in the EU increased by an estimated 1.5 million in 2001 to about 372 million. This represents an annual growth rate of 0.39%, in line with the upward population trend that began in 1997 after five years of slowdown. The bulk of this increase is due to net migration flows into the EU rather than a natural increase (births minus deaths). In 2001, net migration into the EU was estimated at about 1 million.

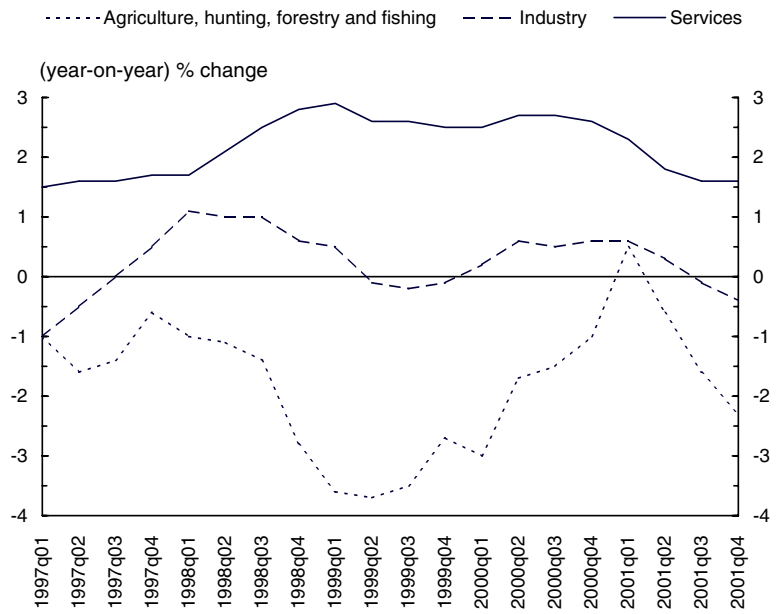
In 2001, the natural increase in the population was the main component of population change in France, Ireland, the Netherlands and Finland. In the other Member States, net migration outpaced the net natural increase. In two countries, Germany and Sweden, the natural increase was negative (more deaths than births) in 2001. Net migration, though, more than compensated for this, resulting in increases in their total populations. Without migration, Austria and Italy would have experienced population stagnation due to almost negligible natural increases. The increase in net migration was highest in Luxembourg, Ireland and Spain, although the latter experienced the sharpest decline in the rate of growth in net migration compared to previous years.

Sectoral employment trends

Between 2000 and 2001 the service sector proved once again to be the most dynamic sector for

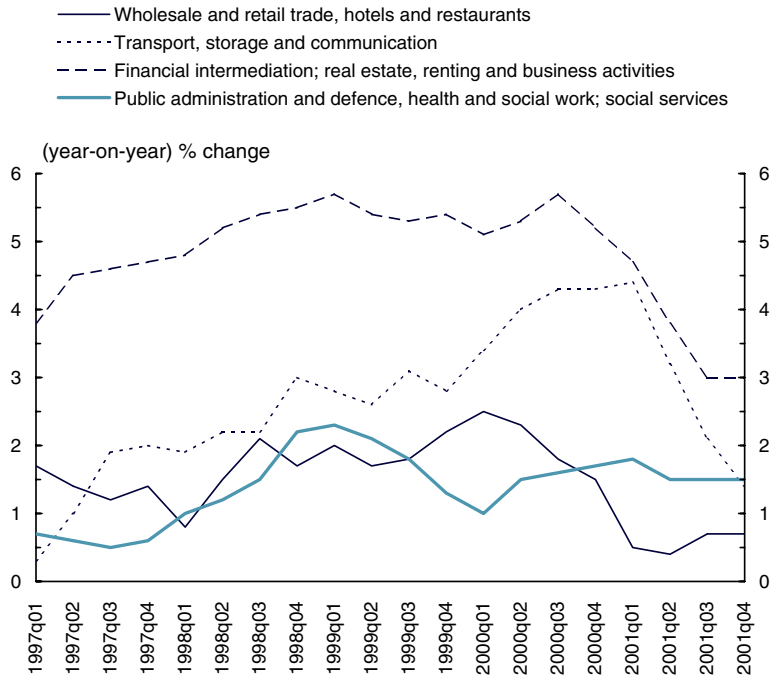
[3] European Commission (2002), "The social situation in the European Union 2002", DG Employment and Social Affairs, May 2002. See also: http://europa.eu.int/comm/employment_social/news/2002/jun/soc_situation_en.htm.

19 Employment growth by main sector in the EU, 1997-2001



Source: Eurostat, QLFD

20 Employment growth in main service sectors in the EU, 1997-2001



Source: Eurostat, QLFD

employment and it was also the most resilient to the downturn (chart 19). For the EU as a whole, employment growth slowed down in manufacturing and contracted in the last quarter of 2001. The contraction of employment in agriculture slowed significantly in 2000 to show positive employment growth in the first quarter of 2001, after which it started declining again. The service sector continued growing, although less rapidly than in 2000. This brought employment growth in the service sector broadly back in line with its 1998 rate of about 1.5%.

In France the loss of jobs in agriculture remained steady at around the level seen at the end of 2000, while for services and industry employment growth slowed but remained positive. In Germany employment growth in manufacturing and agriculture was already negative in 2000, and deteriorated further during the course of 2001. The UK saw employment in industry pick up again at the end of the year, while agriculture lost jobs at high speed. In Italy, employment growth in the industrial sector remained positive but small, while in services it picked up after a slowdown in the second quarter. In Spain, employment growth remained positive in both manufacturing and services and actually stabilised in the last two quarters. By contrast, after a big spurt at the end of 2000, employment growth in agriculture turned negative again in the third quarter of 2001.

Within services, "transport storage and communication" is the sector with the biggest decline in employment growth, exacerbated by the negative employment impact on the aviation sector of 11 September (chart 20). By contrast, employment growth in "financial

intermediation; real estate, renting and business activities" stabilised after recording, in the third quarter of 2001, the lowest employment growth since the third quarter of 1996.

Different sectoral trends characterise the evolution in the Member States — Spain, for example, saw a small decrease in the employment growth of the "financial intermediation; real estate, renting and business activities", while "wholesale and retail trade, hotels and restaurant" recovered to achieve positive employment growth in the UK. Further, in Italy employment in "transport storage and communication" began contracting already in the second quarter of the year, while in France employment growth in this sector remained positive although it continued a decline that had already started at the beginning of 2000.

Best employment-performing sectors

The effects of the 2001 slowdown on sectoral employment growth can be gauged by looking at how sectors, which performed best during the 1995–2000 period fared in 2001. Looking at a broad sectoral classification, the service sector, which had an average quarterly employment growth of 2.1% over 1995–2001, weathered the shock quite well, having an average quarterly employment growth in 2001 of 1.8%. By contrast, employment growth remained low and stable for industry while the contraction in employment in agriculture continued albeit at a slower pace.

Within the service sector, the sector with the highest average growth rate between 1995 and 2000 was "financial intermediation; real estate, renting and business activities". This remained the most strongly growing sector of all for 2001. In France and especially in Spain, however, the average quarterly growth rate was higher during 2001 than in the previous five years. Over the period 1995–2000 the second fastest growing sector was "transport, storage and communication". The high growth rates in the first and second quarters of 2001 helped this sector grow, on average, faster during 2001 than in the previous five years. This pattern of improvement was particularly pronounced in Germany and France. By contrast, in Spain and the UK the average quarterly employment growth rate started declining in the third quarter, and in Italy it turned negative.

The dynamism of these sectors can be traced at a more disaggregated level though it is not possible to capture the full extent of the slowdown as the Labour Force Survey results presented here refer to spring 2002. To identify the best performing sectors in terms of employment, the 10 best performing sectors in terms of net employment creation in each EU country were identified and those that appeared repeatedly in a large number of EU Member States were selected. As a result sectors such as "other business activities", "health and social work", "education" and "computer and related activities" emerged as the four best performing sectors at the EU level. These sectors have been responsible for a net employment gain of 6.7 million jobs — about 58% of the total net increase. Among those, "computer and related activities" exhibited strikingly high rates of growth and accounted for the creation of 1.2 million jobs over 1995–2001 (table 7).

While these developments can be partly explained by sector specific factors (such as the reduction in computer prices over the period), this evidence suggests that the highest employment growth has been in the types of services for which potential demand tends to grow with real income. For example, important gains in employment took place in the education and health services, home health care services, social and personal services (such as residential care services, individual and family services, and child care services) and recreational services. Part of this increase has also been linked to the increase in female

Table 7 — Best employment-performing sectors in EU, 1995–2001

	Net employment creation (000)	Annual growth rate (% change)	Share in net employment creation (%)
Service sector			
Other business activities	2536	5.2	22
Health and social work	2059	2.4	18
Computer and related activities	1166	13.6	10
Education	964	1.6	8
Subtotal of 4 sectors above	6725	3.3	58
Total net employment creation	11698	1.3	100

Source: Eurostat, LFS

participation, which has boosted demand for care and assistance services. Interestingly, some of these services are sectors for which the difference of employment shares between the EU and the US is greatest (chart 21).

Sectoral employment performance by level of skills and education

The composition of the workforce by educational attainment levels shows significant sectoral differences. The most important of these is that, on average, the higher the level of education attained the higher is the likelihood of being employed in the service sector (table 8). While the employment shares of agriculture and industry fall both for men and women as educational attainment increases, the employment share in the service sector is higher for women than for men at all skill levels.

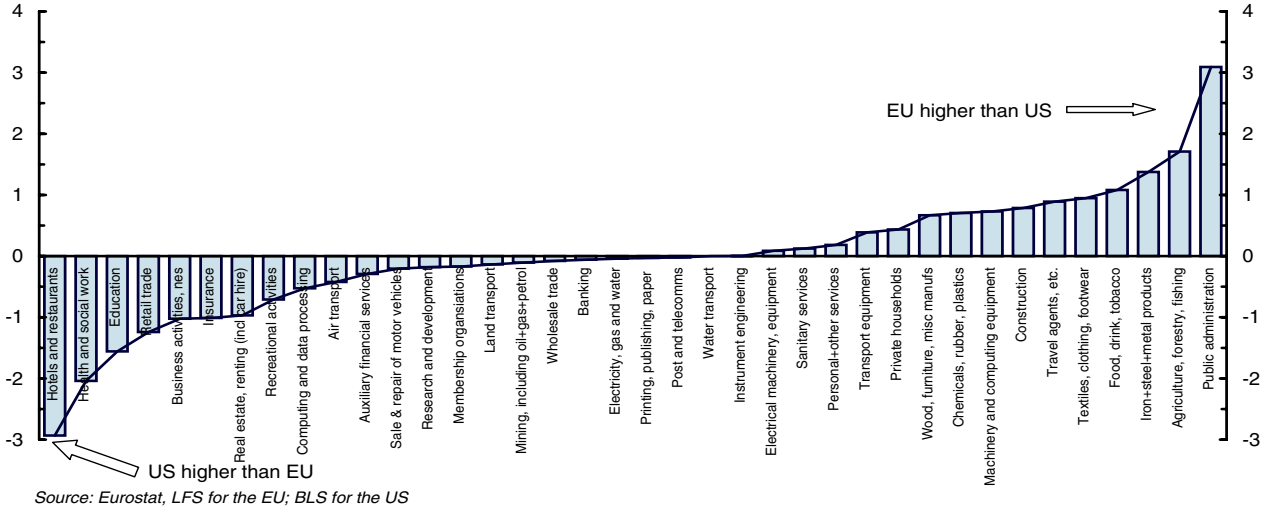
Interestingly, over the period 1995–2001 the bulk of new jobs created were concentrated in the high-tech (almost 20%) and the knowledge-intensive service sectors of the economy (about 70%)[4]. In these sectors, which have been the fastest growing in the economy, all types of jobs have been created: high-, medium- and low skilled non-manual occupations as well as some skilled and unskilled manual jobs. This is, therefore, another case where complementarity between different types of jobs can be found.

This information on skills acquired through formal education can be augmented by considering the qualifications and skills that employees acquire through vocational training (table 9). From a sectoral point of view, vocational training is highest in those sectors where job creation has been important, that is, in the high-tech and knowledge-intensive sectors such as post and telecom, financial intermediation, and activities auxiliary to financial intermediation, followed by real estate, renting and business activities and other community, social and personal service activities. Vocational training shows the highest values for the three Nordic countries and the lowest for Portugal and Greece.

Sectoral structure and employment performance

Sectoral structure can explain employment dynamics where countries specialised in sectors which performed particularly better, or particularly worse, than the EU average. An analysis of the 1995–2001 period shows that in most countries with poor employment growth such as Austria, Sweden, and Germany the weak performance cannot be ascribed to a specific sectoral structure. For example, despite an overall relatively weak employment performance, Austria had a strong increase in employment in 'air transport' and 'real estate, business activities' sectors; Sweden performed positively in 'hotel and restaurants' and 'air transport'; and Germany showed an above average increase both in 'health and social

21 Difference in the sectoral employment structure between the EU and the US, 2001
(difference in respective sectoral employment shares (% of total employment 15-64) in percentage points)



Source: Eurostat, LFS for the EU; BLS for the US

[4] These two percentages cannot be directly added up as the components of these two sectors' definitions overlap.

Table 8 — Sectoral breakdown of EU employment by level of education, in 2001

	Low			Medium			High		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Agriculture, hunting and forestry	7.8	8.1	7.4	2.7	3.4	1.8	1.1	1.5	0.6
Fishing	0.3	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Mining and quarrying	0.4	0.6	0.1	0.3	0.5	0.1	0.3	0.4	0.1
Manufacturing	24.0	26.8	19.7	20.5	26.6	12.7	13.8	19.2	7.0
Electricity, gas and water supply	0.5	0.8	0.2	0.9	1.2	0.4	0.8	1.2	0.4
Construction	11.5	18.2	1.3	7.9	12.6	2.0	3.6	5.7	1.1
Wholesale and retail trade	16.6	15.0	18.9	17.0	15.2	19.3	7.9	8.4	7.3
Hotels and restaurants	6.1	4.5	8.5	4.0	3.4	4.8	1.4	1.3	1.5
Transport, storage and communication	6.4	8.8	2.7	7.3	9.4	4.7	3.8	4.6	2.9
Financial intermediation	1.1	0.8	1.5	4.3	3.6	5.2	4.5	4.9	3.9
Real estate, renting and business activities	5.5	4.0	7.8	8.0	7.2	9.0	15.0	17.9	11.4
Public administration and defence	5.3	5.5	4.9	8.5	8.5	8.5	9.4	9.6	9.1
Education	2.3	1.0	4.3	4.0	1.8	6.7	17.9	11.8	25.4
Health and social work	5.9	1.9	11.9	9.2	2.9	17.2	15.2	8.5	23.4
Social, personal service activities	4.0	3.2	5.3	4.8	3.6	6.3	5.0	4.7	5.3
Private households with employed persons	2.4	0.3	5.5	0.6	0.1	1.2	0.2	0.0	0.4
Extra-territorial organizations and bodies	0.0	0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.2
Agriculture	8.1	8.5	7.5	2.7	3.4	1.9	1.1	1.5	0.6
Industry	36.4	46.4	21.2	29.5	40.8	15.3	18.5	26.5	8.6
Services	55.5	45.1	71.3	67.7	55.7	82.9	80.4	72.0	90.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Eurostat, LFS

work' and 'hotels and restaurants', although the employment share of the latter remained below the EU average in 2001 (table 10). By contrast, the sectoral structure played a greater role in Greece. Despite an overall weaker employment performance, a wide number of sectors in Greece ranging from 'construction', 'wholesale, retail trade' and 'hotels and restaurants', to 'air transport', 'financial intermediation', 'real estate and business activities' and 'education' have performed better than their counterparts in other countries.

In the case of the best performing countries — Ireland, Spain, Finland, the Netherlands and Luxembourg — the encouraging, employment growth was related more to general economic trends than to a specific change in the sectoral structure of these economies. In Spain, for instance, all sectors of the economy without exception enjoyed a better employment performance compared with other Member States. It should be noted, however, that Finland reduced its employment in the 'public administration' sector, possibly indicating a rationalisation of the sector.

Finally, countries such as Portugal, the UK, France, Italy and Belgium performed close to the average. In these countries the sectoral structure played a greater role in determining overall employment performance. In France and Portugal agriculture and industry continued to create more jobs than in other countries, while there remains a potential for employment growth in the services sector. In Italy a strong industrial base persists and the manufacturing sector saw a good employment performance as did the 'air transport' and 'real estate and business activities' sectors. The moderate employment performance in manufacturing, however, together with the more dynamic evolution in the sector of 'real estate, renting and business activities' suggests that an important shift towards outsourcing activities has taken place over the last years, from 'manufacturing' to 'business activities'. Finally, Belgium and the UK show the profile of old industrialised countries when their sectoral employment developments are compared with those of the other EU Member States, with positive employment growth in the high-tech services sector and relatively weak records in

Table 9 — Percentage of employees participating in continuous vocational training, by sector

	B	DK	D	EL	E	F	IRL	L	NL	A	P	FIN	S	EU
Mining and quarrying	15	84	36	25	24	37	40	7	60	22	6	27	74	35
Manufacturing	42	47	30	11	26	43	45	37	40	28	14	48	61	36
Electricity, gas and water supply	75	54	54	2	54	48	82	35	47	45	52	75	91	55
Construction	21	37	19	1	11	31	21	9	57	18	6	35	56	25
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	33	56	27	11	27	46	30	38	37	35	23	48	55	36
Sale, maintenance and repair of motor vehicles	39	58	40	11	27	42	27	42	53	43	15	49	50	38
Wholesale trade and commission trade, except of motor and motorcycles	30	67	24	8	22	39	30	51	39	34	17	45	55	35
Retail trade, except of motor vehicles, motorcycles; repair of personal and household goods	37	49	24	14	32	51	31	15	32	34	33	49	57	35
Hotels and restaurants	25	70	15	8	17	30	55	19	32	16	10	61	45	31
Land transport; transport via pipelines; water transport; air transport; supporting and auxiliary transport activities; activities of travel agencies	26	38	22	6	33	57	23	19	39	41	22	42	47	32
Post and telecommunications	57	68	77	7	32	65	45	56	43	43	51	82	66	53
Financial intermediation	66	64	42	51	61	73	52	51	65	54	47	55	83	59
Financial intermediation, except insurance and pension funding; insurance and pension funding, except compulsory social security	67	64	42	52	62	73	61	48	65	54	48	55	87	60
Activities auxiliary to financial intermediation	34	79	55	15	50	59	25	61	64	29	24	40	68	46
Real estate, renting and business activities; other community, social, personal service activities	49	58	35	10	21	43	44	54	36	26	13	51	63	39
Real estate, renting and business activities	53	58	34	12	22	44	45	57	36	27	12	53	65	40
Other community, social, personal service activities	39	59	38	8	17	37	41	18	39	20	14	49	56	33
Total	41	53	32	15	25	46	41	36	41	31	17	50	61	38

Note: unweighted averages for EU; "Total" refers to all sectors covered by the CVTS2.
Source: Eurostat, CVTS2

agriculture, manufacturing and some services.

Employment prospects 2002/2003

The report *Employment in Europe 2000* presented a scenario based on assumptions of an average 3% GDP growth in the EU in the period 2000–2010, showing both the sustainability of the positive employment trends observed throughout the second half of the 1990s, and the feasibility of the Lisbon employment rate targets. Last year's report provided short-term projections for activity and employment rates.[5] These projections have been updated for the two years ahead, taking into account the recent slowdown in economic and employment performance, as well as the changes in the overall economic outlook as reflected by the growth predictions of the Commission's spring economic forecasts. It has to be noted, however, that the most recent economic data may shed some uncertainty on these — relatively favourable — growth predictions.

On the basis of these forecasts, both activity rates and employment rates are expected to increase further in the near future, although probably less strongly than in the recent past. The encouraging recent employment developments need to be viewed against the possibility of a slowdown in economic activity that has emerged since 2001. Assuming unchanging labour

[5] The methodology and the assumptions underlying the projections are described in the annex.

Table 10 — Comparative employment structure in 2001 (% of total employment 15–64)

Sector NACE rev. 1 description	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
Agriculture, fishing, forestry	1.3	3.3	2.5	14.9	6.6	4.0	6.2	5.0	1.5	3.0	5.4	9.2	5.6	2.4	1.3	3.9
Total Industry	25.6	25.5	32.9	23.3	31.5	26.1	29.5	31.9	21.5	21.7	29.6	35.8	27.2	24.7	25.0	28.8
Manufacturing	18.4	18.3	23.7	14.5	18.9	18.6	17.7	22.9	11.2	14.5	20.1	22.7	20.0	18.3	16.5	19.8
High Tech manufacturing	6.6	7.0	11.3	2.3	5.5	7.2	7.4	7.5	1.2	4.6	6.5	3.8	7.5	8.1	7.3	7.7
Construction	6.5	6.6	8.0	7.4	11.5	6.4	10.7	7.9	9.6	6.6	8.5	12.1	6.0	5.4	7.4	7.9
Wholesale, retail trade, repair motor vehicles	14.4	14.0	14.3	17.3	15.9	13.1	14.6	15.6	14.4	16.0	16.1	15.5	12.0	12.2	15.1	14.7
Hotels and Restaurants	3.2	2.4	3.3	6.6	6.1	3.4	6.2	4.0	4.7	3.8	5.4	5.3	3.4	2.8	4.2	4.0
Transport, storage, communication	8.0	6.9	5.7	6.5	6.0	6.8	6.5	5.4	7.7	6.3	6.8	4.1	7.5	6.8	7.2	6.3
Air transport	0.6	0.4	0.2	0.3	0.3	0.3	0.5	0.2	1.4	0.5	0.3	0.2	0.4	0.3	0.2	0.3
Financial intermediation	3.8	3.1	3.7	2.8	2.5	3.1	4.1	3.1	10.4	3.7	3.6	1.9	2.2	2.0	4.4	3.4
Real state, renting and business activities	8.7	9.8	8.1	5.5	7.6	9.7	8.8	7.2	6.8	12.4	7.8	4.6	10.3	11.9	11.3	8.9
Public administration, defence, social security	9.8	5.5	8.2	7.6	6.3	9.2	4.8	9.1	10.6	7.2	6.4	6.4	4.7	5.3	6.7	7.7
Education	8.9	7.2	5.5	6.5	5.8	7.5	6.0	7.4	6.3	6.4	6.0	6.0	6.9	8.0	8.0	6.8
Health and social work	11.9	17.4	10.1	4.6	5.3	10.5	8.4	6.1	8.0	14.9	8.2	5.4	14.6	18.7	11.1	9.7
Other social and personal activities	3.7	4.7	5.4	3.2	3.8	4.3	4.4	4.3	3.2	4.6	4.2	2.9	5.3	5.3	5.2	4.6
Total Services	73.1	71.2	64.6	61.9	61.9	69.9	64.3	63.1	77.0	75.3	65.1	55.0	67.2	72.9	73.6	67.3
High Tech Service sector	4.1	5.0	3.2	1.7	2.6	4.1	4.2	3.1	3.1	4.4	3.1	1.5	4.4	5.2	4.8	3.7
Total High Tech sector	10.7	12.0	14.5	4.0	8.1	11.3	11.6	10.6	4.3	9.0	9.6	5.3	11.9	13.3	12.1	11.3
Knowledge Intensive Services	38.2	42.9	31.0	23.2	25.0	35.1	32.3	27.0	35.9	42.3	29.4	20.1	39.3	45.9	40.4	33.1
Total employment	100.0	100.2	100.0	100.0	100.0	100.0	100.5	100.0	100.3	105.7	100.0	100.0	100.3	100.1	100.3	100.0

Source: Eurostat, LFS

market policies, EU-level activity rates are expected to rise moderately in the next two years to close to 70% overall and 61% for women in 2003. Increases in participation will continue to be strongest among women, while constant for men, leading to a likely reduction in the gender gap in participation of almost 1 percentage point by 2003.

The overall employment rate at EU-level could approach 65% in 2003; 73% for men and 56% for women, which compare to the EU's intermediate targets for 2005 of 67% overall and 57% for women. Like activity rates, employment rates will rise most significantly among women, thus reducing the gender gap in employment rates by more than 1 percentage point to 17% in 2003. Taking into account the projected increases in both activity rates and employment rates, unemployment rates at EU level are expected to remain below 8% in 2002 and to fall further to below 7.5% in 2003.

Increases in the activity rate will be most pronounced in Spain and Italy — the only Member States in which male activity rates are also expected to rise in the near future. By contrast, activity rates appear to be stagnant — and in some cases slightly decreasing among men — in the three Scandinavian Member States, France, Belgium, the Netherlands, Germany, Austria and the UK. Female activity rates are likely to increase in all Member States, with the exception of Denmark, Sweden, Finland and the UK.

Participation rates are likely to continue to rise predominantly among those aged 25–64, while, at best, stagnating among younger people. Increases in the participation of older people are likely to be strongest in Spain, Sweden, Denmark and — in particular — Finland. In the latter, activity rates of older people have increased by almost 7 percentage points between 1999 and 2001, and similar — if not larger — increases are expected in the near future. By contrast, previous predictions of significant increases in the activity rates of older people in the Netherlands and Belgium may have to be revised downwards. Older people's activity rates continue to be stagnant in Greece, Germany and the UK, and are likely to fall in the Netherlands; Austria and France.

By 2003, activity rates among older people may reach some 42% at EU-level but are expected to remain significantly below the EU average in Belgium, Luxembourg, Italy, Austria and France. Contrary to previous expectations, activity rates among young people will probably not continue to rise in the near future, with the likely exception of Belgium, Sweden, Ireland and Spain. This change in the trend for youth activity rates may well reflect employment consequences of the recent slowdown in economic activity. As discussed in *Employment in Europe 2001 — Autumn Update*, the employment performance of young people in general, and young men in particular, was the first to be affected negatively by the slowdown. It is also the group of young people for which recent increases in the unemployment rate have been strongest.

With the likely exceptions of Spain, Greece, Italy, France, Finland and Germany, overall employment rates might not increase as strongly as expected over the coming years. Contrary to previous projections, Germany also witnessed slight increases in the employment rate in 2000/2001, and this positive evolution might well accelerate in a coming upturn. Like activity rates, growth in employment rates is expected to continue to be stronger for women than for men. Employment rates will predominantly increase among those aged 25–64, while probably stagnating or declining among younger people. In the 55–64 age group, strong increases are expected in Spain, Denmark, Sweden and, in particular, Finland. As for labour market participation, employment of older people has increased strongly in Finland in the last years, bringing their employment rate up from 39% in 1999 to almost 46% in 2001. This impressive evolution contrasts with EU-level projections suggesting that activity rates for those between 55 and 64 will rise from 40.8% in 2000 and 41.4% in 2001 to 41.6% in 2003, and employment rates from 37.8% in 2000 and 38.5% in 2001 to 39.2% in 2003. The continuation of these modest increases would be insufficient to reach the EU-wide target of 50% in 2010.

Both recent employment developments and projections for the coming years are still in line with targets set at the Lisbon Summit. Due to the recent slowdown in economic and employment performance, however, progress towards reaching these targets will be somewhat slower than initially expected and an acceleration of the currently predicted positive trends in economic and employment performance over the next four years will be needed to meet them.

Meeting the Stockholm target for employment of older people will clearly depend crucially on both the overall economic development in Europe and the introduction of significant changes in employment policies in some countries. More favourable performances than those currently observed and

projected for the next two years may be needed to move decisively towards the target rate of 50% by 2010. At the same time, however, the participation rates in the 45–54 age group in 2000 showed that the target is achievable if the high participation rates in this cohort can be maintained.

Despite differences in the levels and in the evolution of the employment rate across countries, the overall employment rate at EU-level could reach 65% in 2003. However, employment gaps related to gender, age, skills and nationality still persist in most of the Member States. These gaps are in many cases particularly wide in those countries that have a low overall employment rate — sometimes combined with high youth unemployment rates. A positive contribution of these Member States to the achievement of the Stockholm and Lisbon targets may require particularly large increases in the employment rates for women and older people, an accelerated upgrading of workers' skills and a better integration of all groups — in particular the young and low skilled — into the labour market.

Box 3 — Assessing gender pay gaps in the EU

Introduction

In its Communication to the Spring European Council in Barcelona 2001, the Commission announced it would "launch an overall assessment in 2002 on the reasons why differences leading to a gender gap, including in pay levels, exist." In the joint report "Increasing labour force participation and promoting active ageing", the Council and the Commission further called for a "strong initiative to reduce gender disparities in both public and private sectors" which should involve "an overall assessment of the reasons — including differences in productivity — explaining the presence of pay gaps between men and women in each Member State" and a review both of "the constraints on labour market choices for women and men, in particular in connection with education systems, employer recruitment practices and the existing organisational and work cultures" and of the "job classification and wage formation processes to eliminate gender bias and to avoid any under-valuation of work in women-dominated sectors and occupations".[6]

This section presents first preliminary results of both descriptive and econometric analyses assessing the factors associated with the gender pay gap. Although some account has been taken of aspects related to productivity, the relationship between labour market participation and the gender pay gap is not yet examined.

The empirical results presented in this section are based on data from the European Community Household Panel (ECHP, 1994–98) and from the European Community Labour Force Survey (LFS, 2001). For the econometric analysis, the samples were restricted to individuals who were employed at the time of the survey and working at least 15 hours a week. While the results of analyses based on alternative sample definitions or alternative data sources — including national data sources — might well differ from those presented in this section, the ECHP is the only harmonised data source at EU level which provides detailed information on earnings and labour market status at the individual level for all sectors and thus allows one to examine the link between earnings and various personal and job characteristics.[7]

Table 11 — Gender pay ratios in the EU, 1998

	Total	Private sector	Public sector
B	92.7	87.3	97.9
DK	89.6	85.5	96.0
D	80.6	75.2	89.0
EL	86.8	78.3	99.1
E	85.7	79.9	87.7
F	89.2	81.9	93.7
I	91.4	90.6	108.1
IRL	80.2	75.8	89.3
NL	78.9	76.4	74.5
P	94.1	76.6	–
A	78.9	73.7	89.5
UK	75.7	70.6	79.7
EU	83.8	76.3	89.3

Note: Ratio of women's average gross hourly earnings with respect to men's average gross hourly earnings, based on earnings data for all individuals employed 15 hours or more at the time of the survey in 1998; no data available in 1998 for Luxembourg, Finland and Sweden; data for public sector in Portugal unreliable.
Source: Eurostat, ECHP, wave 5 (1998)

Women's (gross hourly) earnings remained, on average, 16.2% below those of men across the Union according to the latest available data from the ECHP for 1998.[8] In only three Member States — Italy, Belgium and Portugal — did women's average earnings exceed 90% of those of men. The gender pay gap — defined as the difference in average gross hourly earnings between men and women in percent of men's average gross hourly earnings — is generally smaller in the public sector than in the private sector — reaching 10.7% in the former compared to 23.7% in the latter (table 11).

[6] European Commission (2002), "The Lisbon Strategy — Making Change Happen", Communication from the Commission to the Spring European Council in Barcelona, COM(2002) 14 final, 15.01.2002; European Commission (2002), Report requested by the Stockholm European Council "Increasing labour force participation and promoting active ageing", Report from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, COM(2002) 9 final, 24.01.2002

[7] EU-level data in this section represent weighted averages for all those Member States for which data are available. In particular data from the ECHP for 1998 exclude Luxembourg, Finland and Sweden due to lack of data. Statistics by sector further exclude Germany due to lack of data.

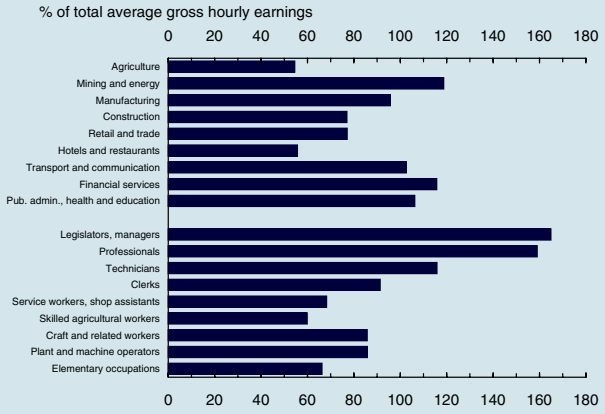
[8] Gender pay gaps can also be calculated on the basis of other data sources such as the Structure of Earnings Survey (SES) or national data sources. As said before, however, the ECHP user database is the only accessible harmonised data source at EU level which provides detailed information on earnings and labour market status at the individual level for all sectors, including the public sector. Although of particular interest, an analysis of further information on e.g. collective agreements or benchmarking exercises is beyond the scope of this section.

Gender differences in employment patterns, career progression and earnings persist in the EU — in addition to the remaining differences in activity rates and employment rates between men and women in most Member States. As shown in *Employment in Europe 2001*, such differences are particularly evident with respect to horizontal and vertical segregation, i.e. gender segregation by sector and occupation and by job status.[9] Employment shares of women range from 25% or less in industry and transport and communications to more than 75% in health and social services and more than 90% in services in private households. Female employment shares range from around 10% among craft workers, 20% among plant and machine operators and 30% of managers to more than 67% among clerks, service workers and shop assistants. Women also work more often in elementary — i.e. unskilled manual — occupations than men in several Member States, including Germany, France, the Netherlands and the UK. Some of the sectors and occupations in which women have high employment shares — hotels and restaurants, retail and trade; service workers and shop assistants — are relatively low paying, with average gross hourly earnings below 75% of the total average gross hourly earnings of around eleven Euro (chart 22).

Women are further more often in non-standard employment such as fixed-term and part-time work. Compared to 6.2% of all employed men, for instance, 33.4% of all women work in part-time. In the Netherlands, more than two thirds of all employed women, and 40% or more in the UK and Germany, work part-time. The share of women in part-time employment exceeds 80% in Luxembourg, Germany, Austria, Belgium and France. Women's employment shares in fixed-term employment also exceed female employment shares in total employment in all Member States except Germany (chart 23).

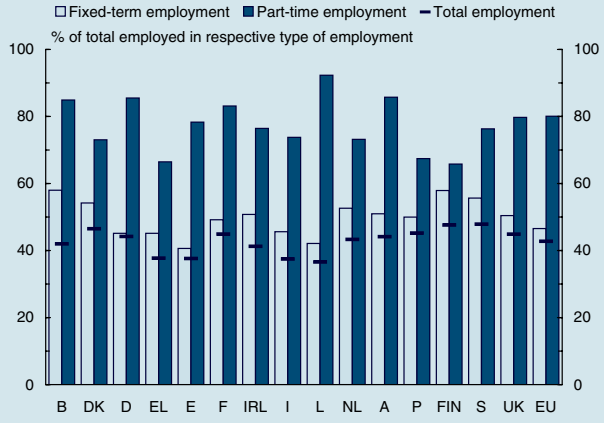
Women have supervisory responsibilities much less frequently than men[10]: 16% of men in paid employment in the EU had supervisory responsibilities and an additional 19% intermediate responsibilities in 1998 compared to less than 9% and 16%, respectively, of women. Men were overall twice as likely to occupy such supervisory functions. This is a general feature in all Member States, with women least likely to be in supervisory functions relative to men in Italy, Greece and the Netherlands. Men are thus not only more concentrated in higher paid sectors and occupations, but within these sectors and occupations they are also more likely than women to hold supervisory responsibilities (chart 24).

22 Average gross hourly earnings in the EU, by sector and occupation



Source: Eurostat, ECHP, Wave 5 (1998)

23 Female employment shares in non-standard employment in the EU, 2001

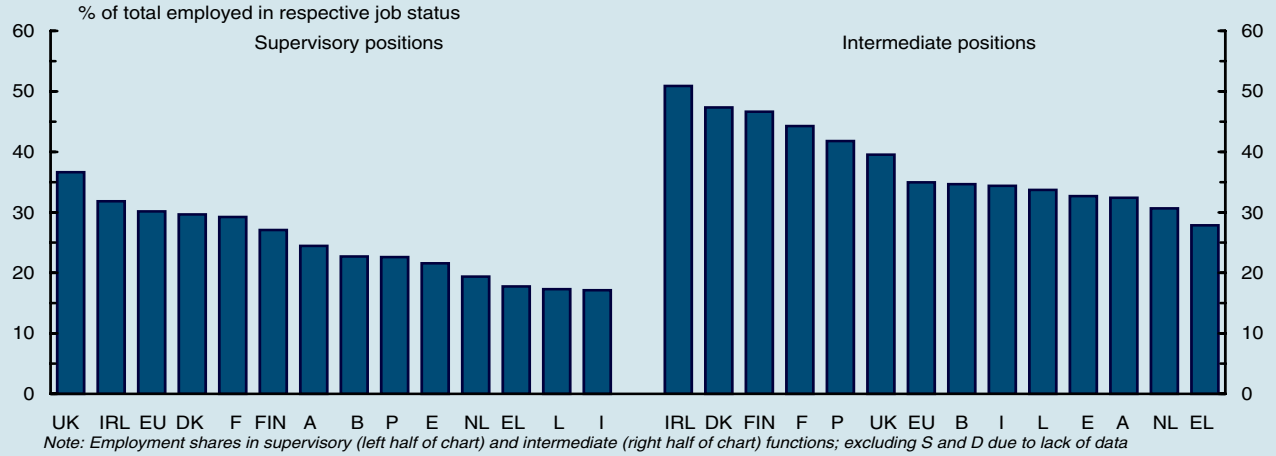


Source: Eurostat, LFS

[9] High levels of horizontal segregation, however, may be positively correlated with female (and overall) employment performance, partly due to the 'outsourcing' of parts of the household work to the private and public sectors, thus leading to increased demand in traditionally female-dominated sectors and occupations.

[10] In the ECHP, individuals are asked whether they supervise or co-ordinate the work of any personnel and whether they have any say in their pay or promotion. In this case, their job status is classified as "supervisory". If they supervise or co-ordinate others' work without having a say in their pay or promotion, their job status is classified as "intermediate". Without any co-ordinating function, it is classified as "non-supervisory".

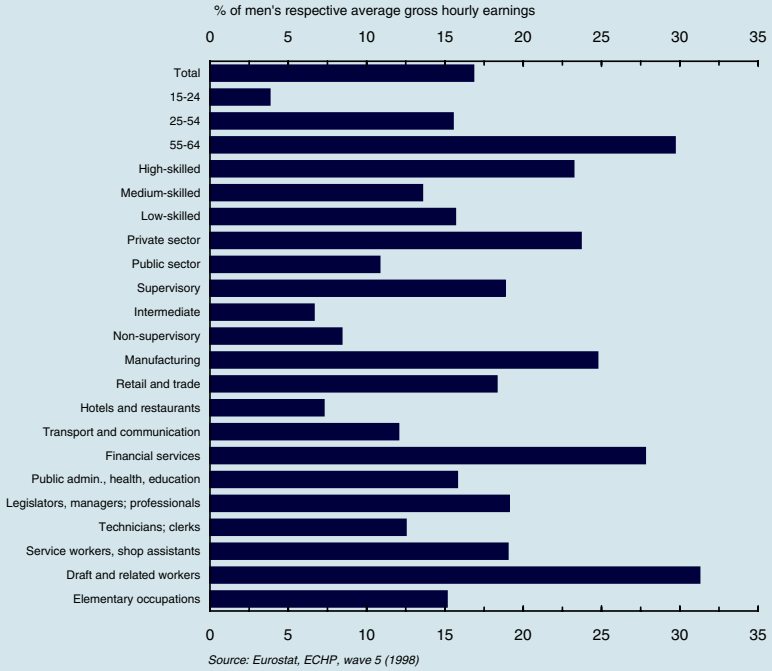
24 Female employment share among employed in supervisory and intermediate positions in the EU



Note: Employment shares in supervisory (left half of chart) and intermediate (right half of chart) functions; excluding S and D due to lack of data
Source: Eurostat, ECHP, waves 2-5 (1995-1998)

Important gender pay differentials exist between age groups, by educational background, by working time and contract status, by sector and occupation and, in particular, between the private and public sector. The EU-level pay differential between men and women is considerably above average among older workers (30%), the high skilled (23%), those employed with supervisory job status (19%), those in the private sector in general (24%) and financial services (28%) and manufacturing (25%) in particular, and among craft workers (31%) and plant and machine operators (25%) (chart 25).

25 Gender pay gaps in the EU 1998 by personal and job characteristics



Source: Eurostat, ECHP, wave 5 (1998)

Analysis — Technical Background

A substantial literature exists on how one might decompose differences in earnings between men and women into

- productivity-related differences in personal and job characteristics between employed men and women; and
- effects representing whether or not men and women with similar characteristics receive the same remuneration of / returns to these characteristics.

Standard econometric methods such as (Mincer-type) earnings regressions and (Oaxaca-Blinder type) decomposition techniques have been applied to assess the relevance of these factors and to decompose the observed pay gap. Conditional on labour market participation and employment, the gender pay gap can be decomposed into two components on the basis of gender-specific earnings regressions: one due to differences in individual and job characteristics between men and women, and one due to differences in the remuneration of these characteristics.

In mathematical terms: $\overline{w}_i^m - \overline{w}_i^f = \hat{\beta}_i^m(\overline{X}_i^m - \overline{X}_i^f) + \overline{X}_i^f(\hat{\beta}_i^m - \hat{\beta}_i^f)$,where $\overline{w}_i^m - \overline{w}_i^f$ denotes the gender pay gap, $\hat{\beta}_i^m(\overline{X}_i^m - \overline{X}_i^f)$ the part of the gender pay gap due to differences in the male and female workforce composition, $\overline{X}_i^f(\hat{\beta}_i^m - \hat{\beta}_i^f)$ the part due to differences in the remuneration between men and women with the same characteristics, and where $\overline{X}_i^m$ and $\overline{X}_i^f$ denote the average male and female workforce composition, respectively. $\hat{\beta}_i^m$ and $\hat{\beta}_i^f$, finally, denote the coefficient estimates from the gender-specific earnings regressions which measure the remuneration of / returns to the respective personal and job characteristics for men and women, all else equal.

In much of the literature, the concepts of 'explained' and 'unexplained' components of the gender pay gap are used. The second component is often interpreted as part of the gender pay gap that is due to 'potential discrimination'. In practice, however, it is difficult — if not impossible — to distinguish effects of the wage structure or of unobserved personal and job characteristics from (direct) pay-related discrimination. The 'explained' part of the gender pay gap is also likely to reflect 'discriminatory' social norms or (indirect) 'discrimination' related in particular to education and occupational choice. For these reasons, this section refrains from using these concepts.

It should further be noted that alternative decomposition techniques exist which vary in the choice of the underlying weighting matrix or which take wage structures into account. There also exists a whole range of alternative models to analyse the factors related to gender pay gaps, including sample selection models and panel data models. Finally, various estimation methods can be used to infer the gender-specific determinants of earnings.[11]

Analysis — Key Findings

Descriptive statistics on the workforce composition and OLS estimation results of standard (Mincer-type) earnings regressions by gender both at EU-level and at Member State level are presented in tables 11 and 12. The key findings of this analysis are:

- A high educational background and job-specific skills acquired through training have a positive impact on hourly earnings for both men and women in all Member States. The remuneration of educational attainment levels and specific skills, however, is generally higher for men than for women.
- Gross hourly earnings are higher for older workers — reflecting both increased labour market experience and seniority pay — and for those employed with longer tenure on the job — reflecting higher levels of firm-specific human capital. The remuneration of general and specific human capital varies considerably between Member States, with age and tenure effects strongest in the Netherlands, Denmark, the UK and Ireland.
- Labour market experience and tenure on the job have a positive impact on hourly earnings for both men and women in all Member States. While they are on average younger and with lower tenure on the job, women tend to receive higher rewards than men for staying with the same employer, in particular during the initial years of their working careers, but lower rewards for staying in the labour market in general.
- Career interruptions in general and previous unemployment in particular significantly reduce hourly earnings for both men and women. Previous unemployment implies lower earnings in all Member States except Denmark and the UK. Previous inactivity is found to have a negative impact on future earnings in Denmark, Luxembourg, the UK,

[11] For a recent survey of econometric models, estimation methods and decomposition techniques, see e.g. A. Kunze (2000), "The determination of wages and the gender wage gap: a survey", IZA Discussion Paper No. 193, Bonn, Germany. For an application which takes wage structures into account, see: OECD (2002), "Employment Outlook 2002, Women at work: who are they and how are they faring?", chapter 2, Paris.

Ireland and Portugal — in particular for women in the UK and for men in Portugal. Furthermore, earnings are generally the lower the longer the previous spell of inactivity. In many Member States, however, previous inactivity does not necessarily affect earnings negatively.

- Family background impacts in particular on men's earnings. Men who are married with children have on average up to 7% higher gross hourly earnings than single men without children. Employed women, by contrast, are not found to benefit from a similar pay premium. On the contrary, married women with children have gross hourly earnings lower than those of single women without children. This applies in particular to Germany and Austria where the earnings of married women with children are found to be up to 6% lower than for single women without children. Only in Denmark and Finland there is no earnings difference by family status between men and women.

- Temporary contracts have a significant negative effect on hourly earnings in all Member States, in particular in the Netherlands, Luxembourg and Spain. In these countries, hourly earnings of temporary contract workers compared to otherwise similar workers are reduced by up to 16.5%. Pay reductions for temporary contract workers are relatively stronger for men than for women in Belgium, Germany, the Netherlands, Finland and the UK, while more pronounced for women in Spain, France, Portugal and Austria.

- Part-time work has an ambiguous impact on hourly earnings — positive in Germany, Austria, Belgium, France and the Southern Member States; insignificant in the Netherlands, Ireland, Denmark and Finland; and negative in the UK. The remuneration of men and women in part-time employment is generally similar, with the exception of the Netherlands and the UK — where female employment shares in part-time employment are high and women's earnings in part-time jobs are lower than those of men — and Portugal, Austria and Finland — where women have higher earnings than men when working part-time, with few men working in part-time employment in these countries.[12]

- Earnings levels are correlated with the firm size and generally higher in larger firms. The variation of gross hourly earnings across firms of different size is larger for men than for women. When working in small-sized firms, men's earnings are on average more than 16% below those in large firms, while women working in small-sized firms face lower earnings by up to 13%.

- Hourly earnings are also closely related to job status: those in a supervisory position have on average 18% higher earnings — 17% for women and 19% for men — than those in non-supervisory positions. The pay premium for female managers further amounts to only 13.5% compared to 23% for men. In particular in Ireland, Greece and the UK, pay premia for managers in supervisory positions are significantly more favourable for men than for women. Women are therefore likely to face lower incentives to work as managers or in supervisory positions, and gender differences in career progression are likely to exacerbate the gender pay gap.

- Hourly earnings are generally higher in the public sector in all Member States, except Germany, Denmark and Finland. Hourly earnings are, on average, 7% higher for men and 13% higher for women when working in the public sector. Only in France, the remuneration for working in the public sector is found to be higher for men than for women.

- Hourly earnings are — as expected — lowest in low productivity service sectors and in manual, low skilled or elementary occupations. The difference in earnings between occupations is considerably higher for women. Men employed in these sectors and occupations face lower earnings by up to 20%. Women's earnings in these sectors and occupations relative to the earnings of their male colleagues are lower by up to an additional 15% in some Member States.

- Most importantly, even after controlling explicitly for the above personal and job characteristics, important differences in earnings between men and women remain within sectors — in particular in industry and financial intermediation, but also in public administration, education and health and social services. Only in the hotel and restaurant sector are women's average earnings significantly higher than those of men with the same personal and job characteristics.

[12] Following the definition of the gender pay ratio as structural indicator, the sample for the analysis was restricted to all employed working 15 hours or more a week. The findings on part-time work in this section do therefore not necessarily apply to short part-time work of less than 15 hours a week. It should also be noted that, contrary to most other variables, the findings on the impact of part-time work on hourly earnings seem relatively sensitive to the sample selection and model specification. Recent studies on the basis of other data sources, however, confirmed lower hourly pay rates of women working part-time compared to women working full-time working in the UK, in contrast with higher hourly pay rates of women working part-time in several other Member States. See e.g. Grimshaw and Rubery (1997), The concentration of women's employment and relative occupational pay: A statistical review for comparative analysis, Labour Market and Social Policy — Occasional Paper No. 26, OECD, Paris; and European Commission (1998), "Earnings differentials between men and women, Study based on the Structure of Earnings Survey (SES)", DG Employment and Social Affairs.

- In general, the higher the employment share of women in the respective sector or occupation, the lower the hourly earnings for both men and women.[13] This negative effect of gender concentration — defined as the female employment share in the respective sector or occupation — on hourly earnings is much more pronounced for women.
- In sectors with relatively high shares of male employment, pay differentials between women and men at the beginning of the career are non-existent, while in female-dominated sectors women find themselves at considerable disadvantage with respect to their male colleagues already at the start of the career.
- Independently of the initial pay differential, however, the gender pay gap widens considerably throughout the working life, with women in all sectors falling behind the male employed in female-dominated sectors in the second half of their working lives (chart 26).

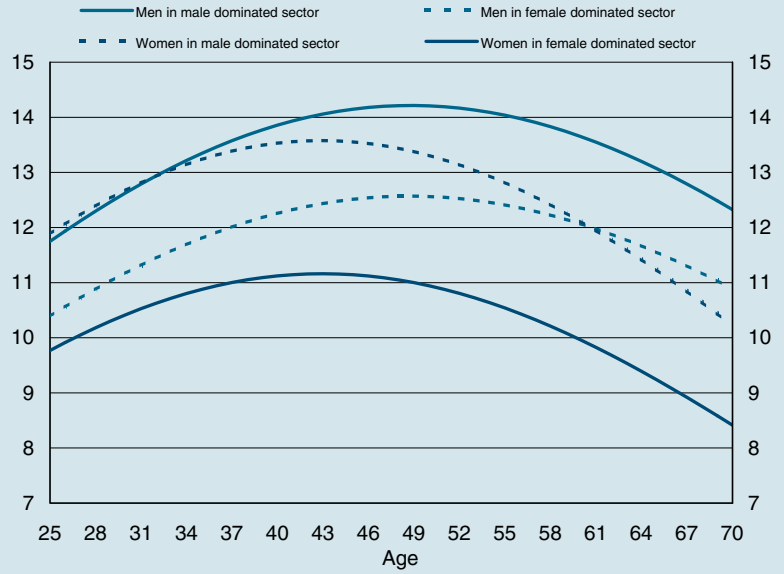
All of the above factors have an impact on the EU-level gender pay gap (chart 27).

The factors that contribute to increasing the gender pay gap in the EU are:

- the higher employment shares of women with short experience and tenure on the job, in non-supervisory positions and in smaller firms, as well as in relatively low paying sectors;
- the lower remuneration for married women with children;
- the lower remuneration for women with previous career interruptions;
- the lower remuneration for women in female-dominated sectors and occupations;
- the lower remuneration for women with high educational background, in part-time employment and in supervisory job status.

26 Age-earnings profiles by sector-specific gender concentration

(predicted gross hourly earnings, Euro)



Note: predicted age-earnings profiles on the basis of the estimation results in table 12 for a 'representative' individual with the following characteristics: high-skilled, married, without children, permanent and full-time contract, supervisory position, private sector, financial services, professional, no previous career interruptions, and mean values for the remaining variables; the employment share of women in the sector is assumed to be 25% in the "male-dominated sector" and 75% in the "female-dominated sector".

Source: Eurostat, ECHP, waves 2-5 (1995-98)

[13] It is important to note that this holds even when controlling explicitly for sector- and occupation-specific differences in remuneration which fully reflect gender-related sectoral and occupational productivity differences or compensating wage differentials. "See also Bayard et al. (2000), "New evidence on sex segregation and sex differences in wages from matched employee-employer data", NBER Working Paper No. 7003, Cambridge, Massachusetts, USA; and Datta Gupta and Rothstein (2001), "The impact of worker and establishment-level characteristics on male-female wage differentials: Evidence from Danish matched employee-employer data", Centre for Labour Market and Social Research Working Paper No. 01-09, Aarhus School of Business, Aarhus, Denmark."

The factors that contribute to reducing the gender pay gap in the EU are:

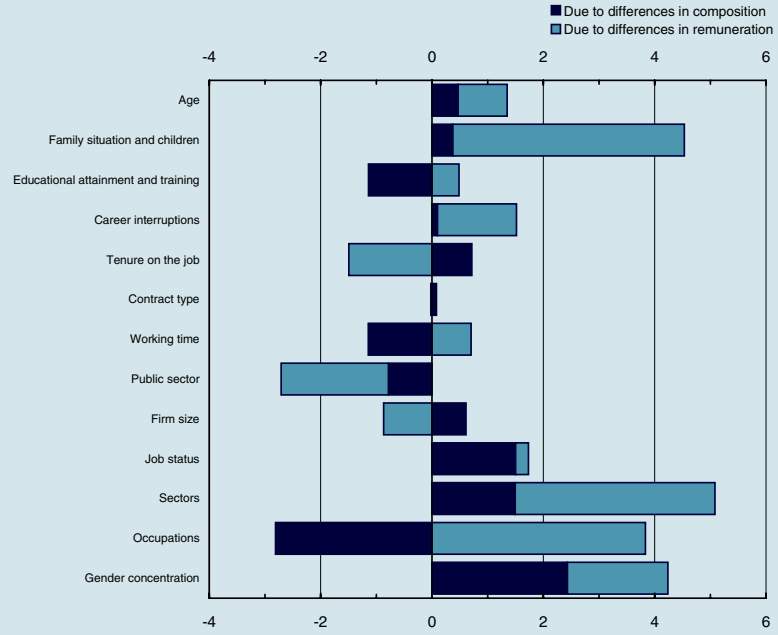
- the higher employment shares of women with high educational background, in part-time employment and, in particular, in the public sector;
- the more compressed earnings distribution across occupations for women compared to men;
- the higher remuneration for women staying with their employer;
- the higher remuneration for women working in small firms and in the public sector.

Firm size, contract status and working time, however, are not found to have a significant impact on the EU-level gender pay gap.

The results suggest that the single most important factors contributing to the gender pay gap in the EU are: earnings differences between men and women with children; gender segregation by sectors and occupations, with a higher concentration of women in low paying — and often perceived as low productive — sectors and occupations; and, in particular, relatively lower earnings of women in female-dominated sectors and occupations that cannot be explained by productivity differences between sectors and occupations.

If the contributions of the various explanatory variables are added up to calculate the overall components due to differences in the workforce composition and differences in the remuneration, respectively, the EU-level gender pay gap appears to be almost entirely due to differences in the remuneration of personal and job characteristics between men and women. However, even if the net effect due to gender differences in the workforce composition is close to zero this does not mean that differences in the composition of the male and female workforces need not be addressed to reduce gender pay gaps. In particular horizontal and vertical segregation are found to contribute substantially to the gender pay gap. Furthermore, cross-country differences in both employment rates and the remuneration of women relative to men have an impact on the EU-level gender pay gap. While the higher female employment rates in countries with relatively high pay levels tend to decrease the gender pay gap at the EU-level, in particular the relatively large earnings difference between men and women in the UK contributes significantly to the EU-level gender pay gap.

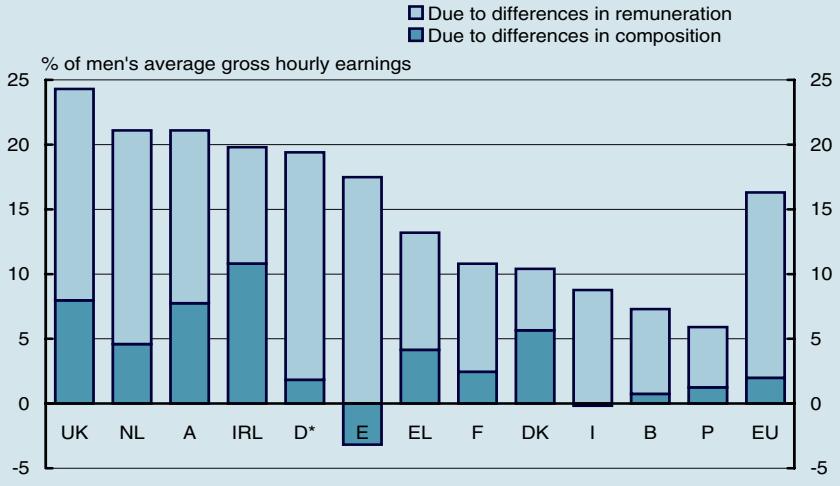
27 Contributions of 'explanatory' variables to the EU-level gender pay gap



Note: The bars show the contribution to the gender pay gap of the factors included in the model presented in table 12, split into the part due to differences in the workforce composition between men and women (dark bars) and that due to differences in the remuneration of the various characteristics (light bars). "Gender concentration" is defined as the female employment share in the respective occupation. The contributions of all the variables in the model (country-year effects not included in the chart above) add up to the observed gender pay gap of 16%. It should be noted that the decomposition results related to the various factors depend on the model specifications and variable definitions used in the gender-specific earnings regressions. Nevertheless, the results have been found to be qualitatively robust across various specifications. In particular when leaving out the variable "gender concentration", the results are qualitatively unchanged. The effect of occupational segregation amounts to around 3%, entirely due to differences in remuneration, while that of sectoral segregation increases to around 8%, most of which due to differences in the remuneration of the various characteristics.

Source: Eurostat, ECHP, waves 2-5 (1995-98)

28 Oaxaca decomposition of the gender pay gap by Member State



Note: The dark bars present the country-specific gender pay gaps that are due to differences in the workforce composition between men and women and that would be observed even if men and women were to experience the same remuneration of their personal and job characteristics. The light bars present the country-specific gender pay gaps that are due to differences in the remuneration of the personal and job characteristics between men and women and that would be observed even if the workforce composition of men and women with respect to these characteristics was identical.

** In the case of Germany, the share of the gender pay gap due to compositional differences is likely to be under-estimated. This is partly explained by the fact that no information on the job status and the sectoral of employment could be included in the underlying models due to lack of information in the ECHP.*

Source: Eurostat, ECHP, wave 5 (1998)

At Member State level, the fractions of the gender pay gaps which are due to differences in the characteristics of the male and female workforce vary significantly. They reach up to half of the gender pay gap in Ireland and Denmark, and more than a third in Austria and the UK. In many Southern European Member States, by contrast, the observed gender pay gap seems mainly due to differences in the remuneration of personal and job characteristics. In most Member States, even if the composition of the male and female workforce were identical, substantial gender pay gaps would therefore subsist (chart 28). [14]

Concluding remarks

The analysis has highlighted some central features of pay determination in the EU and characterised major determinants of the gender pay gap. Based on the relatively broad sectoral and occupational categories available in the ECHP, the analysis has identified gender segregation by sector and occupation and lower paying female-dominated sectors and occupations as biggest contributors to the gender pay gap at EU-level. It has stressed cross-country differences in these determinants and argued that different factors — including cross-country differences in wage structures and female labour market participation — contribute in different ways to the gender pay gaps at Member State level. To reduce the gender pay gap, all of these factors need to be addressed: differences in activity and employment rates; differences in the wage structure; differences in the workforce composition and differences in the remuneration between men and women.

One key issue is horizontal and vertical segregation — and the concentration of women in low paying and seemingly low productive sectors and occupations. Furthermore, the question has to be addressed to what extent segregation is itself the outcome of potentially discriminatory processes — including employers' recruitment and promotion behaviour; employment, family and tax policies; incentives and disincentives implied by the current wage formation systems; and, more generally, traditions and social norms regarding women's educational and occupational choices and labour market participation behaviour.[15]

[14] Similar results are obtained by OEDC (2002) — taking wage structures into account — who conclude that "even after gender differences in observed characteristics are controlled for, there remains a substantial gap between the hourly earnings of men and women." As can be seen from the decomposition analysis at EU-level, however, small net effects due to differences in the composition of the male and female workforces are likely to hide important compositional effects — related to various factors such as educational attainment, working time, contract status and job status — that tend to offset each other.

[15] This finding is corroborated by decompositions of the gender pay gap that take cross-country differences in the wage structures into account. Their results suggest "on a somewhat tentative basis, that the same differences in unobserved characteristics or discriminating practices that are at the origin of occupational segregation by gender also explain cross-country differences in the residual gender wage gap that are not attributable to cross-country differences in the wage structure" (OECD, Employment Outlook 2002). For theoretical arguments on why preferences for social status might impact on occupational choice and lead to, for instance, women being more often employed in low skilled, low-paid occupations, see also A. Mani and C.H. Mullin (2000), Social approval and occupational choice, Working Paper No. 00-W41, Vanderbilt University, Department of Economics, Nashville, TN, USA.

Secondly, the differences in the remuneration of the same characteristics between men and women have to be examined — in particular the fact that a higher female employment share in a sector or occupation is associated with lower earnings even more so for women. This is suggestive of unequal treatment of men and women concerning career advancement and remuneration. Given that the analysis has controlled for inter-sectoral and occupational differences this could reflect (societal) preferences regarding the valuation of various types of jobs — the more so as women are more often employed in sectors and occupations in which productivity is more difficult to measure. It may also be the case that in such sectors and occupations the methods developed for productivity measurement in industry are inappropriate.

In line with other research, the differences in gender pay gaps and related factors across countries, and the evidence on sectoral and occupational segregation in particular, suggest that both differences in female labour market participation as well as macroeconomic and institutional factors, including job classification and wage formation systems, wage structures and overall wage inequality, and collective bargaining coverage, are likely to impact on gender pay gaps and to explain substantial parts of cross-country differences in these gaps.[14]

More in-depth analyses — based on improved, more reliable databases and using more detailed information on human capital variables as well as occupational and sectoral classifications — are still needed in explaining the reasons underlying the gender pay gaps in the European labour markets. These analyses should in particular investigate the design and functioning of job classification and wage formation systems, including collective agreements at all levels, and their gender dimension; the role of wage structures in explaining cross-country differences in gender pay gaps; potential constraints on labour market choices in particular in connection with education systems and access to life-long learning; and the role of labour market participation and occupational segregation for the gender pay gap and their link to productivity and earnings. They should also take account of the possibility that some of the variables included in standard models could themselves be the outcome of traditions, social norms and societal preferences regarding the valuation of skills and types of work and their gender dimension. Finally, a better understanding of the factors related to the gender pay gap at Member State level is needed.

[14] As discussed e.g. in Blau (1996), "Where are we in the economics of gender? The gender pay gap", NBER Working Paper No. 5664, Cambridge, Massachusetts, USA, "systems of centrally-determined pay are likely to entail less wage inequality and smaller gender wage differentials". See also Blau and Kahn (2001), "Understanding international differences in the gender pay gap", NBER Working Paper No. 8200, Cambridge, Massachusetts, USA.

Table 12 — Determinants of gross hourly earnings by gender: employment shares and pooled regression estimates

Variable	Variable means / Employment shares			Estimated coefficients		
	All	Men	Women	All	Men	Women
Demographic characteristics						
Female	0.418	0	1	-0.134**	–	–
Age	39.614	40.022	39.047	0.039**	0.036**	0.039**
Age squared	1,680	1,714	1,633	-0.001**	-0.000**	-0.000**
Age cube	75,537	77,768	72,430	0.000*	~~	~~
Educational attainment and training						
Low skilled	0.371	0.395	0.338	-0.068**	-0.061**	-0.069**
High skilled	0.301	0.284	0.326	0.128**	0.132**	0.112**
Specific job-related skills through training	0.613	0.598	0.635	0.071**	0.066**	0.072**
Family situation and children						
Married	0.646	0.672	0.61	0.022**	0.046**	-0.013**
Children below age 12	0.337	0.284	0.326	0.018**	0.020**	~~
Career interruptions						
Previous unemployment	0.248	0.241	0.258	-0.034**	-0.042**	-0.029**
Previous inactivity	0.194	0.172	0.225	0.011**	0.008*	~~
Duration of interruption	10.326	7.118	14.795			
Duration*unemployment	17.123	14.066	21.103	-0.007**	-0.006**	-0.007*
Duration*inactivity	31.305	21.667	41.574	-0.004**	~~	-0.004**
Tenure on the job						
Tenure	8.421	8.880	7.781	0.015**	0.017**	0.014**
Tenure squared	119.4	129	106.2	-0.001**	-0.001**	~~
Tenure cube	1,929	2,107	1,682	0.000**	0.000**	~~
Contract type						
Temporary contract	0.125	0.122	0.129	-0.114**	-0.116**	-0.114**
Working time						
Part-time	0.102	0.025	0.208	0.019**	0.063**	0.029**
Public sector						
Public sector	0.308	0.255	0.383	0.086**	0.061**	0.112**
Firm size						
Small firm	0.47	0.458	0.488	-0.092**	-0.100**	-0.080**
Large firm	0.16	0.175	0.139	0.076**	0.078**	0.065**
Job status						
Supervisory	0.138	0.169	0.095	0.165**	0.173**	0.160**
Intermediate	0.175	0.189	0.156	0.057**	0.062**	0.055**
Sector						
Agriculture	0.017	0.023	0.01	1.205**	1.146**	1.133**
Mining	0.02	0.029	0.009	1.466**	1.418**	1.360**
Manufacturing	0.23	0.286	0.153	1.356**	1.310**	1.261**
Construction	0.061	0.098	0.009	1.363**	1.301**	1.309**
Retail and trade	0.121	0.112	0.133	1.283**	1.222**	1.209**
Hotels and restaurants	0.031	0.024	0.04	1.199**	1.081**	1.171**
Transport / communication	0.066	0.089	0.034	1.358**	1.298**	1.299**
Financial services	0.116	0.11	0.123	1.436**	1.394**	1.346**
Public administration	0.338	0.229	0.49	1.310**	1.265**	1.217**
Occupation						
Legislators, managers	0.075	0.092	0.051	0.175**	0.209**	0.142**
Professionals	0.12	0.112	0.132	0.258**	0.254**	0.290**
Technicians	0.152	0.137	0.173	0.084**	0.095**	0.096**
Service workers	0.122	0.077	0.184	-0.108**	-0.036**	-0.147**
Agricultural workers	0.011	0.016	0.004	-0.243**	-0.191**	-0.284**
Craft and related workers	0.143	0.218	0.039	-0.166**	-0.109**	-0.254**
Plant / machine operators	0.099	0.14	0.041	-0.173**	-0.121**	-0.226**
Elementary occupations	0.099	0.095	0.105	-0.184**	-0.136**	-0.216**
Gender concentration	0.436	0.361	0.54	-0.178**	-0.135**	-0.168**
Country-specific effects				Yes	Yes	Yes
Year-specific effects				Yes	Yes	Yes
N				130,470	76,883	53,587
K				56	55	55
F (K,N)				3,510	2,133	1,450
Prob > χ^2				0.000	0.000	0.000
Adj. R^2				0.64	0.64	0.63

*Note: OLS estimates based on pooled sample from waves 2-5 (1995-98) of all employed aged 15-64 with non-missing information on dependent and explanatory variables; dependent variable: logarithm of gross hourly earnings (variable derived by dividing gross monthly earnings by four times the weekly working hours) explanatory variables: age and tenure polynomials (in years); educational attainment (ISCED-1); working time and job status self-reported; firm size: small (below 50 employees), medium (50-499 employees), large (above 500 employees); sector of economic activity (NACE-2); occupation (ISCO-2); gender concentration: female employment share in respective occupation; country- and year-specific effects; reference categories for categorical variables: male, medium skilled, no specific training, single, no children, no career interruptions, permanent contract, full-time work, medium-sized firm, non-supervisory job status, private sector, clerks; note in particular that results may be sensitive to omitted variables, measurement errors, endogeneity bias, non-random sample selection and sectoral and occupational classifications; the impact of a one unit change in an explanatory variable on gross hourly earnings is calculated as exp(b)-1, where b is the respective coefficient estimate; ** denotes a significant estimate at the 1% level ; * denotes a significant estimate at the 10% level ;~~ denotes an insignificant estimate at the 10% level. Source: Eurostat, ECHP, waves 2–5 (1995–1998)*

Table 13 — Selected country-specific determinants of gross hourly earnings by gender

	Low-skilled	High-skilled	Public sector	Part-time	Temp Job	Super-visory	Manager	Service workers	Craft workers	Elemen-tary occ.	Adj. R^2	N
Men												
B	-0.050**	0.141**	~~	0.172**	-0.116**	0.141**	0.189**	-0.069*	-0.080**	-0.076**	0.48	3,881
DK	-0.037*	0.044*	-0.071**	~~	-0.051*	0.082**	0.241**	~~	~~	~~	0.40	3,401
D	-0.028**	0.078**	-0.107**	0.164**	-0.089**	–	0.157**	-0.202**	-0.119**	-0.136**	0.35	6,354
EL	-0.083**	0.069**	0.049*	0.118*	-0.120**	0.239**	0.186**	~~	-0.057*	-0.133**	0.53	5,299
E	-0.055**	0.114**	0.036**	0.161**	-0.135**	0.210**	0.296**	-0.163**	-0.155**	-0.213**	0.62	10,198
F	-0.075**	0.171**	0.123**	0.132**	-0.036*	0.162**	0.403**	~~	-0.040**	-0.089**	0.53	8,018
IRL	-0.089**	0.116**	0.161**	~~	-0.076*	0.117**	0.270**	~~	~~	~~	0.56	4,911
I	-0.048**	0.193**	0.062**	0.234**	-0.110**	0.186**	0.244**	-0.061**	-0.087**	-0.091**	0.53	8,364
NL	~~	0.147**	~~	0.104**	-0.183**	0.173**	0.049*	~~	-0.049*	-0.172**	0.35	7,968
A	-0.059*	0.149**	~~	~~	-0.046*	0.104**	0.140**	-0.139**	-0.115**	-0.154**	0.31	5,802
P	~~	0.343**	0.119**	-0.313**	~~	0.245**	0.305**	-0.205**	-0.111**	-0.182**	0.60	7,958
FIN	~~	0.159**	~~	~~	-0.119**	0.091*	0.372**	~~	~~	~~	0.39	3,071
UK	-0.063**	0.049**	0.090**	~~	-0.111**	0.186**	0.306**	0.064**	0.100**	-0.127**	0.53	7,118
Women												
B	-0.108**	0.095**	0.044*	0.081**	~~	0.137**	0.232**	-0.059*	-0.144*	-0.112**	0.47	2,874
DK	-0.076**	0.050*	-0.053*	~~	-0.048*	0.068*	0.150**	-0.067**	~~	-0.102**	0.40	3,088
D	0.031*	0.066**	~~	0.084**	-0.049**	–	0.207**	-0.263**	-0.096**	-0.209**	0.30	4,383
EL	~~	0.082**	0.182**	0.139**	-0.109**	0.134**	~~	-0.154**	0.193**	-0.236**	0.62	2,783
E	-0.079**	0.066**	0.128**	0.127**	-0.163**	0.105**	0.384**	-0.114**	-0.205**	-0.232**	0.67	5,201
F	-0.064**	0.140**	0.061**	0.088**	-0.076**	0.111**	0.388**	-0.144**	-0.079**	-0.184**	0.52	6,231
IRL	-0.098**	0.222**	0.232**	~~	-0.090**	~~	~~	-0.154**	-0.255*	-0.145*	0.64	3,309
I	-0.101**	0.144**	0.130**	0.190**	-0.110**	0.130**	0.227**	-0.101**	-0.126**	-0.113**	0.55	5,208
NL	~~	0.096**	0.063**	~~	-0.169**	0.242**	~~	-0.156**	-0.120*	-0.209**	0.41	5,053
A	-0.060**	0.201**	0.040*	0.106**	-0.079**	0.068*	0.155**	-0.132**	-0.261**	-0.186**	0.38	3,780
P	-0.098**	0.358**	0.235**	0.090**	-0.099**	0.310**	0.171*	-0.297**	-0.275**	-0.270**	0.76	5,295
FIN	~~	0.065*	~~	0.097**	-0.066*	0.072*	0.287**	-0.107**	-0.134*	-0.127**	0.42	3,274
UK	-0.060**	0.066**	0.166**	-0.034**	-0.059**	0.197**	0.149**	-0.145**	-0.072*	-0.212**	0.49	6,993

*Note: OLS estimates based on pooled sample from waves 2-5 (1995-98) of all employed aged 15-64 with non-missing information on dependent and explanatory variables; dependent variable: logarithm of gross hourly earnings (variable derived by dividing gross monthly earnings by four times the weekly working hours country-specific models include the same explanatory variables as those in the EU-level model presented in table 12, except gender concentration indices and country-specific effects; in the case of Germany, no information on sectors and job status included due to lack of data; results for gender-specific regressions in the case of Luxembourg insignificant due to small sample; no data available for Sweden; note in particular that results may be sensitive to omitted variables, measurement errors, endogeneity bias, non-random sample selection and sectoral and occupational classifications; the impact of a one unit change in an explanatory variable on gross hourly earnings is calculated as exp(b)-1, where b is the respective coefficient estimate; ** denotes a significant estimate at the 1% level ; * denotes a significant estimate at the 10% level ;~~ denotes an insignificant estimate at the 10% level;*
Source: Eurostat, ECHP, waves 2–5 (1995–1998)

Chapter 2 Structural changes in the European labour markets

Introduction

Recent years have been characterised by intense job creation, increases in participation and substantial unemployment decline. The special European Council in Luxembourg stressed the need to reduce unemployment and increase employment rates in a sustainable manner. The Lisbon European Council put full employment with more and better jobs on the European agenda and set related targets for the overall employment rate and the female employment rate. The Stockholm Council subsequently added a target for 55–64 year olds. Clearly, as the European Council has underlined, reaching these targets and moving towards full employment requires sustainable improvements in employment performance.

The Commission has already demonstrated that the employment performance of the last years has been on the right track, but that further efforts are required to reach the Stockholm older workers' employment rate target. Recent studies by the Commission, have also shown that economic growth translated into more employment growth in the 1990s than in the 1980s[1]. However, it has always stressed that reaching the 70% target will require the continuation of structural reforms.

Recent improvements in the labour market at EU level have been encouraging but beg the question of whether they are sustainable. An understanding of how structural unemployment relates to employment and participation and how this relationship has developed overtime may help answer this question. Other key issues are whether the recent decline in structural unemployment reflects an increase in employment and/or a decrease in participation and whether employment and the labour supply have, over the business cycle, become more responsive to economic growth. Factors such as wage and price formation mechanisms and the demographic and skills structure of the working age population also have potential important impacts on employment performance.

Setting the scene

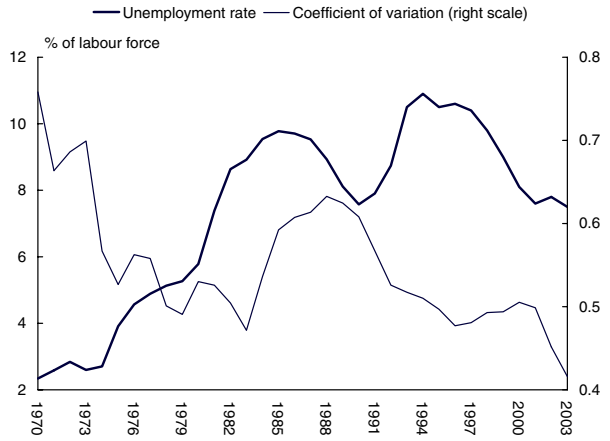
1970–1994: increasing structural unemployment

Following the oil shocks of the mid 1970s and early 1980s and the recession of the early 1980s, the unemployment rate moved up by about 7 percentage points. Contrary to the US experience, the EU unemployment rate continued ratcheting upward even after those shocks had faded away. The EU labour market performance in the 1970s and 1980s was characterised by the resistance of the unemployment rate to improvement when adverse supply or demand shocks were reabsorbed. Despite a temporary decline in the second half of the 1980s, the unemployment rate increased again with the recession of 1993, reaching the highest level of the two decades in 1994 (chart 29).

At the national level unemployment rates evolved in a variety of ways. In some Member States the increase in the unemployment rate was temporary and relatively moderate when compared to the EU average (table 14). Chart 29 shows the variability of the EU unemployment rates measured by the coefficient of variation. The dispersion decreased until 1983, when unemployment was rising rapidly and then climbed swiftly in the 1984–1989 period, when unemployment increases started to moderate. Unemployment rates increased following the effect of the recurrent macroeconomic shocks of the 1970s and early 1980s. However, in some countries such as Denmark, Portugal and the Netherlands the effect of such macroeconomic shocks died out quite rapidly, while in others the temporary increase led to a

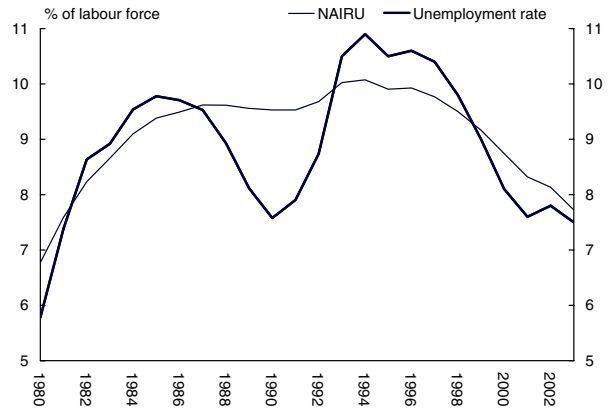
[1] The same conclusion is drawn by the IMF(2001), "Selected Euro-Area Countries: Rules-Based Fiscal Policy and job-Rich growth in France, Germany, Italy and Spain — Report with supplementary information, November 2001, Country Report no. 01/203.

29 Unemployment rate in the EU, 1970-2003



Source: Eurostat, harmonised series on unemployment

30 Actual and structural unemployment rate in the EU, 1980-2003



Source: Commission Services

Table 14 — Unemployment rate in EU Member States and the US, 1970-2001

	1970–1974	1975–1979	1980–1984	1985–1989	1991–1995	1996–2001
Belgium	2.0	6.0	10.0	9.4	8.5	8.6
Denmark	1.2	5.3	8.0	6.3	8.6	5.4
Germany	0.9	3.1	5.2	6.4	7.3	8.7
Greece	2.7	1.9	5.4	6.8	8.3	10.6
Spain	2.9	6.1	16.0	20.0	20.9	17.5
France	2.7	4.8	7.9	10.0	11.1	11.0
Ireland	6.2	8.8	12.1	16.2	14.5	7.1
Italy	5.4	6.5	7.6	9.3	10.1	11.1
Luxembourg	0.0	0.7	2.8	2.4	2.5	2.6
Netherlands	2.0	5.6	9.2	7.8	6.4	4.0
Austria	1.6	2.0	3.2	3.1	3.6	4.1
Portugal	2.4	6.7	7.8	7.3	5.7	5.3
Finland	2.4	5.2	5.1	4.5	13.3	11.3
Sweden	2.2	1.9	3.0	2.2	7.2	7.7
UK	2.4	4.5	9.4	9.9	9.5	6.4
EU	2.6	4.8	8.1	9.4	10.0	9.4
USA	5.4	7.0	8.3	6.2	6.6	4.6

Source: Eurostat, harmonised series on unemployment

permanent high level of unemployment. This may be partly related to the different national economic policies put in place in response to these shocks. Indeed, some Member States changed their economic policies promptly following these shocks and implemented extensive reforms while others delayed their response or implemented them gradually.

There is a general agreement that the increase in the unemployment rate was associated with an increase in the equilibrium rate of unemployment, as measured by the non-accelerating inflation rate of unemployment (NAIRU) (box 4)[2]. The high and persistent level of unemployment occurred without any downward movement of inflation, as could be expected in the case of a temporary negative demand shock. This suggests that the increase in the unemployment

[2] The methodology used to estimate the NAIRU is Kalman filtering. The unemployment rate is assumed to be composed of an unobserved cyclical and trend component. The Kalman Filter extracts these components subject to certain general specifications of the processes generating the cyclical and trend components. Both components are, however, treated differently as regards the economic information used. No attempt is made to model the trend component using economic information which could potentially explain structural shifts in the unemployment rate. These factors are regarded as unobservable. Instead a time series model which captures the general statistical properties of the unemployment trend, such as the non stationarity of the structural component is specified. More economic information is used for modelling the cyclical component of unemployment. Especially, the link between changes in wage inflation and cyclical unemployment as expressed in the Phillips curve is used in identifying the cyclical component.

rate reflected structural factors more than a cyclical response to a temporary slowdown (chart 30). The interaction between such structural factors and adverse temporary shocks may have transformed a temporary increase in the unemployment rate into a permanent one. Recent estimates by the Commission suggest that the NAIRU increased in the 1980s and it remained at a high level for almost five years before peaking in 1994 (chart 30).

The structural dimension of European unemployment can be highlighted by comparing the evolution of the unemployment rate, during the cyclical upturns of the late 1980s and late 1990s, with that of the NAIRU. In the first of these expansions, the unemployment rate decline was transitory and associated with a persistent high structural unemployment rate. The temporary reduction in unemployment exerted strong upward pressure on prices and wages. By contrast in the later period the decline in the structural unemployment rate was followed by a decline in the unemployment rate without any pressure on price and wage inflation.

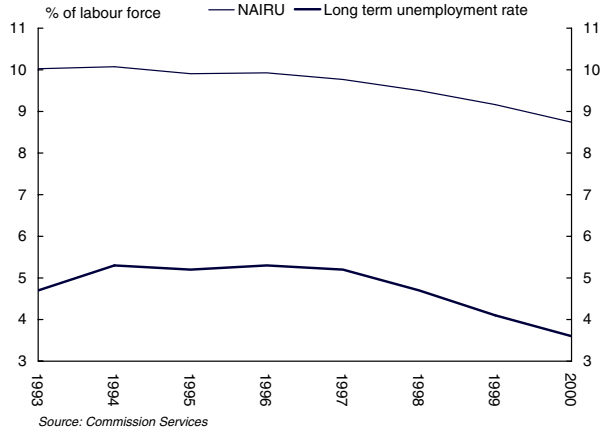
Evidence on the structural content of unemployment increases and of its origin in the mid-1980s can also be gained by looking at shifts in the Beveridge curve over time (annex 2.2). For all countries for which data are available, the curve shifts to the right during the mid 1980s without any clear evidence of a move back to the left in more recent years for most Member States. Only for Portugal, Finland and Sweden is there some evidence of a flattening of the Beveridge curve since 1997, which suggests an improvement in the marginal rate of job matching (an increase in the vacancy rate decreases unemployment more). By contrast, the Beveridge curve clearly moves back to the left only for the Netherlands and the UK.

1994 onward: declining structural unemployment

The rise in unemployment peaked in 1994. Since then the rate of unemployment in the EU has fallen by about 3.5 percentage points, reaching roughly the same level as in the early 1980s. The dispersion of unemployment rates has fallen as well. The coefficient of variation reached the lowest level since 1970 in 2001, suggesting that all Member States benefited from a similar decline in unemployment (chart 29). In 2000, the unemployment rate in the EU reached its lowest level for a decade, and has risen only marginally following the recent slowdown of economic activity. The decline has been particularly remarkable for those of the unemployed who are at high risk of marginalisation, namely the long-term and the very long-term unemployed, especially women. On the back of these improvements, the employment rate rose by more than 3 percentage points, with the female employment rate reaching an all time high. But the male rate is still below the average for the second half of the 1980s.

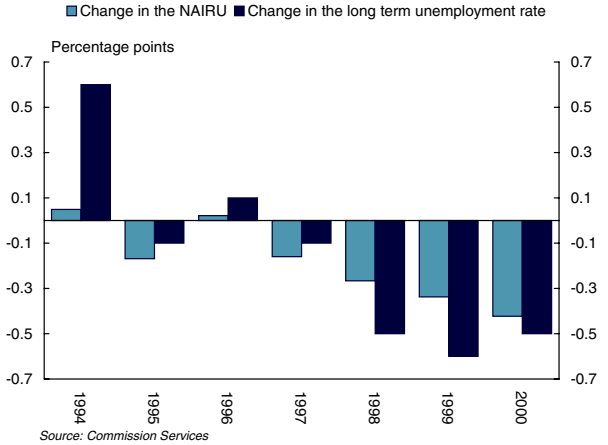
The fall in the rate of unemployment is only in part a transitory phenomenon as it was associated with a decline in the NAIRU (chart 30). After almost 13 years of consecutive increases, from 1994 the NAIRU started to decline and it is not expected to move up even though the unemployment rate has risen slightly because of the recent

31 Structural and long-term unemployment in the EU, 1993-2000



Source: Commission Services

32 Change in structural and long-term unemployment in the EU, 1993-2000



Source: Commission Services

economic slowdown. The decline in the NAIRU was associated also with a fall in the rate of long-term unemployed (charts 31 and 32).

The timing of the decline in the unemployment rate differs across Member States. Two main groups of countries can be identified on the basis of the timing of the decline (table 21 in annex 2.1). In the first group, the reduction in the unemployment rate dates back to the 1980s and it continued after 1997, but at a slower pace. Belgium, Ireland, Luxembourg, the Netherlands, Portugal and the UK belong to this group. For the second group of countries the decline of both total and long-term unemployment rate was more recent. In Denmark, Spain and Finland this decline occurred in the first half of the 1990s while in the other Member States it took place in the second half of the 1990s, and was particularly marked after 1997. In all these countries both the long-term unemployment rate and the NAIRU declined in the same period.

Employment and participation dynamics

The NAIRU is a useful benchmark against which to evaluate the changes in employment and participation that are not related to transitory variations of the business cycle. Chart 33 shows the NAIRU and the employment rate over the period 1980–2001[3]. In the 1980–1986 period, the increase in the NAIRU was clearly associated with a decline in the employment rate, as measured by national

Box 4 — Structural rate, equilibrium rate of unemployment and NAIRU[(a)]

In the economic literature structural unemployment is usually analysed in terms of the equilibrium rate of unemployment. As such it is a concept that is not tied to short-term economic fluctuations and, therefore, does not disappear in cyclical booms. Rather, it results from the institutional set-up of the economy, the structure of markets, demography, laws and regulations. These elements shape the relationships between wage and price setters, affect the interplay of demand and supply of labour and involve the efficiency of the search and matching process in the labour market. The structural, or equilibrium unemployment, therefore may be affected by the design of tax-benefit systems, skills mismatches, geographical and occupational mobility in the labour market, measures such as active labour market policies taken to prevent short term increases in unemployment becoming structural in nature, the degree of competition faced by producers in their relative markets and the long-term real interest rates. Factors that determine structural unemployment differ across countries and change over time. As a consequence their relative importance may change when country-specific institutional elements are taken into consideration.

When unemployment is determined by mechanisms that lead to persistency the distinction between cyclical and structural unemployment becomes more complex. This is the case when temporary increases in unemployment do not disappear when the shocks that caused them fade away. In any case the identification of structural unemployment with the concept of equilibrium is not clear cut. Indeed, it may refer to a situation where for some reason the economy does not clear existing excesses of labour supply. Alternatively it may relate to a state of excess supply which tends to perpetuate over time regardless of the market clearing properties, as when there is a subdued aggregate demand or efficiency wage considerations which lead enterprises to use wages both to remunerate and stimulate individual productivity so that, even with perfect competition, labour markets do not clear.

Two different, but interrelated, concepts of equilibrium are identified in economic literature: a stock and a flow equilibrium. Stock approaches focus on the difference at a given point in time between the workforce desired by firms (aggregate stock demand for labour) and the number of workers willing to work aggregate *stock supply* of labour). Flow approaches deal with the difference between the flows in and out of the unemployment pool during a certain period.

The NAIRU is a stock equilibrium concept defined as the level of unemployment rate compatible with a stable inflation rate in the absence of shocks, (i.e. when current and expected inflation coincide). It is based on an expectations augmented Phillips curve derived from models of wage and price setting in monopolistic product and labour markets. The NAIRU is a structural or equilibrium concept of the unemployment rate in the sense that economic agents have no incentives to change prices and wages when the economy is stuck at its level: it is the level of unemployment required to hold inflation in check. The NAIRU is thus an equilibrium concept based on supply side considerations only and on the assumptions that expectations are

[3] Two measure of the employment rate appear in the chart. The first is based on national accounts data, the second is from the Labour Force Statistics. Since long series of the employment rate are not available from LFS statistics, data based on national accounts are used to highlight the long-term relationship between the employment rate and the NAIRU. Despite the differences in their levels, the changes in the two measures are similar. Therefore, the employment rate based on national accounts is a reasonable approximation for the changes in the employment rates over time.

fulfilled and wages rise in line with prices after taking account of productivity changes.

Theoretical models of flow (structural) unemployment focus on the flow of workers in and out of unemployment. These models emphasise the heterogeneity of jobs and workers and, as a consequence, explain structural unemployment in connection with job search and matching. The equilibrium rate of unemployment emerges when the number of individuals finding a job equals the number of individuals who are separated from a job, and it is related to the efficiency of search and matching process. The Beveridge curve depicts the combinations of vacancies and unemployment coherent with equilibrium in the labour market. Along the curve unemployment is stable as inflows into unemployment equal outflows out of it. Therefore, movements along the curve reflect transitory shocks while shifts in the curve mirror structural demand shifts or reduction in the efficiency of job matching activities.

Stock and flow concepts of structural unemployment are related. Indeed, when the match between vacancies and unemployed is far from being perfect, firms may offer higher wages than usual to hire workers. In contrast, improvements in the efficiency of matching and increases in the search effort may induce an inward shift of the Beveridge curve (the relationship between vacancies and unemployment) and reduce the equilibrium unemployment rate. Therefore, properly designed policy interventions which reduce the mismatch between job vacancies and job seekers, could lead to a reduction of equilibrium unemployment.

The NAIRU may not necessarily be constant over time. Indeed, there are good reasons for the estimates of the NAIRU to follow actual unemployment. This occurs, for example, when there is hysteresis in unemployment, that is when the path of unemployment influences the position of the equilibrium unemployment rate, and so unemployment has persistent effects. This may happen when the duration of unemployment reduces the probability of a worker finding a new job via its effects on job search; workers' skill; motivation and morale; job screening and employer perceptions. In these cases, changes in policy variables and in the structure of markets can take some time to exert favourable effects on the equilibrium unemployment rate.

(a) This section draws upon: A. Lindbeck (2001), "Unemployment Structural", in N. J. Smelser and P. B. Baltes eds. International Encyclopedia of the Social and Behavioral Sciences Oxford: Pergamon. The literature on the NAIRU is vast. Evidence on the debate about the NAIRU can be found in R.J. Gordon (1988), "Back to the Future: European Unemployment Today Viewed from America in 1939", Brookings Papers on Economic Activity, vol. 19(1), 1988, pp. 271–304; O. Blanchard and L. Katz (1996), "What we know and do not know about the natural rate of unemployment", NBER WP no. 5822; L. Ball (1999), "Aggregate Demand and Long-Run Unemployment", Brookings Papers on Economic Activity, 1999: 2, pp. 189–251; T. Laubach (2000), "Measuring the NAIRU: evidence from seven countries", Review of Economic and Statistics 83(2) 2001. A reference on the usefulness of NAIRU for economic policy is W. Franz (2001), "News from the NAIRU?," Jahrbücher für Nationalökonomie und Statistik 221(3). It could be noted that sceptical authors looked for a time-varying NAIRU. See, e.g., R. Gordon, "Foundations of the Goldilocks Economy: Supply Shocks and the Time-Varying NAIRU", Brookings Papers on Economic Activity, vol. 29(2), 1998, pp. 297–333.On the possible existence of a multiplicity of NAIRU see Akerlof G., Dickens A., Perry W., George L. (2000), "Near rational wage and price setting and the long-run Phillips curve", Brookings Papers on Economic Activity, vol. 1, pp. 1–44; C. De Vincenti (2001), "Customer markets, Inflation and unemployment in a dynamic model with a range of equilibria", Metroeconomica 52(1). A sceptical view on the NAIRU concept can be found in M.Sawyer (1997), "The NAIRU: A Critical appraisal", WP 203 The Levy Economics Institute of Bard College.

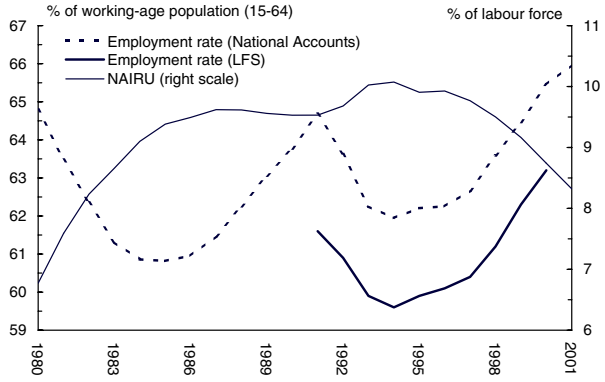
accounts data. In the following eight years, the NAIRU moved up moderately while the employment rate fluctuated widely. From 1994, a declining NAIRU was associated with an increasing employment rate. It is clear that increases in structural unemployment were related to the bleak employment performance. As chart 34 shows, the rise in structural unemployment mirrored strong employment losses in the 1980s[4]. From 1994, the decline in the NAIRU occurred with robust employment gains, a relationship which reflects similar patterns in almost all Member States. The increases in the cyclically adjusted employment rates, however, differ across countries with Luxembourg, Spain, the Netherlands and Ireland experiencing the strongest increases (annex 2.3).

For the participation rates, the evidence of the 1980s and early 1990s appears in marked contrast with that of the mid-1990s. In the earlier period, the number of active people as a percentage of the working age population increased rapidly with the rise of the NAIRU (charts 35 and 36). In the most recent period, the increase in participation was associated with a decline in the structural unemployment rate in France, Italy, Spain, Sweden, UK, Netherlands, Portugal and Finland (annex 2.4).

Relevant differences still exist across Member States in the levels of unemployment, long-term unemployment, employment and activity rates. In the year 2000, both the unemployment rate and the NAIRU were higher than the EU average for Spain, Greece, Italy and France. In Finland the

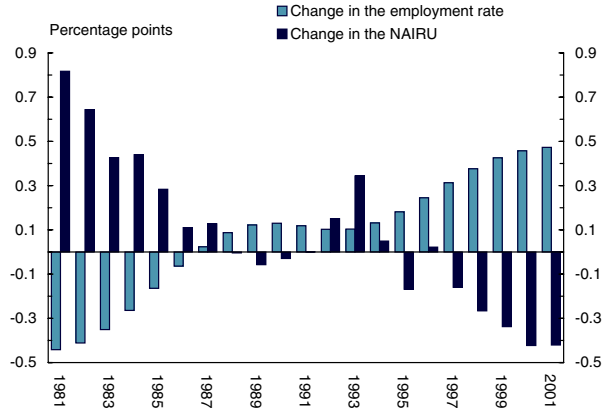
4 The cyclically adjusted series have been computed applying the Hodrick-Prescott filter to the original data with 100 as smoothing parameter.

33 Employment rate and structural unemployment rate in the EU, 1980-2001



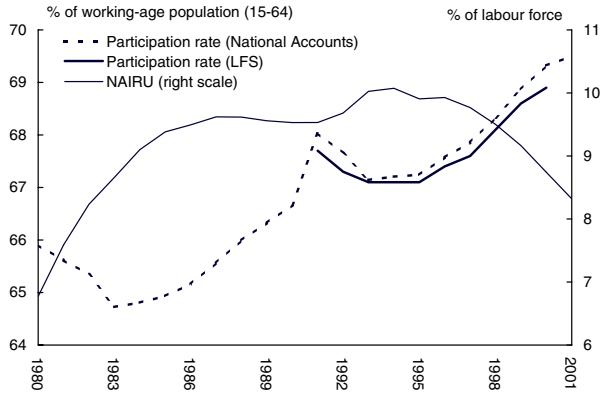
Source: Commission Services

34 Changes in the cyclically adjusted employment rate and in the structural unemployment rate, 1980-2001



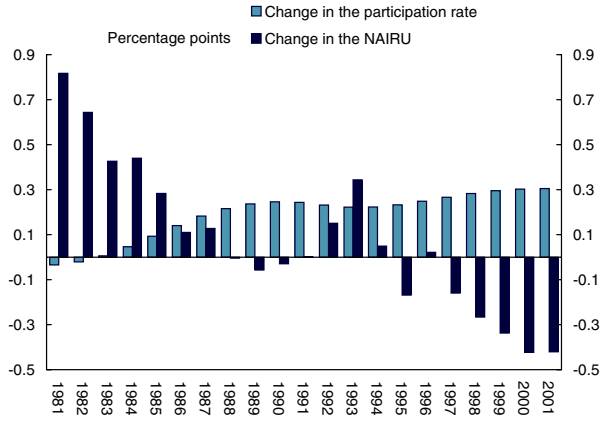
Source: Commission Services

35 Participation rate and structural unemployment rate in the EU,1980-2001



Source:Commission Services

36 Changes in the cyclically adjusted participation rate and in the structural unemployment rate, 1981-2001



Source: Commission Services

unemployment rate was about 1.5 percentage points higher than the EU average. In this year, the difference between the highest and the lowest unemployment rate in the EU reached 9.9 percentage points while for the NAIRU this difference was 12.7 percentage points. In the same year, the long-term unemployment rate appeared higher than the EU average for Italy, Greece and Spain, with a spread of 6.2 percentage points between the highest and lowest long-term unemployment rates between the EU countries. Though considerably lower than the difference observed in 1993 (at about 10 percentage points), it still reflected sizeable discrepancies among Member States. Significant differences also exist between Member States' employment rates with a difference in the year 2000 of almost 23 percentage points between the highest and the lowest employment rate. In this year, Italy, Spain, Greece, Belgium and to a lesser extent France, had employment rates lower than the EU average. Finally, the difference between the highest and the lowest participation rates was about 20 percentage points with rates below the EU average for Italy, Greece, Spain, Luxembourg and Ireland.

Tables 15–17 classify Member States in different groups according to the performance and the levels of employment, participation and structural unemployment rates in the year 2001[5]. Where employment and participation rates are relatively high, measures need be taken to improve the adaptability of the labour force to the challenges of structural and technological

Table 15 — Employment rates — Levels 2001 and improvement 1993–2001

Improvement 1993–2001	Levels			
	Far away from EU target	Substantially below EU target	Below EU target	Above EU target
Small			Portugal, Austria	
Medium	Greece, Italy	Belgium, Germany, France, Luxembourg	Finland	Denmark, Sweden, UK
Strong	Spain	Ireland		Netherlands

Table 16 — Participation rates — Levels 2001 and improvement 1993–2001

Improvement 1993–2001	Levels			
	Very low	Low	Medium	High
Small			UK	Sweden, Denmark
Medium	Italy, Belgium, Greece	France	Austria, Germany, Portugal, Finland	
Strong	Spain	Ireland, Luxembourg		Netherlands

Table 17 — NAIRU — Levels 2001 and improvement 1993–2001

Improvement 1993–2001	Levels			
	Very low	Low	Medium	High
Small	Luxembourg, Austria	Germany	Greece, Italy	
Medium	Netherlands, Portugal, UK	Belgium, Finland, Sweden	France	
Strong	Denmark	Ireland		Spain

change. Countries with participation rates near the EU average should take advantage of their relatively high participation to create more jobs and reduce their structural unemployment rates. Participation will have to rise significantly in those countries with low activity rates to create the conditions for further increases in the employment rate in a way that is conducive to a sustainable reduction of the unemployment rate. Finally, interventions to stimulate job creation and to promote participation are required when both employment and participation are extremely low.

[5] Employment rate levels are considered to be *below target* if they are between 0 and 2 percentage points below 70%, *substantially below target* when they are between 2 and 10 percentage points below 70% and *far away from target* when they are lower than 70% by more than 10 percentage points. The criteria for defining the improvements are the following. The improvement is *small* if the changes in the employment rates are lower than the one observed for the EU by more than 1 standard deviation; it is *medium* if the change observed is lower or higher than the EU average by a standard deviation which is between –1 and 1; the improvement is strong if it exceeds the EU average by more than one standard deviation. The standard deviation is calculated with respect to the EU aggregate and measures the dispersion in a variable with respect to the EU average. The criteria for assigning a country to a group according to the level of the participation rates is based on the difference between activity rate in country *i* and that of the EU being respectively between –1 and 0 standard deviation for the *low* group; between 0 and 1 standard deviation for the *medium* group; countries with participation rates exceeding the EU average by more than 1 standard deviation are classified in the high group; the *very low* group includes Member States with activity rates lower than the EU average by more than 1 standard deviation. The improvements are defined according to the same rule used for the employment rates. The criteria for assigning a country to a group according to the level of the NAIRU is based on the difference between the country NAIRU and the EU one being respectively between –1 and 0 standard deviation for the medium group; between 0 and 1 standard deviation for the *high* group; countries with a NAIRU exceeding the EU average by more than 1 standard deviation are classified in the *very high* group; the *low* group includes Member States with a NAIRU lower than the EU average by more than 1 standard deviation. The improvements are defined according to the same rule used for the employment rates.

Is there a change in the cyclical behaviour of employment, labour force and unemployment?

Employment, labour force and unemployment fluctuate over the business cycle. The unemployment rate is usually expected to decline in upturns and increase in downturns. But the short-run relationship between the unemployment rate and the evolution of the business cycle may not necessarily remain constant over time. This may happen as cyclical changes in employment and in the labour force are only imperfectly captured by changes in the unemployment rate. Breaks in the cyclical behaviour of unemployment may reflect either shifts in the employment patterns or changes in labour supply decisions or both. New forms of organisation of work, modifications in the wage bargaining system and in the structure of production may play a role.

The recent economic slowdown hit the European economy after a period of economic expansion characterised by a strong increase in employment growth. Since 1995 employment has increased at 6.7%, and the employment rate has risen from 60% to 63.3%. Over the same period, the participation rate improved by almost two percentage points, reflecting the rise in female participation. The unemployment rate declined as a consequence from a peak of 10.7% to 8.2%, a level close to that prevailing at the beginning of the 1990s. This positive employment performance has led the OECD to speak about a *European Job Machine* (OECD 2001)[6].

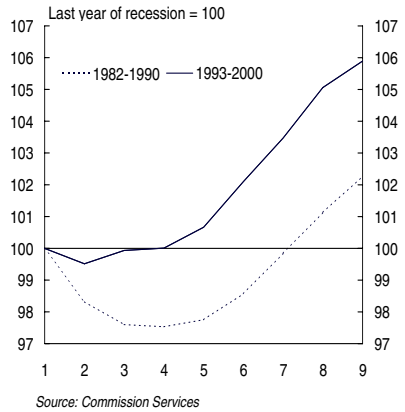
These developments contrast with the performance after the recession of the early 1980s (charts 37–39). Despite weaker economic growth in the 1990s than in the previous decade, the cyclical response of employment and unemployment to output growth has been higher in the recent recovery than in the previous one. As the charts show, employment decreased for two years after the 1982 recession, and it took five years to return to a level experienced at the early stage of the recovery. By contrast, employment increased almost immediately after the recession of the early 1990s. Also, the unemployment rate was less persistent in the period following the 1993 recession than in that following the recession of the early 1980s. In the aftermath of the 1990s recession, the unemployment rate remained mostly unchanged before starting to fall significantly. This analysis suggests that a break occurred in the 1990s in the cyclical behaviour of employment participation and unemployment rate — an issue explored below.

The effect of upturns and downturns on employment, labour force and unemployment

Since the evolution of the unemployment rate reflects the dynamics of employment and of the labour force, the cyclical behaviour of

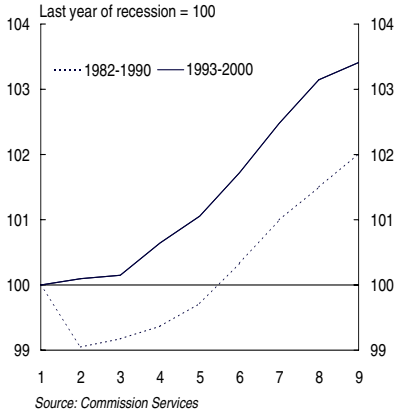
Evolution of key employment indicators during previous recoveries: 1982-1990 and 1993-200

37 Employment rate



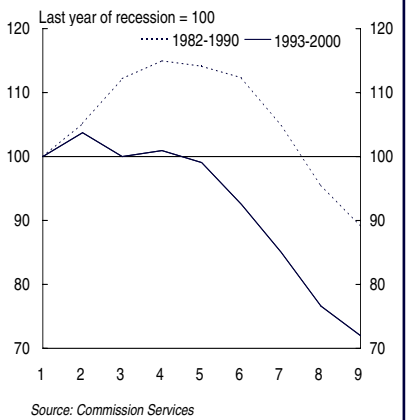
Source: Commission Services

38 Activity rate



Source: Commission Services

39 Unemployment rate



Source: Commission Services

[6] OECD (2000–2001), "Annual Review of the Euro Area".

unemployment can be analysed by looking at the response over the business cycle of both the demand and the supply of labour. An econometric analysis can investigate the link between the unemployment rate and GDP growth over the business cycle. A common way of looking at this link is by testing *Okun's law*, which predicts a negative relationship between the unemployment and output over the business cycle (see box 5).

Econometric evidence presented in box 5 suggests that the position of the economy in the cycle matters for the cyclical response of unemployment. In particular, when the level of GDP is above its potential and the economy is growing, the unemployment rate declines by less than when it is below its potential. A similar finding holds when economic growth is slowing down and the GDP is above or below its potential level. In the former case the unemployment rate rises less than in the latter (table 18).

Table 18 — Asymmetric model — Short-run effect of an increase in the output-gap on

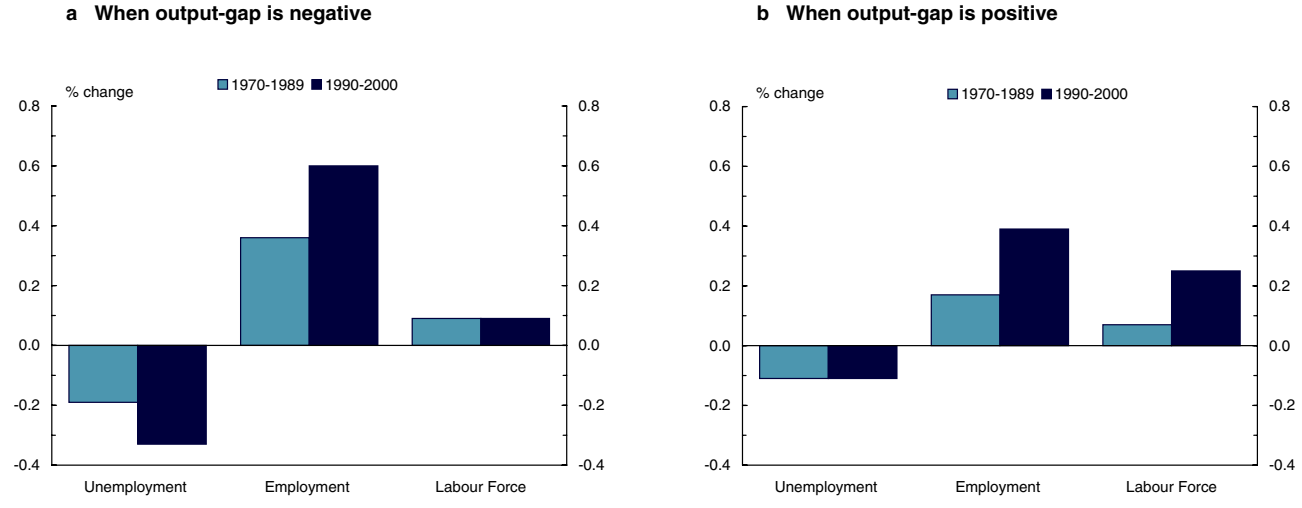
	Unemployment	Employment	Labour force
1970–1989			
GDP above potential	-0.11	0.17	0.07
GDP below potential	-0.19	0.36	0.09
1990–2000			
GDP above potential	-0.11	0.39	0.25
GDP below potential	-0.33	0.60	0.09

Source: See box 5

One explanation of the asymmetry in this response would be, for example, that when the economy is above its long-term trend it may already have employed most of its "usable" productive resources. This implies that if the expansion continues, employment would expand by less than when the real GDP is below its long-term trend. In contrast, when real GDP is below its trend, there is an under-utilisation of resources and price changes are relatively small while employment growth is bigger. Similarly, the cyclical behaviour of the labour force may differ during periods of negative and positive output-gap when the response of discouraged workers changes according to the state of the economy.

A significant difference emerges when comparing the cyclical response of unemployment, employment and participation for the years 1970–1989 and the years 1990–2000. Between 1970 and 1989, positive output gaps during expansions or slackening of economic activity seem to affect unemployment as much as in the period 1990–2000. However, when the output gap is negative and

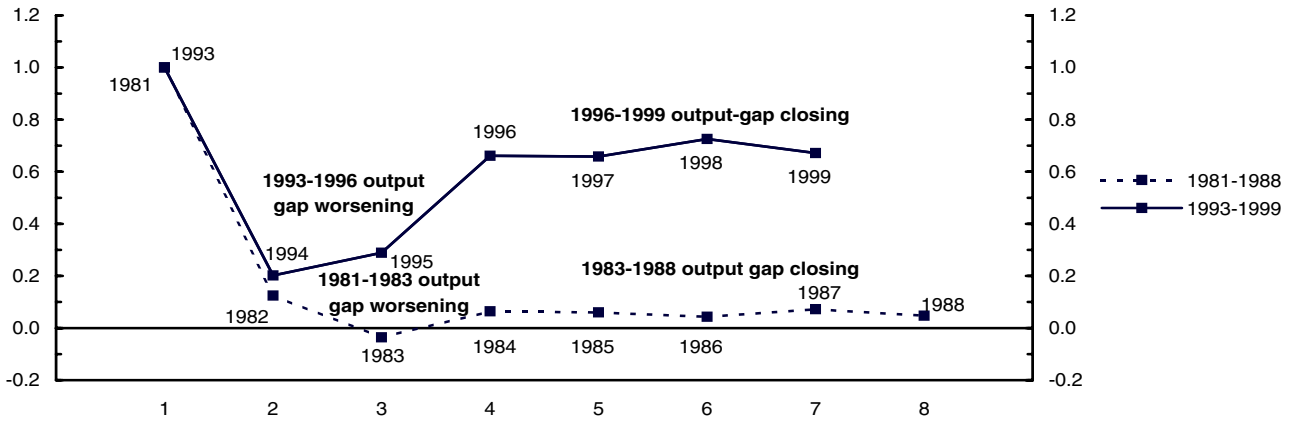
40 Short-run effects on labour market variables of an increase in GDP by 1%



Source: See box 5

41 Elasticity of the labour force during period of negative output gaps

(Labour force growth/GDP growth normalised with respect to the first year of recession)



Source: Commission Services

the economy is in a phase of cyclical recovery, unemployment seems to decrease more in the later period. Therefore, it matters if real GDP falls below its trend. In this case the consequences for unemployment may be more adverse. However, if real GDP growth falls, but remains above its trend, the unemployment response may be comparatively limited.

Thus, the 1990s were a decade of change in the cyclical behaviour of both the labour demand and the labour supply[7]. Chart 40a display the cyclical response of unemployment, employment and the labour force to a 1 per cent increase in the cyclical component of GDP when it is below its long-run trend (negative output-gap). Analogously, chart 40b show the cyclical response of unemployment, employment and the labour force to a 1 per cent increase in the cyclical component of GDP when it is above its long-run trend (positive output-gap). They show that the higher response of employment in the 1990s was particularly accentuated during periods of negative output gap, while for the labour force the opposite seems to hold — that is its responsiveness was higher during years when GDP was above trend than in years when it was below trend.

Periods of boom are characterised by a stronger increase in employment and, above all, in the size of the labour force. One implication of this is that, compared to the years between 1970 and 1989, in the 1990s a smaller proportion of those who lost their jobs was inclined to leave the labour market when this boom faded and GDP stayed below trend for a considerable period of time. Chart 41 shows how the elasticity of the labour force to GDP has evolved during two periods of negative output gap (GDP below its potential). The relative responsiveness of the labour force fell in the aftermath of the recession of the early 1980s with no sign of recovery in the following six years. By contrast, after a transitory decline in coincidence with the recession of the early 1990s, the responsiveness of the labour force rose sharply — participation increased markedly.

This finding suggests that in the 1990s those losing their jobs seemed less discouraged than in the past as they continued searching for employment, perhaps because of their perception of better employment opportunities despite a gloomy economic outlook. Under these circumstances policies that maintain the employability of workers during downturns could reduce the long-term component of unemployment. The second implication concerns the consequences of high employment response during a deterioration of economic activity when GDP falls below trend. Since employment has become more flexible and as people who have lost their jobs are less inclined than in the past to leave the labour market, a slowdown may lead to stronger unemployment increases if real GDP falls below its trend.

[7] This is also the conclusion of a recent study by the IMF with respect to the employment response, while the response of unemployment and the labour force are not explored. IMF (2001), "Selected Euro-Area Countries: Rules-Based Fiscal Policy and job-Rich growth in France, Germany, Italy and Spain" — Report with supplementary information, November 2001, Country Report no. 01/203.

In a dynamic perspective, these findings show that when GDP is below its long-term trend and the economy improves, much more employment is created than in the past, helping the unemployment rate to go down. When the recovery continues and GDP goes above its trend many more people enter the labour market, sustaining further employment gains. These results are consistent with the stylised facts observed analysing the behaviour of employment, unemployment and the labour force after the recessions of the early 1980s and the early 1990s. When a slowdown is prolonged, a relatively sharp decline in employment and increase in unemployment, only partly limited by a change in the labour force participation, may occur with a risk of high unemployment levels at the early stage of the recovery. This underlines the importance of prevention and early action when unemployment emerges to ensure that increases in unemployment do not become structural.

The role of temporary contracts

The increase in the cyclical response of employment may be partly related to the increase in temporary employment that took place in the 1990s[8].

The introduction of temporary jobs may have two effects, one in the short term and one in the long term. As temporary contracts are introduced, firms may substitute some of their permanent jobs with temporary ones[9]. The substitution may not be complete either because

Box 5 — Okun's law

Okun's Law reflects the idea that over the business cycle additional production of goods and services requires more employed workers. As production goes above potential, workers are drawn into the labour force, thereby reducing unemployment below its long-term trend. Analogously, when production falls below trend, unemployment rises above its trend. In addition, during expansions and contractions of the economic activity, unemployment fluctuations are lower than those in output, either because firms may vary hours worked to cope with temporary fluctuations of demand or because of changes in the labour force due to the so called "discouraged workers". These are jobless people who withdraw from the labour market altogether as they are pessimistic about their employment prospects.

Okun's law was tested for the period 1970–2000 on a panel composed of the 15 Member States, by quantifying the impact of a change in the output gap (the deviation of real GDP from its trend) on the cyclical component of unemployment. The cyclical responsiveness of the dependent variable to positive and negative output gaps was estimated by adopting a different dynamic specification when GDP is respectively above or below potential. The test of asymmetry evaluates if the increase (decrease) in unemployment (employment or labour force) in a recession occurs faster than the decrease in a boom. This type of asymmetry is called deepness. The models have also been estimated for the employment and the labour force.

Formally, for both the unemployment the employment and the labour force, the following equation is estimated

$$y_{it} = \alpha_i + \beta_1 * y^P_{it-1} + \beta_2 * y^N_{it-1} + \beta_3 * y^P_{it-2} + \beta_4 * y^N_{it-2} + \beta_5 * ogap^P_{it} + \beta_6 * ogap^N_{it} + \beta_7 * ogap^P_{it-1} + \beta_8 * ogap^N_{it-1} + \beta_9 * DU90 * ogap^P_{it} + \beta_{10} * DU90 * ogap^N_{it} + \beta_{11} * DU90 * ogap^P_{it-1} + \beta_{12} * DU90 * ogap^N_{it-1}.$$

Where:

- the indices *N* and *P* identify respectively negative from positive output-gaps
- α_i is a fixed effect; $u_{i,t} \sim N(0,\sigma^2)$; $E(\alpha i\, u_{i,t})=0$; $E(uu')=\Sigma \otimes I_T$ with Σ a symmetric matrix of contemporaneous correlation with a typical element $\sigma_{ij}=E(u_{it}u_{jt})$.
- $y_{i,t}$ is respectively the **cyclical** component of the unemployment rate, employment and the labour force of country *i* at time *t* and $ogap_{i,t}$ is the cyclical component of real GDP of country *i* at time *t*. *DU90* is a dummy that helps to identify changes in the elasticity of employment to output after 1990. The coefficients of the regressions are estimated on the basis of the business cycle, thus removing long-term effects that may be included in the trend components. The cyclical components are calculated as deviations of the original series from their respective trends. The trends have been established by the Hodrick-Prescott filter applied over the 1970–2000 period with 100 as smoothing parameter. The output gap is from the Commission Services' AMECO database. For the years up to 1990 the effect on employment of an increase in the output-gap is β_5 when the output-gap is positive. For the years up to 1990 the effect on employment of an increase in the output-gap is β_6 when the output-gap is

[8] In the LFS temporary contracts are contracts of limited duration including a) contracts covering a period of training (apprentices, trainees, research assistants, etc) and b) contracts for a probationary period. Both individuals who could not find a permanent job and who did not want a permanent job are considered in the analysis.

negative. If β_9 is significantly different from zero, the effect for the 1990s is equal $\beta_5 + \beta_9$ when the output-gap is positive; it is $\beta_6 + \beta_{10}$ when the output-gap is negative.

The table 19 below shows the estimate of the short-run determinants of unemployment employment and the labour force. Each row represent the effect on these variables of the respective variables appearing in the first column. From the top to the bottom the numbers are the estimates of the coefficients α_1, α_2, α_3, α_4, α_5, α_6.

The numbers in table 18 in the text are obtained from the coefficients respectively of the *Positive Ogap* and *Negative Ogap*. For the period 1990–2000 the numbers in table 18 are obtained combining the above-mentioned coefficient with those of *DU90*Positive Ogap* and *DU90*Negative Ogap*.

Table 19 — Asymmetric model: feasible GLS

	Effect of an increase in the output-gap on		
	Unemployment	**Employment**	**Labour force**
Lagged 1	1.08	1.00	0.80
Positive output-gap	(19.8)	(21.62)	(14.33)
Lagged 1	0.85	0.77	0.65
Negative output-gap	(20.1)	(17.8)	(14.70)
Lagged 2	-0.57	-0.37	-0.25
Positive output-gap	(-13.2)	(-7.92)	(-4.75)
Lagged 2	-0.37	-0.31	-0.15
Negative output-gap	(12.18)	(-8.23)	(-3.6)
Positive $Ogap_t$	-0.11	0.17	0.07
	(-8.02)	(7.01)	(2.85)
Negative $Ogap_t$	-0.19	0.36	0.09
	(-14.21)	(12.2)	(3.61)
Positive $Ogap_{t-1}$	-0.004	:	0.06
	(-0.22)		(0.21)
Negative $Ogap_{t-1}$	0.03	:	0.04
	(2.14)		(1.99)
Positive $Ogap_{t-2}$	:	-0.009	0.04
		(-0.35)	(1.65)
Negative $Ogap_{t-2}$	:	-0.04	:
		(1.73)	
DU90* Positive $Ogap_t$	-0.04	0.22	0.18
	(-1.36)	(3.65)	(3.76)
DU90* Negative $Ogap_t$	-0.14	0.24	0.01
	(-4.24)	(4.90)	(0.28)
DU90* Positive $Ogap_{t-1}$	0.007	-0.23	-0.11
	(0.24)	(-1.80)	(-1.97)
DU90* Negative $Ogap_{t-1}$	0.08	-0.17	
	(2.77)	(-4.04)	
DU90* Positive $Ogap_{t-2}$	:	:	-0.11
			(-2.41)
DU90* Negative $Ogap_{t-2}$	:	:	-0.06
			(-2.72)
R^2	0.82	0.81	0.54
s.e.	0.53	0.83	0.75
F1	0.14	1.79	4.04
	1970-89 1990-00	1970-89 1990-00	1970-89 1990-00
Wald test for asymmetry p-value	13.39 6.70	21.4 0.087	0.38 7.74
	0.0003 0.009	0.000005 0.76	0.54 0.006
p-value	0.87	0.16	0.35

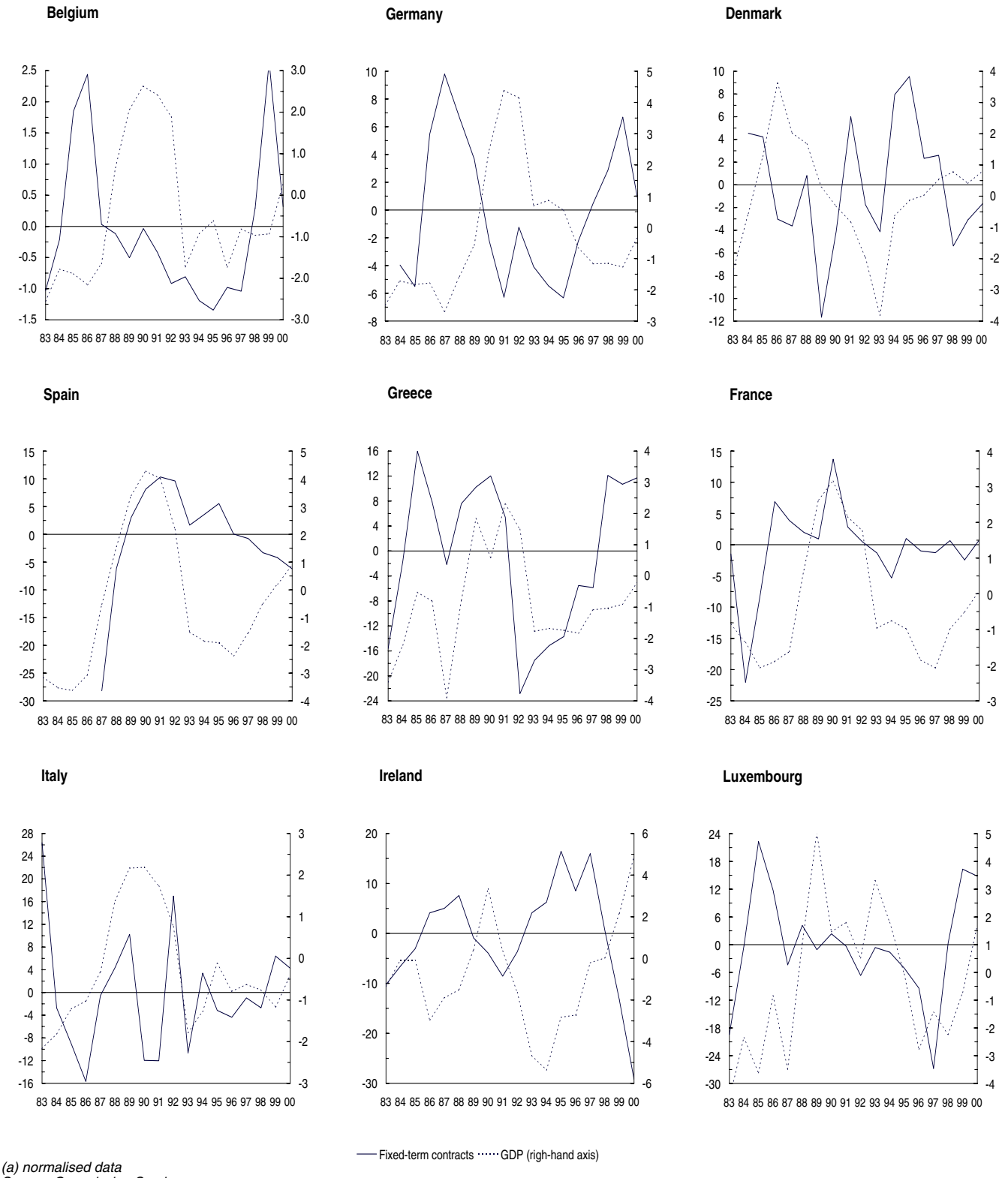
employers need permanent workers, who usually have firm-specific skills, or because the employment legislation puts a limit on the use of contracts of limited duration. Therefore, there may be substitution between temporary and permanent jobs until a certain ratio of temporary to permanent job is achieved. A part from this effect, output elasticity of employment rises with the share of temporary employment. Moreover, if firms require permanent workers because they have firm-specific skills, permanent workers will be less affected by demand fluctuations. As a consequence, the variability of temporary employment increases during the economic cycle.

Chart 42 shows, that although temporary contracts have been on the rise in almost all Member States, differences exist in their cyclical behaviour. In some countries such as Spain (until the mid 1990s) and France, the share of temporary jobs increases over the business cycle with GDP, perhaps because they are used at the margin to cope with temporary changes in economic activity. By contrast, the share of temporary contracts seems anti-cyclical in other Member States such as Germany, Spain (from 1995), Ireland and the UK, suggesting that as employer confidence rises, they are motivated to offer a greater number of permanent appointments.

To test whether the increase in the temporary content of employment is associated with an increase in the reaction of employment over the business cycle, we adapted our test of *Okun's law* (box 6). This has been

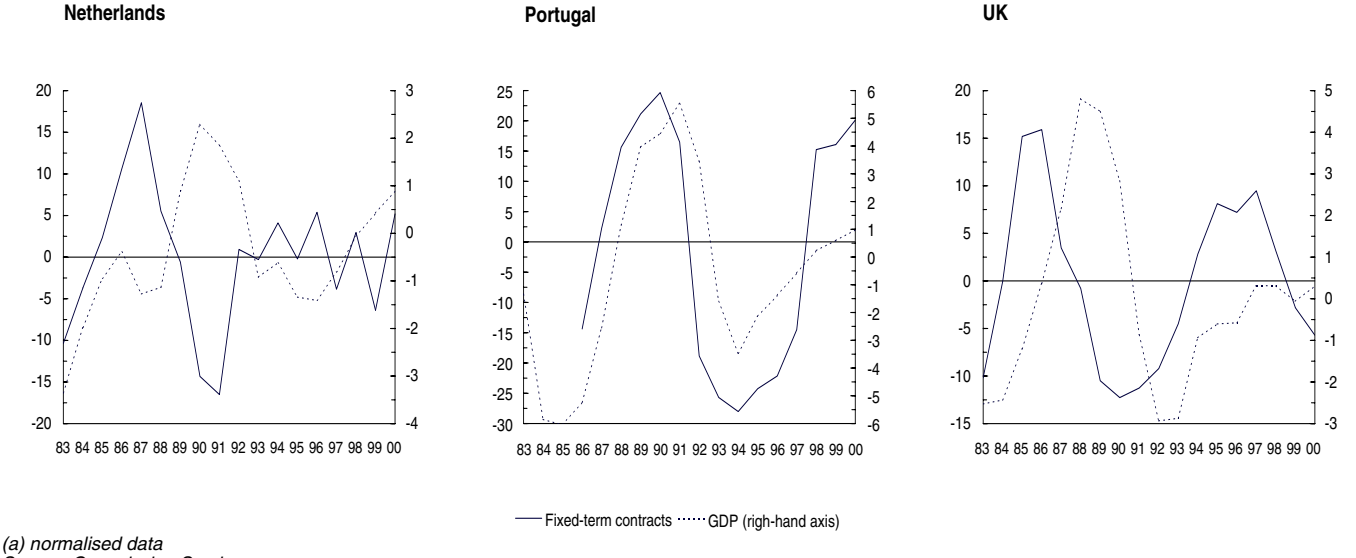
[9] S. Bentolila and G. Saint-Paul (1992), "The macroeconomic impact of flexible labour contract, with an application to Spain", European Economic Review 36, 1013-1047. Bentolila and Bertola (1990), "Firing costs and labour demand: How bad is the Eurosclerosis?", Review of Economic Studies 57: 381-402.

42 The cyclical behaviour of fixed-term contracts and of GDP [(a)]



(a) normalised data
Source: Commission Services

42 The cyclical behaviour of fixed-term contracts and of GDP [(a)] (continued)



(a) normalised data
Source: Commission Services

done by distinguishing the temporary and permanent effects of the introduction of temporary jobs. As far as the long-run equilibrium conditions (represented by the trend) are concerned, the elasticity of employment to output should rise with the share of temporary contracts. If temporary and permanent jobs are substitutes, an increase over the cycle of temporary jobs should be associated with a reduction in the elasticity of employment to output. By contrast, if temporary and permanent jobs are complements, the elasticity should rise over the business cycle with the share of temporary contracts.

The empirical analysis identifies two effects. Firstly, the elasticity of employment to GDP over the business cycle is higher for those countries where the long-term share of temporary jobs is higher. This implies that increases and decreases in employment, respectively during expansions and contractions, are relatively high if this share is relatively high. This seems to be the case for France and the Netherlands. Secondly, there is some substitution over the business cycle of permanent with temporary jobs. As a consequence the overall response of employment to output is reduced. Therefore, the "bonus" provided by flexible forms of contractual arrangements is somewhat reduced when countries are "over-exploiting" the possibilities of temporary contracts and use them as a substitute for permanent employment.

These findings suggest that the increase in the share of temporary contracts has significantly raised the employment response to changes in output over the business cycle. Furthermore, this stronger reactivity is explained by the rapid increase in the long-term component of the share of temporary contracts rather than its short-term component. As a consequence, the increase in the responsiveness of employment over the business cycle may be considered permanent, at least with the current share of temporary contracts.

Evidence in other chapters of this report, however, suggests that workers in temporary contracts leave the labour market more frequently than workers in permanent contracts, even if one controls for other socio-economic characteristics.

Based on an agreement by the social partners, the Council has adopted a directive to ensure equal treatment between workers in fixed-term contracts and permanent contracts, in particular concerning working conditions and training. More recently, the Commission adopted a proposal on the working conditions of temporary agency workers providing equality of treatment with comparable workers in the user enterprises and improving the training opportunities. It also asks those Member States in which agency work is still underdeveloped to review any

Box 6 — An estimate of the effect of temporary contracts on the cyclical reactivity of employment to output

Aggregate effects of temporary contracts

Panel data techniques have been used to estimate Okun's law assuming a country-specific and time varying slope heterogeneity. This implies that for each country the elasticity of employment to output is changing over time according to the trend in the share of temporary contracts and to its cyclical component. In symbols

$$emplc_{it} = \alpha_i + \beta_1 * emplc_{it-1} + \beta_{3it} * ogap_{it}$$

with

$$\beta_{3it} = \mu_1 + \mu_2 * ft\_trend_{it} + \mu_3 * ftc_{it}$$

Where

- $emplc_{it}$: is the cyclical component of employment;
- ft_trend_{it}: is the trend in the share of temporary contracts;
- ftc_{it}: is the cyclical component of the share of temporary contracts.

Substituting the expression for β_{3it} in the previous equation we have

$$emplc_{it} = \alpha_i + \beta_1 * emplc_{it-1} + \mu_1 * ogap_{it} + \mu_2 * ft\_trend_{it} * ogap_{it} + \mu_3 * ftc_{it} * ogap_{it+uit}$$

This equation estimates the cyclical reactivity of employment to output and to identify if there is a "bonus" in terms of higher elasticity for countries having a high share of temporary contracts as well as the possible substitution or complementarity between permanent and temporary employment. The estimates of the parameter in the table suggest that FT_TREND and FTC capture country heterogeneity. All the coefficients are statistically significant. It is interesting to note the different effects of the share of temporary contracts on the elasticity of the trend component and the cyclical component. The sign of μ_2 suggests that the effect of the output-gap on employment is higher in a country with a high share of the trend component of temporary contracts. However, this effect is somewhat reduced when the cyclical component of (the share) of temporary contracts is high.

Fixed effect estimates of Okun's Law

Variable	Coefficient
EMPLC(-1)	0.45 (14.4)
OGAP	0.32 (5.98)
FT_TREND*OGAP	0.016 (3.1)
FTC*OGAP	-0.008 (-3.27)

Total panel (unbalanced) observations: 207. Fixed effect GLS estimator, correcting for country heteroskedasticity.
Sample 1983–2000 — R-squared 0.81 — Adj R-squared 0.79 — s.e 0.98
t-statistics in parenthesis.

restrictions on this sector that may exist. The implementation of these directives will help countries to exploit the potential of these forms of employment more fully and to improve job quality and stability of employment, thereby ensuring the sustainability of the improved employment performance.

Evidence on long-term trends in the labour market

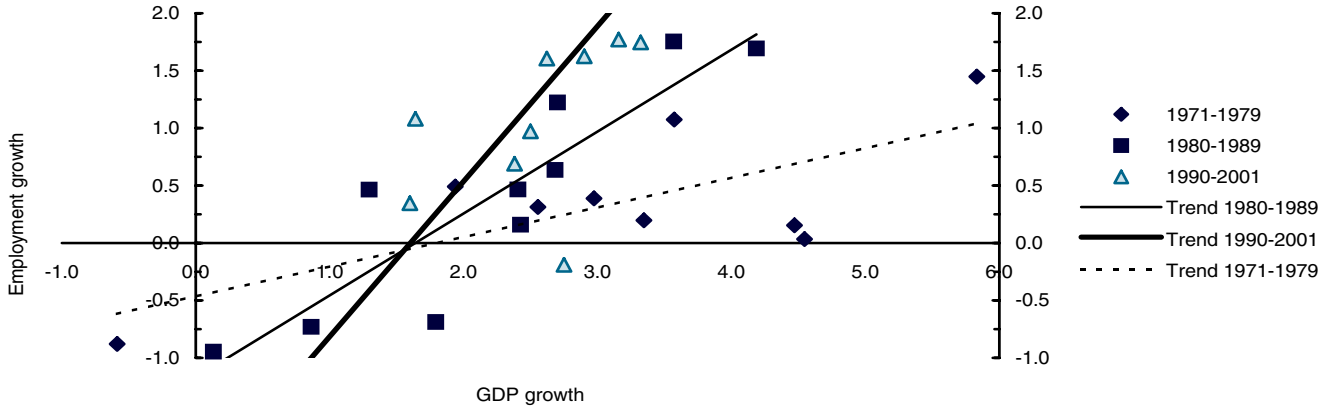
Throughout the last three decades, the apparent elasticity of employment growth to output growth increased in all Member States, and was higher in the second half of the 1990s than during the pronounced cyclical upswing of the period 1986–1991[10]. Chart 43 shows on the horizontal and vertical axes, respectively, the growth rates of GDP and employment for the periods 1971–1979, 1980–1989 and 1991–2001. The evidence suggests that for the EU as a whole the responsiveness of employment growth to output growth (the slope of each line) increased in the 1990s with respect to the previous two decades.

Evidence further shows that it was mainly the growth of the service sector that contributed to this increase. By contrast, the contribution of industry was negative in the 1980s and 1990s. GDP growth translated therefore into higher employment growth primarily because employment in the service sector was responding positively to economic growth.

As already discussed, unemployment declined in the EU (from

[10] European Commission (2001), "The EU Economy 2001 Review, Investing in the Future", European Economy 2001 no. 73, DG Economic and Financial Affairs.

43 Job rich growth in the EU



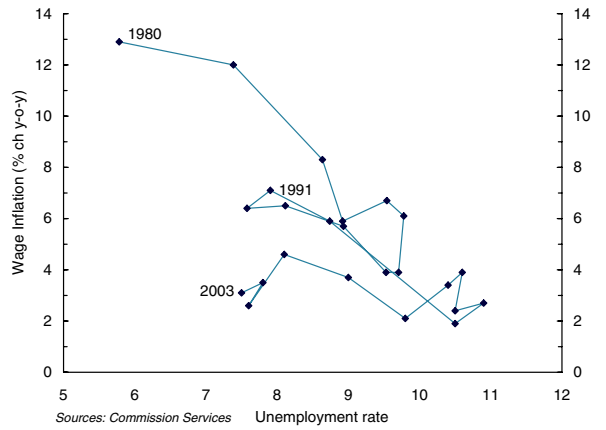
Source: Commission Services

10.5% in 1993 to 7.6% in 2001) without inflationary pressures, and with subdued wage pressure. This suggests that the structural unemployment rate has declined. This section discusses further what lies behind this decline by looking at wage and price Phillips curves. The impact of changes in the age and skill structure in explaining the trends in employment, participation and unemployment is also considered.

Price and wage Phillips curves

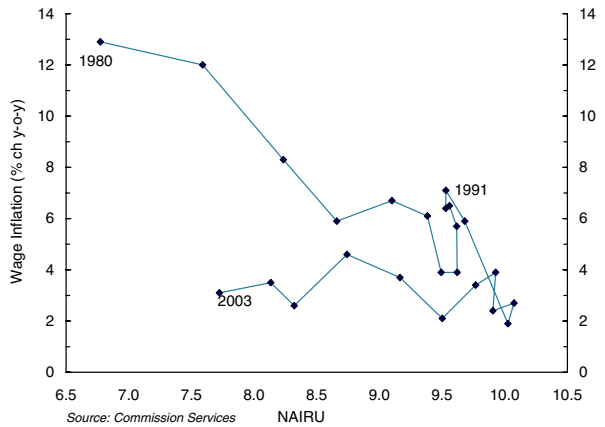
There is evidence to date of a change in the 1990s of the wage Phillips curve[11]. Data suggest both a downward shift in the curve and a change in its slope. The inward shift in the curve implies that Europe has moved to a sustainable and lower inflation path characterised by subdued inflationary expectations (chart 44). The change in the slopes suggests that unemployment could be further reduced with modest inflationary pressures. All in all these changes are behind the decline in the NAIRU. In the 1980–1993 period the increase

44 Wage inflation and unemployment rate, 1980-2003



Sources: Commission Services

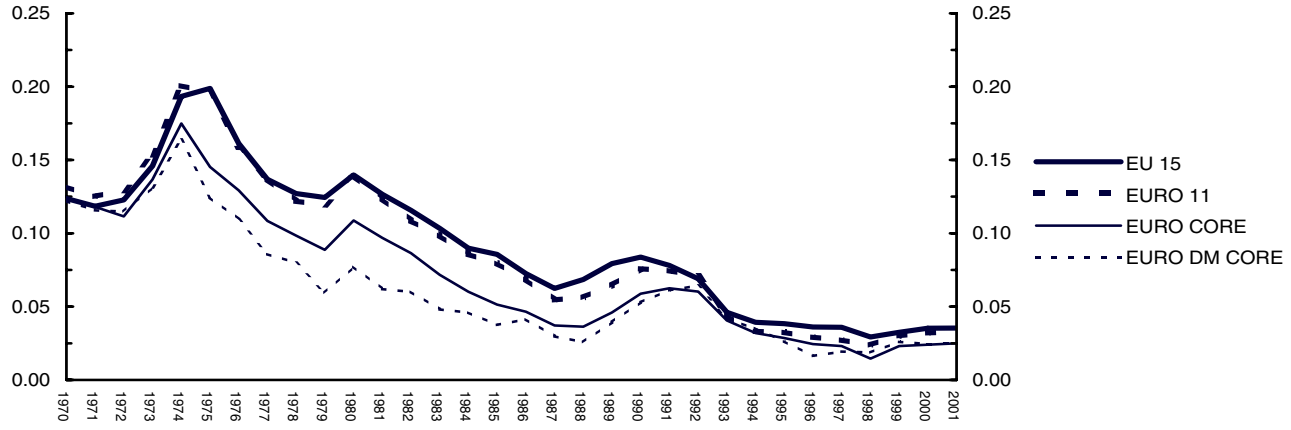
45 Wage inflation and NAIRU, 1980-2003



Source: Commission Services

[11] European Commission (2001), "The EU Economy 2001 Review, Investing in the Future", European Economy 2001 no. 73, DG Economic and Financial Affairs.

46 Nominal wage growth per employee, 1970-2001



Source: Commission Services

in the NAIRU associated with a reduction in the wage inflation (chart 45) suggests the prevalence of a weak labour demand. From the second half of the 1990s, despite buoyant economic activity, the decline in both the unemployment and the structural unemployment rates occurred with no inflationary pressures. This outcome suggests that in the latest period a change occurred in the functioning of the labour market.

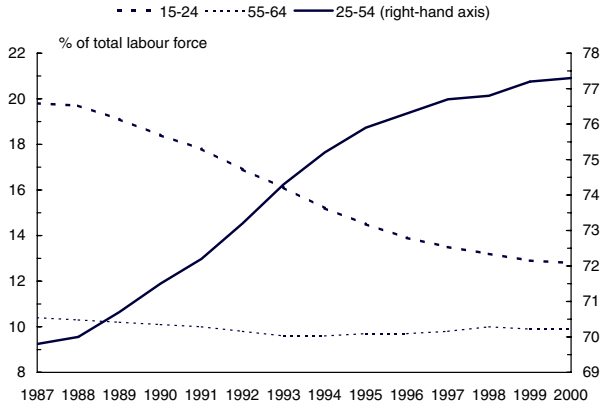
These favourable shifts originated from change in the behaviour of the key players in the labour markets and from more favourable framework conditions as a consequence of EMU. Clearly, the social partners had a key role in this respect. Several Member States have seen an extensive use of tripartite agreements that focussed both on more employment-friendly wage formation and on reforms of labour and, to a certain extent, product markets. Member States like Belgium and the Netherlands focussed directly on competitiveness or on bipartite inter-sectoral agreements. Across countries co-ordination may also have been enhanced by agreements between the European social partners and the macro-economic dialogue which brings together both representatives of social partners, national governments, the European Commission and the European Central Bank. All in all these changes may have accommodated the continued wage moderation observed in the 1990s. It is widely held that the EMU should make the link between wage and employment trends more evident and stringent. Nominal wage growth per employee has declined almost in parallel with price stabilisation (chart 46). A similar pattern emerges from the evolution of nominal unit labour costs which takes into account productivity growth.

The impact of demographic changes on employment, unemployment and participation rates

Some observers argue that the recent evolution of employment, unemployment and participation rates has been driven by changes in the demographic structure of the working age population. As different age groups have different age specific rates, demographic shifts towards an older and more experienced workforce affect both their level and their evolution. The ageing of the population may therefore lead to an "automatic" but transitory increase in overall employment and participation rates and a decline in the unemployment rates even when the rates for each age group are not changing, the only condition being that the more numerous age groups have also the highest group specific rates. If this were the case, one would risk overstating the progress made towards high and sustainable employment and participation rates.

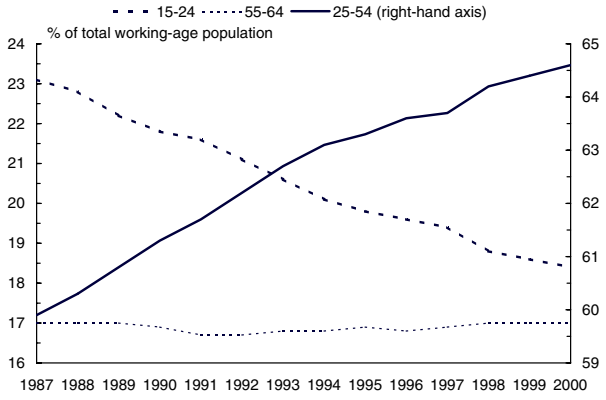
The potential relevance of the demographic effect is depicted by movements in the age composition of both the labour force and the working age population (charts 47–48). Due to a declining birth rate, the labour force share of young people (15–24) fell from about 20% in 1987 to about 13% in 2000. The share of those aged 25–54 went from slightly below 70% in 1987 to slightly above 77% in 2000, while the labour force in the age

47 Labour force by age group in the EU, 1987-2000



Note: A, FIN and S: data available only since 1995. For this reason these countries are excluded from the calculations.
Sources: Commission Services

48 Working-age population by age group in the EU, 1987-2000



Notes: A, FIN and S: data available only since 1995. For this reason these countries are excluded from the calculations.
Sources: Commission Services

bracket 55–64 remained pretty stable at around 10%. The trends are similar for the working age population.

Between 1986 and 2000 employment and participation rates went up for the 25–54 age group while they declined for young adults and remained mostly unchanged for older workers. For the 25–54 age group, participation rates rose less than the employment rates leading to a decline in the unemployment rate (table 20). By contrast, the unemployment rate decline for those below 25 was brought about by a fall in participation more than their employment rates. For older workers, unemployment increased modestly in the 1986–2000 period because of a small decline in the number of the working population employed. Nevertheless, since 1994 employment and participation rates have increased and unemployment rates declined both for prime age and older individuals. For teenagers and young adults the labour market conditions improved in line with the pick up of economic activity in 1998.

Table 20 — Employment and participation rates in the EU, 1986–2000

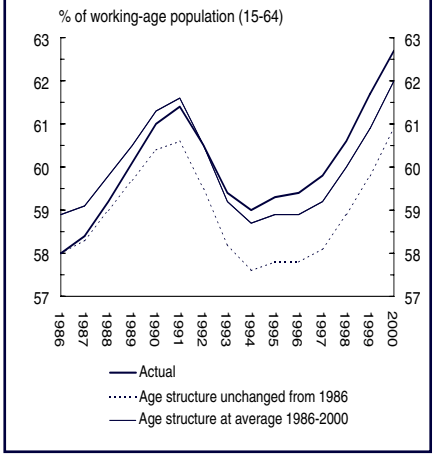
	Employment rates			Participation rates		
	15–24	25–54	55–64	15–24	25–54	55–64
1986	43.0	69.9	37.2	55.4	76.1	39.9
1990	45.4	73.1	37.3	54.3	78.5	39.6
1993	38.9	72.6	35.2	49.2	79.8	38.3
1995	36.8	72.8	35.3	46.8	80.3	38.4
1996	35.9	73.0	35.5	46.0	80.7	38.9
1997	36.0	73.3	35.9	45.8	80.9	39.6
1998	37.3	74.0	35.9	46.4	81.3	39.5
1999	38.3	75.1	36.4	47.0	81.9	39.8
2000	39.6	76.1	36.9	47.3	82.2	40.0

Note: For Austria, Finland and Sweden LFS data are only available since 1995. The aggregate figures in the table exclude these countries to have comparability over time.
Source: Eurostat, QLFD

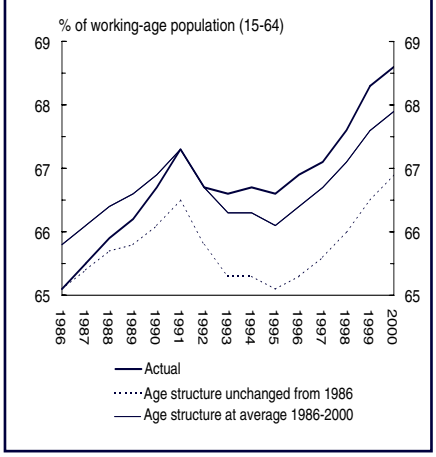
To test the significance of demographic effects in driving overall employment, the employment to population ratios, the labour force participation rates and the unemployment rates have been computed by adjusting for the effect of changes in the composition of both the working age population and the labour force.[12]

[12] The calculations are based on Shimer (1998), "Why is the U.S. Unemployment Rate So Much Lower", NBER Macroeconomic Annual. The 15-64 working-age population has been divided in ten age groups of 5 years each. The employment and participation rates have been calculated assuming an unchanged age structure. The same age cohorts are considered for adjusting the unemployment rates for changes in the age composition of the labour force. The adjusted measures are based on the assumption that the employment, the participation and the unemployment rates for each cohort is unaffected by changes in the structure of population. Shimer shows with a theoretical model that the evolution of the unemployment rate does not depend on the population dynamics. Formally, since the total unemployment rate is a weighted average of group specific unemployment rates, the measure corrected for changes in the structure of the population has been calculated keeping constant these weights. The demography-adjusted employment rate is calculated under the assumption that the weights had remained unchanged at the level of the first year for which LFS data are available, and at the average of the whole period for which data are available. A similar procedure is used for the adjusted employment and participation rates.

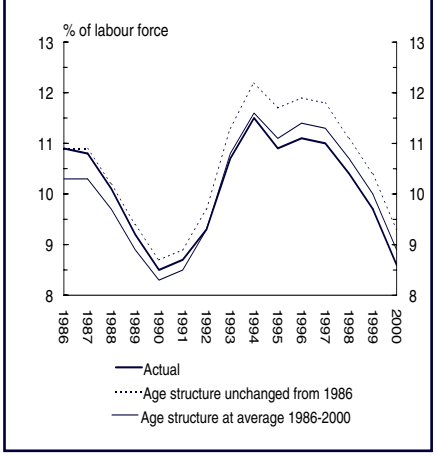
49 Employment rate in the EU, 1986-2000



50 Activity rate in the EU, 1986-2000



51 Unemployment rate in the EU, 1986-2000



Note: Due to the lack of data for the period 1986–1995 Austria, Finland and Sweden are excluded. The composition of the population is fixed at that of 1986 or at the 1986–2000 average as for Spain. and Portugal data are available only from 1986.
Source: Commission's Services

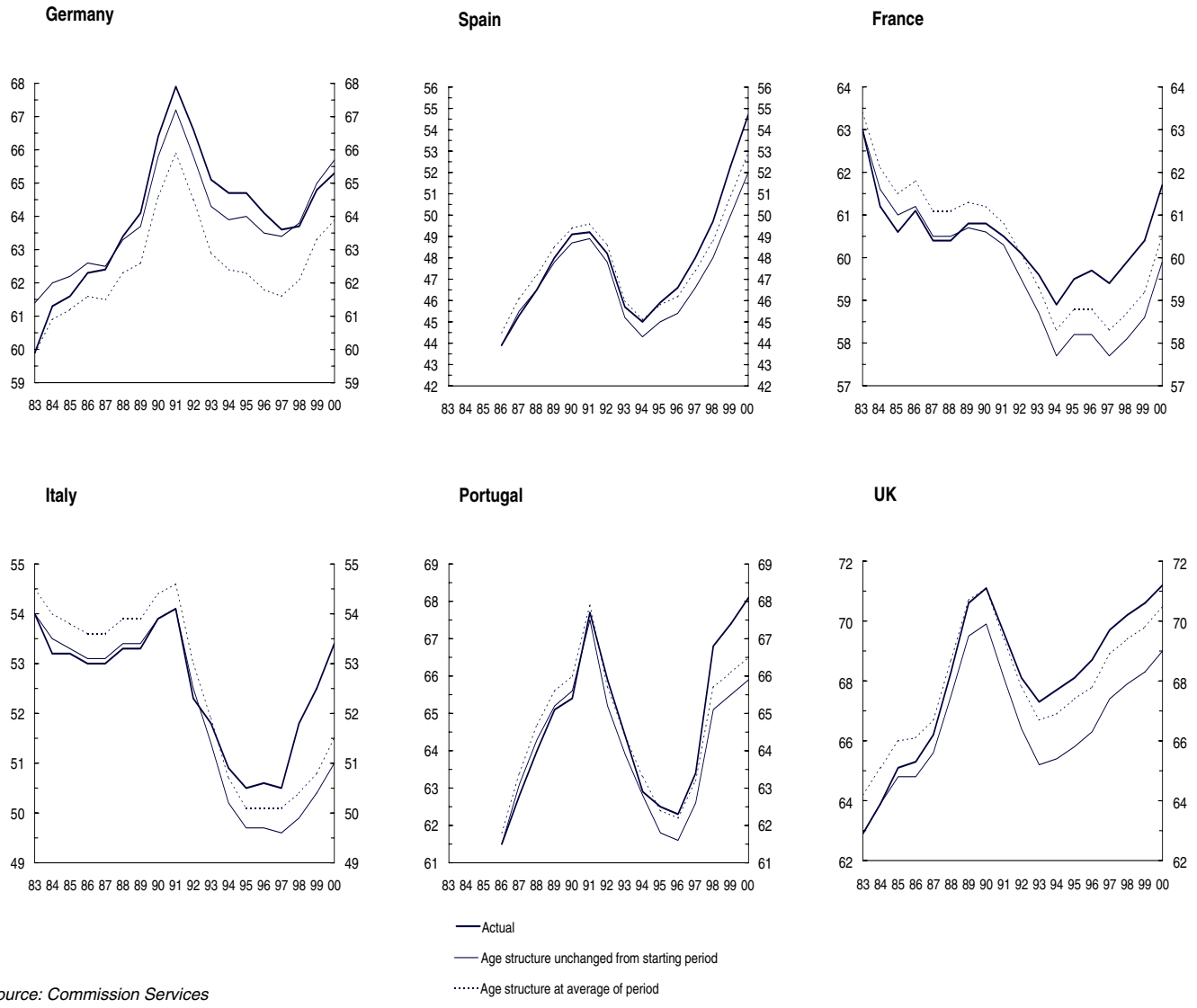
Charts 49–51 show the actual employment, activity and unemployment rates and, for each of these, two hypothetical measures calculated under the assumption that the structure of the working age population had remained constant at the 1986 level and at the average of the 1986–2000 period. From 1986 to 1991 the employment rate rose by 3.4 percentage points. By contrast, if the structure had remained constant at the level of 1986 the hypothetical employment rate would have risen by 0.8 percentage points. This implies that 24% of the effective increase was driven by the ageing of the working age population. In the 1991–1994 period the demographic effect curbed the decline in the employment population ratio as the actual employment rate fell by 2.4 percentage points while the age-adjusted rate fell by 3 percentage points. From 1994 the employment rate started to pick up with an acceleration of the increase from 1997. During all this period, the employment rate went up by about 4 percentage points; only 11% of this increase was accounted for by

Box 7 — Member States' experience with demographic change

Changes in the age structure of the labour force have played only a minor role in pushing up Member States' employment rates (chart 52). Among the countries with the strongest increase in the employment rate — Belgium, the Netherlands, Ireland and Spain — only in Spain did the ageing of the population contribute in part to the increase. The composition effect explains 6% of the 5.3 percentage points increase in the 1986–1991 period, and about 20% of the 10 percentage points increase since 1994. Also in the case of Portugal, Greece and Italy ageing of the working age population helped improve the employment rate, though this "automatic" effect only partly explains the performance of these countries. Finally, Germany and Austria seem to have been penalised by increases in the share of prime age workers. For Germany the increase since 1997 of about 2 percentage points in the employment rate would have been 35% higher had the demographic factor not played a role. In the case of Austria, the small reduction in the employment rates had not occurred if the structure of the working age population had remained constant.

Only in a few countries have the dynamics of the participation rates been positively affected by changes in the age composition of the labour force. This effect accounts for about 30% of the increase in participation in Belgium over the period 1988–2000, 50% of the increase in the Spanish labour force participation over the last 15 years and for the recent pick up of the Italian activity rate. The impact of demographic changes on the French participation rate is particularly striking: it explains almost 80% of the increase experienced in the period 1991–2000. This finding is driven by the strong decline occurred in France in the participation rate for the 55–64 cohort and, above all, the 15–24 age group.

52 Employment rates adjusted for the age structure of the working age population



Source: Commission Services

changes in the age structure of the working age population.

In the 1986–1991 period the increase in the actual participation rate was 0.8 percentage points higher than the increase in the age-adjusted rate. In the following four years, actual participation fell by 0.6 percentage points while the composition constant rate declined by 1.2 percentage points. Since 1994 participation went up for the actual and the age-adjusted measure by 2 and 1.6 percentage points, respectively. Therefore, the ageing of the population explains a bigger percentage of the increase in participation rate during the second half of the 1980s than in the second half of the 1990s (40% of the total increase in actual participation in the first period against 16% of the total increase in the participation in the second).

These findings imply that the expansion and the decline in the employment rate would have been lower and higher, respectively, had the composition of the working age population remained unchanged. Nevertheless, the age composition

effects accounted for a lower percentage of the overall increases in employment rates in the 1990s than in the 1980s. Between 1986 and 1991, shifts in the demographic structure of the working age population accounted for slightly above 20% of the 3.4 percentage points increase in the employment rate. By contrast, the demographic component explains only 10% of the of the almost 4 percentage points increase in the employment rate in the more recent 1994–2000 period. Similar conclusions hold for the participation and the unemployment rates. It is likely therefore that for the EU as a whole the decline in the NAIRU has not been greatly affected by changes in the age structure of the labour force.

With an ageing working population the overall employment rate will decline if the employment rate for the 55–64 cohort does not increase substantially. Indeed, unless the employment rates for this group increase, the rising share of older workers in the working age population will depress the overall employment rate. EU policy makers are aware of the problem of ageing: the Lisbon Council recognised the challenge, and the Stockholm Council went a step further by establishing the target of an employment rate of 50% for the 55–64 age group by 2010. The Spring 2002 Barcelona Council decided that "*…efforts should be stepped up to increase opportunities for older workers to remain in the labour market, for instance, through flexible and gradual retirement formulas and guaranteeing a real access to life-long learning. A progressive increase of about 5 years in the effective average age at which people stop working in the European Union should be sought by 2010*"[13]. The path has been found but the challenge remains to follow it.

The impact of changes in the skills structure of the working age population on employment, participation and unemployment

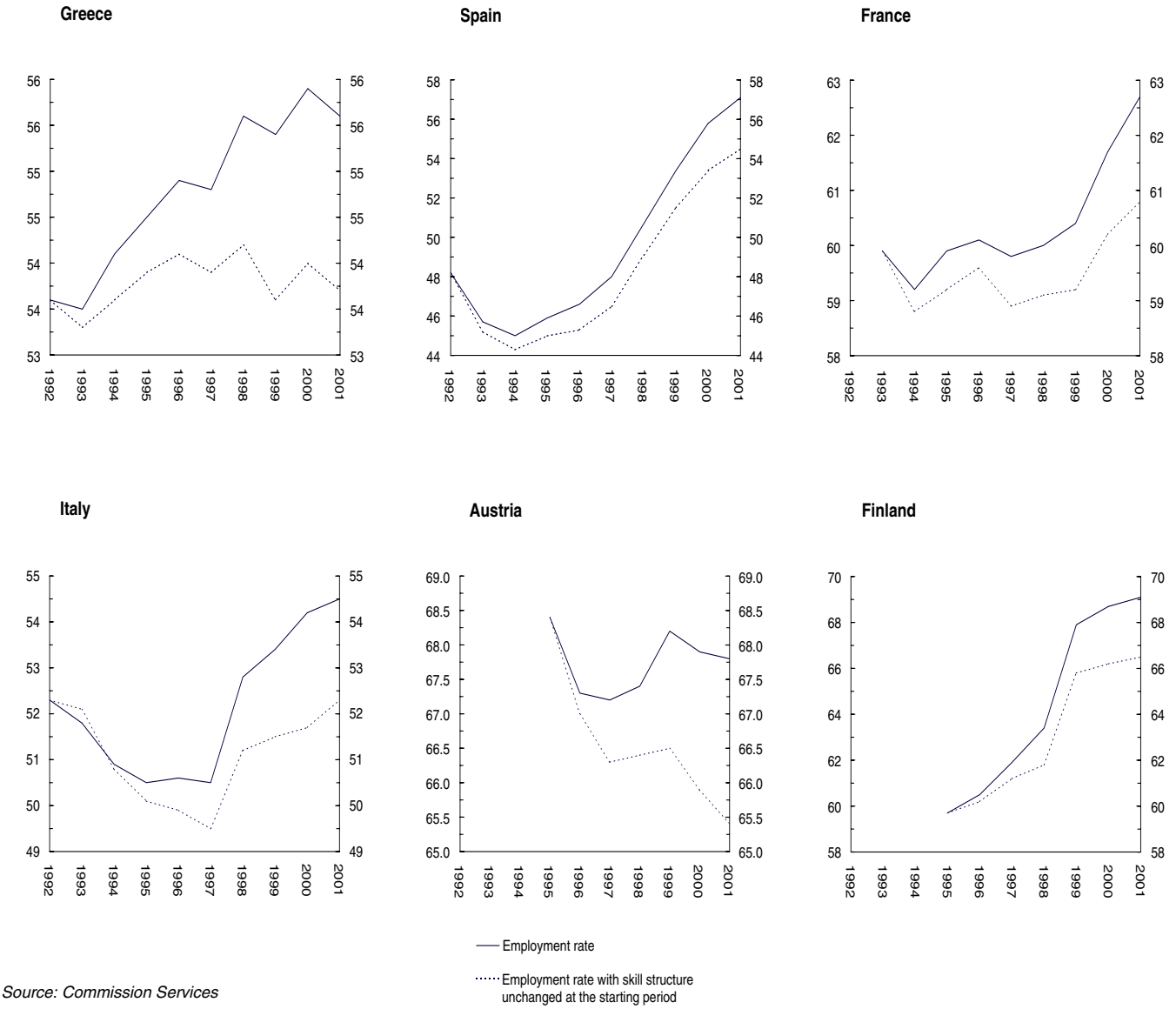
The secular improvements in the level of education have changed the skill structure of both the working age and the labour force. Unfortunately data by skills for the EU are available only since 1996. Since then, the share of low skilled people in the working age population declined from 46.5% to 37.9%. In contrast, the percentage of medium- and high skilled rose by 5.5 and 3.1 percentage points respectively. Furthermore, the share of low skilled in the labour force dropped from 38.4% to 30.6% while for medium and high skilled it rose respectively from 41.4% to 46.3% and from 20.2% to 23.1%. The change in the skills composition combined with employment and participation rates persistently higher for the medium- and high skilled than the low skilled can explain the increase in the total employment and activity rates observed in the 1990s. It must be noted that quantifying this effect along the lines of the what has been done for the demographic effect is valid only under the assumption that changes in the skills structure do not affect skill-specific rates. While this may not necessarily be the case, the counterfactual of an unchanged skills structure still provides a ballpark estimate of the effects of skills upgrading on labour market performance.

With the single exception of Portugal, the shift towards a more educated work force drove up the employment rate. This happened for different reasons. For example, without an upgrading of skills in Greece and Italy the employment rate would have remained unchanged at the 1992 level. Italy benefited mainly from a modification in the skills structure of the working age population (the employment rates for low- and high skilled remained unchanged, and only those for the medium skilled increased slightly). By contrast in Greece the decline in the share and employment rate of the less well-educated was reinforced by increasing employment rates and shares for medium- and high skilled. Other cases in which the effect of skills upgrading was particularly notable include Luxembourg, which benefited the most comparatively from such upgrading, and Austria. In both cases the employment rate would have declined (by almost 3 percentage points over five years in the case of Austria) had such a shift not taken place. The improvement was due to the share of the medium skilled which almost doubled over 10 years, and to the steep rise in the share of the high skilled (chart 53).

Skills upgrading also contributed to improved participation in almost all Member States, though in Germany and the Netherlands this effect was negligible. In France, Italy and Luxembourg the upgrading of educational levels prevented a decline or stagnation in the overall activity rates. In Austria skills upgrading lessened the decline of the activity rate.

[13] European Council (2002), "Presidency Conclusions — Barcelona European Council 15 and 16 March 2002", 100/1/02, 16.03.2002.

53 Employment rates adjusted for the skill structure of the working age population



Source: Commission Services

Highlighting the impact of skills on labour market performance underscores the role of political interventions in an environment characterised by continuous technological change and an incessant process of de-skilling, to which the less adaptable are most vulnerable. Clear market failures emerge, such as the so-called paradox of human capital accumulation stating that the more skilled and adaptable workers are the more likely to receive employer-provided training. The existence of these learning asymmetries makes policy prescriptions based on wage flexibility and reduction in hiring and firing costs less relevant. The challenge is one of increasing the number of high skilled jobs rather than focussing on making wages more flexible and hiring or firing less expensive. The high skilled, in fact, are likely to benefit from an increase in overall job creation as they are more adaptable than the low-skilled, regardless of the skill-specific requirements of their jobs. But improved employment opportunities for the high skilled should be

associated with policy measures which enhance the employability and the adaptability of low skilled workers. In particular, life-long learning strategies and measures aimed at reducing the tax burden on low skilled workers are necessary to provide employers with the incentives to hire less skilled people.

Conclusions

In the second half of the 1990s, structural unemployment, measured by NAIRU, declined for the EU as a whole. The decline in the structural component of unemployment went hand in hand with the decline in the rate of long-term unemployment. Since 1997 the decline in structural unemployment has accelerated and has been accompanied by intense job creation.

Since the mid-1990s the cyclically adjusted employment rate increased continuously while the NAIRU declined steadily accompanied by increases in the participation rate as required for reaching the Lisbon targets on the supply side.

There is also evidence that the responsiveness of employment and participation to improvements in the economy increased in the 1990s. When the economy picked up, although GDP remained below the long-term trend, employment responded in the 1990s much more strongly than in the 1980s thereby allowing unemployment to decline more markedly. In periods of high capacity utilisation in the 1990s more people entered the labour market and labour force participation went up, allowing employment to increase more than in the 1980s. There is also evidence that increases in the share of contracts of limited duration have contributed to a quicker and greater responsiveness of employment to cyclical variations.

Economic growth translated into stronger employment growth in the 1990s than in the previous two decades. Looking at the relationship between GDP growth and employment growth in the 1970s, the 1980s and the 1990s it is clear that the job content of economic growth has increased. While many factors may explain job-rich growth and rising responsiveness of employment, wage moderation is considered to be a key factor. With EMU providing a macro-economic framework in which nominal wage restraint became meaningful, social partners pursued employment-friendly wage agreements over a long period and thereby contributed to the improved employment performance.

While changes in the age structure of European societies have not significantly affected the employment performance, the secular shift to higher educational levels and the increase in female participation certainly have. Since 1996 the share of the low skilled in the working age population has dropped by almost 10 percentage points.

Given the substantial differences in the employment rates by skills, further improvements of the educational and skills level of the work force may be conducive to higher employment rates. Given that the share of the low skilled among the working age population is still almost 40% and even more than 20% among the 25–30 old, raising skills levels for all ought to be one route for achieving higher employment rates.

Overall, this chapter has provided evidence that recent improvements in European labour markets are of a structural nature and, therefore, lay a solid basis for the further improvements that are necessary to reach the targets set by the Lisbon and Stockholm European Councils. The chapter also draws attention to the wide differences between Member States in terms of levels reached and the pace of improvement.

It should not be forgotten, however, that sustainability has another dimension as well namely maintaining already achieved progress. While this chapter suggests that fixed-term contracts may facilitate labour market access in the first place, chapter 3 provides evidence that workers with temporary contracts leave the labour market more frequently than those in permanent contracts. This may also reduce the employment rate through exits and frequent interruptions and may undermine the sustainability of the improved employment performance over the long run.

Annexes to chapter 2

Annex 2.1 — Table 21 — Selected labour market variables (changes since peak/trough and since 1997)

	Unemployment rate			Long term unemployed[2]			NAIRU	Employment rate[2]			Employment rate by skills[3]			Participation rate			
	Total	Male[1]	Female[1]	Total	Male[1]	Female[1]		Total	Male[1]	Female[1]	Low	Medium	High	Total	Male[1]	Female[1]	Older workers
Belgium	1984	1994	1984	1987	1988	1987	1988	1987	1988	1983	:	:	:	1988	1990	1983	1990
From peak / trough	-4.2	-2.3	-8.9	-4.5	-2.1	-8.5	-1.9	8.6	3.4	15.5	:	:	:	6.8	2.4	12.3	3.7
From 1997	-2.5	-1.8	-3.6	-1.7	-1.2	-2.4	-0.9	3.9	2.8	5.1	4.6	2.8	3.0	2.6	1.6	3.7	2.7
Denmark	1993	1993	1993	1991	1993	1991	1993	1983	1993	1983	:	:	:	1983	1998	1983	1996
From peak / trough	-5.7	-5.5	-5.8	-2.0	-1.7	-2.4	-4.0	6.2	4.7	7.8	:	:	:	2.0	+0.6	4.0	6.3
From 1997	-1.1	-0.5	-1.8	-0.6	-0.4	-0.8	-1.5	1.0	-0.7	2.7	-0.1	2.3	0.8	0.2	-1.2	1.7	2.7
Germany	1997	1997	:	1998	1998	1998	1997	1983	1998	1983	:	:	:	1983	2000	1983	1985
From peak / trough	-2.0	-1.5	:	-1.1	-0.8	-1.4	-0.3	5.4	1.0	12.5	:	:	:	6.9	0.0	14.1	3.4
From 1997	-2.0	-1.5	-2.6	-0.9	-0.6	-1.3	-0.3	1.7	0.9	2.6	13.6	1.4	1.4	0.4	-0.4	1.2	-2.2
Greece	1999	1999	1999	1999	1999	1999	1999	1991	1999	1983	:	:	:	1991	1991	1983	1991
From peak / trough	-1.0	-0.2	-0.9	-0.2	-0.1	-0.5	-0.1	2.8	0.4	6.8	:	:	:	5.4	1.0	10.5	0.9
From 1997	+0.8	+0.9	1.5	0.9	0.8	0.9	+0.7	1.0	-0.6	2.2	-1.1	2.3	1.3	2.1	0.2	3.7	-1.5
Spain	1994	1985	1994	1994	1986	1987	1993	1986	1994	1986	:	:	:	1986	1995	1986	1992
From peak / trough	-11.0	-10.6	-12.6	-6.9	-7.3	-9.6	-7.2	10.9	9.5	15.2	:	:	:	7.8	2.8	17.	4.4
From 1997	-7.7	-6.9	-9.5	-4.9	-4.0	-6.6	-5.9	6.8	6.8	6.8	6.5	10.1	5.3	3.0	2.0	04.0	2.9
France	1996	1997	1996	1998	1998	1987	1996	1994	1994	1985	:	:	:	1991	1995	1983	1999
From peak / trough	-3.4	-3.3	-3.5	-1.0	-1.0	-1.2	-1.8	2.9	2.2	5.3	:	:	:	2.1	0.5	6.0	0.8
From 1997	-3.3	-3.3	-3.4	-0.9	0.9	-0.9	-1.7	2.3	1.9	2.7	0.5	2.5	0.1	0.8	0.04	1.4	0.3
Ireland	1985	1986	1986	1987	:	:	1987	1986	1993	1985	:	:	:	1992	1996	1985	1992
From peak / trough	-12.9	-12	-14.9	-10.4	:	:	-7.8	15.0	11.5	21.9	:	:	:	7.4	3.2	16.6	4.4
From 1997	-6.0	-5.9	-6.2	-4.6	:	:	-3.0	8.1	7.6	8.7	:	:	:	4.5	3.2	6.0	3.4
Italy	1998	1998	1998	1997	1997	1989	1996	1995	1997	1984	:	:	:	1995	1997	1983	1995
From peak / trough	-2.3	-1.8	-3.4	-1.5	-1.3	-2.9	-0.5	2.9	2.5	5.8	:	:	:	2.6	1.6	6.6	0.4
From 1997	-2.2	-1.7	-3.4	-1.5	-1.3	-2.0	-0.5	2.9	2.5	3.1	1.7	3.7	0.7	2.2	1.6	2.6	0.0
Luxembourg	1983	:	:	:	:	:	No	1985	1997	1983	:	:	:	1988	1997	1983	1996
From peak / trough	-1.1	:	:	:	:	:	decline	+4.2	0.8	11.5	:	:	:	4.2	0.8	11.0	5.0
From 1997	-0.3	-0.1	-0.8	-0.6	-0.5	:		+2.8	0.8	4.7	3.5	-2.0	-1.3	2.7	0.8	4.6	3.6
Netherlands	1982	1983	1983	1985	1985	1983	1982	1983	1985	1983	:	:	:	1985	1985	1983	1992
From peak / trough	-9.6	-6.5	-9.3	-5.1	-4.9	-5.5	-5.7	21.2	13.9	28.9	:	:	:	16.5	8.5	25.6	9.0
From 1997	-2.9	-2.0	-4.2	-1.7	-1.4	-2.2	-1.7	5.4	4.2	6.5	5.6	3.7	3.1	3.4	2.5	4.4	6.0
Austria	:	:	:	:	:	:	:	:	:		:	:	:	:	:	:	:
From peak / trough	:	:	:	:	:	:	:	:	:		:	:	:	:	:	:	:
From 1997	-0.6	-0.3	-1.0	-0.1	-0.05	-0.3	-0.1	0.7	0.3		-1.4	0.1	-1.1	0.4	0.1	0.8	1.3
Portugal	1985	1986	1983	1985	1996	1986	1981	1986	1996	1986	:	:	:	1995	1996	1986	1986
From peak / trough	-5.1	-3.3	-7.8	-3.2	-1.9	-4.8	-3.5	6.6	5.2	13.0	:	:	:	3.6	2.7	9.9	7.8
From 1997	-2.7	-2.7	-2.6	-2.0	-1.7	-2.3	-1.0	4.7	4.3	4.8	7.2	5.4	3.3	2.9	2.1	3.3	4.1
Finland	1994	1994	1995	1994	:	:	1993	:	:	:	:	:	:	:	:	:	:
From peak / trough	-7.5	-9.5	-5.4	-3.4	:	:	-1.4	:	:	:	:	:	:	:	:	:	:
From 1997	-3.6	-3.7	-3.3	-1.2	-2.0	-1.4	-0.9	6.3	6.6	6.0	7.3	4.6	0.8	3.9	3.5	4.3	4.5
Sweden	1997	1994	1997	1997	:	:	1997	:	:	:	:	:	:	:	:	:	:
From peak / trough	-4.8	-5.5	-4.6	-2.1	:	:	-1.9	:	:	:	:	:	:	:	:	:	:
From 1997	-4.8	-5.0	-4.6	-2.1	-1.9	-1.8	-1.9	:	2.8	2.8	4.1	3.7	0.2	-1.1	-1.4	-0.7	0.1
UK	1986	1993	1986	1985	1985	1985	1985	1983	1993	1983	:	:	:	1983	1998	1983	1998
From peak / trough	-6.4	-6.6	-6.7	-4.0	-4.3	-3.4	-4.8	5.9	4.2	13.1	:	:	:	4.6	0.3	10.8	1.9
From 1997	-1.9	-2.2	-1.6	-1.2	-1.6	-0.7	-1.9	1.5	4.6	1.5	-10.1	0.9	0.6	0.4	-0.03	0.88	1.06
EU	1994	:	:	:	:	:	1994	:	:	:	:	:	:	:	:	:	:
From peak / trough	-3.4	:	:	:	:	:	-1.8	:	:	:	:	:	:	:	:	:	:
From 1997	-2.9	-2.6	-3.1	-1.6	-1.4	-1.7	-1.4	3.0	2.5	3.4	2.2	3.1	1.3	1.4	0.6	2.2	0.5

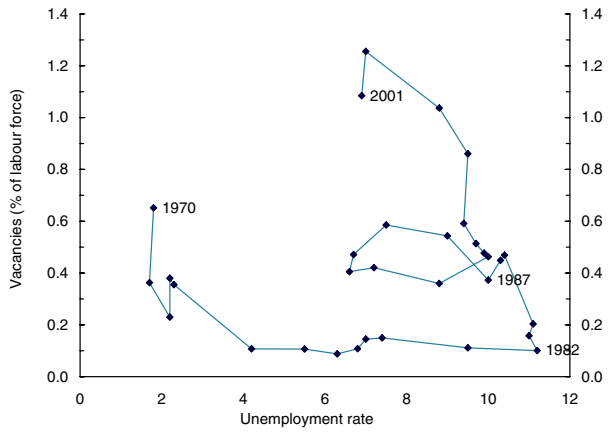
Note: The years are years of peaks. In parenthesis decline in percentage points since the NAIRU start falling. For LTU data are from 1983 to 2000 with exception of Spain and Portugal (from 1984), Finland (from 1988) and Austria (from 1993).
1 Data by gender 1983-2001 with the exception of Greece 1983-2000, Austria 1993-2001, Finland 1988-2001 and the EU15 1993-2001.
2 LFS; data available since 1983 with the exception of Spain and Portugal since 1986; Finland Sweden and Austria since 1995.
3 LFS; data available since 1992 with the exception of France since 1993; Finland Sweden and Austria since 1995; the Netherlands since 1996.
Source: Eurostat, LFS

Annex 2.2 — Beveridge curves

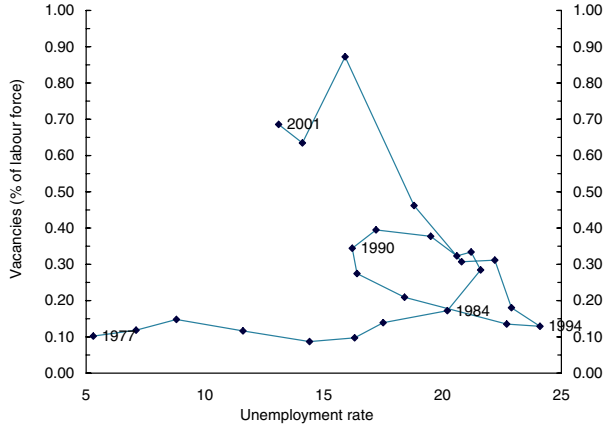
The Beveridge curve traces out the relationship between job availability (vacancy rate) and the unemployment rate. It highlights labour shortages and structural shifts in the equilibrium unemployment due to inefficient labour market matching activities. Therefore, a complete business cycle involves movements along the Beveridge curve. Shifts in the curve occur in association with mismatches emerging from structural changes. This is the case of jobs disappearing in one sector and new ones being created in another sector. The job losses in the first sector increase the unemployment rate, and the new jobs created in the second sector cause the proportion of vacant positions to rise until these positions are filled. In other words, a sectoral reallocation shock occurs when there is no matching between the requirements associated with positions and the qualifications of workers, or, in simpler terms, when jobs are available but no workers are able or willing to fill them.

In the following charts the vacancy rate is the number of vacancies as a percentage of the labour force. The unemployment rate is the Eurostat standardised unemployment rate. Data on vacancies are from the OECD MEI database. Data refer to unfilled vacancies obtained from public employment services. Vacancy data are not strictly comparable across countries. Furthermore, data on vacancies are underestimated the more vacancies are posted through private electronic networks, newspapers or private employment agencies.

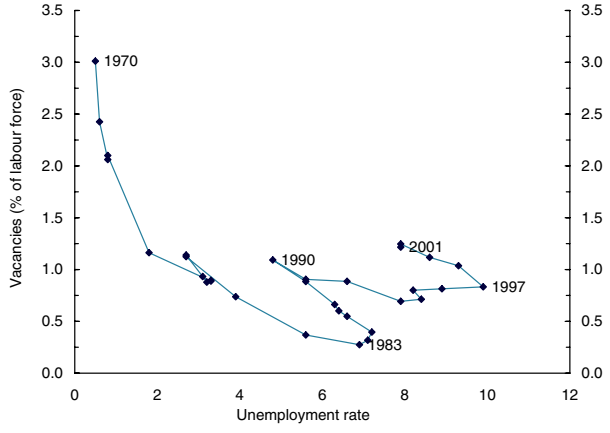
54 Belgium



55 Spain

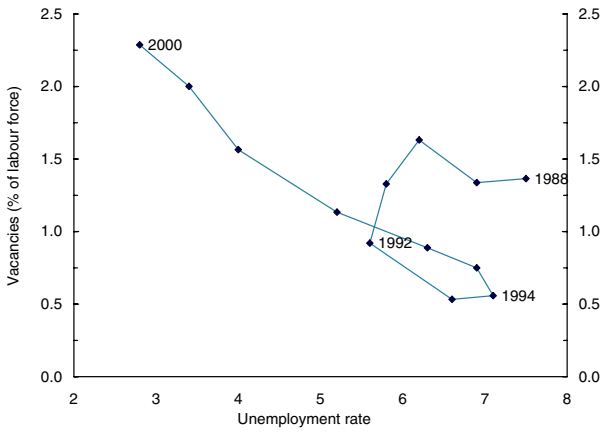


56 Germany

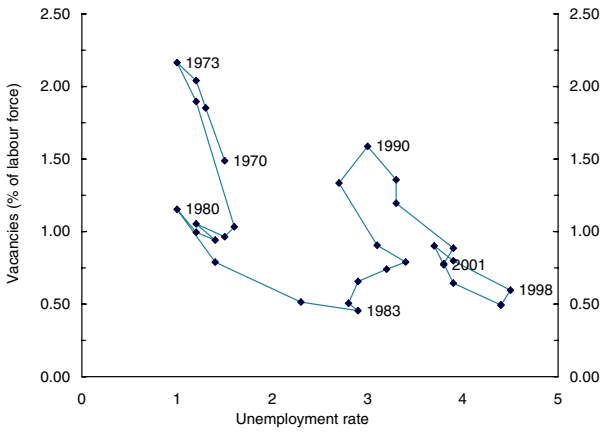


Source: Commission Services

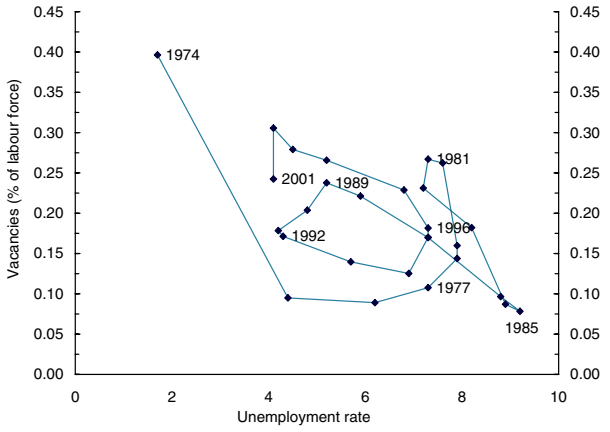
57 Netherlands



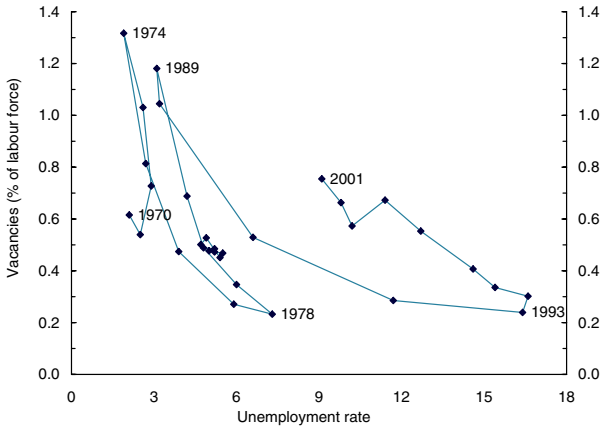
58 Austria



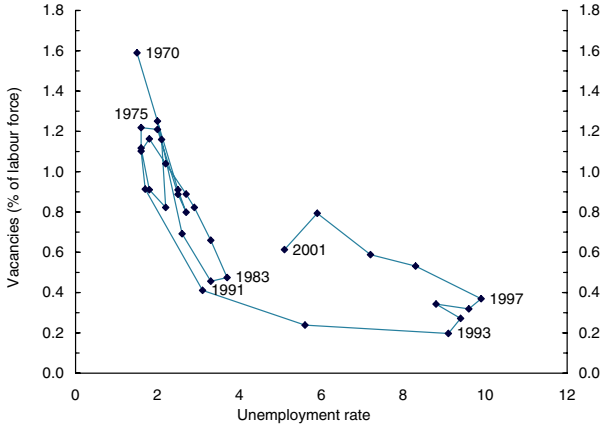
59 Portugal



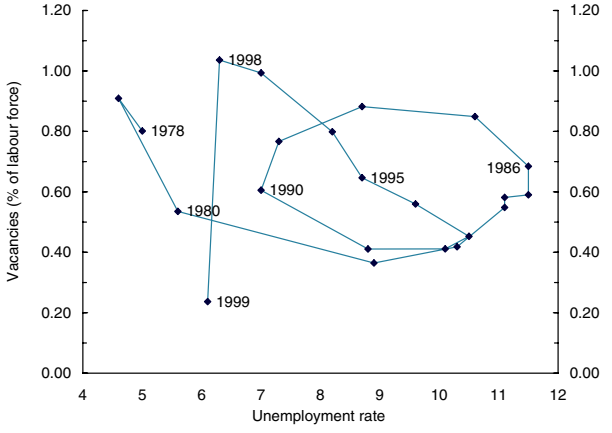
60 Finland



61 Sweden



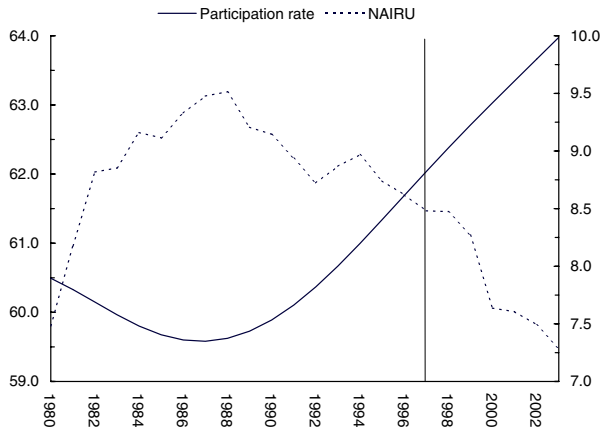
62 United Kingdom



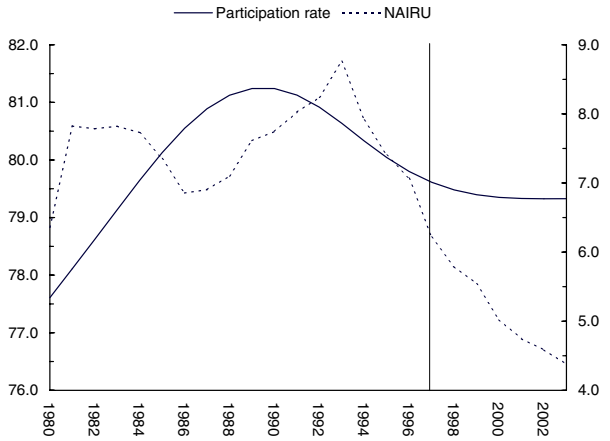
Source: Commission Services

Annex 2.3 — NAIRU and cyclically adjusted participation rates, 1980–2003

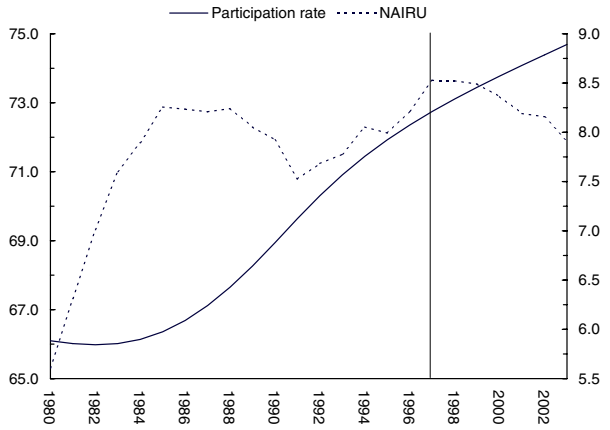
63 Belgium



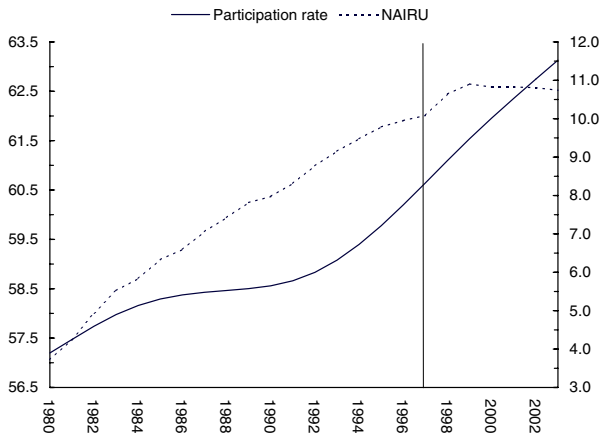
64 Denmark



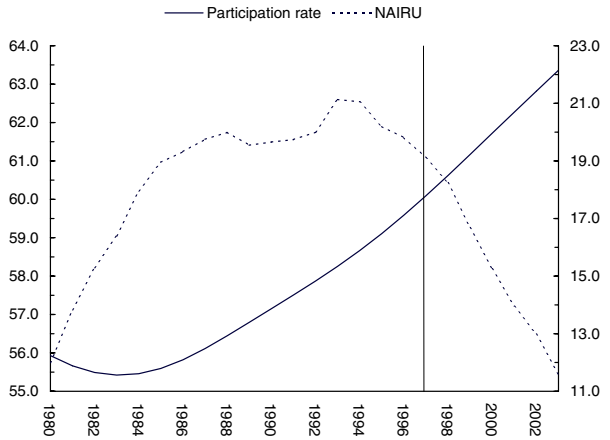
65 Germany



66 Greece



67 Spain



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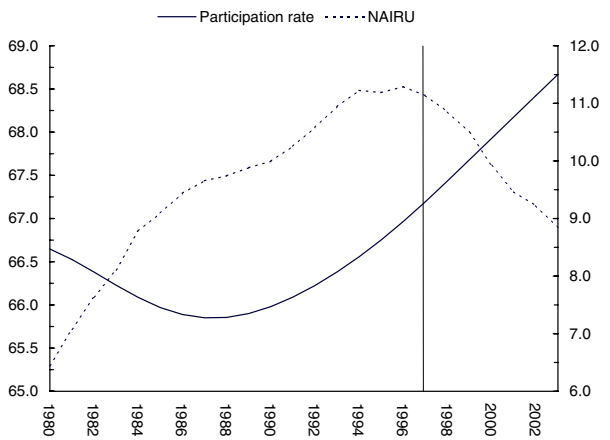
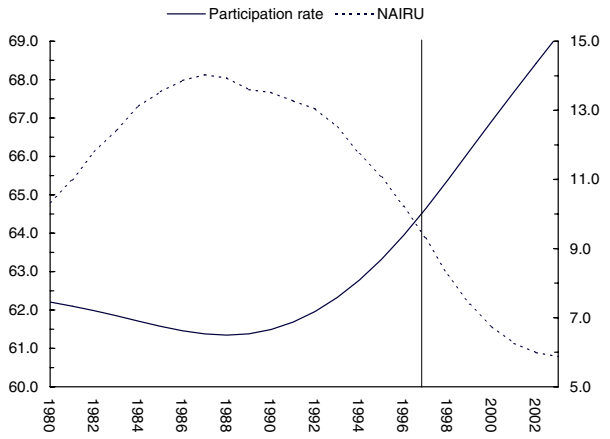


Source: Commission Services

69 Ireland



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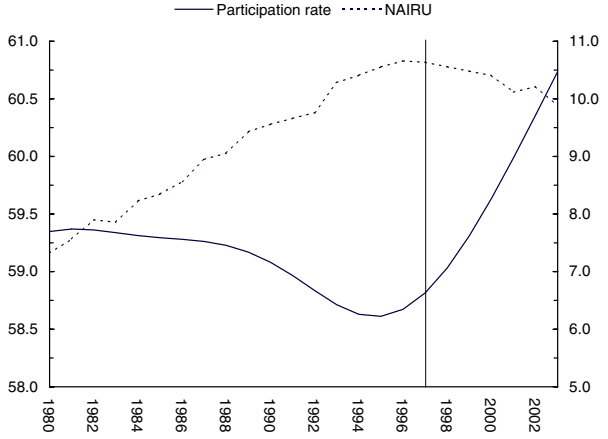
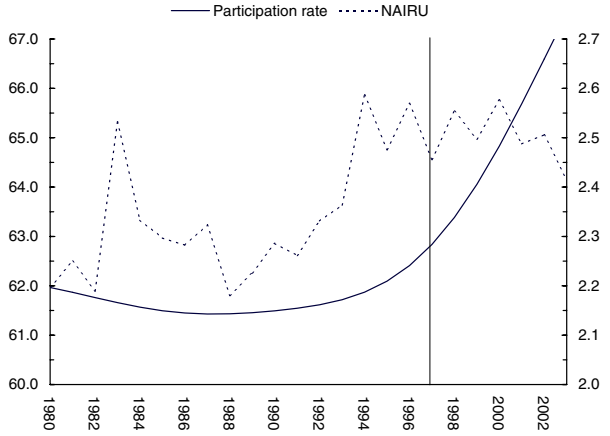


71 Luxembourg



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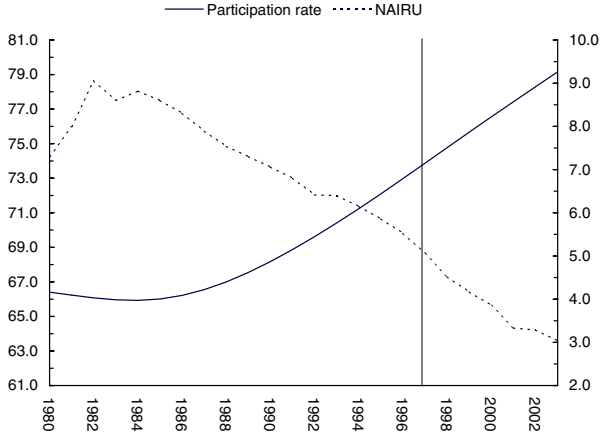

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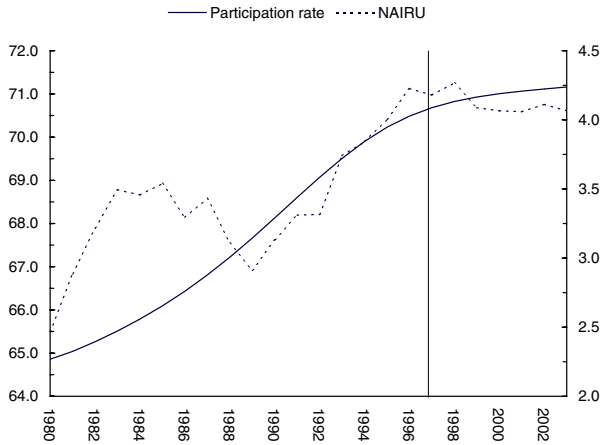

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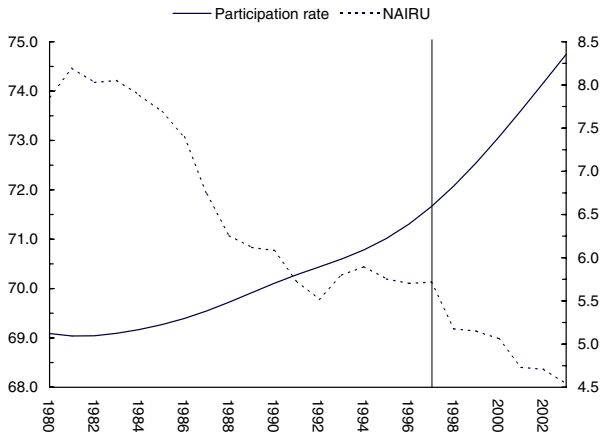

Source: Commission Services

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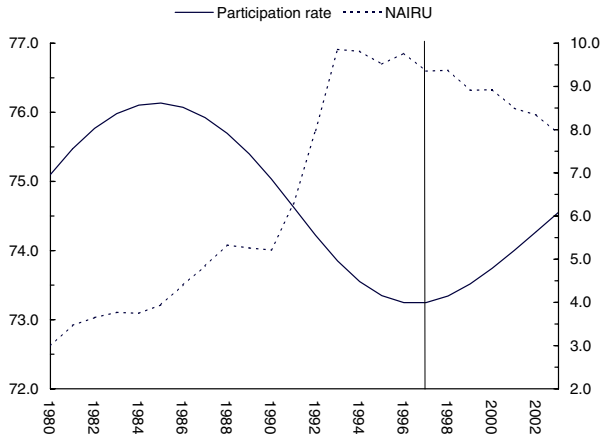

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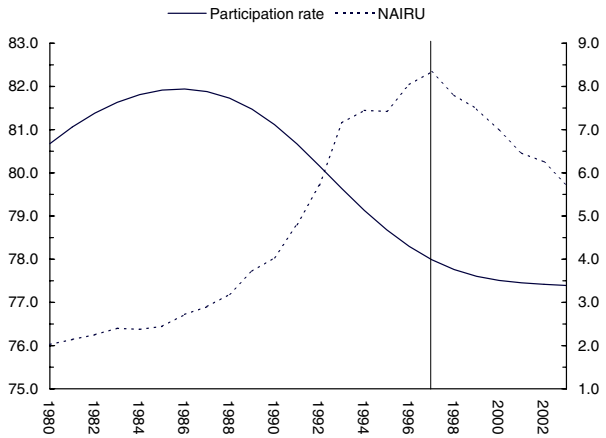

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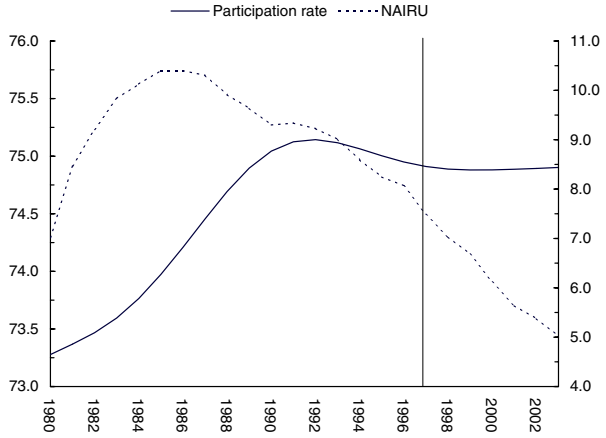
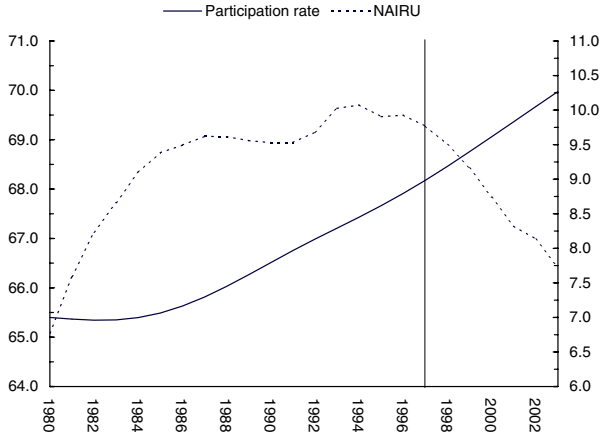


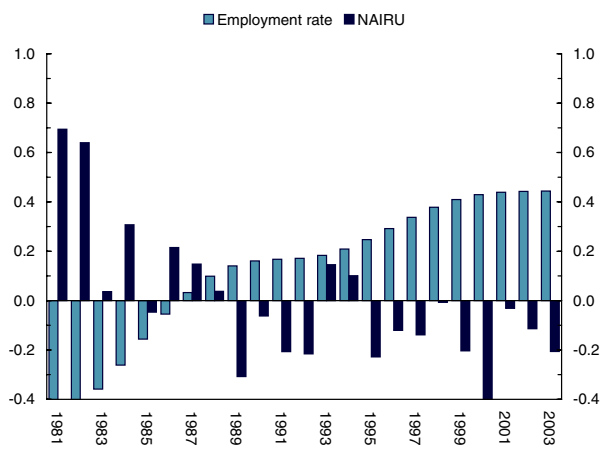
78 EU



Source: Commission Services

Annex 2.4 — NAIRU and cyclically adjusted employment rates (changes y-o-y), 1981–2003

79 Belgium



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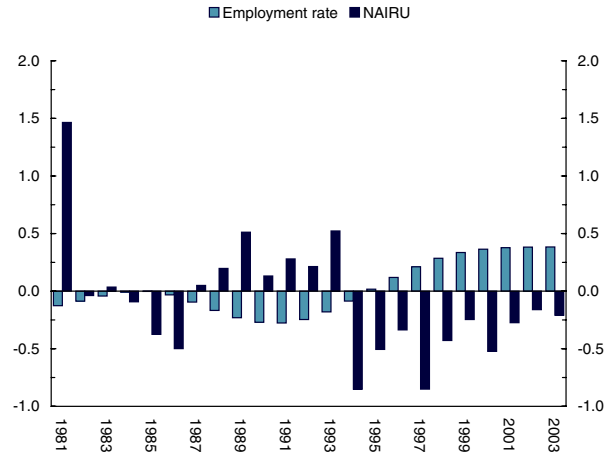

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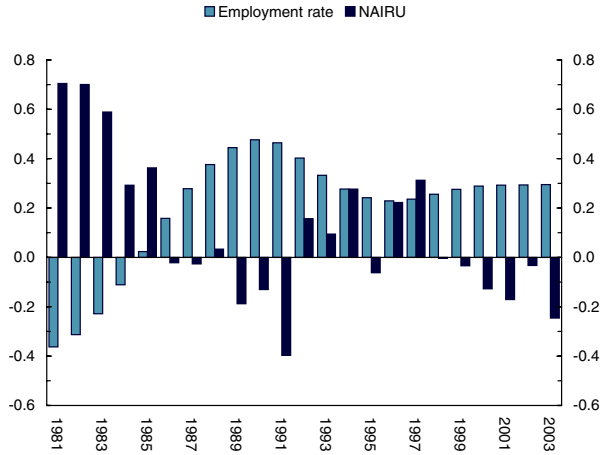

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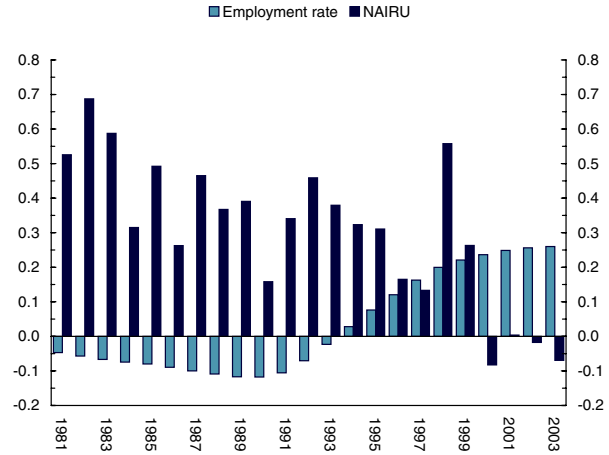

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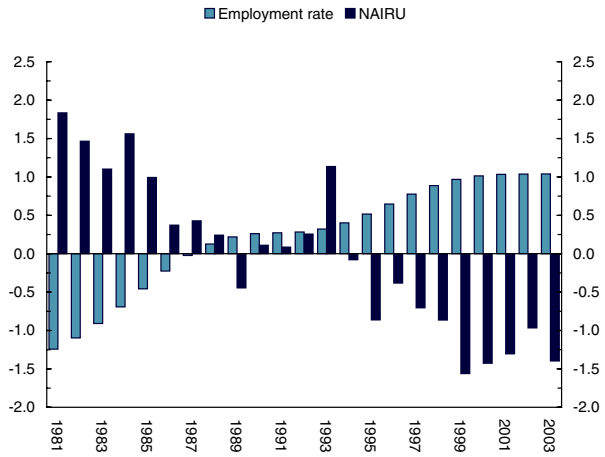

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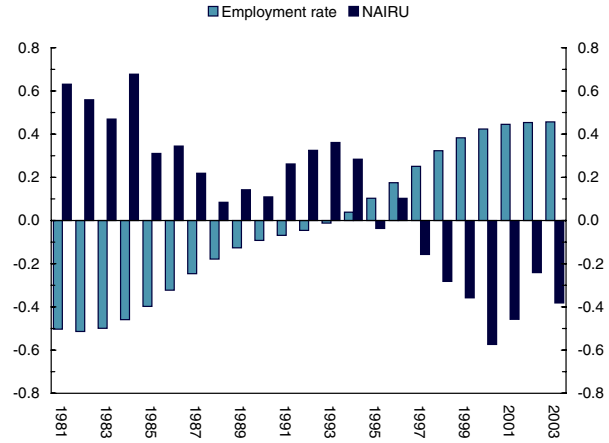

Source: Commission Services

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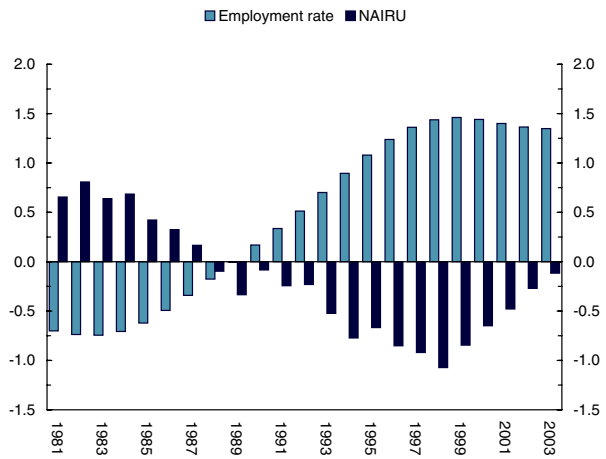

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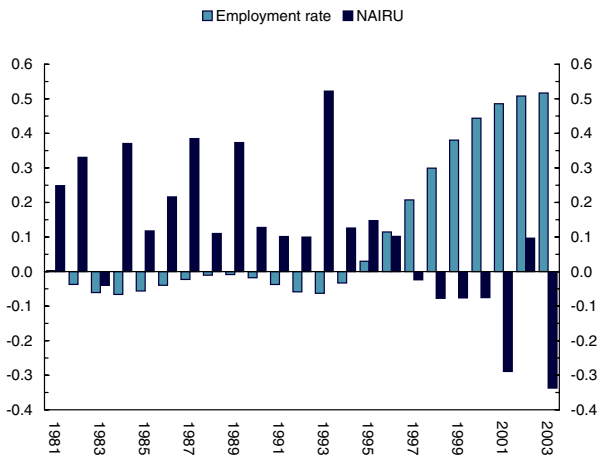

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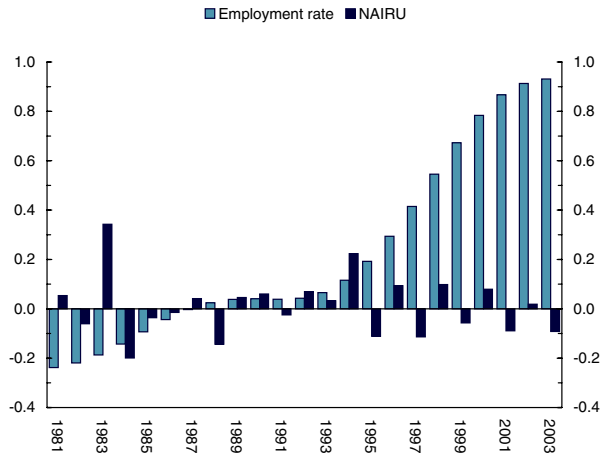

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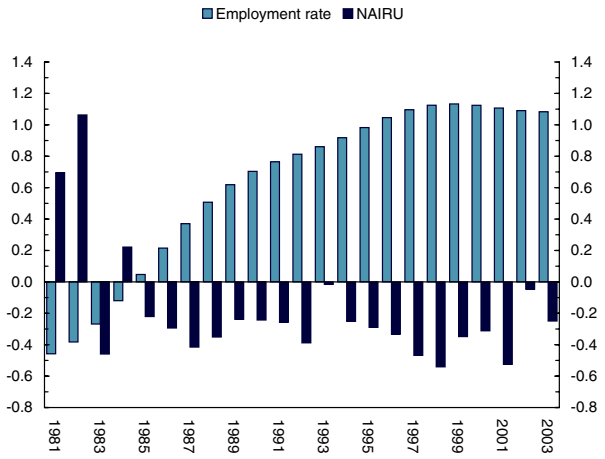

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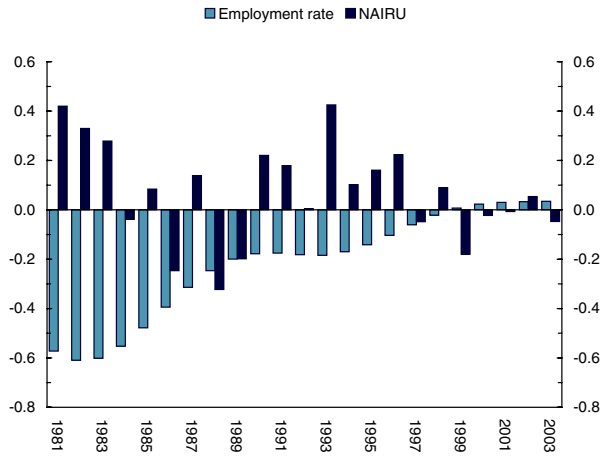

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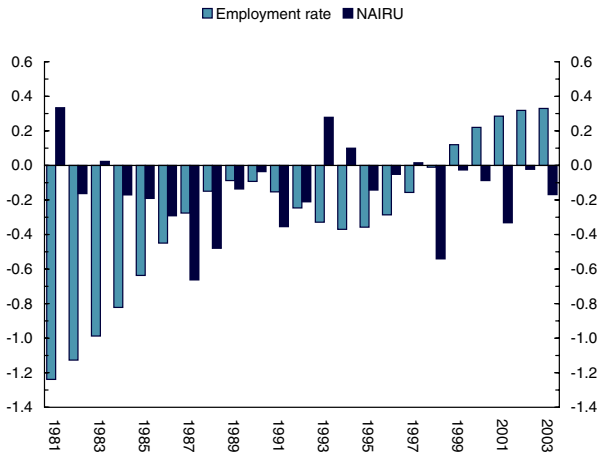

Source: Commission Services

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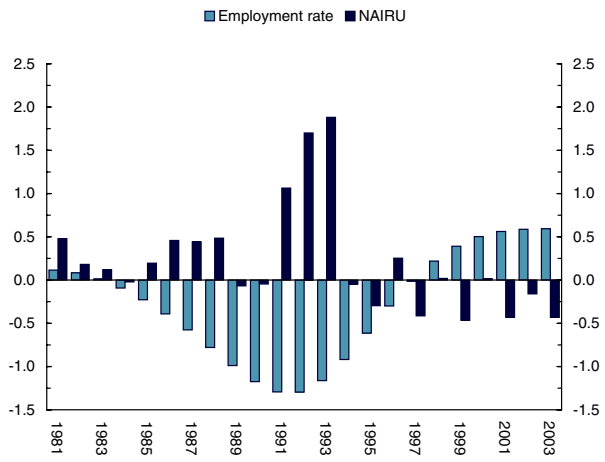

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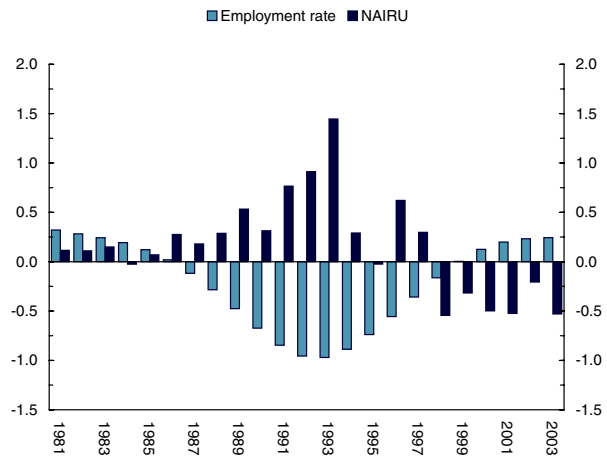

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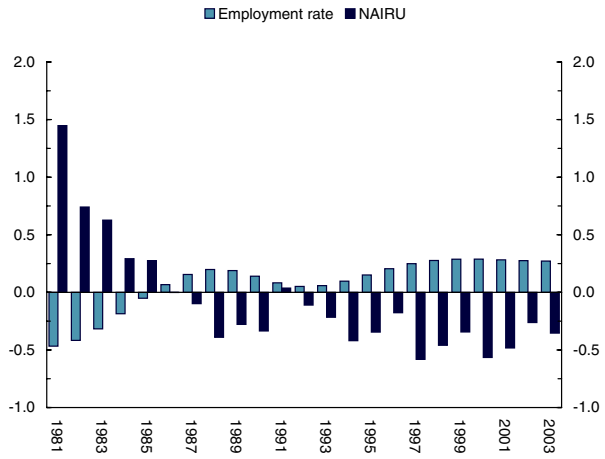

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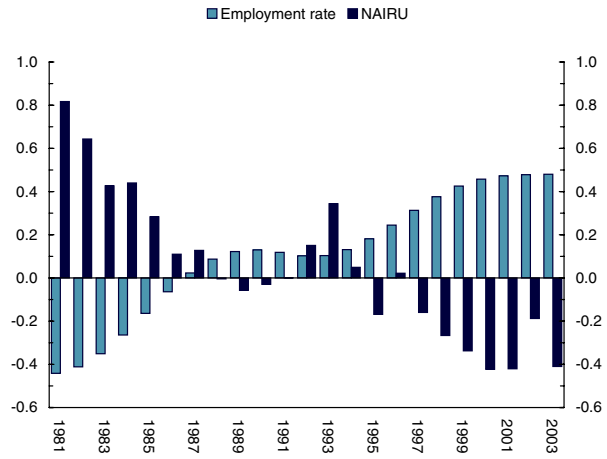


Source: Commission Services

Chapter 3 Synergies between quality and quantity in European labour markets

Introduction

Recent years have seen structural improvements in Europe's labour markets and two particularly marked trends have been detected. Firstly the majority of the new employment created has been high skilled jobs in high-tech and/or knowledge-intensive sectors, offering decent pay, job security, training and career development prospects. Secondly, as discussed in chapter 2, there is also evidence that above average employment performance tends to be associated with increased employment shares in flexible working arrangements.

But there is no room for complacency with some less positive developments that, if not addressed could cause problems in the future. Accelerated changes in skills requirements and workplace organisation and an ever-increasing pace of working life raise questions about the long-term sustainability of current employment trends and their potential downsides in terms of job quality. In particular health and safety at the workplace remains an issue, with increasing shares of the employed complaining of stress or alienation from the production process. This has an economic price with work-related health problems and accidents at work costing the equivalent of 3–4% of European GNP.[1]

The concept of quality in work: political background and monitoring

The concept of quality jobs rose to prominence at the Lisbon Summit in March 2000 which developed employment policy beyond the social protection, health and safety and equality agenda which had influenced it over the four decades since the Social Chapter came into being in 1961. Improving job quality is seen as important not just for the well being of workers but also to promote social inclusion and drive up employment levels. It is a multi-faceted concept encompassing the composition of jobs themselves, the calibre of workers, the aims and operating practices of employers, the working environment and the direction and priorities of employment and social policies. The European Commission identified 10 dimensions of job quality in a Communication in 2001 (box 8).[2] For each of these, one or more indicators have been proposed — and adopted at the Laeken summit in December 2001 — as a means of assessing the quality of work in Europe and of monitoring its evolution over time.[3]

The link between quality and quantity: trade-offs or synergies?

Employment in Europe 2001 set out evidence of a close link between quality in work, on the one hand, and career progression, risk of job loss, unemployment and social exclusion, on the other. Those employed in jobs of relatively low quality, which do not offer training and career development opportunities or job security, are at much higher risk of becoming unemployed or withdrawing from the labour force. Previous experience of unemployment and labour market exclusion, in turn, clearly lowers the

[1] See in particular chapter 4 on "Quality in work and social inclusion" in European Commission (2001), Employment in Europe 2001, Recent Trends and Prospects, Luxembourg, and also European Foundation for the Improvement of Working and Living Conditions (2002), Quality of work and employment in Europe, Issues and Challenges, Foundation Paper No. 1, February 2002, Dublin

[2] European Commission (2001), "Employment and social policies: A framework for investing in quality", Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, COM(2001) 313 final, 20.06.2001

[3] European Council (2001), "Indicators of Quality in Work", Report by the Employment Committee to the European Council, 14263/01, 23.11.2001

Box 8 — Dimensions of quality in work and quality indicators

1. Intrinsic job quality

Jobs ought to be intrinsically satisfying, compatible with a person's skills and abilities, and provide appropriate levels of income. Self-reported job satisfaction and labour market transitions by pay level and contract status have been chosen as indicators for this dimension.

2. Skills, life-long learning, and career development

People ought to be able to develop their potential abilities to the full through appropriate support for life-long learning. Among the indicators for this dimension are participation rates in education and training, and the share of the workforce using computers for work purposes.

3. Gender equality

Labour markets should offer equal opportunity for men and women in respect of equivalent value jobs, and in terms of life-time careers. The gender pay gap, employment and unemployment rate gaps by gender, and the gender segregation in occupations and sectors have been chosen as indicators for this dimension.

4. Health and safety at work

It has to be ensured that working conditions are safe, healthy and supportive – in both physical and psychological terms – of sustainable participation and employment. Possible measures of the exposure to risks and stress at the working place include accidents at work and related costs, and rates of occupational diseases.

5. Flexibility and security

An appropriate balance between flexibility and security is called for to encourage positive attitudes to change at the workplace and in the labour market. This requires appropriate support for those who lose their jobs or are seeking an alternative, as well as encouragement for the full use of abilities and flexible career choices through appropriate support for occupational and geographical mobility. Indicators for this dimension are the shares of employees voluntarily and involuntary in part-time work and fixed-term contracts, respectively.

6. Inclusion and access to the labour market

Access to and inclusion in labour markets should be increased, including for those entering the labour market for the first time or after a period of unemployment or inactivity, and allow them to stay in the labour market. Among the indicators for this dimension are labour market transitions by main activity status and transitions of unemployed people into employment and training.

7. Work organisation and work-life balance

Working arrangements, especially those concerning working time, together with support services should allow an appropriate balance between working life and life outside work. Indicators for this dimension include employment rate gaps by gender and presence of children, childcare provision and the share of employees leaving their job for family responsibilities or for education purposes.

8. Social dialogue and worker involvement

All workers should be informed about and involved in the development of their companies and their working life. Possible indicators for this dimension measure employee representation and worker involvement, the share of employees covered by collective agreements, the evolution of working days lost due to industrial disputes, and trade union density.

9. Diversity and non-discrimination

All workers should be treated equally without discrimination in terms of age, disability, ethnic origin, religion or sexual orientation. For this dimension, employment rate gaps by age, ethnic origin and disability have been suggested as indicators.

10. Overall work performance

High levels of labour productivity and high living standards across all regions of the Community should be aimed at. Indicators for this dimension include growth in labour productivity and the share of high skilled in the working age population.

probability of returning to employment in general and into high quality employment in particular, thus leading to a substantial risk of vicious circles of low quality — low productivity employment, and unemployment, inactivity and social exclusion.

It is not least for this reason that Europe's decision-makers seek *more and better jobs*, stressing that *the objective of creating better jobs complements and reinforces that of creating more jobs* (as stated in the Barcelona European Council Conclusions)[4]. The Lisbon growth strategy — based on a knowledge society — requires the fostering of all available talent and the generation and maintenance of skills. These objectives may be best achieved under conditions of relatively stable employment, accompanied by continued skills upgrading and human capital investment.

On the other hand, economic systems increasingly seem to demand the deployment of flexible — and partly unskilled — labour for sometimes low-paid and precarious temporary jobs to give employers' flexibility to respond to changing circumstances. In addition, there is an apparent need for high flexibility with respect to working time and a supply of labour for non-standard working hours. While such increased flexibility may favour job creation and the adjustment of the economy to cyclical fluctuations, its impact on some of the other objectives such as strengthening the knowledge society and social cohesion remains unclear.

In this context, some commentators claim that quantity-quality trade-offs exist and that quality improvements can have negative effects, leading to either increases in labour costs or obstacles to hiring and firing and/or wage flexibility. This chapter will address this view by analysing in more detail the role of quality in work for overall employment performance in a dynamic setting.

In doing so, the chapter builds on last year's findings, by updating results on job quality and job satisfaction in the EU; analysing labour market transition patterns over longer horizons, examining the link — at sectoral level — between job quality and job satisfaction and productivity and, finally, discussing the dynamic impact of observed labour market transition patterns and quality improvements on future employment performance.

A clear message emerges for the EU's decision-makers: a focus on job quality can improve employment persistence and job creation and reduce the risk of job loss, unemployment or social exclusion. It can also increase the labour supply and improve its adaptability and employability. What is more, when combined with action to reduce the outflows from low quality jobs into unemployment and inactivity, some striking changes and improvement in labour markets can be achieved.

Quality in work and quality dynamics

Employment in Europe 2001 suggested a classification of jobs into good jobs, jobs of reasonable quality, low-paid jobs, and dead-end jobs based on data from the European Community Household Panel (ECHP). This classification referred, in particular, to some of the quality dimensions discussed earlier such as intrinsic job quality; skills, life-long learning and career development; inclusion and access to the labour market and overall work performance. It was based on the observation that contractual insecurity, low pay/low productivity and the absence of responsibilities and career development opportunities are among the main predictors of self-reported job dissatisfaction in the EU and its Member States.

The findings in last year's report are confirmed on the basis of more recent data from the ECHP for the years 1997/98. While a majority of jobs in the EU are of relatively high quality, as defined by gross hourly pay, job security, and access to training and career progression, a quarter of the workforce remain in jobs of lower quality with low pay and productivity, poor training and career prospects, and job insecurity. Despite the absence of any clear trend towards an increase in the quality of work in the EU, suggestions that recent employment growth has been predominantly fuelled by an increase in bad quality jobs are not justified.

[4] This formulation was first used in the Conclusions of the Extraordinary European Council in Lisbon in March 2000 which defined a *new strategic goal* for the EU for the next decade: "to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion". The focus on quality in work was reaffirmed by the subsequent European Council meetings in Nice (which included the promotion of quality as a main theme for actions and initiatives in the period 2000–2005 in the European Social Agenda), Stockholm (which further asked for the introduction of "quality as a general objective in the 2002 Employment Guidelines") and Barcelona (which recognised that quality "will make possible higher employment levels. The objective of creating better jobs thus complements and reinforces that of creating more jobs").

Quality in work and job satisfaction

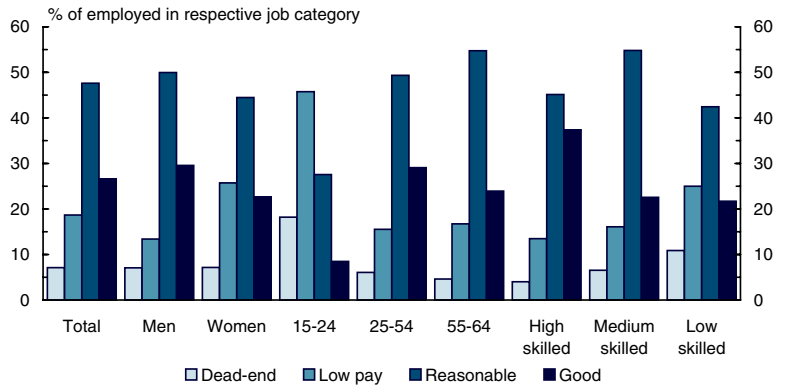
Job quality[5] differs significantly according to the characteristics of the individual job holder, in particular gender, age and educational background. Both the young and the low skilled employed are more likely to be in jobs of relatively low quality due to both, low pay and productivity and lack of job security, training opportunities and career prospects. Women also are over-represented among low-paid jobs (chart 95).

Job quality varies considerably by working time status. Almost a quarter (23.4%) of full-time jobs are of relatively low quality, most of them due to low pay and productivity (16.4%) and 7% due to the lack of job security, training opportunities and career prospects. Among part-time workers, job quality is on average of lower quality, with almost half of them in dead-end or low-paid, low productive jobs. Job quality among part-time workers, however, is very heterogeneous. As expected, the job quality of those in part-time jobs voluntarily is very much in line with overall job quality, while that for involuntary part-time workers and those working less than 15 hours a week is of significantly lower quality. Almost three quarters of these part-timers are in jobs of low quality and of these a quarter are in dead-end jobs without any further career development opportunities. Given that these involuntary part-time workers would prefer another, full-time job, the lack of such opportunities is particularly worrying in their case (charts 96–98).

The definition of quality in work also includes job satisfaction and inherent job quality, which are closely related to the objective dimensions of quality in work. These dimensions have a strong influence on self-reported satisfaction with the main activity status and the job characteristics. Not surprisingly in all Member States, employment is associated with much higher levels of satisfaction than unemployment — particularly among the young — and inactivity — particularly among the low skilled. Self-reported satisfaction levels of inactive people tend to vary more strongly with personal characteristics. While both younger and older people, as well as high skilled individuals, tend to show similar or even higher levels of satisfaction when inactive — usually when in education for the young or retirement for the older — in particular women and low skilled in the main age group show very strong dissatisfaction with inactivity. This is in line with the relatively high share of unemployed or inactive people in these subgroups — women, the young, the low skilled — who generally report a high willingness to take up work in the near future.

Job satisfaction further varies considerably with job characteristics such as working time status, contract type, size of the employer, sector and occupation. Despite differences across the Member States in the determinants of job satisfaction, some common patterns exist. Job satisfaction levels

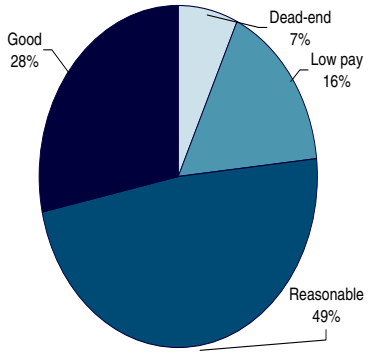
95 Job quality in the EU by gender, age group and education, 1998



Note: For a definition of the job quality categories, see Employment in Europe 2001 and footnote 5.
Source: Eurostat, ECHP, wave 5 (1998)

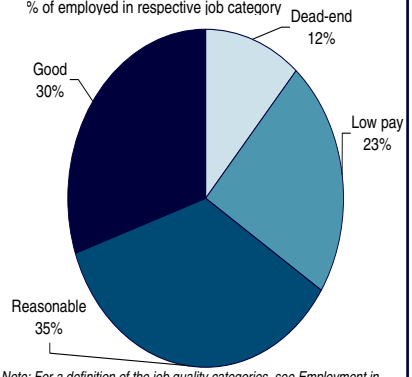
[5] Building on the definition in *Employment in Europe 2001*, jobs are classified in four categories — good jobs; jobs of reasonable quality; low-paid, low productivity jobs; and finally, dead-end jobs. As compared to last year's report, the only change in the definition of job quality categories consists in the use of gross hourly earnings (instead of net hourly earnings), which were not available in the ECHP public user database one year ago. On the basis of the available data, the aggregate shares of jobs of lower quality (i.e. low-paid, low productivity or dead-end jobs) and jobs of hogher quality (good jobs or jobs of reasonable quality) can be inferred correctly. However, due to lack of information on employer-provided training or job status for France, Germany and the UK, in particular the share of employed in good jobs is substantially underestimated while that of employed in jobs of reasonable quality or in low-paid jobs is overestimated. This variation in data quality, together with the use of gross instead of net hourly wages in the definition of the quality categories, could explain some of the variation of the results with respect to those presented in *Employment in Europe 2001*. Hence, these variations do not necessarily reflect any change in job quality over time.

96 Job quality in full-time jobs in the EU, 1998
% of employed in respective job category



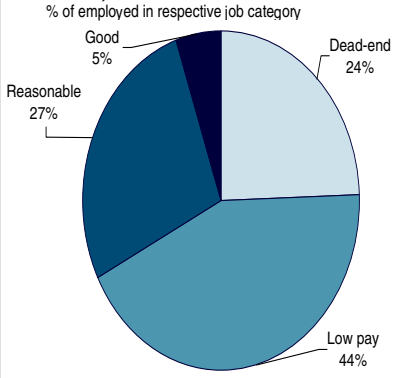
Note: For a definition of the job quality categories, see Employment in Europe 2001 and footnote 5.
Source: Eurostat, ECHP, wave 5 (1998)

97 Job quality in voluntary part-time jobs in the EU, 1998
% of employed in respective job category



Note: For a definition of the job quality categories, see Employment in Europe 2001 and footnote 5.
Source: Eurostat, ECHP, wave 5 (1998)

98 Job quality in involuntary part-time jobs in the EU, 1998
% of employed in respective job category



Note: For a definition of the job quality categories, see Employment in Europe 2001 and footnote 5.
Source: Eurostat, ECHP, wave 5 (1998)

tend to be higher among those in full-time jobs or in voluntary part-time jobs, those on permanent contracts, those in supervisory positions and, last but not least, those with access to training at the workplace. It also tends to be significantly higher among those in high skilled, non-manual occupations in the service sector in general, and in the public sector in particular. By contrast, strong levels of dissatisfaction are reported by individuals in low-paid jobs, in jobs without access to training, in temporary or involuntary part-time jobs, and in dead-end jobs[6] (charts 99–101).

The inter-sectoral differences in self-reported job satisfaction apply not only to job characteristics such as pay, working hours or job security, but also to work content and working conditions. Satisfaction with these characteristics is particularly low in agriculture, the construction sector, and hotels and restaurants. These patterns in the determinants of self-reported satisfaction — both with main activity status and with the job — are confirmed by a more rigorous econometric analysis of the main factors associated with higher job satisfaction (see annex 1 for a description of the estimation procedure and model specification and table 31 in the annex for estimation results).

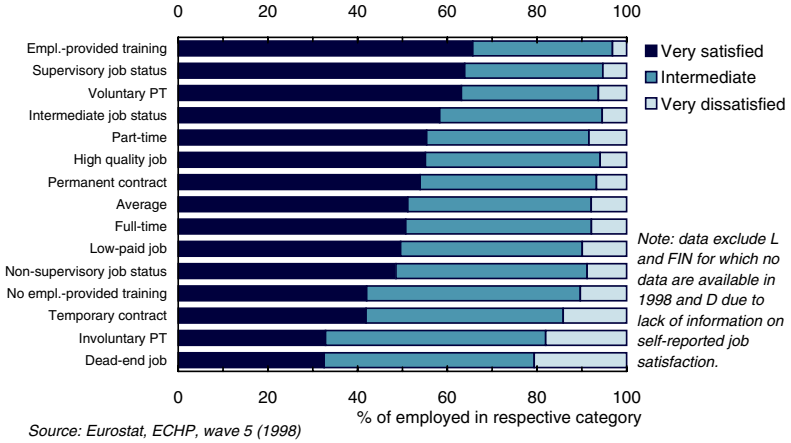
In all Member States, self-reported job satisfaction is strongly positively correlated with wages, job status and job-related skills acquired through training, while strongly negatively correlated with temporary contract status, job-worker mismatch and over-qualification. Furthermore, the employed in the service sector in general, and in the public sector in particular, report significantly higher levels of job satisfaction. This is also true of those employed in high skilled, non-manual occupations such as legislators and managers, professionals and technicians By contrast men in the construction sector and both, men and women in elementary occupations report strong levels of job dissatisfaction.

Job satisfaction by sector or occupation, however, varies by country. Job satisfaction in the public sector, for instance, matches that in the private sector in Spain, Italy, the Netherlands, Ireland, the UK, Finland and Denmark — after controlling for other relevant individual and job-related characteristics — but is significantly higher in the remaining EU Member States. Job satisfaction is significantly higher in the service sector in most Member States, in particular in financial services and in education, social services and the health sector.

Interestingly, even after controlling for job-related as well as sectoral and occupational characteristics, the gender concentration in the sector and occupation of employment has a clear impact on job satisfaction. In particular, the higher the share of women employed in a sector, the lower the self-reported satisfaction. This is in line with the findings from the decomposition of the gender pay gap in chapter 1. While men report significantly lower levels of job

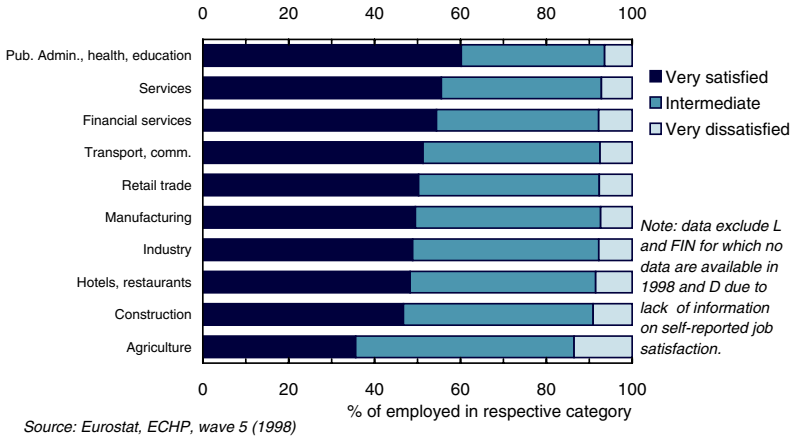
[6] As regards the type of employment contract, the ECHP foresees the following response categories: permanent employment; fixed-term or short-term contract; casual work with no contract; some other working arrangement. In this section, the contract status will be defined as "permanent" in cases where the individual declares "permanent employment" and as "temporary" otherwise. Unfortunately, temporary agency work cannot be distinguished from other types of temporary contract work on the basis of the ECHP.

99 Self-reported job satisfaction by selected job characteristics in the EU, 1998



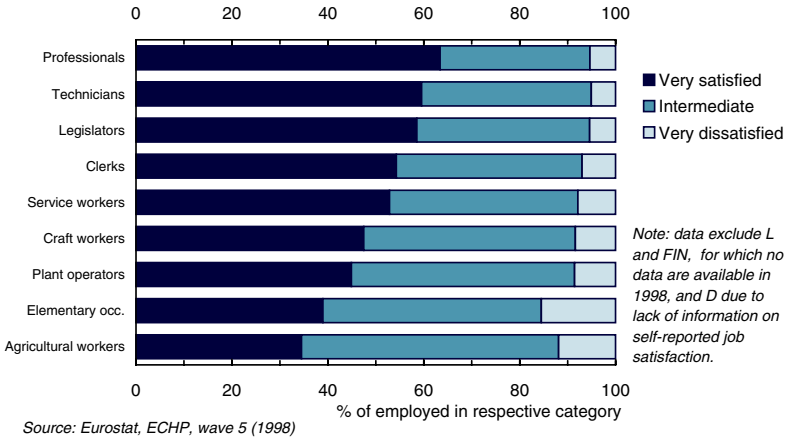
Source: Eurostat, ECHP, wave 5 (1998)

100 Self-reported job satisfaction by sector in the EU, 1998



Source: Eurostat, ECHP, wave 5 (1998)

101 Self-reported job satisfaction by occupation in the EU, 1998



Source: Eurostat, ECHP, wave 5 (1998)

satisfaction in both female-dominated sectors and occupations, the picture is different for women. While reporting even stronger dissatisfaction than their male counterparts in female-dominated sectors, they report significantly higher levels of job satisfaction in female-dominated occupations.

Finally, and most importantly, self-reported job satisfaction is strongly correlated with objective job quality as defined on the basis of pay and productivity, job security, and training opportunities and career prospects. Even after controlling for pay levels, contract status and job status, those in jobs of relatively high objective quality report significantly higher levels of job satisfaction.

The only exception seems to be related to the size of establishment. While objective job quality and earnings are found to be considerably lower in small firms, there is some evidence that self-reported levels of job satisfaction are higher than in larger organisations. This is probably due to more varied activities, a larger share in responsibility, a better and more transparent work organisation, better employee participation in information and consultation, or better personal relationships between workers and management.

The example of small and medium-sized enterprises not only shows the complex nature of quality in work, but also that quality improvements other than pay increases can play an important role in employment policies at company level. Since, as discussed later, job quality and job satisfaction are closely linked to both productivity and employment performance, such quality improvements should therefore also be

considered important instruments at company level to increase productivity and economic performance.

These findings, together with the fact that objective job quality has a significant impact on self-reported job satisfaction (even after controlling for characteristics such as hourly wage, contract status and training provision), point to the existence of other important factors contributing to job quality. These would include factors such as social dialogue and worker involvement, work-organisation and work/home life balance and, last but not least, health and safety at work.

Labour market and quality dynamics

Another important element of quality in work is access to the labour market and the presence of career development opportunities. These dimensions of quality in work can best be monitored through labour market transitions — the observed movements between different labour market states or types of employment — and their determinants. Among the main labour market transitions of interest for monitoring quality dynamics are: transitions between the main activity states (employment, unemployment, and inactivity); transitions between different work arrangements and job characteristics (employed vs. self-employed; full-time work vs. part-time work; temporary contract vs. permanent contract; low pay vs. high pay; low quality vs. high quality; etc.); and, finally, income or earnings mobility, measured as transitions between different quintiles of the income or earnings distribution. Such individual-level labour market transitions reflect the evolution of both, aggregate labour demand and supply. A further analysis of the determinants of the latter, however, clearly is beyond the scope of this chapter.

Observed transitions over the 1995–1998 period between the main labour market states — employment, unemployment and inactivity — are characterised by relatively important persistence.[7] After three years, more than 85% are still in either inactivity or employment, and more than 37% are still (or again) unemployed. While outflow rates from inactivity into either unemployment or employment are relatively low, between 30% and 40% of those previously unemployed take up employment, as opposed to around 20% who withdraw from the labour force (table 22).

When comparing observed transition rates over time, outflow rates from unemployment or inactivity into employment seem to have improved between 1995 and 1998. These improvements may well reflect the dependence of labour market transition patterns on overall employment performance — which improved throughout the second half of the 1990s — as well as an increasing importance of active labour market policies and preventive approaches in general.

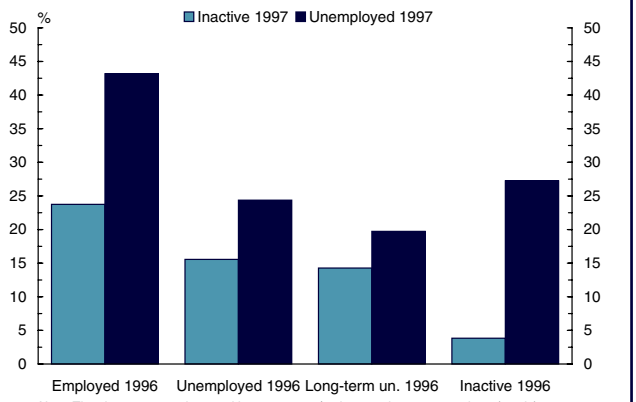
Table 22 — Labour market transitions 1995–1998 between labour market states

	Transitions into		
out of	**Inactivity**	**Unemployment**	**Employment**
		1997–1998	
Inactivity	91.89	2.60	5.51
Unemployment	17.47	52.25	30.28
Employment	4.69	3.36	91.96
		1995–1996	
Inactivity	90.94	2.98	6.08
Unemployment	19.16	55.43	25.41
Employment	5.11	3.43	91.46
		1995–1997	
Inactivity	88.41	3.46	8.13
Unemployment	21.84	43.99	34.17
Employment	7.38	4.36	88.27
		1995–1998	
Inactivity	86.10	3.26	10.64
Unemployment	23.57	37.37	39.06
Employment	9.55	4.62	85.83

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Source: Eurostat, ECHP, waves 2-5 (1995-1998)

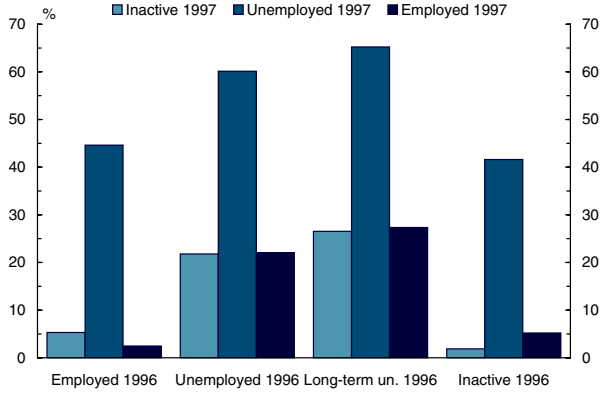
[7] One-year transitions for both periods, 1995-96 and 1997-98, are reported to allow a comparison of labour market transition patterns over time. Due to changes in the countries sampled and the data quality in the ECHP, however, changes in transition rates over time should in general be interpreted with great caution. To compare transition patterns over longer time, two-year and three-year transitions are reported for the periods 1995-97 and 1995-98, respectively. The latter are based on the same sample populations as the one-year transitions for the period 1995-96.

102 Outflow from unemployment and inactivity into employment in 1997-98 by employment status in 1996



Note: The chart presents the transition rates 1997/98 into employment 1998 in % (y-axis) conditional on labour market status 1997 (respective bar) and 1996 (x-axis).
Source: Eurostat, ECHP, waves 3-5 (1996-98)

103 Outflow into and persistence in unemployment in 1997-98 conditional on employment history in 1996-97



Note: The chart presents the transition rates 1997/98 into unemployment 1998 in % (y-axis) conditional on labour market status 1997 (respective bar) and 1996 (x-axis).
Source: Eurostat, ECHP, waves 3-5 (1996-98)

Outflow rates from unemployment or inactivity into employment also depend strongly on an individual's previous labour market history. Those who were inactive before or who have been in unemployment some time before face a significantly lower probability of moving back into the labour market than those who were recently employed. While, for instance, more than 43% of those employed in 1996 and unemployed in 1997 are employed again in 1998, less than a quarter of those unemployed in 1996 and 1997 and less than 20% of those already in long-term unemployment in 1996 manage to re-enter employment. Similarly, almost a quarter of those inactive in 1997 but employed the year before moved back into employment in 1998 as opposed to only 15% of those who withdrew from the labour market after a period of unemployment (chart 102).

Table 23 — Labour market transitions 1997–1998 by working time status

	Transitions into				
	Inactivity	**Unemployment**	**Full-time work**	**Short part-time work**	**Long part-time work**
	out of full-time work				
Total	3.53	3.22	91.27	0.00	1.97
Men	2.94	3.16	92.93	0.00	0.98
Women	4.62	3.34	88.21	0.01	3.82
	out of short part-time work				
Total	3.11	14.31	15.84	12.54	54.19
Men	-	-	-	-	-
Women	3.96	18.19	14.19	15.94	47.72
	out of long part-time work				
Total	12.66	5.32	23.86	0.45	57.72
Men	17.41	8.68	37.60	-	36.31
Women	11.61	4.58	20.85	0.55	62.40

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Figures on transitions into and out of short part-time work — in particular for men — unreliable due to small number of observations.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

Furthermore, around 60% or more of those who withdraw from the labour force after a period of unemployment remain inactive. Their retention rates in inactivity, however, are significantly lower than among those who move directly from employment into inactivity (70%) and those who have been inactive for at least two subsequent years (94%). It, therefore, seems important to ensure labour market attachment of those at the margins of the active work population through both adequately designed tax-benefit reforms and appropriate training or job placement measures designed to improve their employability.

Those who re-enter the labour market after a period of inactivity face similar transition rates than those previously employed. By contrast, those who had been unemployed before face a significantly higher probability of becoming unemployed again (chart 103).

Transitions by working time status

Despite high persistence in full-time jobs and very few people reducing working hours from full-time to part-time over two years, there are significant movements in the labour market with respect to the working time status. People generally, and men particularly, who are employed in part-time jobs are at much higher risk of unemployment or inactivity than those in full-time employment. Furthermore, almost a quarter of those in part-time work — and almost twice as many men as women — take up a full-time job within a year. On the other hand, persistence in part-time jobs of at least 15 working hours is relatively high among women (62%), with only slightly higher layoff probabilities than for women in full-time jobs. Women who are working short part-time — less than 15 hours a week — are clearly at a significantly higher risk of unemployment. This form of part-time work — possibly in many cases combined with other short part-time jobs — seems to be for both, men and women, a stepping stone to jobs with longer working time, in particular part-time jobs with more than 15 hours a week (table 23).

Transitions by contract status

Transitions into temporary jobs account for a large part of the transitions from unemployment into employment. Around two thirds of the jobs taken by previously unemployed young people and by both, the low skilled and the high skilled, are temporary jobs. Through such temporary jobs, 25% of the high skilled and 20% of the young in unemployment find their way back into the labour market. At the same time, less than 15% of the low skilled unemployed do so. Among older workers, transitions back from unemployment into employment are generally rare, and only a minority of those who do find employment moves into temporary contracts. Although at lower rates, a similar observation applies to transitions from inactivity into employment.

On the other hand — and not surprisingly, transitions into unemployment and withdrawal from the labour force are considerably higher for those employed in temporary jobs compared to those in permanent jobs. Higher transitions from temporary jobs into unemployment are found for all groups in the labour market, in particular among the low skilled, but also among women and older workers. With transitions into inactivity, the opposite holds, with high-skilled

Table 24 — Labour market transitions 1997–1998 by contract status

	Transitions into			
	Inactivity	Unemployment	Permanent jobs	Temporary jobs
	out of permanent jobs			
Total	3.24	2.28	91.72	2.76
Men	2.63	2.40	92.52	2.45
Women	4.09	2.11	90.62	3.18
Young	5.36	4.39	82.04	8.21
Older	12.05	3.70	82.36	1.90
Low skilled	4.26	2.74	89.36	3.63
High skilled	2.80	1.70	92.98	2.52
	out of temporary jobs			
Total	7.32	13.23	35.66	43.79
Men	5.07	12.75	36.68	45.50
Women	10.14	13.83	34.39	41.65
Young	12.04	14.90	31.16	41.90
Older	12.35	14.95	35.53	37.16
Low skilled	7.20	16.23	30.37	46.20
High skilled	9.36	8.37	38.63	43.65
	out of unemployment			
Total	18.52	55.37	11.30	14.81
Men	13.83	55.75	13.54	16.88
Women	26.62	54.96	8.86	12.57
Young	16.85	53.35	9.44	20.36
Older	31.55	62.04	3.56	2.85
Low skilled	20.15	58.60	7.86	13.39
High skilled	17.56	41.67	15.73	25.04
	out of inactivity			
Total	93.45	2.64	2.23	1.68
Men	89.37	3.21	4.22	3.20
Women	91.27	3.28	3.33	2.13
Young	81.24	7.82	4.92	6.02
Older	97.82	1.17	0.76	0.25
Low skilled	95.96	1.77	1.30	0.97
High skilled	84.28	4.60	6.32	4.80

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Source: Eurostat, ECHP, waves 4-5 (1997–1998)

temporary workers being more likely to withdraw from the labour market, suggesting that career flexibility over the near future was one of the reasons for them working on a temporary contract (table 24).

Moreover, around a third of those employed in temporary jobs move into a permanent job between two subsequent years, ranging from 30% among the low skilled to almost 40% of the high skilled. In the opposite direction, the highest inflow from permanent into temporary employment of around 10% can be observed for the young, partly reflecting the relatively frequent job changes among young people at the beginning of their careers. Transitions out of temporary jobs also seem to have improved slightly over time, with transition rates from temporary to permanent jobs between 1995–1996 and 1997–1998 up by some 5 percentage points for all groups.

These findings are confirmed in a longer perspective of two to three years. Both the share of those moving from temporary employment into unemployment or inactivity and the share of those moving into jobs with permanent contracts are increasing over longer horizons.

Table 25 — Labour market transitions 1995–96 and 1995–98 by contract status

	Transitions 1995-96 into				Transitions 1995-98 into			
	Inactivity	Unemployment	Permanent jobs	Temporary jobs	Inactivity	Unemployment	Permanent jobs	Temporary jobs
	out of permanent jobs							
Total	3.43	2.11	91.93	2.53	8.06	3.75	85.29	2.90
Men	2.62	2.12	92.84	2.42	6.42	3.72	86.97	2.90
Women	4.57	2.09	90.65	2.69	10.37	3.79	82.93	2.92
Young	5.10	4.58	83.91	6.40	5.09	6.11	74.16	14.64
Older	11.41	3.34	83.51	1.74	27.08	6.75	64.65	1.53
Low skilled	4.39	2.79	89.52	3.29	10.83	4.78	80.98	3.42
High skilled	2.99	1.03	94.06	1.92	6.05	2.18	89.09	2.68
	out of temporary jobs							
Total	9.24	14.40	29.73	46.63	10.78	14.17	45.51	29.55
Men	7.13	14.06	30.56	48.24	6.24	13.18	47.16	33.42
Women	11.91	14.82	28.68	44.59	16.28	15.36	43.50	24.86
Young	16.57	14.94	27.86	40.63	10.29	12.09	49.94	27.68
Older	13.39	11.93	29.47	45.21	26.45	20.01	31.47	22.07
Low skilled	10.28	18.91	23.13	47.69	12.41	15.22	38.20	34.17
High skilled	6.56	8.37	34.60	50.47	11.23	7.07	53.06	28.65
	out of unemployment							
Total	20.16	58.31	9.67	11.87	25.50	40.43	19.05	15.02
Men	13.82	62.43	10.48	13.28	18.20	43.96	21.79	16.06
Women	26.19	54.38	8.90	10.53	32.38	37.11	16.46	14.05
Young	17.13	57.53	9.91	15.44	17.88	43.10	18.66	20.35
Older	30.71	61.00	4.02	4.27	46.01	40.41	8.62	4.96
Low skilled	19.50	62.16	7.05	11.28	27.50	46.21	12.43	13.86
High skilled	17.12	54.56	14.77	13.55	23.35	26.48	31.31	18.86
	out of inactivity							
Total	92.84	3.04	2.59	1.52	88.56	3.35	5.18	2.91
Men	91.68	3.70	2.70	1.92	87.00	3.70	5.54	3.77
Women	93.44	2.70	2.54	1.32	89.33	3.18	5.01	2.48
Young	83.49	6.49	7.09	2.92	62.28	13.87	12.56	11.29
Older	96.63	1.74	1.17	0.46	96.10	1.54	1.75	0.61
Low skilled	95.47	2.31	1.30	0.92	94.02	1.89	2.63	1.47
High skilled	88.08	4.04	5.39	2.48	70.85	5.83	14.47	8.85

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Source: Eurostat, ECHP, waves 2-5 (1995–1998)

Almost half of those in temporary employment three years before are observed to be in permanent employment in 1998, while around a quarter had left employment. This is also reflected in increasing transitions out of unemployment and inactivity back to employment: around 35% of those unemployed 1995 and 8% of the inactive at that time had moved into employment by 1998 — more than half of them into permanent jobs.

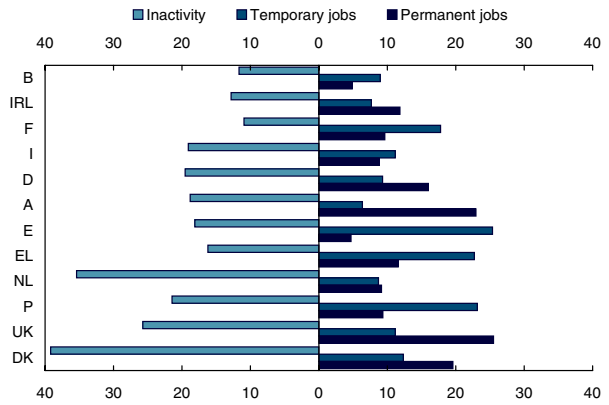
The evolution of these labour market transitions, however, differs considerably between the various groups within the labour market. More than 27% of the low skilled, 31% of women, and 46% of older people in temporary employment had left employment. In the case of women, transitions into inactivity and, in particular, into unemployment were up to four times higher than transitions into permanent contract employment, whereas for low skilled and older workers, the small differences in transitions into inactivity contrast with more than three times higher transitions into unemployment. Among those unemployed in 1995, more than half of the high skilled were employed three years later — of whom more than two thirds in permanent jobs — as opposed to only a quarter of the low skilled — of whom a majority in temporary jobs (table 25).

There are furthermore important differences in the transition rates from temporary to permanent employment between the various groups. While half or more of the young and the high skilled make such a transition over three years, less than a third of older people and less than 40% of the low skilled do, thus widening the age and skill gaps in employment. For both, low skilled and older people, transition rates into inactivity from either permanent or temporary jobs are similar. This suggests that, many of the low skilled and older people — unlike many young and high skilled employed — consider temporary jobs as "stepping stones" to jobs of higher quality rather than as an appropriate contract type for flexibility or other reasons.

Indeed, between 1995 and 1998, only 31% of older people and 38% of the low skilled in temporary contracts managed to move into a permanent job, compared to 50% of the young and 53% of the high skilled in temporary jobs. At the same time, 20% of older people and 15% of young people who were employed in temporary contract jobs in 1995 were unemployed three years later, compared to 12% of young people and 7% of high skilled in temporary jobs in 1995. Both these high inflow rates of low skilled and older people from temporary employment into unemployment and the below average transitions into permanent employment cast doubt, however, on whether temporary jobs can always perform this stepping-stone function, and rather that temporary jobs may not necessarily represent an adequate means of re-integration into the labour market in general, and into high quality, high productivity jobs in particular, for many low skilled and older people.

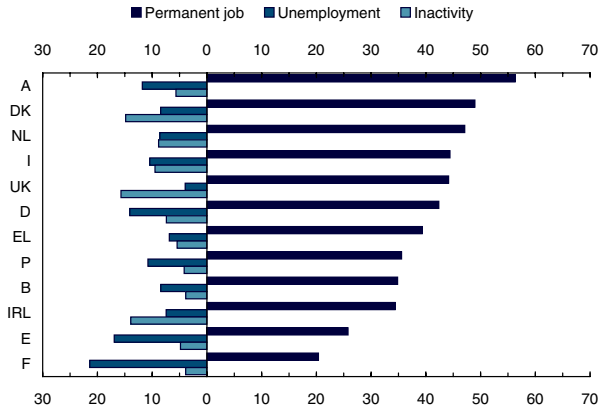
At Member State level, important differences exist not only in the employment shares by contract type, but also in the labour market dynamics and transition patterns into and between the various types of employment. Transition rates from unemployment into employment also differ significantly across countries. Persistence in

104 Transitions 1997-98 out of unemployment into …
(transition rates in % of unemployed 1997)



Note: To improve visibility, transition rates into inactivity are presented as bars to the left in the above chart. Data are sorted by degree of persistence in unemployment. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

105 Transitions 1997-98 out of temporary work into …
(transition rates in % of employed in temporary contracts 1997)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

unemployment between two years is particularly marked in Belgium, France and Ireland. Transitions back into employment are highest in Greece, Portugal, Spain, Denmark and the UK, while lowest in Italy, the Netherlands and Belgium. In the UK, Ireland, Germany, Austria and Denmark, transitions from unemployment into employment are dominated by transitions into permanent jobs, as opposed to Spain, Portugal, Greece and France where a large majority of the previously unemployed moves into temporary jobs. Year-to-year outflow rates from temporary jobs into unemployment or inactivity, on the other hand, range from below 15% in Greece and Portugal to 20% or more in France, Denmark, Germany, Spain and Ireland. At the same time, transition rates into permanent employment range from 25% or less in France and Spain to around 50% in the Netherlands, Denmark and Austria (charts 104 and 105).

In the case of France and Spain, the combination of relatively low transitions from temporary to permanent jobs and relatively high outflow rates in particular into unemployment leads to unfavourable transition patterns over longer periods of two to three years or more. On the other hand, countries with high transition rates from temporary to permanent jobs such as Austria, Denmark, the Netherlands and the UK fare considerably better also over longer periods (chart 106).

The cases of Germany, Belgium, Italy and Portugal, however, show that higher year-to-year transitions from temporary to permanent jobs do not necessarily guarantee a favourable evolution over longer horizons since positive labour market dynamics from temporary to permanent jobs are negatively affected by high outflows from temporary jobs into unemployment. By contrast, as suggested by the experience of Denmark, the UK, Ireland and the Netherlands, high transition rates from temporary employment to inactivity do not seem to have the same negative effect, especially if explained by individuals moving back temporarily into education or training.

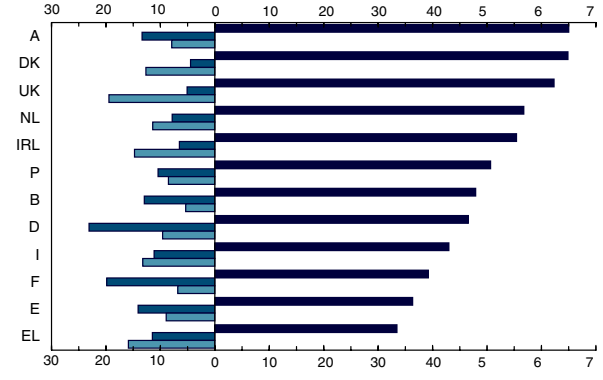
Transitions by access to training

For the second important determinant of job quality and job satisfaction — the provision of training and career opportunities — the differences in the transition patterns between the various groups on the labour market are less pronounced, while the differences between the EU Member States are considerably bigger (table 26 and chart 107).[8]

In general, there is a strong persistence in jobs either with or without (employer-provided) training opportunities. Over two years, less than 15% of those currently lacking such training opportunities move to a job with training opportunities. Over three or four years the figure rises to less than 20%. In line with previous results on the skill bias of training incidence in *Employment in Europe 2001*, these improvements are below average for the low skilled employed, as well as for young and older workers, but

106 Transitions 1995-98 out of temporary work into ...

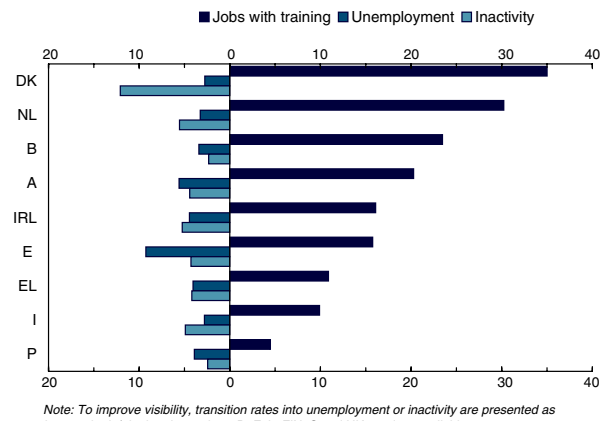
(transition rates in % of employed in temporary contracts 1995)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 2-5 (1995-98)

107 Transitions 1997-98 out of jobs without training into ...

(transition rates in % of employed in jobs without training opportunities 1997)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. D, F, L, FIN, S and UK: no data available.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

[8] See annex 2 for evidence on the transition rates 1995-96 and 1995-98 at both EU-level and Member State level.

particularly high for the high skilled. The same negative result applies to transitions from unemployment back into employment: while almost half of the high skilled take up jobs with training opportunities, more than 90% of the low skilled move from unemployment into jobs without access to training.

At the same time, there are considerably higher outflows into unemployment or inactivity among those who have no access to training at the workplace. While the young are more likely to become unemployed, women, low skilled and older workers face a higher likelihood of both unemployment and withdrawing from the labour market. Most interestingly, the risk of unemployment for the low skilled with access to training is relatively low and is, in fact, comparable to that of the high skilled. This underlines the importance of access to training and career development opportunities, in particular for low skilled workers.

At Member State level, shares of 20–30% or more of the employed improve job quality with respect to access to training in Austria, Belgium, the Netherlands and Denmark, whereas in the Mediterranean Member States and in Ireland, even multi annual transition rates into jobs with training opportunities remain largely below 20%. It has to be noted, however, that the analysis is restricted by the lack of adequate information on employer-provided training in some of the bigger Member States, notably Germany, France and the UK.

Transitions by objective job quality

Quality dynamics in the European labour markets can further be assessed on the basis of objective job quality categories, notably jobs of lower quality (dead-end and low-paid/low productivity jobs) and jobs of higher quality (good jobs and jobs of reasonable quality). Similarly to the transitions between the main labour market states, there is also evidence of strong persistence with respect to job quality. Over a two-year period, almost 90% of those in high quality jobs and almost 60% of those in low quality employment remain in these categories.

Over the same time, more than a quarter of those employed in a low quality job see an improvement in their job quality, while only 5% of those in high quality employment

Table 26 — Labour market transitions 1997–98 by training incidence

	Transitions into			
	Inactivity	Unemployment	Jobs without training	Jobs with training
	out of jobs without training			
Total	4.53	4.61	76.67	14.19
Men	3.56	4.37	77.63	14.44
Women	6.05	4.99	75.16	13.79
Young	8.63	8.15	73.93	9.29
Older	16.02	3.83	70.20	9.96
Low skilled	5.33	5.54	79.04	10.08
High skilled	3.37	3.03	67.37	16.23
	out of jobs with training			
Total	2.63	1.66	23.14	72.57
Men	2.65	1.47	23.87	72.02
Women	2.61	1.97	22.00	73.42
Young	6.00	5.57	26.68	61.76
Older	13.75	4.09	18.80	63.36
Low skilled	2.87	1.86	22.94	72.33
High skilled	1.95	1.93	21.57	74.56
	out of unemployment			
Total	19.77	60.24	16.35	3.64
Men	13.39	62.96	19.97	3.68
Women	26.14	57.53	12.73	3.60
Young	18.78	59.70	17.64	3.89
Older	32.52	61.61	5.02	0.84
Low skilled	20.49	60.53	17.28	1.71
High skilled	20.48	53.53	15.81	10.18
	out of inactivity			
Total	94.63	2.93	1.73	0.71
Men	93.95	3.12	1.92	1.01
Women	94.99	2.83	1.63	0.55
Young	82.98	9.08	5.60	2.34
Older	98.70	0.88	0.38	0.04
Low skilled	96.57	1.85	1.24	0.33
High skilled	89.96	5.36	2.70	1.98

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Deviations of the above transition rates from those by contract status or job quality can be partly due to the lack of information on employer-provided training for France, Germany and the UK. For further information, see footnote 5.
Source: Eurostat, ECHP, waves 4-5 (1997-1998)

Table 27 — Labour market transitions 1997–98 by job quality

	Transitions into				
	Inactivity	Unemployment	Dead-end jobs	Low-paid jobs	High quality jobs
	out of dead-end job				
Total	7.17	13.72	37.99	11.97	29.15
Men	5.06	14.54	40.12	10.20	30.09
Women	9.94	12.65	35.21	14.27	27.92
Young	10.58	13.88	37.20	16.33	22.02
Older	12.08	18.79	30.85	8.11	30.16
Low skilled	7.05	15.53	42.48	12.85	22.08
High skilled	7.99	11.38	32.53	3.25	44.86
	out of low-paid job				
Total	6.30	6.39	3.84	54.96	28.51
Men	4.41	5.91	3.90	50.08	35.70
Women	7.73	6.76	3.80	58.67	23.04
Young	8.99	9.20	5.41	54.33	22.07
Older	12.79	7.07	2.81	55.36	21.96
Low skilled	6.47	6.54	4.89	55.36	26.75
High skilled	8.30	3.83	1.53	55.48	30.86
	out of high quality job				
Total	2.91	2.03	1.31	4.23	89.52
Men	2.57	2.23	1.32	3.41	90.47
Women	3.46	1.70	1.31	5.54	88.00
Young	3.60	3.81	4.80	13.54	74.26
Older	12.38	3.30	1.14	2.86	80.32
Low skilled	3.75	2.25	1.94	6.30	85.76
High skilled	2.65	1.79	0.96	2.61	91.99
	out of unemployment				
Total	18.78	56.16	9.12	7.66	8.28
Men	14.05	56.67	11.53	7.07	10.68
Women	23.89	55.60	6.52	8.29	5.69
Young	16.98	53.74	12.84	10.52	5.92
Older	31.61	62.14	2.00	2.07	2.18
Low skilled	20.27	58.96	9.83	5.83	5.10
High skilled	18.20	43.20	9.02	14.41	15.16
	out of inactivity				
Total	93.56	2.65	0.88	1.70	1.21
Men	92.94	2.81	0.95	1.66	1.64
Women	93.88	2.57	0.84	1.72	0.99
Young	81.55	7.85	2.71	5.17	2.71
Older	97.82	1.17	0.19	0.45	0.37
Low skilled	95.98	1.77	0.62	1.14	0.49
High skilled	84.97	4.64	1.83	4.28	4.27

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Deviations of the above transition rates from those by contract status or training incidence can be partly due to the lack of information on employer-provided training for France, Germany and the UK. For further information, see footnote 5.
Source: Eurostat, ECHP, waves 4-5 (1997-1998)

experience a deterioration of job quality with a loss of job security, training and career opportunities or a deterioration in pay levels. Furthermore, as in the case of temporary jobs and jobs without access to training, transitions into unemployment or inactivity are more than three times higher for those in low quality jobs than those in high quality jobs.

There is some evidence that upward quality dynamics have slightly improved over the second half of the 1990s. In particular transitions from dead-end to higher quality jobs seem to have become more likely. Also dropping out of employment into inactivity or unemployment seems to have become less likely, except in the case of older workers who seem at higher risk of unemployment if they were in a temporary job in 1997 as compared to 1995.

Over longer periods of three years or more, both transitions out of employment and transitions from low quality into high quality employment increase, with more than a third moving upwards and more than 20% leaving employment. This is twice as many as from high quality jobs. Over the same time period, finally, almost a third of those previously unemployed move into employment, two thirds into low quality and one third into high quality jobs.

Again, those in dead-end jobs or low-paid, low productivity jobs are significantly more likely to withdraw from the labour force or to become unemployed than those in jobs of relatively better quality. This applies not only for the low skilled, but also for older workers. Persistence in such jobs of low quality is highest among the low skilled, while upward quality dynamics

most favours the high skilled and is least likely to apply to the low skilled and the young. Persistence in low-paid employment is also relatively high, with more than half of all the low-paid staying in low pay, low productivity jobs over two years. This applies in particular to women, while again high skilled men face more favourable transition rates to high quality jobs (table 27).[9]

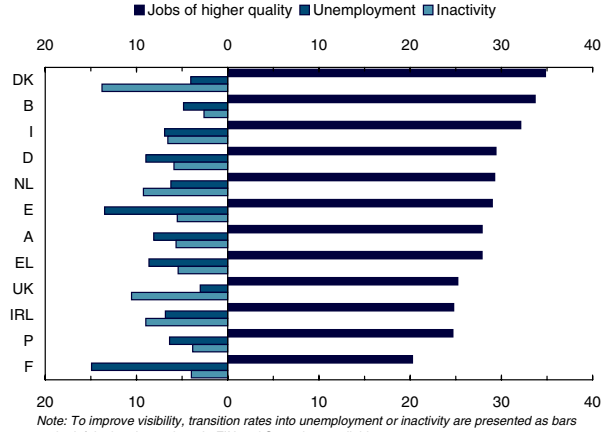
While two- to three-year transitions give slightly more favourable results regarding upward quality dynamics, it has to be noted that more than a quarter of all those in dead-end jobs and around 20% of those in low-paid, low productive jobs are either unemployed or inactive two to three years later. Given the very similar transition rates into jobs of higher quality, the lower outflow rates from low-paid, low productive jobs into unemployment or inactivity are mostly explained by the higher persistence of this type of jobs, in particular among women and older workers. While working in a dead-end jobs implies a seriously higher risk of unemployment for all groups in the labour market, women and the young in dead-end jobs in addition face a much higher likelihood of withdrawal from the labour force, regardless of their skill level.

Transitions between different job quality categories also differ considerably across Member States (chart 108 and Annex 2). One year transition rates from low to high quality jobs range from 25% or below in France, Portugal, Ireland and the UK to 33% or more in Belgium and Denmark. Over a longer horizon of three years or more, the figure for Belgium and Denmark rises to 45% or more. Multi annual transition rates between 1995 and 1998 remain below 33% in Spain, Germany, Greece and — in particular — in France.

Similar to the above transitions by contract status, transitions from unemployment back into the labour market are predominantly due to take-up of low quality jobs in the Mediterranean countries and France. By contrast, an important share of more than 10% of those previously unemployed move directly into a job of higher quality in Denmark, the UK, Ireland, Germany and Austria. Furthermore, in particular in Denmark, the Netherlands and the UK, a quarter or more of those previously unemployed withdraw from the labour force (chart 109).

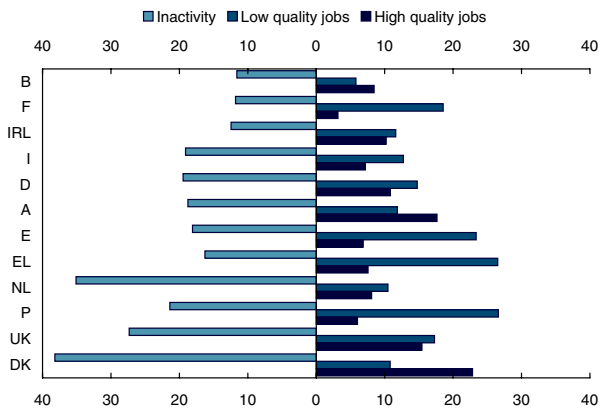
In some Member States such as France, Spain, Germany and Greece, transition rates over longer periods are negatively affected by the relatively high outflow from low quality jobs into unemployment, despite relatively high year-to-year quality upward dynamics. High transitions into inactivity, on the contrary, do not necessarily affect long-term transitions in the same way, as can be seen in the cases of Denmark, Ireland and the Netherlands. It should be noted, however, that in the case of the UK almost 20% of those in low quality employment three years before ended up outside the labour force in 1998. In this case, the more favourable upward quality dynamics are mainly due to the very low inflow rates into unemployment from low

108 Transitions 1997-98 out of low quality jobs into …
(transition rates in % of employed in low quality jobs 1997)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

109 Transitions 1997-98 out of unemployment into …
(transition rates in % of unemployment 1997)



Note: To improve visibility, transition rates into inactivity are presented as bars to the left in the above chart. Data are sorted by degree of persistence in unemployment. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 4-5 (1997-98)

[9] See annex 2 for evidence on the transition rates 1995-96 and 1995-98 at both EU-level and Member State level.

quality jobs and probably also due to higher return rates from inactivity to employment.

The role of the employment history

Finally, there is evidence for strong state and duration dependence. While two- or three-year transition rates out of low quality or temporary jobs are more favourable than one-year transitions, they do not show that those who have been employed in these states for several subsequent years are at significantly higher risk of either leaving employment or remaining in jobs of low quality.

As discussed, those in temporary jobs, jobs without access to training or jobs of low quality are at significantly higher risk of becoming unemployed, regardless of the previous labour market or job quality status. This is most pronounced for those individuals who left unemployment by taking a job of low quality or a temporary job, respectively. Almost a third of them are unemployed again a year later, as opposed to around 20% of those in permanent or low-paid, low productivity jobs, and around 10% of those in jobs of high quality (charts 110 and 111).

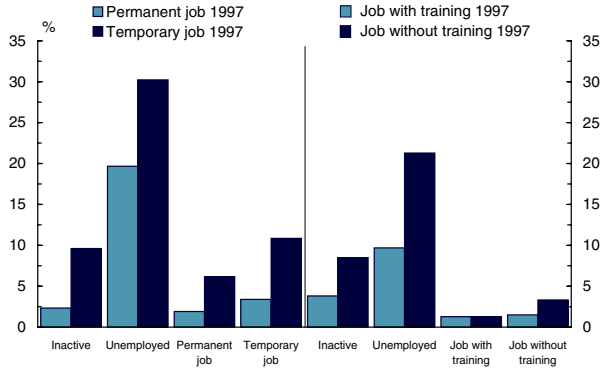
Also among those who left unemployment by taking a job without training opportunities, the risk of unemployment remains twice as high compared to those in jobs with access to training. Moving from unemployment into a job without training opportunities, in addition, increases the probability of subsequent withdrawal from the labour force by almost a factor of three.

This finding notwithstanding, the probability of being unemployed is lower among those in temporary work or in jobs of low quality compared to those in continuous unemployment: while 63% of those unemployed over the last two years stay in unemployment, there is some evidence that more than two thirds of those in temporary jobs after a period of unemployment manage to stay in employment.

Those moving back into the labour market from inactivity have similar experiences. Withdrawal only one year later is highest among those in dead-end or low-paid, low productivity jobs, while virtually none of those in jobs of high quality leaves the labour market again immediately. The reason for this is probably that those moving back into high quality jobs were "encouraged" to take up or return to an activity due to the relatively high quality offered, while those moving into jobs of lower quality are likely to be individuals at the margin of the labour market, possibly without the necessary background to qualify for a high quality job with training opportunities and career prospects.

Furthermore, those who move up the job quality ladder, in particular by moving from dead-end or low-paid jobs to high quality jobs but also from temporary to permanent jobs and by acquiring access to training opportunities, are significantly less likely to become unemployed. The probabilities of those stagnating in low quality jobs being laid off or seeing a deterioration of their job quality are at least twice as high. In other words, the loss of employer-provided training opportunities, the move from a permanent to a temporary work contract, or downward earnings mobility

110 Risk of becoming unemployed in 1997-98 by job type in 1997



Note: The chart presents the transition rates 1997/98 into unemployment 1998 in % (y-axis) conditional on either contract status 1997 (permanent or temporary as presented by the respective bar in the left half of the chart) or conditional on access to training 1997 (respective bar in the right half of the chart) and labour market status 1996 (x-axis).

Source: Eurostat, ECHP, waves 3-5 (1996-98)

111 Risk of becoming unemployed in 1997-98 by job quality status in 1997

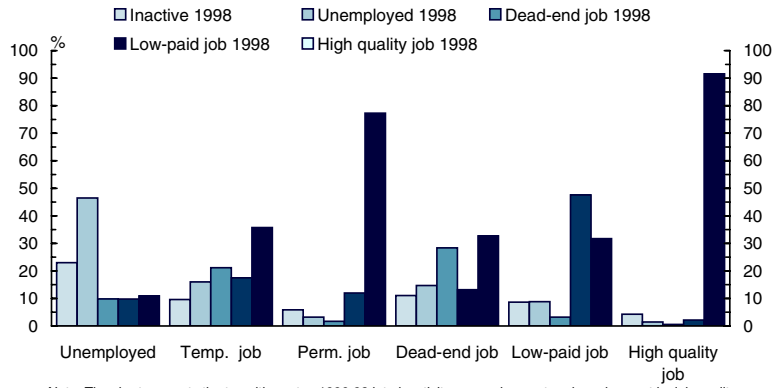
Note: The chart presents the transition rates 1997/98 into unemployment 1998 in % (y-axis) conditional on job quality status 1997 (dead-end job, low-paid job and high quality job as presented by the respective bar) and labour market status 1996 (x-axis).

Source: Eurostat, ECHP, waves 3-5 (1996-98)

from decent to low hourly pay can in some cases be interpreted as first steps towards unemployment or social exclusion.

Access to the labour market, finally, remains particularly difficult for those in persistent unemployment of at least two subsequent years. Of them, almost two thirds (64%) are still unemployed one year later, one out of every six withdraws from the labour market (16.5%), and less than 20% move into employment, with 8.5% entering dead-end jobs, 6% low-paid, low productivity jobs and 5.5% in jobs of reasonable quality.

112 Labour market distribution in 1998 by labour market status in 1996



Note: The chart presents the transition rates 1996-98 into inactivity, unemployment and employment by job quality 1998 in % (y-axis) from unemployment, and employment (permanent or temporary; with or without access to training; dead-end, low-paid or high quality) 1996 (x-axis).
Source: Eurostat, ECHP, waves 3-5 (1996-98)

The differences in labour market transitions lead to significant differences in distributions across labour market states conditional on the labour market history. While those previously in low quality jobs, temporary jobs and/or jobs without access to training face a considerably lower risk of unemployment and inactivity and better job quality prospects than those previously unemployed, they are clearly at much higher risk of unemployment, inactivity or low quality employment than those who were in high quality jobs, permanent jobs and/or jobs with employer-provided training opportunities before (chart 112).

The observations above indicate the need for the creation of better jobs and the improvement of the quality of existing jobs to promote social cohesion and open up labour markets to all. A more in-depth analysis on the determinants of labour market transitions and state and duration dependence based on appropriate models is needed. Some of these issues will be discussed in the following section which presents empirical results on the determinants of labour market transitions in general and the role of unemployment and social exclusion in particular at both the EU and Member State level.

Determinants of labour market transitions and persistence

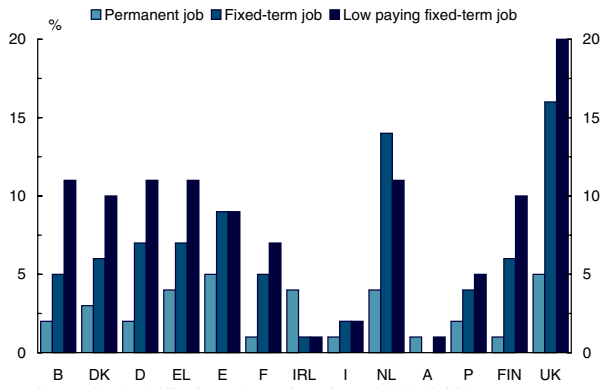
In addition to the high risk of persistence of low quality jobs, there is also a close link between job quality, on the one hand, and unemployment, social exclusion and poverty, on the other. This link is due not least to the apparently strong state and duration dependence of labour market transitions and employment prospects discussed before. This finding is confirmed by the results of an econometric study that explores the determinants of the current labour market state and the associated degree of persistence as well as those of labour market transitions.[10]

The results of this study confirm the presumed strong impact of the previous labour market status, in general, and of previous unemployment experience, in particular, and of the characteristics on the job held one year go on the current job status. In line with the descriptive evidence presented before, they also show that, both men and women in insecure employment face relatively high risks of experiencing worsening employment prospects, labour market exclusion or poverty. Although both permanent employment and social exclusion are highly persistent, there are large amounts of mobility between other states.

In all EU Member States, there is a considerable impact on current labour market status of the characteristics of the job previously held. Previous employment in both part-time work or a fixed-term contract rather than in a full-time, permanent job reduces the probability of current full-time work substantially and by twice as much for men as for

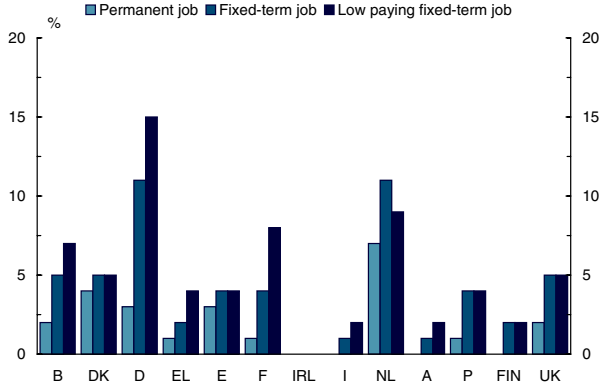
[10] The findings on the determinants of labour market transitions in this section are based on the report "Labour market dynamics and social exclusion" prepared for the European Commission by Mark Taylor from the University of Essex. The full report is available on line at the DG Employment and Social Affairs website: http://europa.eu.int/comm/employment_social/pub_en.htm

113 Predicted probability of current unemployment conditional on previous employment status: men



Note: predicted probability of unemployment for a reference individual in full-time employment as described in footnote 11, based on country-specific analyses of the determinants of labour market transitions; see also annex 3.3.
Source: Eurostat, ECHP, waves 1-4 (1994-97)

114 Predicted probability of current unemployment conditional on previous employment status: women



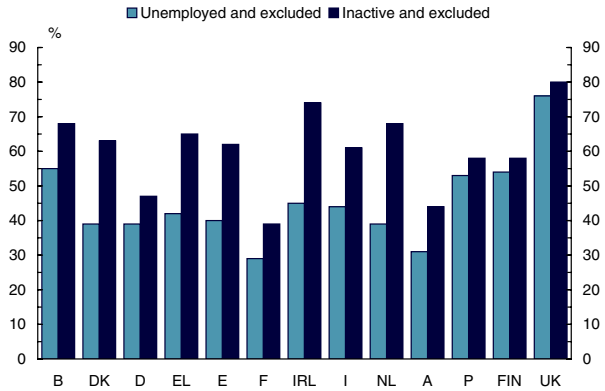
Note: predicted probability of unemployment for a reference individual in full-time employment as described in footnote 11, based on country-specific analyses of the determinants of labour market transitions; see also annex 3.3
Source: Eurostat, ECHP, waves 1-4 (1994-97)

women. It also significantly increases the probability of unemployment and, similarly, labour market exclusion (charts 113 and 114).[11] On the other hand, for both men and women, persistence in labour market exclusion is particularly high (charts 115 and 116).

For men, the previous experience of unemployment increases the current probability of unemployment and reduces the chances of full-time permanent work. In France and Spain in particular, men have a relatively high probability of becoming trapped in a 'vicious circle' of unemployment, followed by non-permanent employment and further unemployment. A similar circle consisting of transitions between unemployment and low paying employment is evident among men in Greece and Finland.

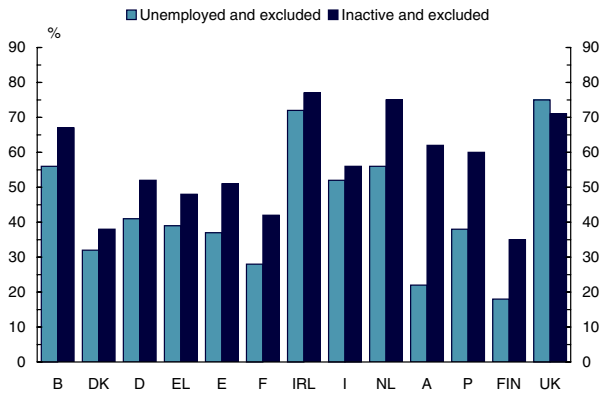
The results also reveal a close link between job quality, unemployment and labour market exclusion among men. Labour market exclusion — defined as residing in a household where no one is working — increases the risk of

115 Persistence in labour market exclusion by previous activity status: men



Note: predicted probability of remaining excluded from the labour market for a reference individual as described in footnote 11, based on country-specific analyses of the determinants of labour market transitions; see also annex 3.3.
Source: Eurostat, ECHP, waves 1-4 (1994-97)

116 Persistence in labour market exclusion by previous activity status: women



Note: predicted probability of remaining excluded from the labour market for a reference individual as described in footnote 11, based on country-specific analyses of the determinants of labour market transitions; see also annex 3.3.
Source: Eurostat, ECHP, waves 1-4 (1994-97)

[11] The charts present predicted probabilities for a "standard individual" that are calculated on the basis of the estimates presented in table 34 in the annex. The reference individual chosen is aged 45, married, living in a household with a partner and children, of low education, a native, living in rented accommodation, in good health, and facing an average country-age-gender specific unemployment rate. Employees one year ago are in manual occupations in the service industry, working for a private firm employing more than 20 workers.

unemployment persistence and reduces transition rates from non-work into full-time and permanent employment. These effects are noticeable in the majority of EU countries. Therefore, unemployment in a household with no working members is an additional barrier to securing stable employment. Cumulative disadvantage, suffering from poverty, unemployment and/or labour market exclusion, is most likely in Italy, Spain, Finland, France, Greece, Germany and Portugal.

Among women, transition rates from non-working states into low paid employment and part-time work are relatively high in all EU countries. While part-time work is relatively stable, women are at relatively high risk of unemployment and labour market exclusion in the Netherlands, Belgium, France, Ireland, Germany and the UK. Therefore, in these countries, there is a danger of entering a cycle of low paid work, unemployment and labour market exclusion, and of facing a relatively high risk of poverty. Women employed on fixed-term contracts in the Netherlands and Germany also face a relatively high risk of unemployment, and, therefore, of entering a similar cycle.

Living in a workless household has an additional negative effect on the transition rates into full-time and permanent work among non-working women. Those previously excluded from the labour market have a relatively high transition rate into low-paying employment and, therefore, face the same dangers of entering the no work, low paid work, no work cycle, and of being exposed to poverty. Experiences of cumulative disadvantage are highest among women in France, Italy, Spain, Portugal, Finland, Germany and the UK. As for men, there is a clear link between job quality and individual and household-level non-employment and financial deprivation.

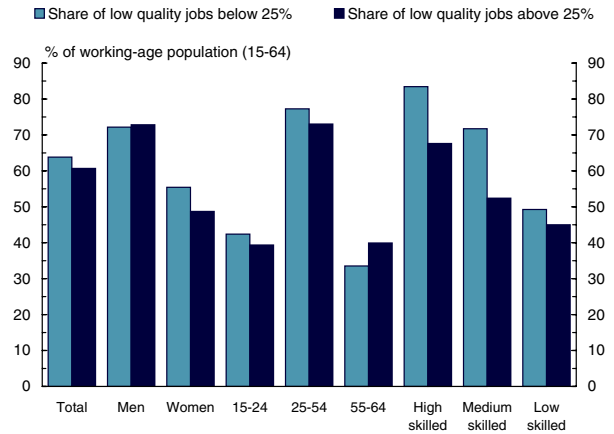
Furthermore, previous inactivity strongly reduces the likelihood of transitions back into the labour market, particularly among women and older workers. Such transitions are particularly unlikely in Luxembourg, France, Portugal and Germany. They are relatively more likely in the Netherlands and in Greece. Nevertheless, women in economic inactivity are least likely to make the transition into full-time work in all EU countries.

For some, typically the poorly educated working in low skilled, non-permanent employment is associated with a high probability of unemployment, social exclusion and poverty. Previous experience of unemployment and labour market exclusion, in addition, not only implies lower probabilities of returning to employment, but also further reduces the probability of entering jobs of higher quality, in particular permanent contract jobs.

Quality in work and overall employment performance

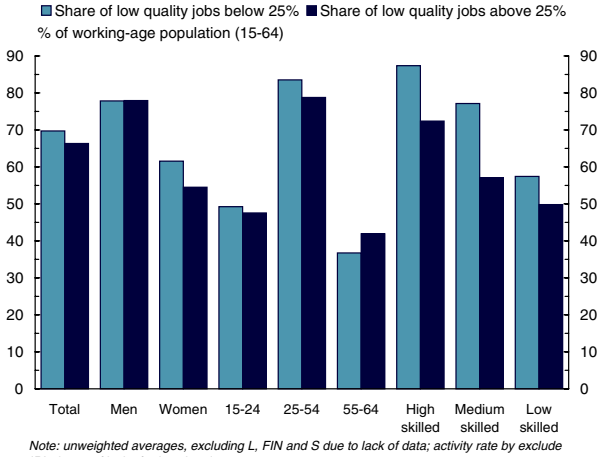
The previous sections have shown that for some subgroups in the labour market — notably the low skilled and older workers — low quality jobs may in many cases not perform the role of stepping stones into more stable, more productive employment. It is therefore, important to consider how job quality and

117 Employment rates and job quality, 1998



Note: unweighted averages, excluding L, FIN and S due to lack of data; employment rate data by education exclude IRL due to lack of education data.
Source: Eurostat, ECHP, wave 5 (1998)

118 Activity rates and job quality, 1998



Note: unweighted averages, excluding L, FIN and S due to lack of data; activity rate by exclude IRL due to of lack of education data.
Source: Eurostat, ECHP, wave 5 (1998)

upward quality dynamics may affect productivity and overall employment performance.

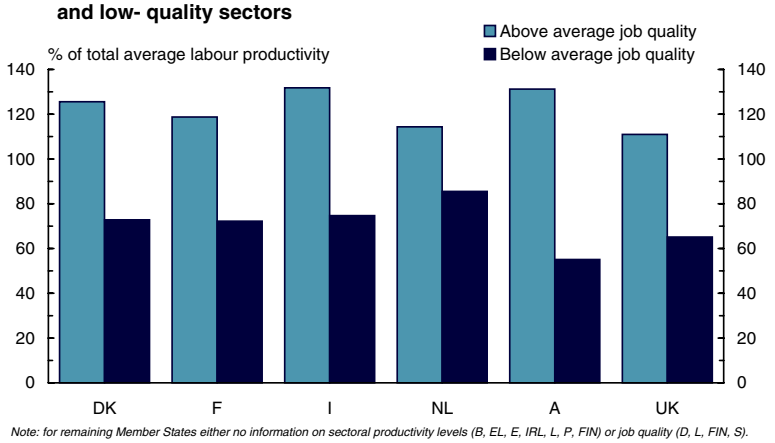
The link between quality in work and employment performance: a static view

In the EU, a clear positive link can be observed between overall employment performance, on the one hand, and job quality on the other. A comparison of the employment rates of countries with a relatively low share of the employed in jobs of low quality (below 25%) with those with a relatively high share (above 25%) shows a positive correlation between the share of high quality jobs and the employment rate. This positive correlation is particularly marked for women and for the medium- and high skilled. On the other hand, the employment rate among low skilled is generally low in all Member States, but even more so in Member States which have high shares of low quality employment. The only exception to this positive quality-employment link seems to be older workers. This effect though, could be entirely due to self-selection and higher withdrawal from the labour force in countries with relatively high levels of job quality (chart 117).

In many Member States, increases in employment rates were accompanied by quality improvements, and there is evidence that this positive link between quality improvements and increases in the employment rate is more pronounced for women than for men.

Among the main reasons for this positive link between quality in work and overall employment performance, one might think about the following: Firstly, improvements in the attractiveness and availability of jobs increase the labour supply. Secondly, training as well as increased effort, efficiency, fairness and reciprocity in work relationships boost productivity; and finally, reductions in the outflows from low quality employment and improvements in upward quality dynamics increase employment performance and social inclusion.

119 Job quality and productivity: apparent labour productivity 1998 in high- and low- quality sectors



Note: for remaining Member States either no information on sectoral productivity levels (B, EL, E, IRL, L, P, FIN) or job quality (D, L, FIN, S). For a definition of job quality see footnote 5.
Source: OECD STAN database for apparent labour productivity by sector; Eurostat, ECHP, wave 5 (1998) for job quality by sector

Job quality and labour market participation

Labour market participation, too, is positively correlated with quality in work for all subgroups. Again, in particular the activity rates of women and the medium- to high skilled seem most strongly correlated with job quality: average activity rates for workers in countries with relatively high shares of high quality jobs are more than 5% higher for women and even higher (15–20%) for the medium and high skilled (chart 118).

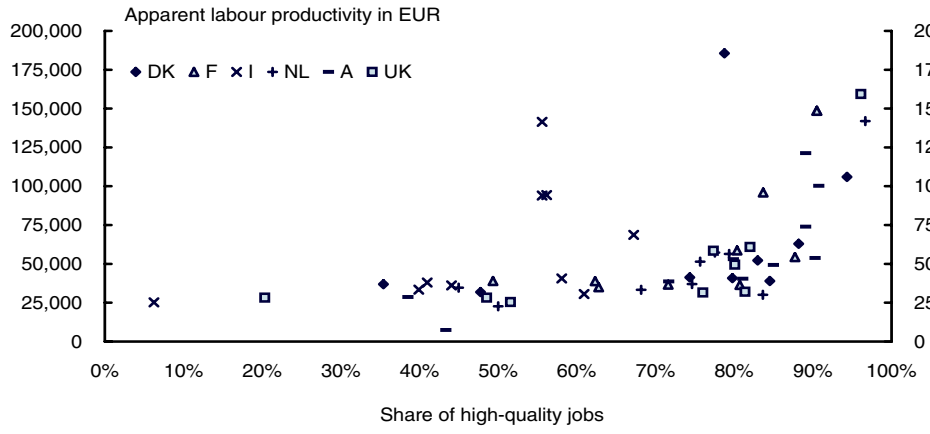
These findings support the view of the Joint Report by the Council and the Commission in February 2002 which recognised the importance of the availability of suitable jobs in encouraging people to enter or re-enter the labour market.[12] The quality of available jobs in terms of pay and productivity, working conditions, safety at work, working time and flexibility, job security and the ability to reconcile work with family and care responsibilities was further acknowledged as main determinant of the strength of the response of labour supply on job availability. Higher shares of quality jobs offering training, career opportunities and other benefits such as care facilities are clearly correlated to higher activity rates.

Job quality, job satisfaction and productivity

Apparent labour productivity is also significantly above average in those sectors that offer above average job quality. It is, on the other

[12] European Commission (2002). Report requested by the Stockholm European Council "Increasing labour force participation and promoting active ageing", Report from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, COM(2002) 9 final, 24.01.2002

120 Job quality and productivity in the EU sectors, 1998



Note: for each country, quality-productivity combinations are plotted for each of the following sectors: agriculture, manufacturing, construction, wholesale and retail trade, hotels and restaurants, transport and communication, financial services and public administration, health and education; the share of high-quality jobs equals the sector-specific share of employed in jobs of good or reasonable quality, i.e. jobs with either permanent contract or career development opportunities or both, and with gross hourly earnings equal or above 75% of the country-specific median gross hourly earnings; for remaining Member States either no information on sectoral productivity levels (B, EL, E, IRL, L, P, FIN) or on sectoral job quality (D, L, FIN, S) available. See also footnote 5.

Source: OECD STAN database for apparent labour productivity; Eurostat, ECHP wave 5 (1998) for job quality

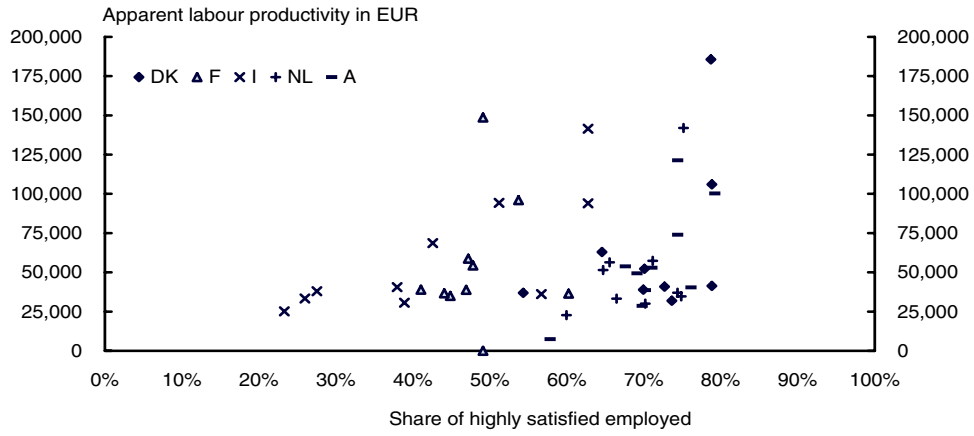
hand, considerably below average in sectors with relatively high shares of low quality jobs. This positive quality-productivity link can be observed in all countries for which data are available. In terms of the respective country-specific averages, labour productivity in sectors with relatively higher job quality ranges from 110% in the UK to more than 130% in Italy and Austria. In sectors with relatively lower job quality productivity levels range from 85% in the Netherlands to 55% in Austria (chart 119). Plotting employment shares in high quality jobs against labour productivity by sector and country yields further evidence of this positive quality-productivity link and shows that country-specific thresholds in the share of high quality employment may exist above which this link is reinforced (chart 120)

At the sectoral level, labour productivity is correlated with the various components of job quality defined earlier, particularly access to training and training incidence, contractual security of the work relationship and, last but not least, self-reported job satisfaction — including satisfaction with working time, working conditions and work content. In sectors such as agriculture, hotels and restaurants and construction, less than 20% of all employed have access to employer-provided training and these sectors also have high shares of employed on temporary contracts. These factors contribute to a relatively high share of employed in low paid, low productivity dead-end jobs, ranging from almost 15% of all jobs in the hotels and restaurants sector, to 20% in construction and almost two thirds of all agricultural jobs. These sectors also have the highest share of low-paid, low productivity jobs reaching up to 50% of all those employed in the hotels and restaurants sector. On the other hand, the share of high quality jobs in financial services and in transport and communication is 80%, rising to almost 90% in mining and energy. These are three of the most productive sectors of the European economy.

121 Job satisfaction and productivity: apparent labour productivity by average job satisfaction, 1998

Note: for remaining Member States either no information on sectoral productivity levels (B, L, FIN, IRL, EL, E, P) or job satisfaction by sector (D, L, FIN, S); excluding the UK due to unreliability of data on job satisfaction in the ECHP.
Source: OECD STAN database for apparent labour productivity by sector; Eurostat, ECHP wave 5 (1998) for average job satisfaction by sector

122 Job satisfaction and productivity in the EU sectors, 1998



Note: for each country, satisfaction-productivity combinations are plotted for each of the following sectors: agriculture, manufacturing, construction, wholesale and retail trade, hotels and restaurants, transport and communication, financial services and public administration, health and education; the share of highly satisfied employed equals the sector-specific share of those employed reporting high job satisfaction levels (response category 5 or 6); for remaining Member States either no information on sectoral productivity levels (B, EL, E, IRL, L, P, FIN) or on job satisfaction by sector (D, L, FIN, S); excl. UK data due to unreliability of data on job satisfaction in the ECHP.

Source: OECD STAN database for apparent labour productivity; Eurostat, ECHP wave 5 (1998) for job satisfaction

As shown before, objective job quality and self-reported job satisfaction are strongly correlated. Sectors with high shares of the employed in low-paid, low productivity jobs offering neither job security nor career development opportunities are also characterised by relatively higher shares of workers reporting dissatisfaction with their job, working conditions and work content. Unsurprisingly, higher productivity is also associated with higher levels of self-reported job satisfaction — including satisfaction with working time, working conditions and work content — at sectoral level.

In terms of the respective country-specific average, labour productivity in sectors with relatively higher self-reported job satisfaction ranges from around 110% in the Netherlands, Denmark and France, to more than 125% in Austria. In sectors with relatively lower self-reported job satisfaction, it ranges from 90% in Denmark to less than 70% in Italy and Austria (chart 121). Plotting shares of the highly satisfied employed against labour productivity by sector and country yields some further evidence of this positive job satisfaction-productivity link, while showing at the same time — as in the case of job quality and productivity — that there may exist country-specific thresholds in the share of high quality employment above which this link is reinforced (chart 122).

A standard explanation in economic theories of wage formation for this positive link between job quality or job satisfaction and labour productivity looks at the impact of job quality in general and pay levels in particular on workers' effort and efficiency. Given that measuring the effort and efficiency of the workforce requires costly monitoring, it can be beneficial for firms to pay wages above the market clearing wage — so-called *efficiency wages* — or to improve job quality along other dimensions to ensure higher levels of worker effort and efficiency without costly monitoring.

Another possible explanation, which is closely related to the efficiency argument, refers to the notions of *fairness* and *reciprocity* and considers the employment relationship as a repeated game of exchanges between employer and employee. In such a situation, the job quality (including pay and other job characteristics) offered by the employer and the effort (and hence productivity) put in by the employee are exchanged. The two players are considered likely to increase their contribution depending on the other's observed behaviour in the past.[13]

Another important element of both job quality and productivity is *health and safety* at the workplace. Various studies have shown that improvements in health and safety are cost effective, having a generally positive impact on *work ability* and productivity.[14]

Finally, there is strong evidence that most forms of *training* increase workers' productivity. Increasing job quality through access to adequate forms of training is therefore likely to increase productivity as well as workers' adaptability and employability. Annual labour productivity growth 1995–2001 in the EU is strongly correlated with employee participation rates in enterprise

training, in particular in the richer and technologically advanced EU economies, as well as in Ireland which can be considered an outlier in the sample due to its very high productivity growth rates in the second half of the 1990s (chart 123).

These findings are strongly supported by a recent study based on a large, representative German establishment panel dataset that found that a 1% increase in the share of employees participating in training leads to a 0.3% increase in a firm's productivity. The study also showed that it is mainly companies with relatively low levels of productivity that invest more in training with the aim of narrowing the productivity gap with their competitors.[15]

123 Labour productivity and training

Note: The percentage of employees participating in vocational training courses refers to 1999.
Source: OECD, STAN database for apparent labour productivity; CVTS2 for participation in training courses

The link between quality in work and employment performance: dynamic simulations

Notwithstanding findings set out above, low-quality jobs may be appropriate means to re-integrate into the labour market individuals who have low or outdated skills. As such, they are preferable to unemployment or involuntary inactivity. To increase participation and employment in the European labour markets it is necessary to increase integration of those currently out of employment and to increase inflows in particular from unemployment to employment. To make employment improvements sustainable, however, those currently in low quality employment need to establish themselves more firmly in the labour market, notably through gaining job stability and employment prospects. Without such upward dynamics, those individuals in low quality jobs remain at disproportionate risk of job loss and of being caught in an unproductive 'vicious cycle' of either unemployment or inactivity and low-quality employment. Labour market dynamics in general, and upward quality dynamics in particular, are important determinants of both, social inclusion and employment performance.

To examine the impact of various labour market transition patterns in a dynamic setting, a simulation study was undertaken to assess the likely effect of various labour market transition patterns on the future evolution of key indicators such as the activity rate, the employment rate and the unemployment rate. For this analysis observed labour market transitions at EU-level (slightly simplified) from 1997 to 1998 between inactivity, unemployment and low and high quality employment in the main age group 25–54 were chosen as a starting point (table 28).[16] The range of transition rates used in the scenarios reflects the actually observed differences in these transitions across the Member States.

[13] Extensive literature exists on these two potential explanations for the existence of a positive link between job quality and productivity, in particular on the efficiency wage argument. With respect to the second argument, see e.g. G. Akerlof (1982), Labor contracts as partial gift exchange, Quarterly Journal of Economics, 97, 543-569; R. Solow (1990), The labor market as a social institution, Basil Blackwell, Oxford, and in particular the recent overview in E. Fehr and K.M. Schmidt (2000), Theories of fairness and reciprocity — evidence and economic applications, invited lecture at the 8th World Congress of the Econometric Society, Seattle, mimeo, and the references cited therein.

[14] For both theoretical work on a "work ability index" and cost-benefit analyses of the impact of improvements in health and safety, in particular for older workers, see e.g. J. Ilmarinen (1999), Ageing workers in the European Union – Status and promotion of work ability, employability and employment, and J. Ilmarinen et al. (1998), Work Ability Index, both Finnish Institute of Occupational Health, Helsinki, Finland.

[15] The results of the econometric evaluation study on the effects of various training measures on productivity on the basis of a large and representative German establishment panel dataset (IAB-Betriebspanel) are described in T. Zwick (2002), Training and firm productivity – Panel evidence for Germany, Research Paper No. 23, ESRC Centre on Skills, Knowledge and Performance (SKOPE), Oxford, and Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim, Germany.

Table 28 — Year-to-year transitions between labour market states, by job quality

Status at (t-1)	Status at t			
	Inactivity	Unemployment	Low quality job	High quality job
Inactivity	87.5	5.0	5.0	2.5
Unemployment	17.5	52.5	20.0	10.0
Low quality job	7.5	12.5	50.0	30.0
High quality job	2.5	2.5	5.0	90.0

Respective transition rates in %, transition rates in each row add up to 100%.
Note: Respective transition rates in %, transition rates in each row add up to 100%
The above assumed simplified labour market transition rates are based on the observed one-year transition rates in the main age group (25–54), ECHP, waves 4-5 (1997–1998).
Source: Eurostat, ECHP, waves 4-5 (1997-1998)

The observed labour market transitions are characterised by relatively high persistence in both inactivity and high quality jobs of around 85–90% as well as low outflow rates from high quality jobs into unemployment. The analysis further revealed little change in the status of those employed in jobs of high quality with only around 5% experiencing a deterioration of job quality over the two years.

The position for the unemployed and those in low quality jobs, on the other hand, was much more changeable. Around 30% of those unemployed in the first year had found a job the next year. Of these two thirds were jobs of low quality and one third high quality. At the same time, a significant minority of the unemployed (up to 20%) withdrew from the labour market altogether. Up to 30% of those in low quality jobs experienced an improvement of job quality over the period concerned. Nevertheless, this group also experiences significantly higher outflow rates from employment into unemployment or inactivity — up to three and five times higher, respectively, than those in high quality jobs.

If this pattern was applied, over a 10-year period, to a labour market where 70% of the working age are active — 60% employed and 10% unemployed — and there is a 75%–25% split between high and low quality jobs,[17] the transition patterns found in the simulation would translate into a stagnating labour market. While the activity rate remains almost constant, the employment rate would increase by only 1.5 percentage points and, consequently, the unemployment rate would decrease by more than one percentage point. Furthermore, the share of high quality jobs would increase to above 80% of all employed, leaving less than 20% of the employed in jobs of low quality.

As discussed in the previous sections, labour market transition patterns, in general, and transitions out of low quality jobs, in particular, vary considerably between the EU Member States. Transition rates from unemployment to employment in general and to low quality employment in particular vary from 20% or less in Italy, Belgium and the Netherlands to up to 40% in Portugal, the UK and Denmark, and from less than 10% in Belgium to more than 20% in Spain, Greece and Portugal, respectively. Transition rates from low quality employment to unemployment further vary between less than 5% in the UK, Belgium and Denmark to more than 10% in Spain and France. Transitions in particular from temporary contract work to unemployment amount up to 20% in some Member States. Transition rates from low quality employment to inactivity further vary between less than 5% in Belgium and France to 10% or more in Denmark, the Netherlands, the UK and Ireland. Finally, in Denmark and Belgium more than one third of those previously in a low quality job manage to improve job quality between two years, as opposed to 25% or less in the UK, Ireland, Portugal and France.

Cross-country differences in labour market dynamics reflect differences in overall economic performance and aggregate labour demand and supply as well as differences in the respective institutional background. Changes in labour market transition patterns would require a whole set of

[16] To avoid complications due to the different transition behaviour into and out of inactivity among both young and older people, the analysis concentrates on the observed transition patterns for the main age group 25-54. The analysis further assumes equal inflows from inactivity and outflows into inactivity and thus disregards potential effects of increasing labour market participation on the overall employment performance. Finally, the analysis starts from the observed labour market transitions in the period 1997-98. As mentioned before, these transitions were probably more favourable than those observed until the mid-1990s. The scenarios presented in this section may therefore be considered as relatively "optimistic" scenarios, since assuming less favourable transition patterns as a starting point would also imply a less favourable employment evolution.

[17] This labour market profile is roughly comparable to the EU average.

Table 29 — Scenarios on year-to-year transitions into and out of low quality jobs

Scenario	Status at t			
	Inactivity	Unemployment	Low quality job	High quality job
	Scenario 1: transitions from low to high quality employment			
(1a) low upward quality	7.5	12.5	**60.0**	**20.0**
(1b) high upward quality	7.5	12.5	**40.0**	**40.0**
	Scenario 2: transitions from low quality jobs to unemployment			
(2a) high outflow into unemployment	7.5	**17.5**	**45.0**	30.0
(2b) low outflow into unemployment	7.5	**7.5**	**55.0**	30.0
	Scenario 3: transitions from unemployment to low quality jobs			
(3a) low inflow into employment	17.5	**57.5**	**15.0**	10.0
(3b) high inflow into employment	17.5	**47.5**	**25.0**	10.0
	Scenario 4: combined scenarios			
(4a) "worst case": (1a) + (2a) + (3a)	**7.5**	**17.5**	**55.0**	**20.0**
(4b) "best case": (1b) + (2b) + (3b)	**7.5**	**7.5**	**45.0**	**40.0**

Note: Respective transition rates in %, transition rates in each row add up to 100%.
Scenarios 1 and 2 are fully described by replacing the third row of table 28 (status at (t-1): "low quality job") by the respective row of this table, keeping all other transition rates of table 28 unchanged. Scenario 3 is described by replacing the second row of table 28 (status at (t-1): "unemployment") by the respective row of this table. Finally, scenarios (4a) and (4b) are described by combining the above scenarios (1a), (2a) and (3a), and (1b), (2b) and (3b), respectively, i.e. by replacing at the same time the second row of table 28 (status at (t-1): "unemployment") by row (3a) and (3b), respectively, and the third row of table 28 (status at (t-1): "low quality job") by row (4a) and (4b), respectively. Transition rates deviating from the baseline scenario in bold.

comprehensive policy measures. These include, among others: easing access in particular of the unemployed to the labour market; reducing outflows from low quality jobs into unemployment; and improving upward quality dynamics.[18] For both reasons — the existence of important cross-country differences in labour market transition patterns and the variety of policy measures to improve employment performance — it is interesting to analyse the potential impact of the different labour market transition patterns and policy actions on the evolution of employment. To this aim, the employment evolution for four different types of labour market dynamics — called "scenarios" in the sequel — have been analysed. These deviate from the transition table 28 only in the transition rates into and out of low quality jobs, as described in table 29. The scenarios remain in the respective range of the actually observed transition rates. They can thus be interpreted as either country-specific employment rate scenarios, assuming constant labour market transition patterns, or as policy-related scenarios.

Scenario 1 considers the effect, on the baseline scenario, of two different transition rates from low to high quality jobs — a 20% rate and a 40% rate. Scenario 2, instead, varies only the outflow rate from low quality jobs into unemployment, assuming a reduction of the outflow rates of 5 percentage points to 7.5% (scenario 2a) and an increase of the outflow rate of 5 percentage points

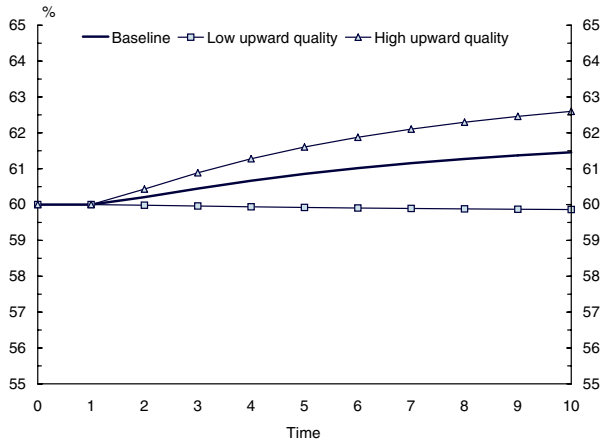
Table 30 — Simulation results

Indicator	Initial	Baseline	Scenario (1a) "low quality"	(1b) "high quality"	(2a) "high outflow"	(2b) "low outflow"	(3a) "low inflow"	(3b) "high inflow"	(4a) "worst case"	(4b) "best case"
Activity rate	70.0	70.3	69.3	71.0	69.7	70.9	69.8	70.7	68.3	71.2
Employment rate	60.0	61.5	59.9	62.6	60.0	63.2	60.1	62.6	56.8	65.1
Share in high quality jobs	75.0	81.3	76.2	84.6	82.0	80.5	81.9	80.7	78.4	83.7
Share in low quality jobs	25.0	18.7	23.8	15.4	18.0	19.5	18.1	19.3	21.6	16.3
Unemployment rate	10.0	8.8	9.4	8.4	9.8	7.7	9.7	8.1	11.4	6.8

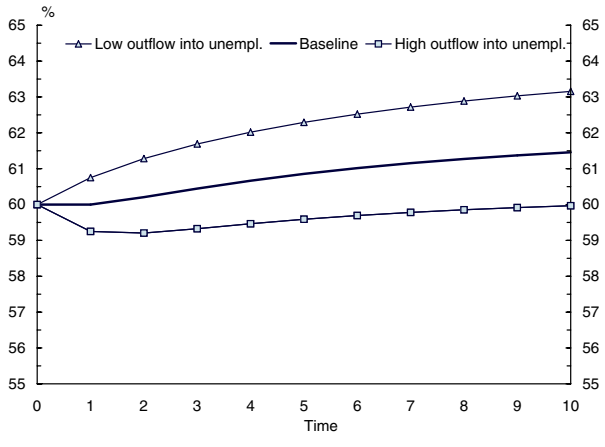
Note: Key employment indicators after 10 simulation periods.

[18] Policies to increase activation and decrease outflows into inactivity are not considered any further here.

124 Evolution of employment rate – Alternative scenarios for varying upward quality dynamics



125 Evolution of employment rate – Alternative scenarios for varying outflow rates into unemployment



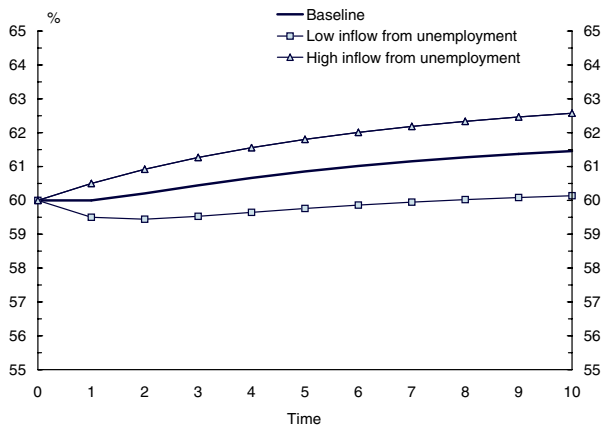
to 17.5% (scenario 2b). Scenario 3 varies the inflow rate from unemployment into low quality jobs between 15% (3a) and 25% (3b). Each of the two scenarios 2 and 3 can further be combined with changes in the upward quality dynamics as described in scenario 1. Scenario 4, finally, combines all of the above scenarios and proposes a "best case" scenario (4a) in which both increased inflow rates from unemployment to low quality jobs and reduced outflow rates from low quality employment into unemployment are combined with increased upward quality dynamics, and a "worst case" scenario (4b) where low inflow rates from unemployment to employment, high outflow rates and low upward quality dynamics come together.

A number of important findings emerge from the results of this simulation analysis (table 30).

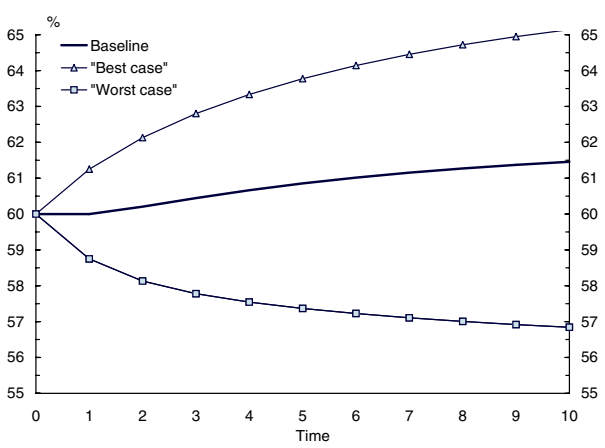
- Increasing the transitions from low to high quality jobs to 40% has the effect of increasing the employment rate over 10 years by more than 1 percentage point, while decreases in upward quality dynamics lead to a reduction of the employment rate by more than 1.5 percentage points (scenario 1; chart 124).

- Reducing the outflow from low quality jobs into unemployment or inactivity, and thereby reducing the risk of the vicious cycles of low quality employment and of unemployment, inactivity or labour market exclusion results

126 Evolution of employment rate – Alternative scenarios for varying inflow rates from unemployment



127 Evolution of employment rate – Combined scenarios



in an additional increase in the employment rate after 10 years of around 1.5 percentage points. Conversely, increased outflow rates lead to a reduction by 1.5 percentage points (scenario 2; chart 125).

- Increasing the inflow from unemployment into low quality employment to 25% leads to an increase in the employment rate after 10 years to 62.6% By contrast, reduced inflow rates of 15% leave the employment rate virtually unchanged at 60% after ten years (scenario 3; chart 126).

- For all of the scenarios above, the results are sensitive to simultaneous changes in other transition rates. The resulting employment rates will e.g. be less favourable if quality improvements are accompanied by lower inflow rates from unemployment or if higher inflow rates from unemployment into low quality jobs go hand in hand with lower upward quality dynamics.

- In particular without further quality improvements employment creation remains below its potential. The best outcome arises when quality improvements go hand in hand with improved labour market transitions into and out of low quality jobs. Not only does the employment rate increase by almost an extra percentage point from 60% to more than 65% after 10 years but also job quality as measured by the share of employed in jobs of high quality is increased (scenario 4; chart 127).

- By contrast, deteriorating stability in low quality jobs and reductions in quality improvements could compensate the positive employment effects of both, increased inflows from unemployment to low quality jobs and reduced outflows from low quality jobs into unemployment. In the absence of such improvements, reductions in quality improvements would even lead to a decrease in the activity and employment rates.

- The spread in the potential employment rate after 10 years between the "best case" and the "worst case" scenario of more than 8 percentage points is huge. But the effect is also striking for labour market participation, quality in work and unemployment.

- For labour market participation, the "best case" scenario implies an increase in the activity rate of 1.2 percentage points to 71.2% and a significant decrease in the unemployment rate of more than 3 percentage points to 6.8%. In the "worst case" scenario, by contrast, the activity rate declines by almost 2 percentage points to 68.3% and the unemployment rate raises by more than one percentage point to 11.4%.

- In terms of quality in work the "best case" scenario leads to an increase of the share of employed in high quality jobs of almost 10 percentage points to 83.7% and thus a reduction in the share of employed in low quality jobs to around 16%. In the "worst case" scenario, the population share of employed in high quality jobs remains unchanged at 45%, while the employment share of high quality jobs improves slightly from 75% to 78.4%. This "improvement", however, is entirely due to the significantly higher drop-out rates out of low quality jobs, and the reduction of this type of employment by almost 3 percentage points.

- Finally, it should be noted that increases in the transitions from low to high quality jobs alone can lead to some — though small — increase in labour market participation — probably due to increases in the attractiveness of jobs for some of the inactive, in particular older workers and people with care responsibilities. Further strong increases in the activation of the working age population are needed, however, for more substantive increases in the employment rate.

Read as cross-country comparisons, the above simulation results show that the observed differences in labour market transition patterns across the EU Member States would imply diverging evolutions of key labour market indicators. Read as policy scenarios, they suggest that the employment potential can be stimulated best by combining measures to improve access to and permanence in the labour market with measures to improve job quality in general and upward quality dynamics in particular.

In line with the Lisbon Council Conclusions, both interpretations of the above simulation results underline the need for action to create more and better jobs. In this context — as said before — measures to improve quality need to be designed such that they complement employment creation incentives. By the same line of reasoning, it has to be ensured that measures to ease access to the labour market are compatible with incentives for creating better jobs and improving the quality of those jobs which lack

important quality characteristics, in particular access to training.

Conclusions

Results presented in this chapter suggest that focussing on improving job quality and generating upward dynamics can increase not only *quality* but also *quantity* of employment. Improved labour market transition patterns characterised by higher inflows from unemployment into employment, lower outflows into unemployment from jobs of low quality, and higher upward quality dynamics will help not only create *better jobs* but also create *more jobs*.

As shown by the above simulation results, presumed negative quantity-quality trade-offs cannot necessarily be sustained in a dynamic framework. Increases in the transitions from low quality jobs to employment of higher quality indeed are seen to lead to significant increases in the employment rate, similar to those implied by increases in the inflow of unemployed people into low quality jobs.

The dynamic simulation suggests that increased quality in work and sustained upward quality dynamics might lead to:

1. higher employment persistence and job creation and lower risk of job loss, unemployment or social exclusion;

2. improvements in work relationships which are likely to contribute positively to productivity through increased effort, efficiency, reciprocity and fairness in work relationships;

3. improved adaptability and employability through human capital investments and training — in particular for the low skilled;

4. increased labour supply through increases in the attractiveness of jobs — in particular for older workers and people with care responsibilities and

5. increased incentives for labour market participation through a better work/family balance, in particular for women and people with care responsibilities, reduction in discrimination and the integration of weaker parts of the labour force into productive and social processes.

Improved quality in work is related to higher job satisfaction and productivity. While jobs of lower quality can play a role for re-integrating parts of the labour force into the labour market, quality improvements are needed to strengthen this integration and to make employment improvements sustainable. They are also likely to both increase the labour supply and reduce the likelihood of withdrawal or early retirement from the labour force — in particular by groups at the margin of the labour market, such as older people and people with care responsibilities.

Quality improvements in European labour markets are also a precondition for further reductions in the various age, gender and skill-related gaps that continue to be among the main obstacles to improved employment performance in the EU. Finally, quality improvements may favour the ongoing structural changes at the macro level which are necessary for further improvements in the employment performance of the European labour markets.

The patterns of labour market dynamics currently observed in the European labour markets do not yet reflect the quality dynamics necessary to meet the ambitious objectives set at the Councils in Lisbon, Stockholm and Barcelona. Some parts of the European workforce continue to be marginalised and the labour supply is under-utilised. Without a change towards more favourable transition patterns — while sustaining the incentives to create and accept employment opportunities — labour markets may face stagnation. While several options exist to improve these transition patterns, a new approach is clearly needed if Europe is to meet the main policy goals of full employment and social inclusion defined in recent Councils.

This holds in part also for labour market dynamics by contract status or access to training. While an important part of those employed on temporary contracts or in jobs without access to training moves into permanent contracts or jobs offering training and career opportunities, an important fraction faces a substantially higher risk of both inactivity and unemployment and social exclusion than those on permanent contracts or jobs with access to training. Cumulative — in particular involuntary — experience of temporary jobs, in particular, can therefore, in many cases, lead to significantly lower employment and career prospects in the future unless accompanied by appropriate training opportunities.

Quality improvements are both a necessary complement to structural change and increased labour market flexibility and a precondition for the sustainability of the improved employment performance. They are not “fair weather policies” that are acceptable only during economic booms becoming inappropriate for economic slowdowns. The scope for

reinforced employment creation in the coming upturn will depend crucially on both translating quality improvements into practice and strengthening the links between quantitative and qualitative aspects of employment creation.

Annexes to chapter 3

Annex 3.1 — Econometric analysis of the determinants of self-reported satisfaction

Given the ordered categorical nature of self-reported satisfaction levels (taking the values from 1 to 6 in the ECHP, with 1 denoting "complete dissatisfaction" and 6 "complete satisfaction"), ordered probit regression models constitute an adequate model framework for identifying the main determinants of self-reported satisfaction levels. They are based on formulating the probability of observing a self-reported satisfaction level *i, i=1, 2, .., 6,* as a function of appropriate individual, household and labour market characteristics (such as activity status in the case of satisfaction with the main activity status or job characteristics in the case of job satisfaction) as well as country- and year-specific effects:

$$\Pr(i) = \Pr(\kappa_{i-1} < \sum_{j=1}^{J} \beta_j X_j + \varepsilon \leq \kappa_i) =$$

$$\Phi(\kappa_i - \sum_{j=1}^{J} \beta_j X_j) - \Phi(\kappa_{i-1} - \sum_{j=1}^{J} \beta_j X_j)$$

where $\Pr(i)$ denotes the probability of self-reported satisfaction taking the value *i, i=1,2,..,6*, where $X = (X_1, X_2, .., X_J)$ denotes the matrix of individual, household and labour market characteristics controlled for and $\beta = (\beta_1, \beta_2, .., \beta_J)$ the vector of related coefficient estimates, where $\kappa_0, \kappa_1, \ldots, \kappa_6$ denote ancillary cut points, and where Φ denotes the standard normal cumulative distribution function.

In a first model of the determinants of self-reported satisfaction with the main activity status, explanatory variables included individual characteristics (gender, age and educational background), information on the family background (marital status and presence of children below age 12 in the household) and the current labour market status (unemployment or inactivity, with employment as reference category). Furthermore, interaction effects between the above individual characteristics and the labour market status were included to analyse the differential impact of labour market status on self-reported satisfaction levels by individual characteristics.

In a second model on the determinants of self-reported job satisfaction, explanatory variables included — in addition to the above variables on individual characteristics and family background — further information on the acquisition and amount of job-related specific human capital (tenure on the job and presence of job-related specific skills acquired through training), job-related characteristics (hourly wage, working time arrangement, contract status, job status, firm size, sector, occupation and gender concentration by sector and occupation) as well as country- and year specific effects. In one specification of the model, information on objective job quality as defined above was also added.

The estimation results obtained are presented in table 31 below. These effects can be interpreted as the impact of a one unit change in the explanatory variable on the probability of the dependent variable — i.e. the self-reported satisfaction level — taking a higher value.

Table 31 — Determinants of self-reported satisfaction: ordered probit estimates

	Satisfaction with Main activity status	Job satisfaction		
	All	All	Men	Women
Individual characteristics				
Female	0.020**	0.045**	–	–
Young (15-24)	0.047**	–	–	–
Older (55-64)	0.142**	–	–	–
Age	–	-0.051**	-0.054**	-0.050**
Age squared	–	0.001**	0.001**	0.001**
Low skilled	-0.102**	0.041**	0.051**	0.033*
High skilled	0.038**	-0.090**	-0.065**	-0.086**
Specific job-related skills	–	0.129**	0.123**	0.132**
Tenure	–	-0.018**	-0.016**	-0.019**
Tenure squared	–	0.001**	0.001**	0.001**
Family background				
Married	0.108**	0.037**	0.005	0.077**
Children below age 12	0.003	0.041**	0.041**	0.053**
Labour market status				
Unemployed	-1.624**	–	–	–
Inactive	-0.188**	–	–	–
Interaction effects				
Female*unemployed	0.394**	–	–	–
Female*inactive	0.045**	–	–	–
Young*unemployed	-0.102**	–	–	–
Young*inactive	0.369**	–	–	–
Older*unemployed	0.396**	–	–	–
Older*inactive	0.150**	–	–	–
Low skilled*unemployed	0.107**	–	–	–
Low skilled*inactive	-0.186**	–	–	–
High skilled*unemployed	-0.006	–	–	–
High skilled*inactive	0.034	–	–	–
Job characteristics				
Hourly wage	–	0.006**	0.008**	0.004**
Temporary contract	–	-0.108**	-0.261**	-0.213**
Short part-time	–	~~	~~	~~
Long part-time	–	0.127**	0.069	0.097**
Small firm	–	0.059**	0.030**	0.073**
Large firm	–	-0.049**	~~	-0.078**
Job status				
Supervisory	–	0.175**	0.272*	0.123**
Intermediate	–	0.084**	0.144**	0.120**
Job quality				
Good	–	0.098**	-	-
Reasonable	–	0.042**	-	-
Dead-end	–	-0.234**	-	-
Sector				
Public sector	–	0.052**	0.045**	0.085**
Agriculture	–	~~	~~	-0.234**
Mining	–	~~	~~	-0.149**
Construction	–	-0.084**	-0.093**	~~
Retail and trade	–	0.070**	0.063**	0.112**
Hotels and restaurants	–	0.108**	~~	0.205**
Transport / communication	–	~~	~~	~~
Financial services	–	0.035*	~~	0.082**
Public administration	–	0.230**	0.196**	0.344**
Gender concentration	–	-0.367**	-0.240*	-0.794**
Occupation				
Legislators, managers	–	0.067**	-0.095**	0.285**
Professionals	–	0.111**	~~	0.220**
Technicians	–	0.066**	~~	0.185**
Service workers	–	0.037**	~~	0.053**
Agricultural workers	–	~~	-0.225**	~~
Craft and related workers	–	~~	-0.246**	0.127**
Plant / machine operators	–	-0.064*	-0.252**	0.127**
Elementary occupations	–	-0.188**	-0.222**	-0.161**
Gender concentration	–	~~	-0.404**	0.516**
Country-specific effects	Yes	Yes	Yes	Yes
Year-specific effects	Yes	Yes	Yes	Yes
N	339,452	144,755	84,152	62,101
K	34	56	52	52
Wald χ^2(k)	34,412	10,801	6,227	4,826
Prob > χ^2	0.000	0.000	0.000	0.000
Log likelihood	-521,796	-210,230	-122,867	-89,374

*Note: Dependent variable: self-reported job satisfaction level, ranging from 1 ("completely dissatisfied") to 6 ("completely satisfied"); ** denotes significant estimate at 5% level; * denotes significant estimate at 10% level; ~~ denotes insignificant estimate at 10% level; estimated ancillary cut points not presented; — indicates that variable was not included in the estimated model.*
Source: ECHP, waves 2-5 (1995-1998)

Annex 3.2 — Labour market transitions 1995–1996 and 1995–1998

Table 32 — Labour market transitions 1995–1996 and 1995–1998 by training incidence

	Transitions 1995–1996 into				Transitions 1995–1998 into			
	Inactivity	Unemploy-ment	Jobs without training	Jobs with training	Inactivity	Unemploy-ment	Jobs without training	Jobs with training
	out of jobs with training							
Total	2.76	1.72	25.68	69.83	6.08	1.70	24.35	67.87
Men	2.76	1.45	26.18	69.61	6.14	1.34	25.17	67.34
Women	2.76	2.15	24.88	70.21	5.96	2.30	22.98	68.75
Young	7.52	4.27	32.03	56.17	9.78	5.23	26.31	58.69
Older	13.41	2.54	23.42	60.63	27.05	2.15	18.24	52.55
Low skilled	4.73	2.75	33.86	58.66	7.07	1.78	24.77	66.38
High skilled	1.42	1.45	22.07	75.07	3.96	1.18	23.32	71.54
	out of jobs without training							
Total	4.78	5.31	74.38	15.52	8.71	5.45	67.61	18.23
Men	3.38	5.27	75.28	16.07	6.78	4.61	70.19	18.42
Women	7.03	5.37	72.96	14.64	11.73	6.77	63.56	17.93
Young	10.31	10.77	69.42	9.50	6.99	8.44	75.03	9.54
Older	13.65	3.84	71.07	11.44	31.68	5.60	50.94	11.78
Low skilled	5.80	7.26	78.36	8.59	10.15	6.95	70.80	12.10
High skilled	1.90	2.61	65.21	30.28	5.15	2.34	56.03	36.42
	out of unemployment							
Total	20.93	63.47	13.34	2.26	28.11	44.58	22.99	4.32
Men	14.31	67.94	15.86	1.90	20.16	48.69	27.32	3.83
Women	27.15	59.27	10.97	2.60	35.55	40.74	18.95	4.77
Young	18.45	64.95	14.29	2.32	19.19	46.24	29.77	4.80
Older	32.31	61.83	5.57	0.29	47.91	42.08	9.39	0.63
Low skilled	19.87	65.53	13.24	1.36	28.89	48.54	19.20	3.37
High skilled	20.46	58.86	15.29	5.40	32.03	36.32	24.22	7.42
	out of inactivity							
Total	94.81	3.21	1.58	0.40	90.33	3.42	5.15	1.10
Men	93.91	3.73	1.72	0.64	88.33	3.75	6.37	1.55
Women	95.28	2.94	1.51	0.27	91.32	3.25	4.54	0.88
Young	84.75	9.46	4.48	1.31	64.32	14.32	17.37	3.99
Older	98.27	1.21	0.49	0.03	97.19	1.56	1.23	0.03
Low skilled	96.29	2.43	1.14	0.15	94.63	1.90	2.99	0.49
High skilled	93.37	4.07	1.77	0.79	79.08	6.51	10.27	4.14

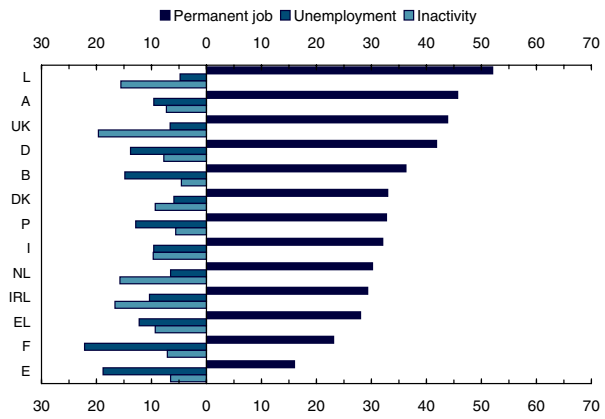
Note: Respective transition rates in %, transition rates in each row add up to 100%.
Source: Eurostat, ECHP, waves 2-5 (1995-1998)

Table 33 — Labour market transitions 1995–1996 and 1995–1998 by job quality

	Transitions 1995–1996 into					Transitions 1995–1998 into				
	Inactivity	Unem-ployment	Dead-end jobs	Low-paid jobs	High quality jobs	Inactivity	Unem-ployment	Dead-end jobs	Low-paid jobs	High quality jobs
	out of dead-end jobs									
Total	8.94	15.57	41.24	10.64	23.61	10.79	15.76	27.45	10.79	35.21
Men	5.69	15.89	42.87	9.52	26.03	5.46	16.84	30.58	10.26	36.86
Women	13.00	15.16	39.21	12.05	20.59	17.08	14.48	23.75	11.42	33.26
Young	16.01	15.86	37.75	15.24	15.13	9.34	11.95	27.47	21.91	29.33
Older	15.70	10.02	40.32	8.36	25.61	24.69	22.56	20.09	6.18	26.47
Low skilled	9.55	19.41	44.73	11.53	14.78	11.40	15.13	35.20	12.78	25.49
High skilled	3.57	12.59	40.90	3.88	39.07	12.51	6.57	26.33	1.92	52.65
	out of low-paid jobs									
Total	7.39	6.47	3.85	57.58	24.72	12.21	9.36	3.19	41.67	33.58
Men	5.86	6.73	4.12	51.94	30.34	6.88	10.15	3.73	37.88	41.36
Women	8.47	6.28	3.65	60.88	20.73	16.09	8.78	2.80	44.44	27.89
Young	9.56	7.68	4.56	58.78	19.41	8.14	12.45	3.29	40.53	35.60
Older	11.10	5.09	3.33	59.28	21.21	26.34	13.13	0.83	42.10	17.61
Low skilled	7.41	6.28	4.53	59.92	21.86	13.46	9.72	3.90	41.02	31.91
High skilled	7.06	3.56	3.42	53.37	32.60	11.88	4.77	1.46	39.90	42.00
	out of high quality jobs									
Total	2.87	1.72	1.39	4.33	89.69	7.46	3.18	1.47	4.45	83.45
Men	2.47	1.88	1.46	3.62	90.56	6.54	3.25	1.55	3.54	85.12
Women	3.52	1.44	1.27	5.50	88.27	8.97	3.07	1.33	5.96	80.68
Young	3.80	3.89	4.11	16.48	71.71	2.57	3.25	20.43	11.93	61.82
Older	11.46	3.29	1.35	3.22	80.68	27.76	5.82	0.89	2.83	62.71
Low skilled	3.71	2.33	2.24	7.36	84.37	10.34	3.72	1.75	6.69	77.50
High skilled	2.76	1.01	0.85	1.69	93.69	5.65	2.15	0.94	2.40	88.86
	out of unemployment									
Total	20.34	58.83	7.06	7.77	6.00	25.98	41.20	8.52	11.51	12.79
Men	14.02	63.32	8.31	6.68	7.68	18.61	44.95	9.84	10.99	15.61
Women	26.30	54.60	5.87	8.81	4.42	32.89	37.69	7.28	11.99	10.15
Young	17.45	58.61	7.39	11.47	5.07	18.03	43.46	13.03	15.13	10.34
Older	31.00	61.58	2.58	2.59	2.24	46.25	40.62	3.76	5.48	3.89
Low skilled	19.64	62.60	7.51	6.47	3.79	27.72	46.57	9.10	8.71	7.90
High skilled	17.21	54.85	6.83	8.42	12.69	24.41	27.68	4.71	16.21	26.99
	out of inactivity									
Total	92.97	3.04	0.79	1.96	1.23	88.93	3.36	1.55	3.06	3.09
Men	91.83	3.71	0.93	1.93	1.59	87.31	3.71	2.00	2.69	4.29
Women	93.56	2.71	0.72	1.97	1.05	89.72	3.19	1.33	3.24	2.51
Young	81.76	8.44	2.48	5.53	1.79	63.12	14.05	5.46	9.36	8.01
Older	96.84	1.74	0.14	0.80	0.48	96.25	1.54	0.46	1.10	0.64
Low skilled	95.50	2.31	0.55	1.22	0.43	94.22	1.89	0.89	2.16	0.84
High skilled	88.85	4.08	0.92	2.86	3.30	72.05	5.93	3.91	6.37	11.73

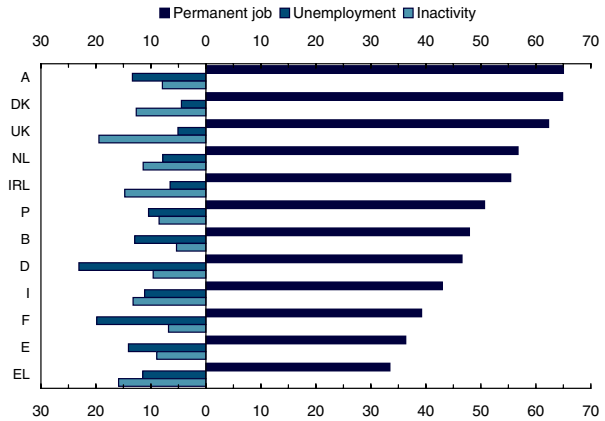
Note: Respective transition rates in %, transition rates in each row add up to 100%.
Source: Eurostat, ECHP, waves 2-5 (1995-1998)

128 Transitions 1995-96 out of temporary work into …
(transition rates in % of employed in temporary contracts 1995)



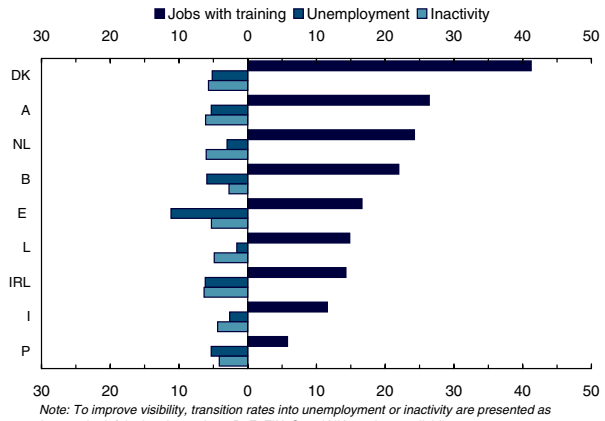
Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. FIN and S: no data available.
Source: Eurostat, ECHP, waves 2-3 (1995-96)

129 Transitions 1995-98 out of temporary work into …
(transition rates in % of employed in temporary contracts 1995)



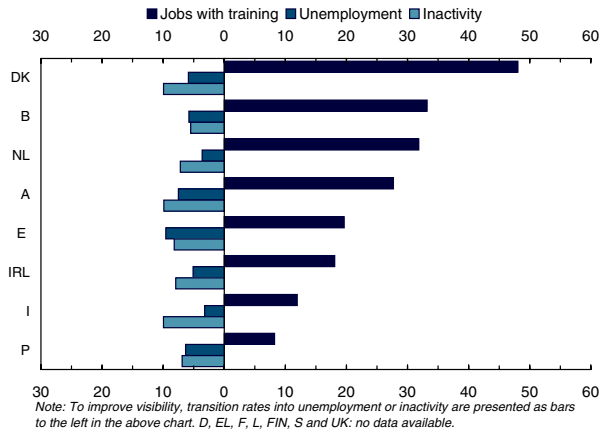
Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 2-3 (1995-96)

130 Transitions in 1995-96 out of jobs without training into ...
(transition rates in % of employed in jobs without training opportunities in 1995)



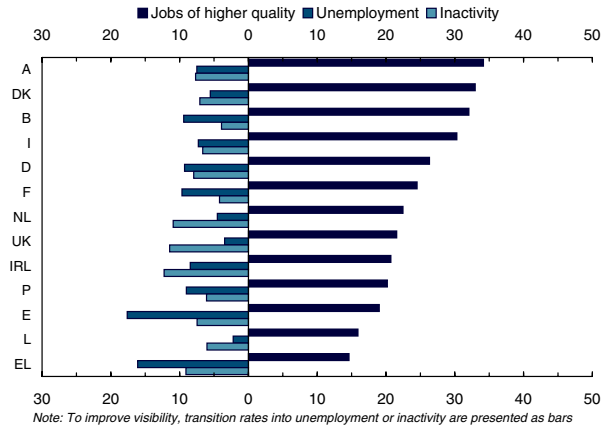
Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. D, F, FIN, S and UK: no data available.
Source: Eurostat, ECHP, waves 2-3 (1995-96)

131 Transitions in 1995-98 out of jobs without training into ...
(transition rates in % of employed in jobs without training opportunities in 1995)



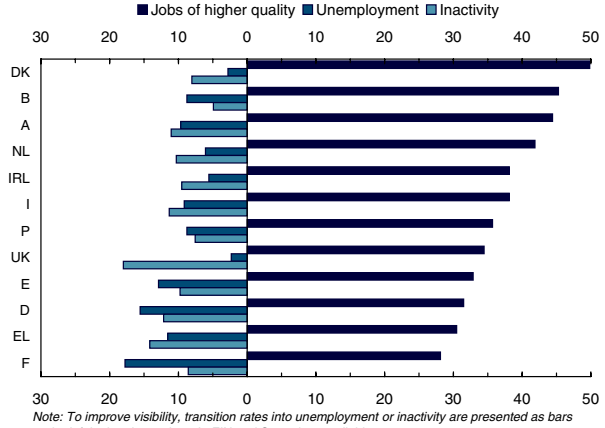
Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. D, EL, F, L, FIN, S and UK: no data available.
Source: Eurostat, ECHP, waves 2-5 (1995-98)

132 Transitions in 1995-96 out of low quality jobs into …
(transition rates in % of employed in low quality jobs in 1995)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. FIN and S: no data available.
Source: Eurostat, ECHP, waves 2-3 (1995-96)

133 Transitions in 1995-98 out of low quality jobs into …
(transition rates in % of employed in low quality jobs in 1995)



Note: To improve visibility, transition rates into unemployment or inactivity are presented as bars to the left in the above chart. L, FIN and S: no data available.
Source: Eurostat, ECHP, waves 2-5 (1995-98)

Annex 3.3 — Econometric analysis of the determinants of labour market transitions

On the basis of dynamic panel data models, where current labour market status is modelled as a function of previous job characteristics and labour market states as well as a range of individual, household and job-related characteristics, both the determinants of the current labour market state and the degree of persistence associated with that state were explored. The main focus was on the role of previous labour market states, in general, and unemployment or exclusion, in particular, on current labour market status and employment prospects.[19]

Explanatory variables included in the econometric models comprise individual characteristics (age, health, marital status, education level, citizenship, born abroad), household characteristics (housing tenure, household type), information on the individual's labour market history (labour market status at the previous date of interview, job characteristics one year ago if employed (occupation, industry, firm size, sector of employment, whether in a low paying job, job satisfaction), unemployment incidence and duration in the past five years, receipt of unemployment benefits, poverty and social exclusion status one year ago), local labour market characteristics (country, age, gender and year specific unemployment rates) and country and year identifiers.

Since job-shopping is an acceptable form of behaviour for young workers who move from job to job until they find suitable employment and firms might therefore be less likely to use young peoples' past unemployment history as a signal of low productivity to the same extent as for older workers, the unemployment status at the previous date of interview was interacted with age.

By controlling for household characteristics, the role of the household and the family in making labour supply decisions is acknowledged. The degree of financial hardship and social exclusion suffered depends on the form and stability of the household structure, which may offer opportunities for social and material support. It is likely that an unemployed person living alone and one with an employed partner or who has responsibilities for children will have very different experiences. There is some evidence that unemployment experiences have less impact on consumption patterns in southern European countries than northern countries, partly due to extended family networks in the former. Finally, increasing migration into and between EU countries suggests that country of birth and citizenship may be important determinants of labour market, exclusion and poverty experiences.[20]

Dimensions that have not been explicitly controlled for but which differ across countries and which are likely to affect labour market transitions, include the size and nature of the informal economy, labour market regulation and deregulation, welfare, tax-benefit and social support systems (both formal and informal), and other cultural and institutional aspects.

The estimation results obtained are presented in table 34.[21] These effects can be interpreted as the impact of a one unit change in the explanatory variable on the probability of the dependent variable being one, estimated at the sample means, holding all other characteristics constant. Previous unemployment, for instance, reduces the probability of current full-time employment by more than 50 percentage points for both age groups, 51.8 for those below 30 and 53.1 for those above 30. This probability is further reduced by an additional 8.5 percentage points in case of previous long-term unemployment, and by an additional 10.5 percentage points in case of labour market exclusion, where an individual is defined as excluded from the labour market if he is living in a workless household.

[19] The findings on the determinants of labour market transitions are based on the report "Labour market dynamics and social exclusion" prepared for the European Commission by Mark Taylor from the University of Essex. The full report is available on line at the DG Employment and Social Affairs website.

[20] See e.g. Kaiser (2001), "Standard and non-standard employment patterns across Europe", EPAG Working Paper No. 25, University of Essex, UK, for an analysis of the impact of the household context on an individual's labour market behaviour, and how this varies across Europe. See Bentolila and Ichino (2001), "Unemployment and consumption: are job losses less painful near the Mediterranean?", European University Institute, Florence, Italy, for a comparative analysis of the impact of unemployment on consumption patterns across European countries.

[21] For simplicity, only the results concerning the variables related to job characteristics, labour market status and unemployment experience are presented. The full set of estimation results and the estimation results for the country-specific models are contained in the final report "Labour market dynamics and exclusion" and available on line.

Table 34 — Determinants of current job status

	Full-time	Part-time	Perm.	Temp.	Low paid	Unempl.	Social excl.	Poverty
				Men				
Labour market status one year ago								
Unemployed and aged < 30	-0.518	0.017	-0.404	0.008	0.141	0.112	0.036	0.020
Unemployed and aged 30 +	-0.531	0.022	-0.440	0.036	0.150	0.159	0.014	0.031
Inactive	-0.669	0.012	-0.571	0.005	0.187	0.020	0.047	0.023
Excluded	-0.105	-0.005	-0.114	-0.008	0.022	~~	0.442	0.028
In poverty	-0.019	0.002	-0.049	~~	0.023	0.010	0.007	0.407
Job characteristics one year ago								
Part-time employment	-0.472	0.234	-0.197	~~	0.073	~~	0.013	~~
Fixed-term employment	-0.189	~~	-0.402	0.242	0.022	0.031	0.046	0.028
Low paying employment	-0.048	0.010	-0.042	0.008	0.306	0.005	0.019	0.033
Recent unemployment experience								
1-2 unemp. spells in last 5 yrs	0.016	0.003	-0.048	0.019	0.005	0.012	~~	~~
3-4 unemp. spells in last 5 yrs	~~	0.005	-0.135	0.034	~~	0.022	0.009	0.017
5+ unemp. spells in last 5 yrs	0.032	0.007	-0.156	0.045	~~	0.022	~~	0.015
Long-term unemp. in last 5 yrs	-0.085	~~	-0.077	-0.006	0.015	0.013	0.018	0.018
Log-likelihood	-40656	-11484	-41142	-19242	-16535	-20524	-22695	-37189
N (person-years)	134,442	134,422	134,422	134,422	80,772	134,422	134,422	134,380
Pseudo R^2	0.558	0.277	0.558	0.257	0.427	0.311	0.518	0.311
Observed mean dep. Variable	0.565	0.025	0.502	0.048	0.115	0.058	0.112	0.138
Predicted mean dep. Variable	0.580	0.012	0.458	0.022	0.041	0.022	0.040	0.083
				Women				
Labour market status one year ago								
Unemployed and aged < 30	-0.215	0.086	-0.208	0.077	0.445	0.078	0.025	0.031
Unemployed and aged 30 +	-0.217	0.057	-0.218	0.028	0.410	0.118	0.021	0.039
Inactive	-0.587	0.014	-0.537	-0.004	0.506	~~	0.049	0.049
Excluded	-0.052	-0.014	-0.037	-0.003	0.042	0.005	0.528	0.018
In poverty	-0.028	0.005	-0.072	~~	0.074	0.005	0.007	0.443
Job characteristics one year ago								
Part-time employment	-0.252	0.441	-0.068	~~	0.267	~~	~~	0.021
Fixed-term employment	-0.102	-0.017	-0.210	0.205	0.094	0.037	0.090	0.030
Low paying employment	-0.053	0.072	0.023	0.012	0.582	0.007	0.016	0.021
Recent unemployment experience								
1-2 unemp. spells in last 5 yrs	0.021	~~	-0.022	0.015	0.017	0.014	-0.009	~~
3-4 unemp. spells in last 5 yrs	~~	0.012	-0.048	0.026	~~	0.026	~~	0.013
5+ unemp. spells in last 5 yrs	0.026	~~	-0.080	0.034	~~	0.032	~~	0.018
Long-term unemp. in last 5 yrs	-0.036	-0.006	-0.037	-0.004	0.042	0.012	0.023	0.012
Log-likelihood	-40942	-32735	-38436	-17697	-20815	-21304	-28596	-41750
N (person-years)	141,184	141,184	141,184	141,184	63,130	141,184	141,184	141,130
Pseudo R^2	0.530	0.368	0.575	0.240	0.507	0.275	0.530	0.315
Observed mean dep. Variable	0.308	0.120	0.339	0.039	0.391	0.053	0.155	0.155
Predicted mean dep. Variable	0.206	0.066	0.213	0.017	0.304	0.023	0.064	0.096

Note: marginal effects resulting from estimation of gender-specific independent random effects probit models for being observed in either full-time employment, part-time employment, permanent employment, temporary employment, low paid employment, unemployment, labour market exclusion and poverty, on the pooled sample of men or women aged 20–65; all estimates presented significant at 5% level (unless characterised by ~~).
Source: ECHP, waves 1-4 (1994-97)

Chapter 4 Performance gaps between European regions

Introduction

Concerns over regional disparities have long been at the centre of European policies. Addressing these disparities is of particular relevance for employment policy today, as low performing regions make it more difficult to achieve the targets for 2010 set by the Lisbon European Council. Efforts to bridge regional disparities are also essential to strengthen cohesion across the EU but must take place against a shifting backdrop and ongoing change that could potentially exacerbate regional divergence. Globalisation, also, may add a further dimension affecting the division of labour and the industrial specialisation of European regions, thereby affecting the extent of disparities between them.

It is not clear whether the ongoing changes will benefit all European regions or just those with the economic structures best suited to reaping the benefits of greater integration. Human capital — the skills and knowledge embedded in people and in the way they work — appears, however, as a key variable in shaping regional competitiveness, especially in the light of the strategic European goal for this decade "to become the most competitive and dynamic knowledge-based economy in the world".

Examining the characteristics of European regions and the disparities in the performance of their labour markets suggests that different "regional clubs" might be emerging. It is possible to classify European regions into five broad groups characterised by different patterns of utilisation of human potential and by different skills structures. These differences help to explain variations in the recent performance among different groups of regions and also generate specific challenges.

Regional disparities

The process of European integration has been characterised by convergence among the Member States, but disparities between regions remain sizeable.[1] The available evidence suggests that a strong convergence in income levels and productivity took place in the period from the 1950s to the 1970s, with poorer regions growing more than four times faster than richer regions. Between 1970 and the mid-90s there was a substantial slowdown in convergence particularly between 1980 and the mid-90s period, during which time there was little, if any, catching up by the poorer regions.[2]

The stall in the process of convergence was linked to a number of different forces at work in the

Box 9 — Regional concerns and strategic objectives of the EU

The need to strengthen European cohesion has been emphasised by successive European Councils, and has been inter-linked with the aim of a return to full employment. The strategy agreed at Lisbon is designed to achieve these two objectives. The Nice European Council, approving the European social agenda, underlined how meeting the objective of a return to full employment "involves ambitious policies in terms of increasing employment rates [and] reducing regional gaps". It also drew attention to the local and regional dimension of the employment strategy which requires "a strategic approach at all levels, including at European level, and may require varied and targeted policies for different regions, in order to meet the objectives agreed at Lisbon, including greater regional cohesion".

[1] European Commission (2001), "Union, solidarity and diversity for Europe, its people and its territory". Second Report on Economic and Social Cohesion, January 2001.

[2] Fagerberg and Verspagen (1996), "Heading for Divergence ? Regional Growth in Europe Reconsidered", Journal of Common Market Studies, vol 34 n.3. This finding is based on the analysis of regions in Belgium, France, Germany, Italy, the Netherlands and the UK.

integration process. Regions differ in terms of productive capacity, having different skill structures and sectoral compositions of output and employment. Their geographical locations also affect their access to big markets and the possibility of knowledge spill-overs. Integration leads them, therefore, to specialise in different sectors, depending on their comparative advantage. The importance of these factors varies according to the sector in which a region specialises, with more knowledge-intensive sectors providing greater benefits of aggregation. The choice of location made by companies may have cumulative effects, with economies of scale and the desire to cut the costs of reaching suppliers and markets reinforcing the spatial concentration of some industries in a few agglomeration centres. At the same time, these tendencies to agglomeration can be offset if strong falls in trade costs occur and there is low mobility of labour. Overall, therefore, technological change, and the persistence of certain features of the economy over time such as high unemployment, low per capita income, sectoral composition of output, not only depend on the distribution of factors between regions and their mobility, but also contribute to shape it in a highly dynamic process.

Another important determinant of the evolution of disparities over time is the possibility of asymmetric shocks (such as demand shocks for particular types of products or particular types of labour) affecting particular regions rather than the whole of Europe, which, again, are linked to the structure of the regional economy. It can be expected that regions hit by these shocks will perform worse than others, especially if adjustment is slow — for example because low skilled workers are less flexible than those with more skills, or because institutional factors constrain regional adjustment. Recent studies show, however, that the sectoral structure of EU Member States and regions is becoming more similar, which lowers the likelihood of regional asymmetric shocks.

The interplay of these different forces will determine the regions differential ability to create jobs and to promote growth. It has also been suggested that if poor regions are unable to cross a threshold of strategic inputs (human capital, public infrastructure etc.) they can become trapped in situations of low economic growth, and may not be able to catch up with the others. Regions might, therefore, follow different paths so that convergence will be observed only within different "clubs" whose upper and lower bounds are determined by their endowments of strategic factors.

Box 10 — Glossary

Dispersion: refers to the spread of a distribution, and therefore to the differences between positive and negative performances.

Concentration around the mean: the closer regional performances are to their mean value, the more the average is representative of the overall regional performance and the more "peaked" the distribution will look. Conversely, the flatter a distribution, the more heterogeneous regional performance is, and so an average rate of employment, for example, would describe the situation of fewer regions.

Convergence: where regions, which were initially underperforming, have been growing faster and therefore "catching up" with the others. Different types of convergence processes can occur, as all regions may tend to the same long-term rate of growth, or to a long-term rate of growth that is region- (or group-) specific, depending on its structural features.

Polarisation: arises if in a dynamic context, all regions group themselves over time around two different average values rather than converging around a common average. The distribution becomes increasingly two-humped in shape, with one group of regions performing consistently better than the other.

Regional disparities in the period 1995–2000

The latter part of the 1990s was a period of growth for Europe but it is clear that not all regions have benefited. To assess whether disparities between regions have increased the regional distribution of GDP per capita PPS (purchasing power standard) and productivity for 1995 and 1999 and employment rate and unemployment rate for 1995 and 2000 have been plotted[3]. Table 35 shows three defining characteristics of these distributions: the mean — to capture the overall change in levels, the standard deviation — to give a measure of dispersion around the mean, and kurtosis[4] —

[3] The choice of the period for this analysis has been dictated by the desire the update available evidence for the period up to the mid-90s, as well as by the difficulties in dealing with reclassifications of regions occurred in the mid-90s.

[4] Kurtosis measures the relative 'peakedness' of a distribution, defined as the concentration of values around the mean. The more positive kurtosis is the more peaked is the distribution and the more negative kurtosis is the more flat is the distribution.

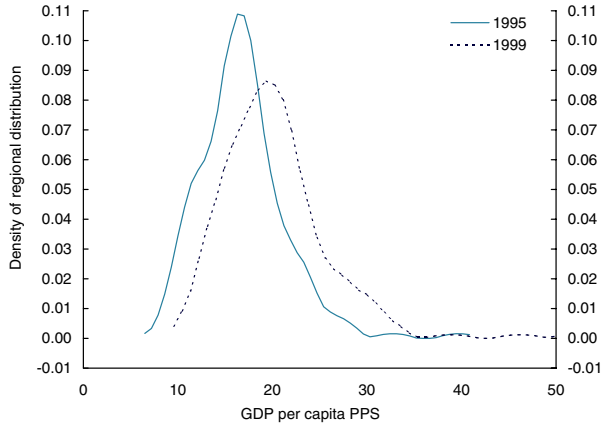
Table 35 — Characteristics of the regional distribution of income, productivity, employment rate and unemployment rate

	GDP per capita PPS		Productivity		Employment rate		Unemployment rate	
	1995	1999	1995	1999	1995	2000	1995	2000
Mean	16.8	20.2	43.2	49.7	61.0	64.0	10.3	8.3
Standard deviation	4.5	5.6	11.1	12.2	8.7	8.1	5.5	5.2
Kurtosis	6.5	9.2	17.3	17.4	3.1	3.7	4.8	4.5

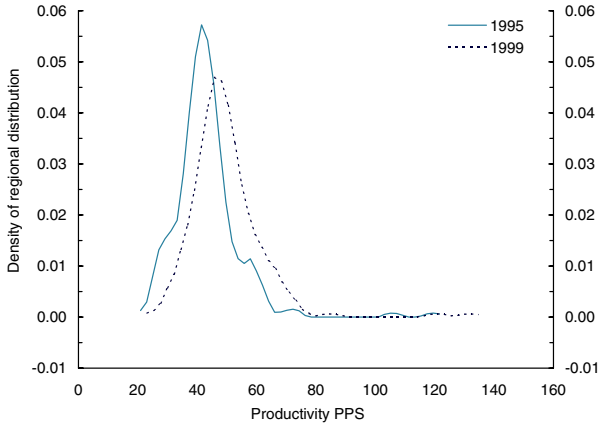
Source: Eurostat

Regional distribution of income, productivity, employment rate and unemployment rate

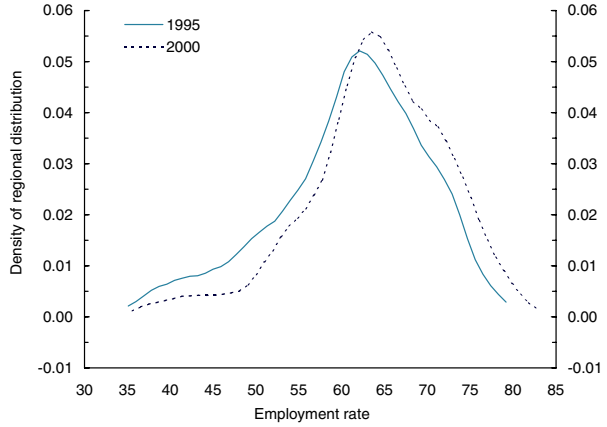
134 Regional distribution of GDP per capita, 1995 and 1999



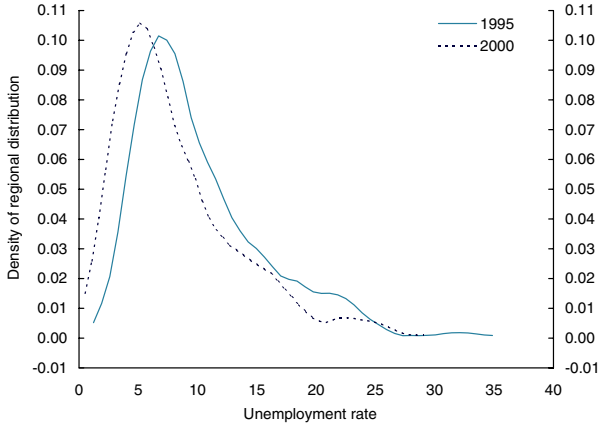
135 Regional distribution of productivity, 1995 and 1999



136 Regional distribution of employment rate, 1995 and 2000



137 Regional distribution of unemployment rate, 1995 and 2000



Note: Income is defined as GDP per capita PPS; productivity is defined as GDP PPS per employed.
Source: Eurostat

as a measure of how close to the average (or "peaked") the distribution is.

In the case of income, dispersion increased over time. Despite the fact that on the whole more regions had values close to the average, some regions performed much better than the others. These regions are shown in the long tail to the right of chart 134. A similar evolution, though less pronounced, characterises productivity (chart 135).

In the case of the employment rate (chart 136), regions have, on average, become more similar. The overall dispersion decreased, and more regions had employment rates close to the mean. It should be noted, however, how the chart differs from the income one (chart 134), with a longer tail of regions performing worse than average. Job creation has been a problem for these regions even during a period of overall growth

Heterogeneity increased in terms of the unemployment rate (chart 137). In fact, while overall dispersion decreased slightly between 1995 and 2000, the tails of the distribution became fatter. This implies that the average unemployment rate became less typical, as different regions found it more, or less, difficult to bring down unemployment.

Regions have similar rankings in terms of employment and unemployment rates. Their association is particularly strong at the bottom of the distribution, with 14% of the regions in the bottom quintiles for both indicators. The rankings in terms of productivity, by contrast, are independent of those for unemployment rates, but statistically similar to those for employment rates.

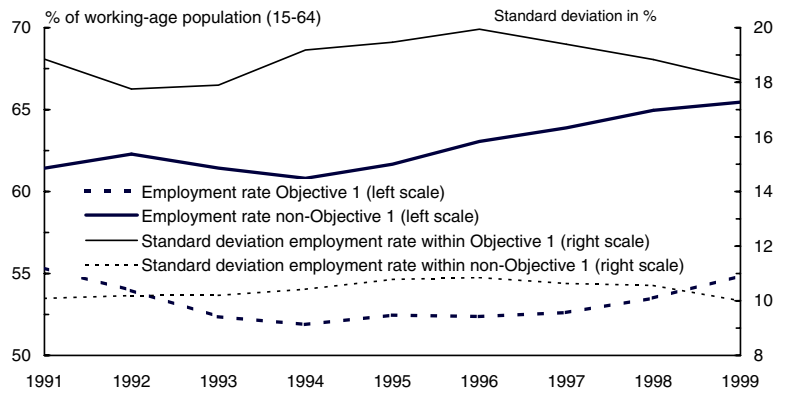
The finding that overall inequality between regions in terms of employment rate has been decreasing hides another important part of the story. The distribution for 2000 shows that a tail of regions with low employment levels remains. Although this evidence relates to a short period of time only, it is consistent with the finding in the empirical literature that European regions are not following a homogeneous growth path and disparities are increasing between groups.

This can be illustrated by distinguishing low income regions from the others. The performance of Objective 1 regions (the poorest in Europe) shows that over the 1990s these regions did not move any closer to the other regions in terms of employment rate (chart 138). Disparities between these two groups have actually increased, while the groups themselves are becoming more homogeneous.

Increasing disparities between groups are also revealed by the GDP per capita distribution shown in chart 134, which shows a group of regions becoming more homogeneous while others forge ahead. This increase in the differences among groups of regions has to be seen in relation to diverging trends in factors such as human capital accumulation and R&D efforts, which influence the overall potential of a country or region. Other factors such as the functioning of capital and labour markets, the degree of competition in product markets, the quality of basic infrastructure, and the macroeconomic policy context also contribute to the overall climate for economic activity.

The type of evidence shown in chart 138 has raised concerns about a polarisation of regional performance with the European regions gradually separating into a group of good performers and a group of bad ones rather than converging towards a common average. This idea has found some empirical support, as signs of polarisation were found, for example, in terms of employment growth rates and unemployment rates between 1968 and 1977 and between 1978 and

138 Employment rate in "Objective 1" regions and "non-Objective 1" regions, 1991-1999



Source: Eurostat, LFS

1987, and again for unemployment for the period from the mid-1980s to the mid-1990s.[5]

Persistence in underperformance

Considering the relative performance of regions over the 1995–2000 helps to explain the results on inequality. For example, if on average, relative performance varies but remains very low for regions initially at the bottom of the pile, efforts to reduce inequalities need to address the special problems facing these under-performing regions. This would be a quite different scenario from one where the main driver of inequality was a group of regions always ahead of the others.

While the period analysed is quite short, by using relative rates the effects of the cycle on the EU average for each indicator can be discounted. Further, available evidence suggests that this period is long enough for most of the effects of a shock on participation rates, unemployment rates or employment to be absorbed by the system. In other words it can be reasonably expected that if a group of regions appears at the bottom of the distribution in both 1995 and 2000 it is not because it is discounting the effects of a shock which is preventing it from resuming its normal trajectory.

Transition matrices can be used to analyse persistence in regional performance. These matrices describe how regions have moved between quintiles of the relative distribution between 1995 and 2000. If there is absolutely no persistence in performance, one would expect to find all the cells of the matrix filled by the same percentage of regions. If, on the other hand, there is total immobility in relative performance one would expect all cells except those on the main diagonal of the matrix to be empty.

Table 36 — Persistence in regional relative employment rate, 1995-2000

Quintiles 1995	Quintiles 2000					
	Worst performers	2	3	4	Best performers	Total
Worst performers	82.9	14.6	2.4	0.0	0.0	100
2	14.6	53.7	26.8	4.9	0.0	100
3	2.5	20.0	50.0	25.0	2.5	100
4	0.0	10.3	23.1	38.5	28.2	100
Best performers	0.0	0.0	0.0	31.7	68.3	100

Note: Percentages by row.
Source: Eurostat, LFS

Employment rate

Table 36 shows the transition matrix for the employment rate between 1995 and 2000.

The movement in and out of the various segments of the distribution suggests that there has been persistence in employment performance. The composition of both the bottom and the top quintiles did not change much over this five year period: 83% of the worst performers in 1995 were still to be found in the lowest quintiles, and 68% of the best performers remained in the highest. More variation characterised the other quintiles.

It is interesting to compare some of the characteristics of the regions that performed worst in both periods with those that continued performing better. The majority of the regions that remained in the bottom quintiles (71%) were Objective 1 regions, though some Objective 1 regions were found in other groups. This points indirectly to relative performance in terms of employment being related to income, but not entirely so. Other striking differences between best and worst performers in terms of employment

Table 37 — Persistence in regional relative unemployment rate, 1995-2000

Quintiles 1995	Quintiles 2000					
	Worst performers	4	3	2	Best performers	Total
Worst performers	78.1	17.1	4.9	0.0	0.0	100
4	14.6	56.1	17.1	7.3	4.9	100
3	4.9	19.5	43.9	26.8	4.9	100
2	0.0	5.0	22.5	32.5	40.0	100
Best performers	0.0	2.5	10.0	35.0	52.5	100

Note: Percentages by row.
Note that when looking at relative unemployment the best performers are those in the first quintiles as they have an unemployment rate that is much lower than average.
Source: Eurostat, LFS

[5] Decressin, Jörg and Antonio Fatás (1995), "Regional labor market dynamics in Europe" *European Economic Review*, vol 39; Overman, Henry G. and Diego Puga (2002) « Regional unemployment clusters: nearness matters within and across Europe's borders » *Economic Policy*.

Table 38 — Persistence in regional relative productivity, 1995-2000

Quintiles 1995	Quintiles 2000					
	Worst performers	2	3	4	Best performers	Total
Worst performers	94.7	2.6	2.6	0.0	0.0	100
2	12.2	68.3	17.1	2.4	0.0	100
3	0.0	22.0	56.1	22.0	0.0	100
4	0.0	4.9	22.0	63.4	9.8	100
Best performers	0.0	0.0	2.4	9.8	87.8	100

Note: Percentages by row
Source: Eurostat, LFS

Box 11 — Indicators adopted in the classification of regions

The indicators used in the cluster analysis to group the regions according to their common characteristics were:

- GDP per capita PPS. Income per capita is included as an indicator of regional performance and capacity to pay for development interventions. It is here included as PPS to discount differences in purchasing power across Europe. Due to the lack of region-based PPS conversion factors national ones were used.
- Employment rate as a share of labour market performance.
- The sectoral shares of value-added, for the three broad economic sectors (NACE 1) of agricultural, forestry and fishery products, industry and services which were included to characterise broadly the productive structure. Their inclusion is justified both by theoretical arguments on the different dynamism of the various sectors of the economy (because of the varying scope for knowledge spill-overs and increasing returns) and the different labour intensity and skill requirements which characterise them. The effectiveness of these indicators in discriminating between different types of regions is boosted by using them in conjunction with indicators of skills endowments and knowledge intensity of production.
- The share of high- and low-educated in the working age population. The standard ISCED classification of skills is adopted here with low skilled defined as individuals with an educational level of less than completed upper secondary, and high skilled as individuals with completed tertiary education.
- The percentage of employed in the high-tech sectors. This variable captures the size of the more knowledge intensive sectors of the regional economy.

All these indicators refer to the beginning of 1995 with the exception of the indicator for high-tech employment skill levels and variables for the Dutch regions, both of which relate to 1996. Also all UK data, with the exception of income, refer to 1996 due to changes in the regional classification. Income data for Inner and Outer London in 1995 have been estimated.

related to their productive structures and levels of human capital. The regions that performed best in terms of employment have shares of employment in agriculture that are about a quarter of the worst performers, and have higher levels (and less variation) in the share of those employed in the service sector. Further, their share of employment in high-tech sectors in 1995 was 70% higher than in the worst performing regions, and twice as many of the working age population had high-level qualifications.

Unemployment rate

The same type of analysis for the unemployment rate shows less persistence at the top of the distribution than at the bottom (table 37). Only about 50% of the regions that outperformed the others in 1995 remained in the top quintiles in 2000 while 78% of those in the bottom quintiles in 1995 remained there five years later.

Regions that remained at the bottom of the distribution for the relative unemployment rate, compared to those who remained at the top, exhibit characteristics that are not dissimilar to those of regions at the bottom of the distribution for the employment rate. Regions that consistently under-performed have lower GDP per capita PPS though income levels are more dispersed. Interestingly, 26 out of the 32 regions that did not improve their relative position in relative unemployment were Objective 1 regions. But more than 20% of the Objective 1 regions did manage to improve their rankings. The groups of those consistently outperforming or under-performing differed further in terms of their skills structure with the best performing regions having lower shares of low skilled workers. Finally, the best

performing regions had a share of employment in the high-tech sectors that was 40% higher than the poorest performing regions.

Productivity

The transition matrix for productivity shows a very marked level of polarisation, with 95% of those that were in the bottom quintiles in 1995, and 88% of those that were in the top quintiles maintaining the same position in 1999 (table 38). Not surprisingly the group consistently under-performing in this period had an average income that was half that recorded by the best performers (and exhibited much less variation). For this indicator more than 80% of those lagging behind were Objective 1 regions. Some catching up in terms of productivity has been possible: 16% of Objective 1 regions managed to move up at least one quintiles. Importantly, the more productive regions have seen their employment rates increase at a faster speed than low productivity areas and experienced faster rates of decline of the unemployment rate.

Box 12 — Classifying regions with cluster analysis

The analysis is based on data for the European regions at NUTS 2 level. Cluster analysis was used to classify regions into groups with homogeneous characteristics and so highlight the different combination of factors that influence regional disparities. This statistical technique offers a way of classifying units, which differ under a variety of profiles, following two logical steps.

Firstly the process of classification is made more manageable by identifying some composite variables. These new variables, called "factors", are weighted averages of the original ones. They offer, therefore, summary information on the original patterns of similarity and diversity between units or, in this case, regions. The first factor identified in our data can be interpreted as a measure of technological development as it takes low values for regions with a high share of low skilled workers and a high share of agriculture in value-added, and high values for regions with high income levels and a high share of those employed in high-tech. The second factor captures the extent of structural change towards services. It is in fact positively driven by the share of value-added in services and by income levels and negatively driven by the share of value-added in industry and agriculture.

Having identified these factors, the original data are re-classified in terms of these new indicators, and an iterative process is used to create groups. In this case regions were assigned to groups, and reclassifications were then carried out to increase the similarity between members of a group while increasing differences between groups. This transformed representation conserves 61% of the original relationship.

This technique has many advantages. One is that the description of the factors, and how the original indicators have been aggregated to create them, reveals the basic dimensions of difference in the observations. These basic dimensions are easier to describe than referring to the many initial indicators. Another advantage is that, while the number of classes was chosen by the researcher, the grouping is enhanced by the fact that thresholds among these classes were determined by considering how much they affected the homogeneity of the groupings, rather than *a priori* decisions on which thresholds should be set.

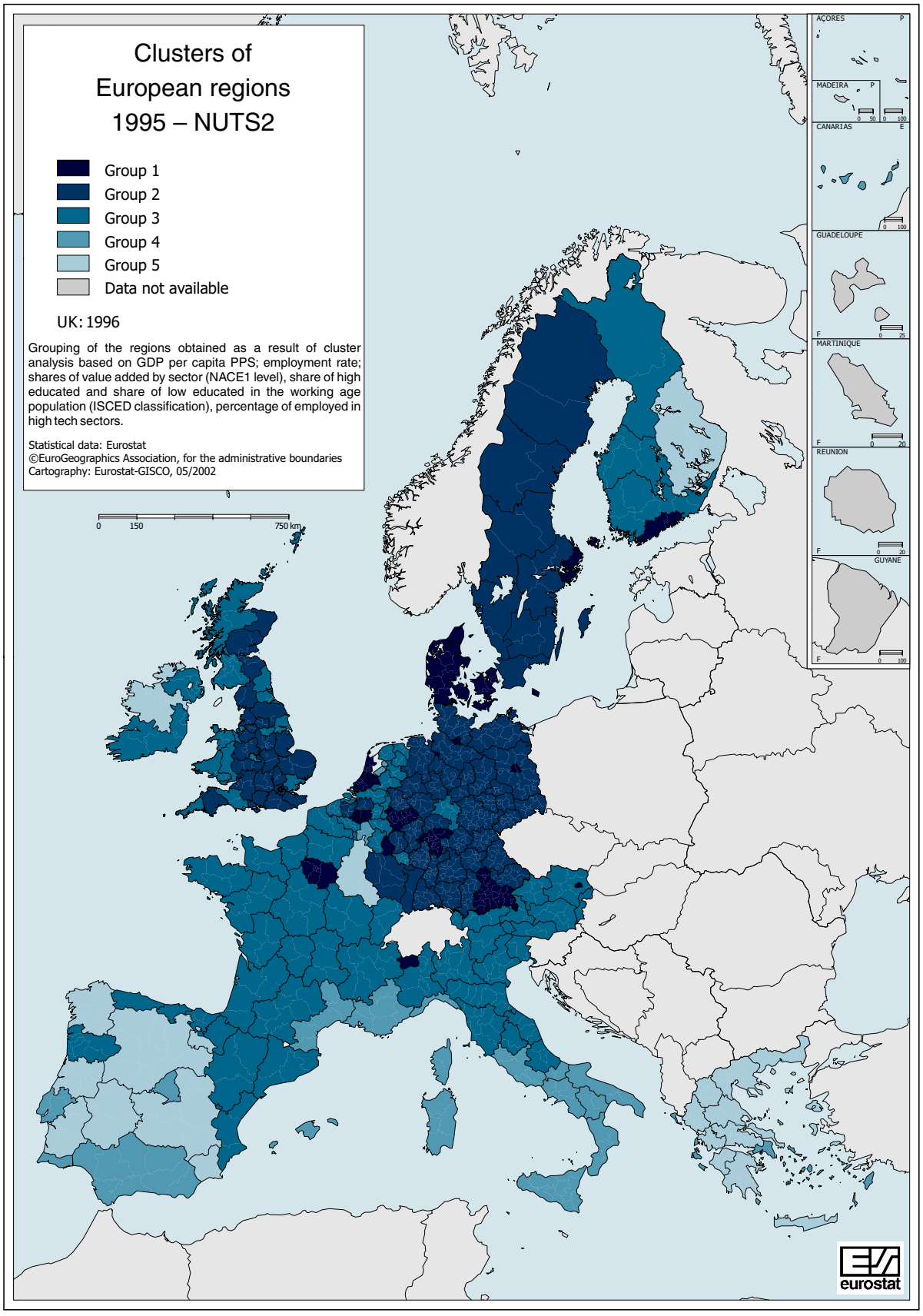
Groups of European regions

To sharpen the focus from the broad European picture to more homogeneous entities, regions were classified into groups on the basis of some common structural features of their economies. Clearly, diversity and similarity among European regions can be identified under a variety of profiles. *Employment in Europe 2001*, for example, adopted a six-group classification based on employment rates and employment growth rates. This classification was then used to analyse the sectoral composition of employment in those groups, with particular emphasis on the occupational and skills structure.

The classification used this year goes a step further including more characteristics of the regional economy in 1995, such as income levels and employment rates, and indicators of productivity and skills structure, with the aim of highlighting how these variables have affected relative regional performance over the period since 1995 for different groups.

The cluster analysis allows regions to be classified into five groups, referred to below with a number reflecting their ranking in terms of income per capita (see map).

Group 1: accounts for 13% of the population in the sample. The regions in this group have high average incomes and high shares of value-added produced by the service sector. They are also characterised by higher than average skills levels (a high share of the high skilled and low share of the low skilled). This group is quite varied geographically, but mostly includes regions with capital cities such as Åland, Brussels, Ile de France, Inner London, Stockholm


Clusters of
European regions
1995 – NUTS2
Group 1
Group 2
Group 3
Group 4
Group 5
Data not available
UK: 1996
Grouping of the regions obtained as a result of cluster analysis based on GDP per capita PPS; employment rate; shares of value added by sector (NACE1 level), share of high educated and share of low educated in the working age population (ISCED classification), percentage of employed in high tech sectors.
Statistical data: Eurostat
©EuroGeographics Association, for the administrative boundaries
Cartography: Eurostat-GISCO, 05/2002
0 150 750 km
AÇORES
MADEIRA
CANARIAS
GUADELOUPE
MARTINIQUE
REUNION
GUYANE
eurostat

and Vienna, and regions containing big cities such as in Germany, Benelux, and Denmark.

Group 2: accounts for 30%% of the population in the sample. The regions in this group are characterised by higher than average employment rates and shares of high skilled workers, as well as higher shares of value-added provided by industry, and higher than average employment in high-tech sectors. This group includes large parts of Germany, Sweden and the UK, as well as some Belgian and French regions.

Group 3: accounts for 36% of the population. The regions in this group are characterised by a higher than average share of value-added produced by industry. Other distinguishing features include a low share of value-added provided by services and a low share of employment in high-tech sectors. While quite varied in terms of geography, this group is composed mostly of large parts of France and northern Italy, and parts of Ireland, Portugal, Spain and the UK.

Group 4: accounts for 16% of the population. The main features of the regions in this group are a higher share of value-added produced by services, and a higher share of the low skilled than average. This group's average income is below the overall average and includes many Mediterranean regions, such as southern Italy, and some Greek and French regions, and parts of Portugal and Spain.

Group 5: accounts for only 6% of the population. The regions in this group are characterised by lower employment rates and higher than average shares of value-added produced in agriculture and of the low skilled in the working age

Table 39 — Characteristics of the groups of regions

	Group 1	Group 2	Group 3	Group 4	Group 5
Income variables					
GDP per capita PPS 1995	26.2	18.2	17.5	14.2	11.7
Compound real growth rate 1995-1999	2.25	2.03	2.16	2.52	3.03
GDP per capita PPS 1999	31.2	21.2	20.9	17.5	14.5
Productivity 1995	59.9	41.4	45.3	46.1	36
Compound real growth rate 1995-1999	1.35	1.72	1.01	0.86	1.32
Productivity 1999	68.9	47.6	51.8	53.1	41.7
Labour market variables					
Employment rate 1995	63.7	66.0	57.7	45.6	49.3
Compound growth rate 1995-2000	0.9	0.4	1.3	1.8	1.8
Employment rate 2000	66.5	67.3	61.6	49.9	54
Female Employment rate 1995	56.6	58.0	47.9	32.0	36.8
Compound growth rate 1995-2000	1.6	0.8	1.9	2.7	2.6
Female Employment rate 2000	61.2	60.3	52.7	36.5	41.9
Working age population as a share of total population 1995	68.8	66.6	66.9	67.5	66.2
Compound growth rate 1995-2000	0.2	0.03	0.0	-0.1	0.1
Working age population as a share of total population 2000	69.3	66.7	66.7	67.2	66.3
Unemployment rate 1995	9.0	7.7	10.6	19.1	14.8
Compound growth rate 1995-2000	-5.2	-3.5	-6.8	-3.2	-4.4
Unemployment rate 2000	6.9	6.4	7.4	16.2	11.8
Participation rate 1995	70.0	71.5	64.5	56.3	57.6
Compound growth rate 1995-2000	0.4	0.1	0.6	1.1	1.1
Participation rate 2000	71.4	71.9	66.6	59.5	61.2
Female activity rate 1995	62.6	63.2	55.4	42.2	45.7
Compound growth rate 1995-2000	0.8	0.5	1.1	2.0	2.0
Female activity rate 2000	65.2	64.7	58.5	46.6	50.5
Long-term unemployment 1995	3.7	3.5	5.3	11.1	7.6
Compound growth rate 1995-2000	-5.2	-4.8	-9.7	-3.9	-6.6
Long-term unemployment 2000	2.8	2.8	3.2	9.1	5.4
Share of part time 1995	12.1	13.1	8.9	3.5	4.1
Compound growth rate 1995-2000	3.0	2.1	3.1	6.0	4.7
Share of part time 2000	14.0	14.6	10.4	4.7	5.2
Education					
Share of low skilled in the working age population 1995	29.6	24.2	51.0	61.9	68.3
Compound growth rate 1995-2000	-1.5	-2.0	-2.5	-2.7	-2.7
Share of low skilled in the working age population 2000	27.4	21.9	44.9	53.9	59.7
Share of high skilled in the working age population 1995	22.4	17.9	12.3	10.6	10.7
Compound growth rate 1995-2000	2.5	2.3	4.4	4.4	5.9
Share of high skilled in the working age population 2000	25.4	20.0	15.2	13.2	14.3

Note: averages made on the regions for which all the data for the decomposition are available in both years; education data exclude UK as series is not comparable; Productivity is defined as GDP PPS per employed; compound growth rates are in percentage.
Source: Eurostat

population. This group includes large parts of Greece, as well as some Spanish regions, and parts of Portugal, Ireland, Finland and France.

A detailed listing of regions by group is available in annex 4.1.

This separation into groups is only partly driven by income. Income per capita, while a useful summary indicator of economic performance, can hide considerable differences in other factors that explain labour market outcomes. In this categorisation of regions Objective 1 regions are represented in all the groups. Even though only one features in Group 1 — and that is Berlin as East Berlin is an Objective 1 region — nine Objective 1 regions feature in Group 2. The majority of these are eastern German regions (box 14).

The case of eastern Germany is a reminder that, firstly, in this classification regions are compared on a European rather than a national scale; and secondly that the classification allows for significant variation within groups. Furthermore, regions may be heterogeneous according to a variety of profiles that were not taken into account in this classification. This is indeed the case for the eastern part of Germany in 1995, which differed from other regions in Group 2 under a variety of criteria. Some of these differences (for example in terms of unemployment and long term unemployment) have increased significantly since 1995 (box 14).

The case of the regions in eastern Germany is not the only one where the five groups classification contrasts with usual views on regional performance that are generally based on comparisons with national rather than European performance. Consider, for example, the case of the Comunidad de Madrid, a region which by national standards is considered prosperous but which is classified in Group 4. Other factors which may be responsible for counter-intuitive results include different patterns of commuting between regions across European countries and geographical partitioning of the regions — capital cities tend to be richer and better educated than the rest of a country, but not all capital cities are part of a NUTS 2 region on their own. Finally, this classification is based on a combination of factors, so that some regions might belong to a given category even if they share only in some of its average characteristics. Consider for example the case of some northern Italian regions which belong to group 3 despite their high shares of value added in services, due to their relatively low educational levels.

While all these factors may challenge the attribution of a specific region to a particular category, this five group classification aims to identify broad brush patterns in the way the productive potential of different types of regions has developed, and the challenges and opportunities for growth that exist.

Disparities in regional performance

Different patterns of utilisation of resources

The groups of regions identified differ under many profiles. Table 39 includes a detailed description of their characteristics and of their performance over the recent past. As already mentioned, a key difference between these groups is their income levels, with Group 1 having more than twice the income of Group 5. To understand better what drives this difference and to see how it is related to the labour market outcomes, GDP per capita can be decomposed using the following identity:

GDP = productivity x employment rate x (1- total dependency ratio)

where the total dependency ratio includes all those not included in the age group 15–64. As this demographic component is stable across regions, chart 139 illustrates how employment and productivity combine to determine income in each of the five groups of European regions in 1999 — the latest year for which GDP PPS is available at the regional level. All the components are expressed as a percentage of the EU average.

Chart 139 shows how Group 1 outperformed the others in terms of income and productivity, while Group 5 under-performed. Productivity and employment went broadly together in Groups 1, 3 and 5 — low levels of productivity and employment resulted in low income in Group 5, with the reverse occurring in Group 1. By contrast, in Groups 2 and 4 these two elements counterbalanced each other to a certain extent. Group 2 combined somewhat below average productivity with a high employment rate. By contrast Group 4 had GDP per capita well below average, despite its high productivity, because of its low employment rate.

These different outcomes in terms of productivity and employment are strongly influenced by the structure of employment. Group 2, for example, differed from Group 4 in terms of its ability to exploit human resources. Its employment rate was higher as both its participation rate

and its female employment rate were higher. Group 4 was in quite the opposite situation with high unemployment and low participation, particularly low female participation. Another important dimension of difference is the extent to which these regions relied on part-time jobs, which clouds somewhat the analysis of their productivity and employment rate performance. Correcting for these differences in employment composition (box 13) provides somewhat different results, although the very good performance of Group 1 is confirmed.

Productivity and employment contributions to growth

Looking at recent trends in economic growth and resource utilisation can provide clues on the type of evolution different types of regions are currently undergoing.

Chart 140 shows the contribution of employment and productivity growth to the growth of income per capita.

The overall evidence shows groups with lower income growing at

Box 13 — Correcting productivity and employment rates for different employment structures

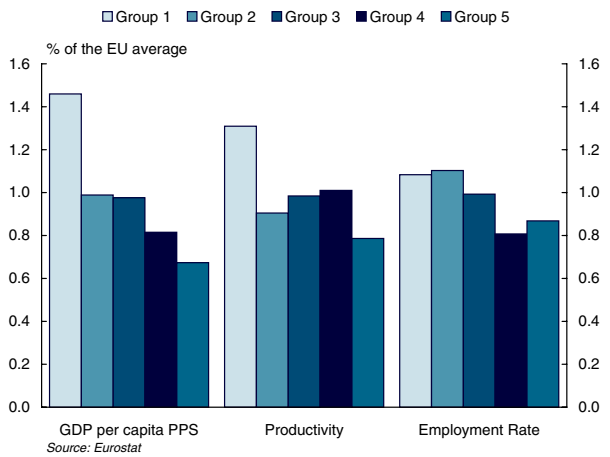
Table 40 — Productivity and employment rate: full time equivalent

	Group 1	Group 2	Group 3	Group 4	Group 5
Productivity (estimated full time equivalent) 1995	66.2	46.0	49.1	48.0	37.3
Productivity (estimated full time equivalent) 1999	76.4	53.3	56.6	55.6	43.6
Employment rate (estimated full time equivalent) 1995	57.7	59.4	53.2	43.8	47.2
Employment rate (estimated full time equivalent) 1999	59.0	59.5	54.9	46.6	49.8

Source: Commission Services

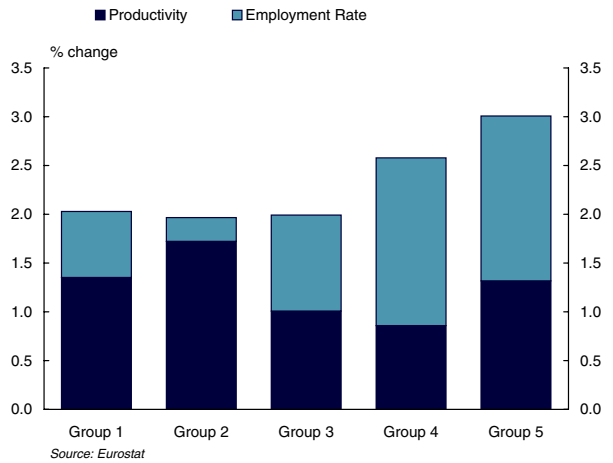
Employment rates and productivity (defined as GDP PPS per employed) are not comparable if they refer to very different employment structures. Ideally, a more meaningful comparison of productivity would focus on hourly productivity, in order to discount the differences in hours worked between full- and part-time workers. As these data are not available on a regional basis, a ball-park estimate is provided of how employment and productivity would be if the number of employed was re-weighted by using the share of part-time, and assuming that part-time workers work half the hours of a full-time worker. The main effect of such adjustment is that the gap in productivity of Group 2 with respect to Groups 3 and 4 diminishes. The employment rates of Group 1 and 2, which were the ones with higher share of part-timers, are not surprisingly those which change the most, while Groups 3, 4 and 5 are less affected by this adjustment.

139 Decomposition of GDP per capita PPS by group of regions, 1999



Source: Eurostat

140 Determinants of growth in real GDP per capita, 1995-1999



Source: Eurostat

Box 14 — Group 2 and eastern Germany

In 1995 Group 2 was characterised by average income levels with comparatively low productivity and high employment rates. Between 1995 and 1999 its income grew less than that of other groups of regions, but there was some catching up on productivity, and some limited growth in the employment rate.

This poses the question of whether its performance would change if eastern Germany was excluded. The data show that Group 2's overall development is not affected by the inclusion of eastern Germany, though the levels of income, productivity and the employment rate would have been slightly higher.

While the developments in eastern Germany do not affect the performance of Group 2 significantly, they need to be highlighted as they took place in a period of growth and increasing employment in Europe. In eastern Germany income grew by 1.9% and productivity showed a remarkable catching up, but the employment rate declined and unemployment increased. Nevertheless in 1995, despite their low income levels, eastern German regions shared enough of the characteristics under consideration with the other members of this group — such as levels of high skilled and employment rates above the average — to merit inclusion into this category. Generally the growth in productivity in Group 2 has depended on its ability to build on the skills it is accumulating. For eastern Germany this takes on a particular significance in the light of its recent performance: the challenge is not only to catch up in terms of productivity (which is happening), but also to increase employment. The still high level and persistence of unemployment suggests that the de-skilling of the unemployed may represent an important barrier in this respect.

Table 41 — Eastern German regions versus non-eastern German regions in Group 2

	East Germany	Other regions
GDP per capita PPS 1995	14.5	19.8
Compound growth rate 1995-1999	2.2	2.0
GDP per capita PPS 1999	15.8	21.4
Productivity 1995	33.7	45.0
Compound growth rate 1995-1999	2.5	1.6
Productivity 1999	37.2	48.0
Employment rate 1995	62.7	66.3
Compound growth rate 1995-2000	-0.8	0.5
Employment rate 2000	60.2	68.1
Participation rate 1995	73.2	71.3
Compound growth rate 1995-2000	-0.1	0.2
Participation rate 2000	72.7	71.8
Unemployment rate 1995	14.8	6.9
Compound growth rate 1995-2000	2.5	-5.1
Unemployment rate 2000	16.7	5.3
Long-term unemployment 1995	7.8	3.0
Compound growth rate 1995-2000	-4.4	-4.8
Long-term unemployment 2000	6.2	2.3
Working age population as a share of total population 1995	68.7	66.4
Compound growth rate 1995-2000	0.5	-0.02
Working age population as a share of total population 2000	70.5	66.3
Share of part-time in 1995	6.8	13.7
Compound growth rate 1995-2000	2.0	2.5
Share of part-time in 2000	7.5	15.5
Share of low skilled in the working age population 1995	13.5	26.8
Compound growth rate 1995-2000	-2.9	-2.0
Share of low skilled in the working age population 2000	11.6	24.3
Share of high skilled in the working age population 1995	24.8	16.3
Compound growth rate 1995-2000	-0.3	3.2
Share of high skilled in the working age population 2000	24.4	19.0

Note: Productivity is defined as GDP PPS per employed; compound growth rates are in percentage.
Source: Eurostat

higher rates than average. For Groups 4 and 5, which started with lower employment rates than the others, most of the growth came from changes in this rate. The other groups grew roughly at the same rate, with Group 1 managing to close most of its gap with respect to Group 2 in terms of employment rate. Group 2 experienced the largest increase in productivity but, as discussed, in 1999 it still lagged significantly behind Group 1.

Another feature of this decomposition is that it suggests that Group 1 is attracting young and productive people from the other groups – an explanation which seems plausible as most of the regions in this Group are big cities – as the change in the dependency ratio, though very small, is positive.

Skills differences across groups of regions

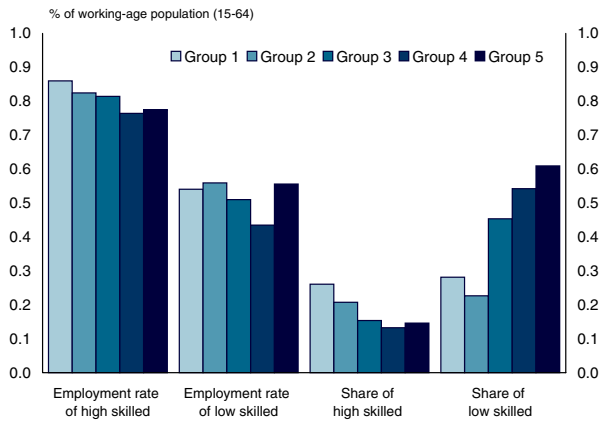
Economic theory, as well as empirical evidence, suggests that an important part of what happens to productivity depends on the skills composition of the workforce. This is a factor in which the five groups of regions differ substantially. Groups 4 and 5 are characterised by a share of low skilled people in the population that is twice as high as that in Groups 1 and 2, and by about half their share of high skilled workers. While such a pattern could reflect the skills needed by their economy, a different indication comes from analysing the way skills are utilised in these clusters. As chart 141 shows, it is remarkable how stable the employment rate for the high skilled appears to be across clusters.

This suggests, therefore, that the reason productivity is quite high in groups characterised by rather low income and employment levels is that the jobs available are given to the most skilled and productive. This seems particularly the case for Group 4, which is the group with the lowest employment rate. Once again the comparison between Groups 2 and 4 is telling. The latter has a general problem with its inability to create jobs, while the former employs quite extensively both its high- and its low skilled working age population.

It should be noted, however, that Group 2, despite having a lower share of low skilled in the working age population than all the other groups, lags behind Group 1 in terms of shares of high skilled in the working age population in employment. Catching up with Group 1, therefore, seems to require an upgrading of its skills, probably focussing on higher education. This represents even more of a challenge for Groups 3, 4 and 5 which are endowed with lower reserves of skills.

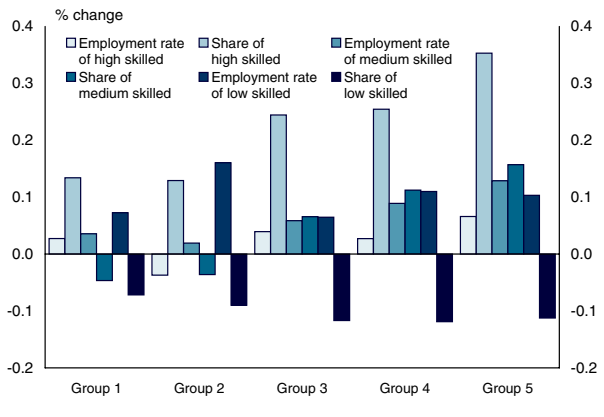
The challenge of upgrading skills, however, ultimately needs to be faced by all regions, if they are to take advantage of the benefits of the knowledge society on a large scale. Given the size of the task, it implies working towards upgrading the educational system, particularly from a life-long learning perspective. The need to increase and upgrade skills is further underlined by the consideration that, not only is the employment rate for the low skilled low for all groups (though comparatively high for Groups 5 and 2), but that in the groups where the share of low skilled is highest, the highest rates of long term unemployment are also found. As low skilled workers face higher

141 Skills and their use by groups of regions, 2000



Note: UK and Ireland excluded due to lack of comparable education data.
Source: Eurostat, LFS

142 Change in skill specific employment rates and skill composition by group of regions, 1995-2000



Note: UK and Ireland excluded due to lack of comparable education data.
Source: Eurostat, LFS

risks of protracted unemployment and are at greater risk of loss of skills, appropriate measures for activation and training of those groups must be a priority for those regions if they are to exploit their human resources more fully. In particular, it means ensuring adequate levels of open and flexible education and training provision at the local level for bringing learning and (potential) learners together, developing learning communities, cities and regions, and establishing local learning centres.

Looking at the five-year period leading up to 2000 it is clear that some progress in the accumulation of skills has been made but the disparities in skills between the groups are so high that faster rates of changes are required (chart 142). In all groups the share of the low skilled has been declining, though in Groups 1 and 2 the share of medium skilled has also been declining. The highest increases in the share of high skilled workers has been in the groups which had the worst skill endowments in 1995. Such shifts towards upgrading skills has been accompanied everywhere by an increase in the employment rates by skill levels, with the exception of Group 2, where the employment rate for the high skilled (which was the highest in 1995) has fallen, due to declines in German and Swedish regions.

But change cannot be expected to occur through formal schooling alone, as it would take too long to work through the system and would leave out an increasingly large older segment of the working age population. Available evidence suggests that what is currently being done in this respect is insufficient, particularly to address the deficiencies of the less-skilled individuals, as more productive and better skilled individuals are more likely to receive training. A similar pattern also seems to hold at the regional level. Information from the Labour Force Survey on the percentage of individuals aged 25–64 who received education or training in the four weeks preceding the survey interview shows that this percentage is inversely related to the share of low skilled in the population.

In Group 5, for example, which has the highest share of the low skilled, only 3.6% of individuals fell into this category, while this percentage rises to 10.8% in Group 2, the one with the lowest share of low skilled. The shares are 9.5%, 7.4% and 4.3% for Groups 1, 3 and 4 respectively.

Differences across groups of regions and convergence

The employment rate

Econometric analysis shows that for Europe as a whole, the period 1995–2000 saw a "catching up" in employment rates on average, with low employment regions seeing their employment rate grow faster than high employment regions. This growth pattern can be explained not just by the initial level of the employment rate, but also by economic growth. Regions in faster growing countries increased their employment rate faster. When considering separately the effect of the initial levels of employment rates and of economic growth by cluster of regions, regions in Group 4 appear to be following a different growth path from the others, with no catching up taking place. This is consistent with the finding that 49% of the regions found at the bottom of the employment rate distribution in both 1995 and 2000 are classified in Group 4. A closer analysis shows that this peculiarity of the low skilled service oriented regions in Group 4 depends on their pattern of utilisation of skills. Keeping constant the share of the high skilled among the employed, the regions in Group 4 appear, in fact, to be converging to the same long-term growth rate as the other European regions. This suggests that low skills levels constrain the long-term growth rate of employment, and that substantial efforts should be made to increase skills levels in these regions to bring them in line with the rest of Europe.

The unemployment rate

Consistent with the previous finding that unemployment performances have become more diverse, gaps between high and low unemployment regions over the period 1995–2000 have not reduced either. Further, economic growth reduced unemployment in most regions, particularly those in Group 2. Group 5 saw the least improvement But, controlling for the share of low skilled over high skilled in the working age population, the effects of growth were also significant for regions in this group.

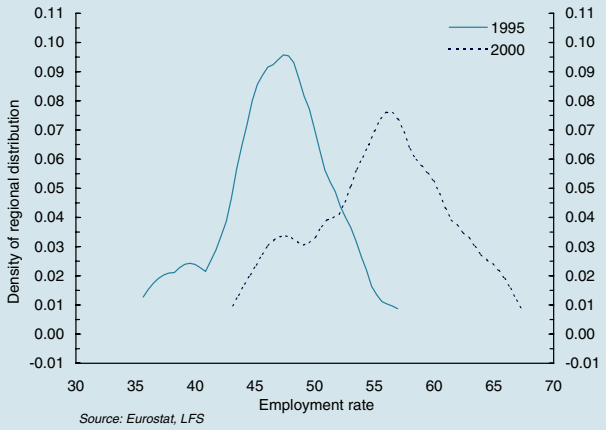
The increasing disparities between regions in terms of reducing unemployment, therefore, have been due to both the differential growth rates of the national economies to which regions belong and to their differing abilities to benefit from that growth, which is crucially linked to their skills structures. The low stock of high skilled workers in regions in Group 5, for example, hindered their ability to translate national growth into reduced unemployment.

Box 15 — Growth and the employment rate in Spain

A good example of the importance of national economic growth for regional employment performance is offered by Spain. Thanks to high economic growth even the worst performing regions performed better than the EU average in terms of employment rate growth. Such a high country growth, however, did not diminish the differences between regions. While each grew so did the hump in the tail of the distribution formed by the group of regions where employment grew appreciably less than in the rest of the country. Similarly, if the recent evolution of the employment rates for Objective 1 and non-Objective 1 regions in Spain is considered, the gap between the two is increasing, despite the upward trend.

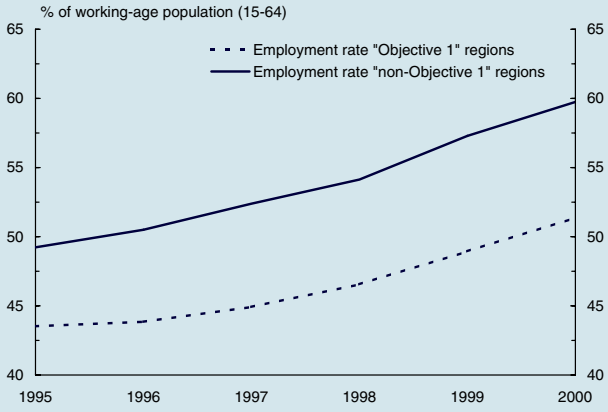
Given that Spain as a whole still has low levels of employment, this trend in the distribution of the employment rates across regions may pose a serious challenge to the achievement of the Lisbon targets by 2010. Overall, therefore, the Spanish case shows an interesting contrast between a national and a regional perspective in the European context. These are clearly interdependent and the goal of decreasing inequalities between regions in Europe cannot happen without the appropriate policies and institutional arrangements at the national level.

143 Regional distribution of employment rate in Spain, 1995 and 2000



Source: Eurostat, LFS

144 Spain: differences in the employment rate between "Objective 1" and "non-Objective 1" regions, 1995-2000



Source: Eurostat, LFS

Conclusions

In a period characterised by economic growth and convergence between Member States there has been an increase in labour market performance disparities at an EU regional level. Economic theory suggests that a reduction in these disparities, which is crucial to meet European cohesion objectives, may be hard to achieve given the current distribution of factors of production and sectoral specialisation. The evidence for the 1995–2000 period suggests there has been an increase in diversity between regions in terms of income, productivity levels and unemployment rates, while employment rates increased more equally across the regions. Even this finding, however, hides the increasing role played by inequalities among groups of regions. Furthermore, high persistence characterises the performance in employment and unemployment and productivity of the worst performing regions.

Disparities in regional performance have been linked to differences in the way regions use their factors of production, as well as in their endowments of human capital. Also sectoral differences matter, with regions characterised by higher shares of value-added in services and by high skills, performing better than the others. These differences have also shaped regional dynamics. In the case of the employment rate, for example, the ability of regions characterised by high shares of services and low skills levels to catch up has been hindered by their low levels of human capital.

These disparities, in regions' ability to mobilise human resources and in

their skills endowments have been brought out starkly by aggregating regions into groups with homogeneous structural characteristics rather than on a national basis. But while region-specific factors explain a significant amount of the evolution of regional disparities, country-specific ones should not be overlooked. Countrywide characteristics range from institutional ones, which theory suggests might influence the speed of adjustment to region-specific shocks, to macroeconomic growth. The latter is a powerful determinant of regional labour market performance, possibly interacting with region-specific factors. The ability of low income agricultural regions to benefit from country growth in reducing unemployment, for example, crucially depends on their skills structure. Furthermore, as emphasised by the Commission's Action Plan on skills and mobility, more human resource investment in less advanced regions is an important element of a strategy to increase occupational mobility, a factor which in itself should bring more open and accessible labour markets as well as greater cohesion.

Raising productivity is an important challenge for most European regions, although those which have accumulated comparatively high skills, and which invest more than the others in upgrading their skills through training, face an easier task. Simply focussing on high skills, however, may not lead to high incomes if employment is restricted to a few, highly productive individuals. For disparities between regions to decrease, investing in skills and life-long learning must be part of a strategy to raise the employment rate if disparities between regions are to decrease. Already the employment rates for the low skilled are appreciably lower than for the high skilled, and developments linked to new technology and the information society are likely to exacerbate these differences. The sheer size of the task ahead, especially for the lower income regions, which are characterised by high shares of the low skilled, suggest that decisive action needs to be taken in the area of life-long learning.

Finally, an important aspect of the challenge to raise the employment rate relates to a region's ability to mobilise its labour force. Regions with low employment rates are also the ones with low female participation and low female employment rates. Addressing this gender imbalance and raising the employment rate may also involve increasing the possibilities for part-time work, which is another element of the workforce profile where significant differences arise.

Annexes to chapter 4

Annex 4.1 — Composition of the regional groups

Group 1				
Région Bruxelles-capitale/Brussels hoofdstad gewest	Denmark	Darmstadt	Utrecht	Åland
	Oberbayern	Köln	Noord-Holland	Stockholm
	Berlin	Île de France	Zuid-Holland	Inner London
Vlaams Brabant	Bremen	Valle d'Aosta	Wien	
Brabant Wallon	Hamburg	Luxembourg	Uusimaa (Suuralue)	
Group 2				
Antwerpen	Braunschweig	Magdeburg	North Yorkshire	Berkshire, Bucks and Oxfordshire
Oost-Vlaanderen	Hannover	Schleswig-Holstein	West Yorkshire	
Stuttgart	Lüneburg	Thüringen	Derbyshire and Nottinghamshire	Surrey, East and West Sussex
Karlsruhe	Weser-Ems	Lorraine		
Freiburg	Düsseldorf	Alsace	Leicestershire, Rutland and Northants	Hampshire and Isle of Wight
Tübingen	Münster	Östra Mellansverige		
Niederbayern	Detmold	Sydsverige	Lincolnshire	Kent
Oberpfalz	Arnsberg	Norra Mellansverige	Herefordshire, Worcestershire and Warks	Gloucestershire, Wiltshire and North Somerset
Oberfranken	Koblenz	Mellersta Norrland		
Mittelfranken	Trier	Övre Norrland		
Unterfranken	Rheinhessen-Pfalz	Småland med öarna	Shropshire and Staffordshire	Devon
Schwaben	Chemnitz	Västsverige		North Eastern Scotland
Brandenburg	Dresden	Cumbria	East Anglia	Eastern Scotland
Gießen	Leipzig	Cheshire	Bedfordshire, Hertfordshire	
Mecklenburg-Vorpommern	Dessau	Greater Manchester		
	Halle	Lancashire	Outer London	
Group 3				
Limburg (B)	Centre	Trentino-Alto Adige	Niederösterreich	East Riding and North Lincolnshire
West-Vlaanderen	Basse-Normandie	Veneto	Kärnten	
Hainaut	Bourgogne	Friuli-Venezia Giulia	Steiermark	South Yorkshire
Liège	Nord - Pas-de-Calais	Emilia-Romagna	Oberösterreich	West Midlands
Luxembourg (B)	Franche-Comté	Toscana	Salzburg	Essex
Kassel	Pays de la Loire	Umbria	Tirol	Dorset and Somerset
Saarland	Bretagne	Marche	Vorarlberg	Cornwall and Isles of Scilly
Principado de Asturias	Poitou-Charentes	Abruzzo	Norte	
Cantabria	Aquitaine	Groningen	Väli-Suomi	West Wales and The Valleys
Pais Vasco	Midi-Pyrénées	Friesland	Pohjois-Suomi	
Comunidad Foral de Navarra	Limousin	Drenthe	Etelä-Suomi	East Wales
	Rhône-Alpes	Overijssel	Tees Valley and Durham	South Western Scotland
Aragón	Auvergne	Gelderland		East Wales
Cataluña	Southern and Eastern (IRL)	Zeeland	Northumberland, Tyne and Wear	South Western Scotland
Comunidad Valenciana		Noord-Brabant		
Picardie	Piemonte	Limburg (NL)	Merseyside	
Haute-Normandie	Lombardia	Burgenland		
Group 4				
Ionia Nisia	Canarias (E)	Liguria	Calabria	Madeira (P)
Attiki	Languedoc-Roussillon	Lazio	Sicilia	
Notio Aigaio		Molise	Sardegna	
Comunidad de Madrid	Provence-Alpes-Côte d'Azur	Campania	Flevoland	
Baleares		Puglia	Lisboa e Vale do Tejo	
Andalucia	Corse	Basilicata	Algarve	
Group 5				
Anatoliki Makedonia, Thraki	Dytiki Ellada	La Rioja	Champagne-Ardenne	Itä-Suomi
	Sterea Ellada	Castilla y León		
Kentriki Makedonia	Peloponnisos	Castilla-la Mancha	Border, Midlands and Western (IRL)	
Dytiki Makedonia	Voreio Aigaio	Extremadura		
Thessalia	Kriti	Murcia	Centro (P)	
Ipeiros	Galicia		Alentejo	

Annex 4.2 — Alternative groupings of regions

Table 42 — Groups of regions classified by income per capita quantile

	75-100%	50-75%	25-50%	Bottom 25%
Income variables				
GDP per capita PPS 1995	26.4	19.1	15.6	10.2
Compound growth rate 1995-1999	1.9	1.8	2.2	2.4
GDP per capita PPS 1999	28.5	20.5	17.0	11.2
Productivity 1995	52.3	45.5	44.8	37.9
Compound growth rate 1995-1999	3.8	3.4	3.5	3.4
Productivity 1999	60.7	52.1	51.5	43.4
Labour market variables				
Employment rate 1995	64.4	60.6	57.7	50.7
Compound growth rate 1995-2000	0.8	0.9	1.2	1.5
Employment rate 2000	67.0	63.3	61.2	54.7
Female employment rate 1995	55.9	51.6	47.9	38.3
Compound growth rate 1995-2000	1.4	1.5	1.7	2.1
Female employment rate 2000	60.0	55.6	52.2	42.4
Working age population as a share of total population 1995	68.3	66.8	67.0	66.6
Compound growth rate 1995-2000	-0.1	-0.1	0.0	0.1
Working age population as a share of total population 2000	68.1	66.4	67.0	66.9
Unemployment rate 1995	7.1	9.1	11.9	15.7
Compound growth rate 1995-2000	-5.0	-4.1	-5.4	-4.2
Unemployment rate 2000	5.5	7.4	9.0	12.7
Participation rate 1995	69.3	66.6	65.5	60.1
Compound growth rate 1995-2000	0.5	0.5	0.5	0.9
Participation rate 2000	70.9	68.3	67.2	62.7
Female activity rate 1995	60.5	58.4	56.2	47.1
Compound growth rate 1995-2000	1.0	0.9	0.9	1.5
Female activity rate 2000	63.6	61.1	58.8	50.8
Share of part time 1995	12.4	10.5	8.4	6
Compound growth rate 1995-2000	3.3	2.5	2.9	3.4
Share of part time 2000	14.6	11.9	9.7	7.1
Education				
Share of low skilled in the working age population 1995	28.0	39.9	49.0	63.0
Compound growth rate 1995-2000	-1.6	-2.5	-5.8	-4.7
Share of low skilled in the working age population 2000	25.8	35.1	36.4	49.4
Share of high skilled in the working age population 1995	18.3	14.4	14.5	11.2
Compound growth rate 1995-2000	3.2	3.6	3.6	3.7
Share of high skilled in the working age population 2000	21.4	17.2	17.3	13.4

Source: Eurostat

Table 43 — Groups of regions classified by their employment rate levels

	75-100%	50-75%	25-50%	Bottom 25%
Income variables				
GDP per capita PPS 1995	18.7	21.6	18.5	12.6
Compound growth rate 1995-1999	2.6	1.7	1.6	2.7
GDP per capita PPS 1999	20.7	23.1	19.7	14.0
Productivity 1995	41.6	47.7	47.2	46.1
Compound growth rate 1995-1999	3.3	3.3	4.5	3.5
Productivity 1999	47.3	54.4	56.2	52.8
Labour market variables				
Employment rate 1995	68.1	62.6	58.4	45.9
Compound growth rate 1995-2000	1.1	0.7	0.8	1.8
Employment rate 2000	71.9	64.9	60.7	50.2
Female Employment Rate 1995	60.7	54.2	48.1	32.9
Compound growth rate 1995-2000	1.4	1.2	1.7	2.7
Female employment rate 2000	65.1	57.6	52.4	37.6
Working age population as a share of total population 1995	66.5	67.5	67.5	67.1
Compound growth rate 1995-2000	0.0	0.0	-0.1	0.0
Working age population as a share of total population 2000	66.4	67.5	67.3	67.1
Unemployment rate 1995	6.8	8.5	9.5	19.2
Compound growth rate 1995-2000	-9.2	-3.8	-2.0	-4.3
Unemployment rate 2000	4.2	7.0	8.6	15.4
Participation rate 1995	73.1	68.3	64.6	56.8
Compound growth rate 1995-2000	0.5	0.4	0.6	0.8
Participation rate 2000	75.1	69.7	66.4	59.2
Female activity rate 1995	64.9	59.9	55.4	43.7
Compound growth rate 1995-2000	0.9	0.8	1.1	1.6
Female activity rate 2000	68.0	62.3	58.5	47.4
Share of part time 1995	17.1	9.5	7.7	4.1
Compound growth rate 1995-2000	1.3	3.3	4.6	4.9
Share of part time 2000	18.2	11.2	9.6	5.2
Education				
Share of low skilled in the working age population 1995	41.0	35.8	43.4	59.0
Compound growth rate 1995-2000	-9.2	-3.3	-4.6	-2.7
Share of low skilled in the working age population 2000	25.3	30.2	34.3	51.5
Share of high skilled in the working age population 1995	17.8	16.4	13.2	11.5
Compound growth rate 1995-2000	2.8	2.8	4.8	5.0
Share of high skilled in the working age population 2000	20.4	18.8	16.7	14.7

Source: Eurostat.

Chapter 5 Employment performance in candidate countries

Introduction

The Laeken European Council (December 2001) agreed that if the present rate of progress of the negotiations and reforms in the candidate countries is maintained 10 countries would be ready to participate in the European Parliament elections in 2004 as members. These countries would include Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, the Czech Republic and Slovenia. The Council also acknowledged the efforts made by Bulgaria and Romania and encouraged them to continue on that course.

Enlargement will imply an increase of about 106 million people in the EU — 75 million in a first phase and 31 million in a second phase — bringing the EU population to 484 million. Enlargement will bring with it significant changes to the employment profile and labour market structure of the EU. Despite having undergone important economic transformation as a result of their ongoing adjustment process, the continuation of structural reform is fundamental to help achieve the strategic goals set for the EU in the Lisbon European Council by 2010.

The agricultural and industrial sectors remain the main employers in the candidate countries (CCs). The restructuring process will have an important impact in their sectoral employment structure leading to higher employment in the service sector, which is significantly under-developed compared with the EU. Economic development, integration into a single market and increasing competition should also lead to an increase in income and to an increase in the demand for other services. These shifts in the sectoral employment structure will also increase the demand for a more qualified labour supply-one that matches the dynamics of labour demand.

To date economic restructuring has had a heavy impact on labour markets and 2001 was another challenging year as the candidate countries were all affected by the international economic downturn. Looking ahead more favourable economic conditions should translate into job creation within the medium term but the CCs continue to face important structural challenges in their labour markets.

Recent economic and labour market developments

Economic developments

GDP growth slowed down at the end of 2001 as a result of the deceleration in international economic activity, including in the EU, which is the main trade partner of the candidate countries (CCs). Over the forecasting period employment losses due to restructuring are

Table 44 — GDP and employment growth in 2001–2003

	GDP growth			Employment growth		
	2001	2002	2003	2001	2002	2003
BG	4.3	4.0	5.0	-2.0	0.0	0.5
CY	3.7	2.5	4.0	1.9	0.5	1.0
CZ	3.3	3.4	3.9	0.4	0.0	0.1
EE	5.4	4.0	5.3	1.0	0.3	0.8
HU	3.8	3.5	4.5	0.3	-0.2	-0.3
LV	7.6	5.0	6.0	-0.1	0.5	1.5
LT	5.9	4.0	5.0	-4.0	0.4	0.7
MT	-1.0	3.9	4.0	1.1	0.7	0.7
PL	1.1	1.4	3.2	-2.3	-1.3	0.5
RO	5.3	4.2	4.9	0.6	-0.2	0.1
SK	3.3	3.6	4.2	1.0	0.5	0.6
SI	3.0	3.1	4.0	0.6	0.4	0.6

Note: BG (Bulgaria), CY (Cyprus), CZ (Czech Republic), EE (Estonia), HU (Hungary), LV (Latvia), LT (Lithuania), MT (Malta), PL (Poland), RO (Romania), SK (Slovakia), SI (Slovenia).
Source: European Commission 2002 Spring Forecasts

expected to be offset gradually by job creation, which should lead to an improved labour market performance in 2003 (table 43).

In Bulgaria and Poland this upturn is not expected until 2003. The loss of jobs experienced in the Czech Republic since 1997 eased in 2001, but employment is not forecast to grow significantly over the 2001–2003 period. Employment growth in the Baltic States is forecast to pick up gradually but in Hungary job losses are expected in 2002 and 2003 despite an upturn in GDP growth. In 2001, employment contracted in Bulgaria, Lithuania and Poland. In 2002, job losses continued in Poland but employment is also projected to fall in Hungary and Romania. In Poland and Hungary, unemployment is projected to increase over the forecasting period

Employment developments

Across the region the employment rate has decreased and the unemployment rate increased since 1997. Participation had started to fall well before then. Before 1997, employment grew in parallel with falling participation, which led to a reduction of the unemployment rate. After 1997, employment fell more rapidly than participation and as a result unemployment picked up. Although employment in services has risen significantly, this has not compensated for the job losses resulting from the ongoing adjustments in the industrial and agricultural sectors.

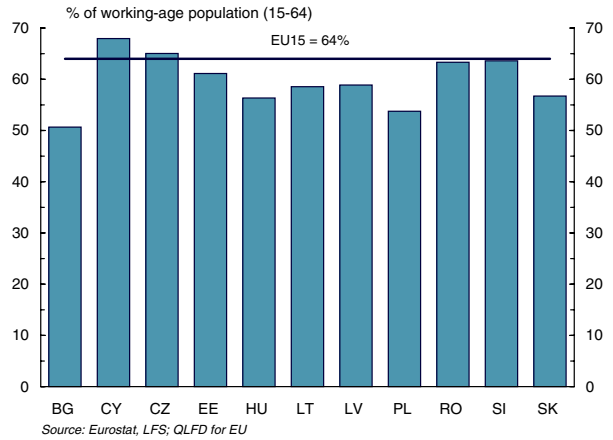
Labour Force Survey (LFS) results for 2001[1] show that, at present, only the Czech Republic and Cyprus have a higher employment rate than the EU average (chart 145). In this year, the employment rate fell in Bulgaria, Poland, Lithuania and Romania and increased in the remaining candidate countries. In all CCs, except Hungary, Slovenia and Estonia, the employment rate for women developed more favourably than that for men, either falling more slowly as in Lithuania, Poland and Romania or by increasing faster as in as in Bulgaria, Cyprus, the Czech Republic, Latvia and Slovakia (chart 146).

Employment for those of working age (15–64) fell in Bulgaria, Poland, Lithuania, Latvia and Romania in 2001.

In Bulgaria, employment fell sharply in 2001. An increase in the employment of older workers did not offset the falls in the other age groups. Prime-age male employees accounted for the bulk of the fall in employment. Bulgaria's working age population shrank significantly, although by less than the fall in employment, leading to a decline in the employment rate.

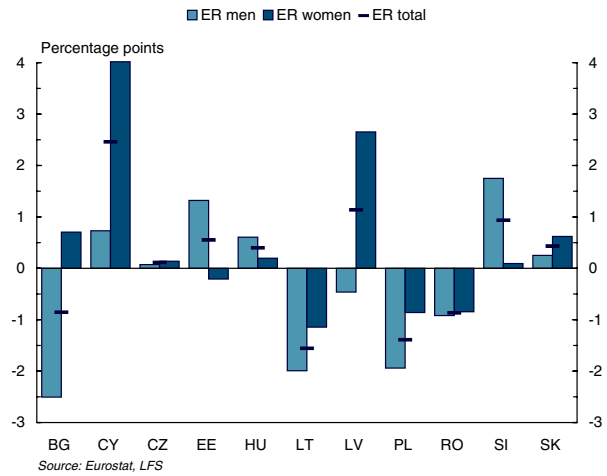
In Poland, employment also fell in 2001. The net increase in employment for older workers was offset by steep drops in the employment of younger and prime-age workers, particularly men. There was also a net increase in the number of family workers, the same as the fall in self-employment, which together with sharp reductions in the number of employees led to an overall net fall in employment. As a result, the employment rate went down significantly (1.4 percentage points).

145 Employment rates, 2001



Source: Eurostat, LFS; QLFD for EU

146 Change in the employment rate by gender 2000-2001



Source: Eurostat, LFS

[1] LFS results for Malta had not been released by Eurostat at the time of the completion of this chapter. No comparable LFS data for Turkey is yet available. Therefore, the analysis presented will mainly refer to 11 candidate countries.

In Lithuania, employment contracted sharply during 2001, despite an increase in the number of family workers and self-employed. The fall in employment was mainly due to a reduction in the number of male employees in the younger and older groups. The employment rate fell sharply (by 1.6 percentage points) in the last year.

In Romania, employment of those of working age went down in 2001. Only among prime-age workers did the employment level rise. In contrast to the previous three candidate countries mentioned above, women lost more jobs than men and employment fell for family workers.

In Latvia, employment fell in 2001 but this was offset by a greater fall in the population in working age, which led to an increase in the employment rate. Employment for women increased but not by as much as employment for men fell. It was the only country in which overall employment fell despite a net increase in full-time jobs.

In Cyprus, the Czech Republic, Estonia, Hungary, Slovenia and Slovakia employment increased in 2001. In Cyprus this was mainly due to employment increases for prime-age workers, particularly women.

In the Czech Republic, there was a sharp fall in employment for younger workers which was more than offset by job creation for prime-age and older workers, both employees and self-employed. Despite an increase in overall employment the number of people in part-time jobs fell during this year.

In Estonia, employment increased for men but fell slightly for women. The net increase in employment is mainly accounted for by male employees aged 55–64. Self-employment also contracted in 2001.

In Hungary, as in the Czech Republic, the pronounced fall in employment for younger workers was offset by strong job creation for prime-age and older workers. Unlike in the Czech Republic, self-employment fell significantly during the year.

In Slovenia, increases in employment benefited men more than women, particularly those of prime-age, and it affected both employees and the self-employed. Employment fell only in the younger workers age group and the overall increase in employment was fully accounted for by full-time jobs.

In Slovakia, prime-age-female employees accounted for the bulk of the increase in employment. As in Slovenia, employment fell only for younger workers but in Slovakia the net increase in the number of employees is due only to temporary work, with permanent jobs falling slightly in 2001.

In all the candidate countries where total employment fell, there was a net increase in temporary jobs which was more than offset by the fall in permanent contracts. In all the countries where employment increased in 2001, full-time jobs increased more than part-time employment except in Estonia. Permanent jobs also increased more than temporary jobs everywhere except in Slovakia.

Participation and unemployment

Participation and unemployment rates continue to be adversely affected by the ongoing economic adjustment process. In 2001, activity rates fell significantly in the Czech Republic, Lithuania and Romania, for both men and women equally. In Estonia and Latvia, it increased strongly for women but also fell sharply for men. The sharpest participation increases were those experienced by Bulgaria and Cyprus, which were almost fully accounted for by women, and by Slovakia. In both Hungary and Poland, the activity rate remained fairly stable, although it fell slightly for women in Hungary, which already had an exceptionally low female participation rate (table 44).

This adjustment can also be seen in the reasons for leaving last job or business. Of those of working age in the region who had been in employment before but were unemployed in 2001, more than half on average were dismissed or made redundant. This compares to less than one third in the EU15. Unemployment rates remained very high in Bulgaria, Slovakia, Poland and Lithuania. These are also the only countries where the unemployment rate increased in 2001 — the increase was particularly strong in Poland and Bulgaria.[2] Unemployment for those aged 15–64 increased in these four countries with Poland experiencing a particularly sharp rise of 14%.

This increase is the result of higher inflows than outflows of unemployed in 2001. For instance, of those

[2] Bulgaria has an important break in unemployment between 2000 and 2001 due to changes in the LFS survey design (sampling and weighting). The impact has not yet been quantified by their National Statistical Institute and Eurostat. Therefore, this country has not been included in the calculations of transitions in and out of unemployment.

Table 45 — Employment, participation and unemployment rates in 2001

	Employment rate 15–64			Activity rate 15–64			Unemployment rate 15+			Youth unemployment rate	Long-term unemployment rate
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Total
BG	50.7	53.6	47.9	63.3	67.8	59.1	19.9	20.8	18.9	39.3	12.5
CY	67.9	79.7	56.5	70.8	81.9	60.0	4.0	2.7	5.8	8.4	0.9
CZ	65.0	73.2	57.0	70.7	78.5	63.0	8.0	6.7	9.6	16.3	4.1
EE	61.1	65.6	56.9	69.9	74.5	65.6	12.4	11.8	13.1	24.5	5.8
HU	56.3	63.3	49.6	59.7	67.6	52.2	5.7	6.3	4.9	10.5	2.5
LT	58.6	59.8	57.4	70.4	74.5	66.5	16.5	19.4	13.5	30.9	9.3
LV	58.9	61.9	56.1	68.0	72.7	63.6	13.1	14.6	11.5	22.9	7.7
PL	53.8	59.2	48.4	66.1	71.6	60.8	18.4	17.0	20.0	41.5	9.2
RO	63.3	68.6	58.2	68.3	74.3	62.4	6.6	7.0	6.0	17.6	3.2
SI	63.6	68.5	58.6	67.5	72.5	62.5	5.7	5.4	6.0	15.7	3.6
SK	56.7	61.8	51.8	70.4	77.4	63.6	19.4	20.1	18.6	38.9	11.3
EU15	64.0	73.0	54.9	69.2	78.1	60.2	7.6	6.6	9.0	15.3	3.2

Source: Eurostat, LFS; QLFD for EU

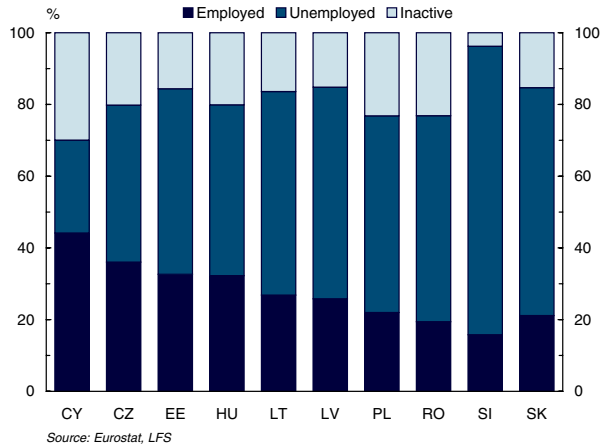
unemployed in Poland in 2001, 55% had also been unemployed in 2000 while 22% had been in employment and 23% inactive. Also, of those unemployed in 2000, 61% remained unemployed in 2001 while 21% were in employment and 18% left the labour force in this year. In Poland, Slovakia and Lithuania, transitions out of unemployment were relatively lower than in any other candidate country, with more than 60% of those unemployed in 2000 remaining unemployed in 2001. Cyprus, Hungary and Slovenia have low unemployment rates and also showed the highest transition rates out of unemployment. The latter two, however, also displayed the highest transitions into inactivity of those unemployed in 2000. Turnover was highest in Cyprus and the Czech Republic — with about 65% and 40% respectively, of those unemployed in 2000 in employment in 2001, although 44% and 36%, respectively, of those unemployed in 2001 had a job a year earlier (chart 147 and 148).

Labour market characteristics in an enlarged EU

Employment rates in an enlarged EU

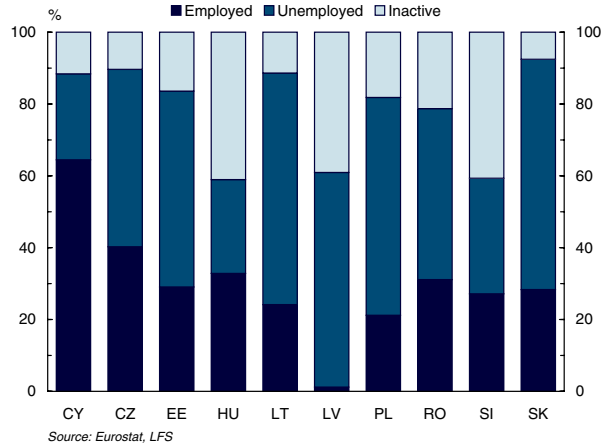
Labour market developments in the CCs will have an impact on employment in the enlarged EU and reduce its current overall

147 Transitions into unemployment 2000-2001
(working status in 2000 of those unemployed in 2001, aged 15-64)



Source: Eurostat, LFS

148 Transitions out of unemployment 2000-2001
(working status in 2001 of those unemployed in 2000, aged 15-64)



Source: Eurostat, LFS

Table 46 — Employment rates before and after enlargement in the EU in 2001

	Total 15–64			Women 15–64			Older workers 55–64		
	ER	EMP	POP	ER	EMP	POP	ER	EMP	POP
EU15	63.8	158100	247950	54.7	67895	124012	38.2	16095	42114
CCs10	56.8	28756	50586	51.1	13110	25633	31.0	2241	7234
CCs12	57.8	41148	71231	52.4	18916	36096	34.5	3608	10449
EU25 (EU15 + CCs10)	62.6	186856	298536	54.1	81005	149645	37.2	18335	49348
EU27 (EU15 + CCs12)	62.4	199248	319180	54.2	86810	160108	37.5	19703	52563
2010 Targets	Close to 70%			More than 60%			50.0%		

Note: CCs 10 includes: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia and the Slovak Republic. CCs12 includes: CCs10 plus Bulgaria and Romania.
Source: Eurostat, LFS 2001 results for both the EU15 and candidate countries, national LFS May-December 2000 for Malta

employment rate. This decline, however, does not fully justify mounting concerns that enlargement will jeopardise the attainment of the 70% employment rate target set by the Lisbon European Council.

The combined population of those of working age for the CC10 is approximately 20% of the EU's (30% for the CC12). This factor needs to be taken into account when assessing the impact of enlargement on the current EU employment rate, as 80% of the value of the employment rate in an EU25 (70% in an EU27) would depend on the employment performance of the existing EU15 Member States from now until 2010.

Should enlargement happen today, the inclusion of the 12 candidate countries[3] would reduce the current EU15 employment rate by about 1.5 percentage points to 62.4%. The reduction in the EU employment rate is similar for an enlarged EU25 or for an EU27. The effect on the employment rate for women is smaller than for men (table 45).

Among the 10 CCs likely to join by 2004, Poland is the most significant in quantitative terms since it represents over a half of the working-age population of the CC10 (and over $^1/_3$ of the CC12). For this reason employment developments in Poland will have the largest impact, among those of the CCs, on whether the required increase in the employment rate to meet the 70% Lisbon target will be achieved in an enlarged EU.

The slight reduction in the employment rate would occur despite the fact that employment rates in the candidate countries are on average significantly lower than in the EU, because of the restructuring that has been taking place since the early 1990s. Although GDP growth in the CCs superseded that of the EU, employment declined substantially. The process of industrial restructuring is not yet complete despite the profound reorganisation of industries and enterprises that has already taken place.

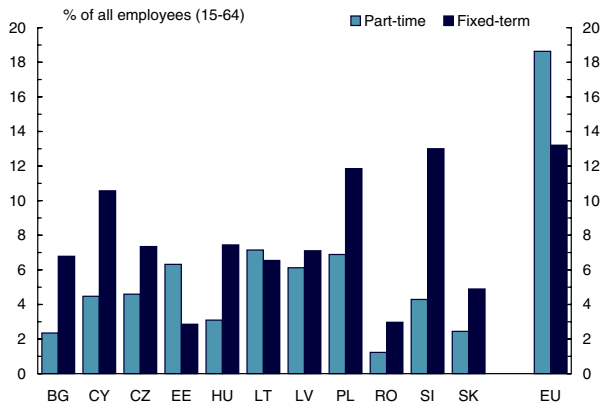
Temporary and part-time work

The CCs have rates of temporary work that are significantly below those in the EU with the exception of Slovenia and Poland, which have comparable ratios. Part-time work is also significantly less prevalent in all candidate countries than in the EU. Poland has one of the highest proportions of employees in part-time work (some 7%) but this compares to about 19% for the EU (chart 149). Among the EU Member States, Spain has a similar share of employees in part-time work as in Poland, which may reflect a relatively low employment rate for women. Hungary and Bulgaria, countries with female employment rates below 50%, also show very low part-time work levels among their employees. In employment generally, that is including the self-employed, the share is highest in Romania, although this is solely due to the high level of part-time workers among the self-employed.

In many candidate countries the adoption of working time arrangements such as temporary work and part-time seems to be the result of the inability of workers to find full-time and permanent jobs (chart 150). The proportion of employees in involuntary part-time work is relatively higher than in the EU (particularly in Bulgaria and Lithuania). Moreover, the share of employees in involuntary fixed-term contracts is even higher. More than 70% of employees in fixed-term contracts in the Baltic States, Cyprus, Romania and Slovakia are so because they could not find a permanent job in 2001.

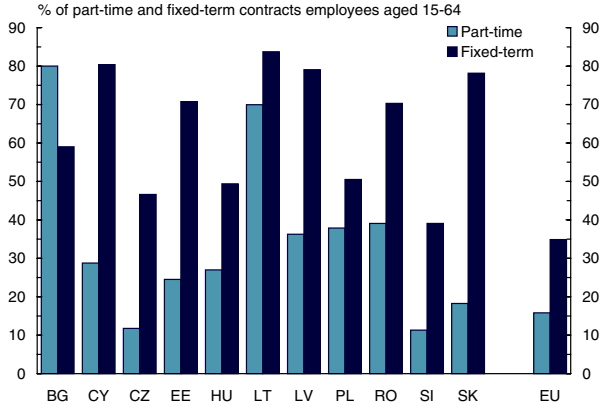
[3] No comparable data available for Turkey.

149 Part-time employment and fixed-term contracts, 2001



Source: Eurostat, LFS

150 Involuntary part-time employment and fixed-term contracts, 2001



Source: Eurostat, LFS

Even though the share of temporary jobs in all candidate countries is lower than in the EU, the proportion of those which are involuntary is significantly higher.

Sectoral characteristics

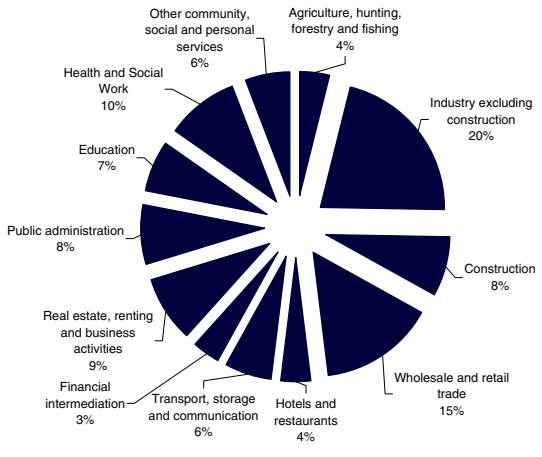
In the CCs on average, employment in agriculture and industry is currently over-represented to the detriment of the service sector. Following accession the sectoral structure of the EU will change (charts 151 and 152).

The effect of enlargement on the employment rate and the employment structure of an enlarged EU would be proportional to the size of the CCs' working-age population in employment relative to that of the current Union. The total working-age population employed in the twelve candidate countries represents just above a quarter of employment in EU-15.

Enlargement — if occurring today — would therefore translate into an increase of 3% in the share of agriculture and of 1% in the share of industry. The share of the service sector would be smaller than today, in particular in sub-sectors such as "real estate, renting and business activities" and "health and social work", which are relatively under-represented in employment in candidate countries."

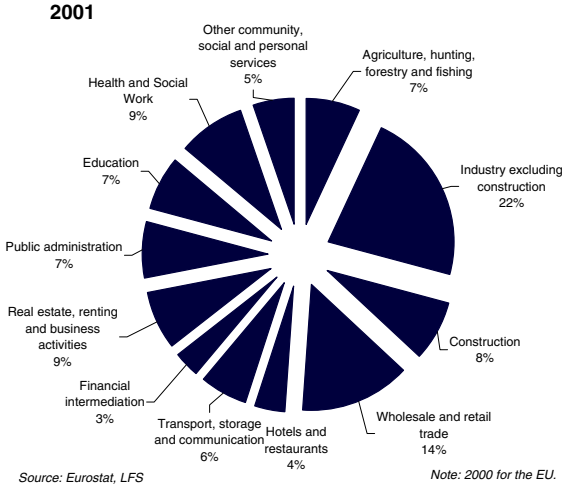
In terms of sectoral employment structure, employment in agriculture is still significantly over-represented in most of the Central and Eastern European Countries

151 Sectoral employment structure in the EU15, 2000



Source: Eurostat, LFS

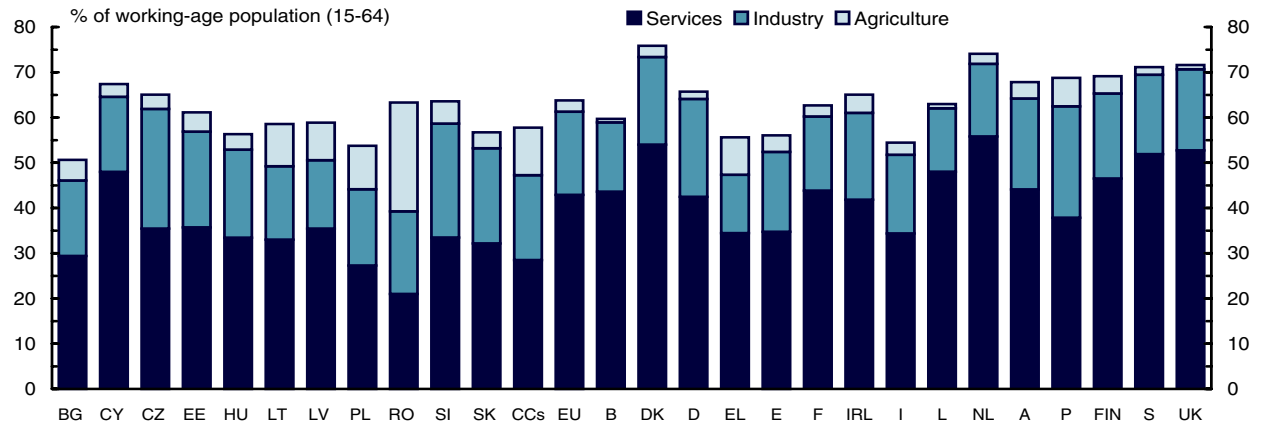
152 Sectoral employment structure in an enlarged EU, 2001



Source: Eurostat, LFS

Note: 2000 for the EU.

153 Sectoral contribution to the employment rate in the EU and the CCs, 2001



Note: 2000 for the EU. *Source: Eurostat, LFS*

compared to the EU. Differences are enormous between these countries, with Romania's agricultural sector accounting for about 45% of total employment, at the top, and the Czech Republic with similar shares to the EU, at the bottom. In between, Poland and Lithuania have some 18–19% of their workforce employed in agriculture, 13–14% in Latvia and Bulgaria,[4] 10% in Slovenia, and between 6–7% in Hungary, Estonia and the Slovak Republic (charts 153 and 154).

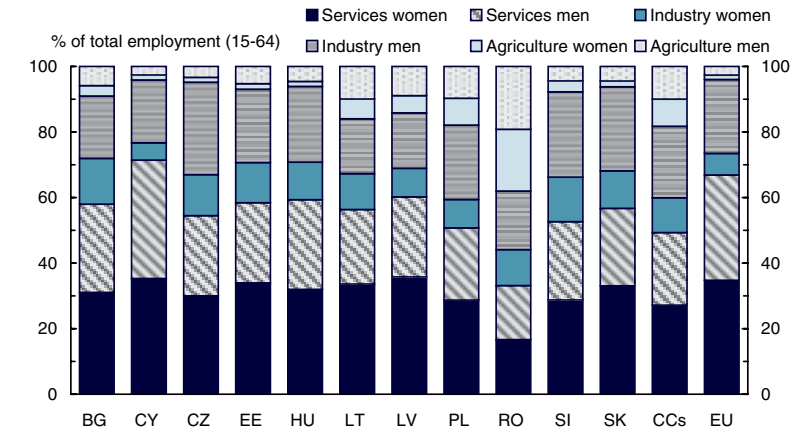
Except for in Lithuania, Latvia and Romania, employment in industry is significantly higher in the CCs than in the EU. This is particularly the case in the Czech Republic, Slovenia and Slovakia where between 37–40% are employed in this sector. No EU Member State matches these shares.

In all CCs, however, the service sector is relatively small compared to the EU, with the exception of Cyprus. The countries where employment in services is highest in the region are Hungary, Estonia and Latvia, although the share is still 8% below the EU's.

Agriculture

One of the particular differences between some of the CCs and the EU is employment in the over 65 age group and the large numbers of older workers working in agriculture, particularly self-employed and family workers. In the EU employment for persons over 65 years of age represents about 1% of total employment. In the CC region as a whole, this share increases fourfold (4%). This mainly reflects the large number of over 65 year-olds working in Romania (some 10% of their employment)

154 Sectoral structure of employment by gender, 2001



Source: Eurostat, LFS

[4] The share of employment in agriculture in Bulgaria from national accounts is about 26%, whereas results from the Community LFS point to a low 13%. Agricultural employment estimated by the Labour Force Survey refers to employed persons whose main activity is in agriculture. Due to the very high proportion of persons having agricultural activity in addition to another main occupation in Bulgaria, LFS does not provide an accurate estimate of total employment in this sector.

who represent two thirds of all employment for this age-group in the whole region. Only 12% of these older workers are employees (36% in the EU) and some 85% work in agriculture. This again is very much the consequence of the Romania effect, where practically all those over 65 are self-employed or family workers in the agricultural sector — almost 1/4 of agricultural workers in Romania are over 65 years of age. (In the EU the bulk of older workers are employed in services and only 28% in agriculture.)

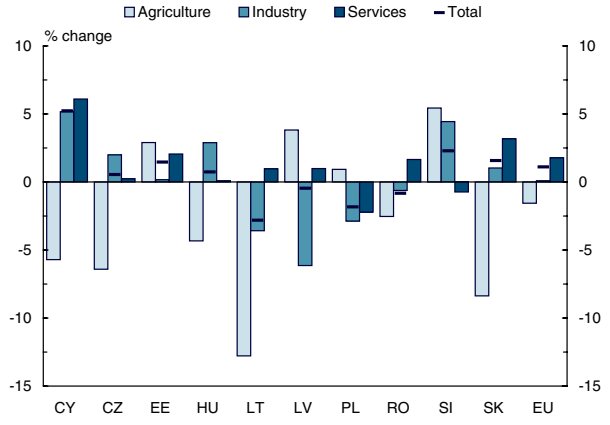
The effect of the restructuring process in agriculture is reflected in a lower number of agricultural workers now than at the beginning of the 1990s. According to ILO data, both the number of people employed in agriculture and the shares of agriculture in total employment fell across the region up to 2000, except in Bulgaria and Romania. According to Eurostat's LFS, employment growth in agriculture was positive, however, in Estonia, Latvia, Poland and Slovenia in 2001 (charts 155 and 156). The shares in total employment also increased as employment growth in agriculture outpaced that in industry or services.

Although the total agricultural sector in the candidate countries is 20% bigger in terms of employment than the EU's it is significantly smaller in absolute economic terms. It currently represents about 12% of the EU's combined gross value-added in agriculture. In an enlarged EU following accession, total agricultural output will increase but it will not modify significantly the actual contribution to gross value added in the EU's total GDP. Although its economic impact will be somewhat diluted after accession, agriculture still contributes substantially to GDP in the CC region, accounting for 5% of GDP on average compared to about 2% in the EU. Although this contribution is higher for any candidate country than in the EU as a whole, there are very large differences among them. Agriculture is disproportionately large in Bulgaria and Romania, followed well behind by Lithuania and Estonia, whose contribution to GDP is, however, lower than in Greece. In the remaining CCs, the economic importance of agriculture accounts for less than 5% of their total GDP.[5]

If the impact on the structure of GDP in an enlarged EU is not significant, the effect on employment will be substantial. On the basis of available 2001 data, following enlargement, the EU employment share in agriculture would go up from about 4% to 7%. Given the very low productivity of the agricultural sector in most of the candidate countries, restructuring is likely to continue. In most of the candidate countries employment in agriculture is already falling, but in Romania there has been very strong growth as a result of a fall in urban employment.

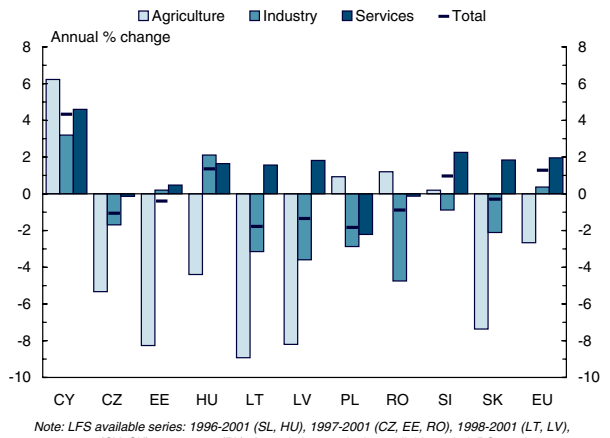
The high share of agricultural workers in many of the candidate countries (chart 157) is, however, not reflected in a proportionally higher share of gross value added. One of the particular features of agricultural output that distinguishes some of the candidate countries from the EU is the prevalence of subsistence farming, as

155 Employment growth by sector, 2001



Note: Bulgaria under revision.
Source: Eurostat, LFS

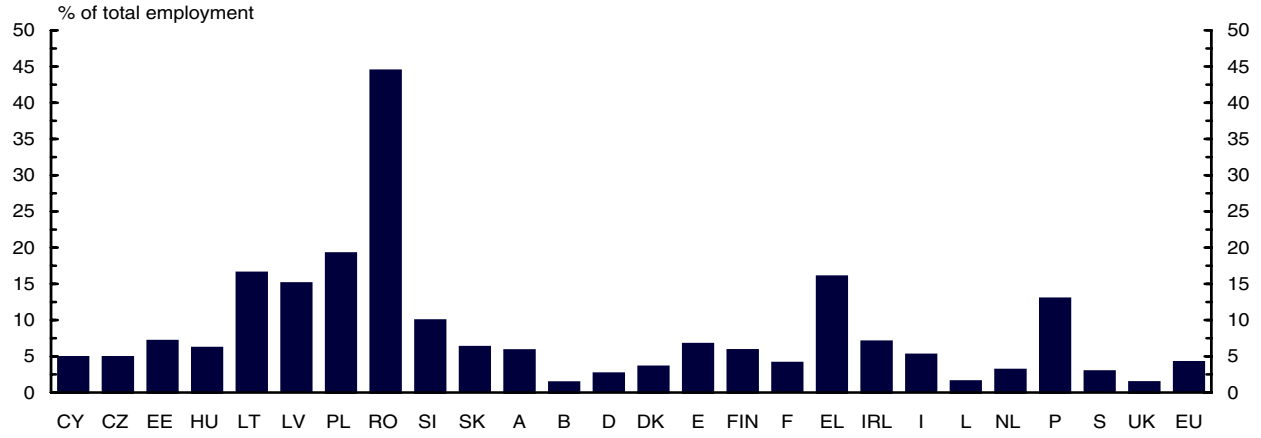
156 Average annual employment growth by sector, 1996-2001



Note: LFS available series: 1996-2001 (SL, HU), 1997-2001 (CZ, EE, RO), 1998-2001 (LT, LV), 1999-2001 (CY, SK), 2000-2001 (PL). Annual changes in the available period. BG: no data available.
Source: Eurostat, LFS

[5] Eurostat, Statistics in Focus 13/2001

157 Employment in agriculture, 2001



Source: Eurostat, LFS

employment in agriculture in some of the CCs acts as an "employer of last resort". This explains to some extent the greater contribution of agriculture to GDP and also the much lower productivity levels. The latter is partially reflected in the high levels of consumption of own-produced goods, such as potatoes, fruit and vegetables, which makes a significant contribution to total agricultural output.[6]

Labour productivity in the agricultural sector is highest in Slovenia, the Czech Republic and Hungary, which are countries with the lowest employment shares in the region. Productivity is lowest in Poland, Latvia, Lithuania and Romania, where agricultural employment is over-represented. Romania is also the only candidate country whose productivity has fallen since 1995.

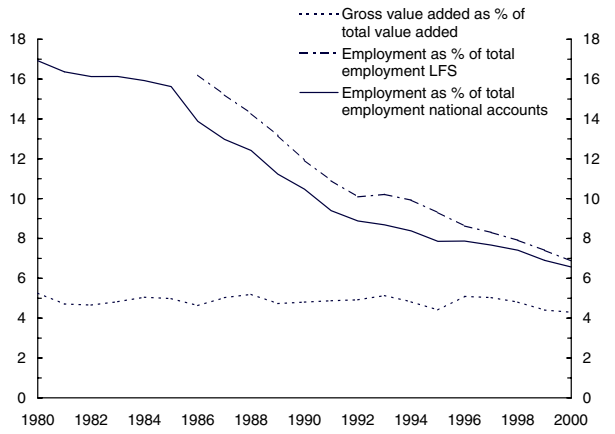
The challenge facing some of the CCs of restructuring the agriculture sector is not unknown to EU Member States. When Spain joined the EU in 1986, for instance, about 16% of its total employment was accounted for by the agricultural sector. On the basis of growth in national accounts data, the share in 1980 was around 19%, the same as Poland has today (according to the LFS). The Spanish share dropped to below 7% by 2001, thanks particularly to falls in the number of self-employed and family workers. More employment in services, however, has not led to a reduction in the importance of agriculture in the economy and the actual contribution to total gross value-added has remained at between 4–5% for the past 20 years (chart 158). Greece and Portugal had agricultural employment shares in 1986 of about 29% and 22% respectively, which fell to 16% and 13% in 2001.

In Poland employment in agriculture has been falling quite remarkably throughout the late 1980s and the 1990s. Employment, based on national accounts, however, has remained relatively unchanged during the 1990s while its contribution to total gross value added has decreased. This seems to reflect significantly lower productivity increases than in other economic sectors. The differences between LFS and national accounts seem to reflect a lower number of persons in employment in this sector whose main job or activity is agriculture. Additionally, the stability of the shares in national accounts suggests, nevertheless, the persistence of small jobs in agriculture in this country (chart 159).

Seemingly reversing a long-term trend, the employment share in agriculture in Poland has increased in the last two years by over 1 percentage point to 19.2%, equivalent to over 2.7 million people. Labour productivity in the agricultural sector in Poland is very low. In Spain in 1980, productivity in agriculture was about twice that of Poland today. In 20 years this differential has increased to over 6–1, which suggests that restructuring in agriculture would be expected to continue in Poland over the coming years.

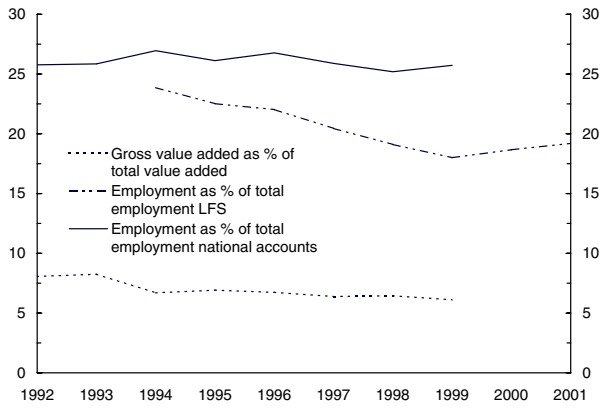
[6] Eurostat, Statistics in Focus 16/2001

158 Employment and gross value added in agriculture in Spain, 1986-2000



Source: Eurostat, LFS; Ameco for national accounts

159 Employment and gross value added in agriculture in Poland, 1992-2001



Source: Eurostat, LFS; Ameco for national accounts

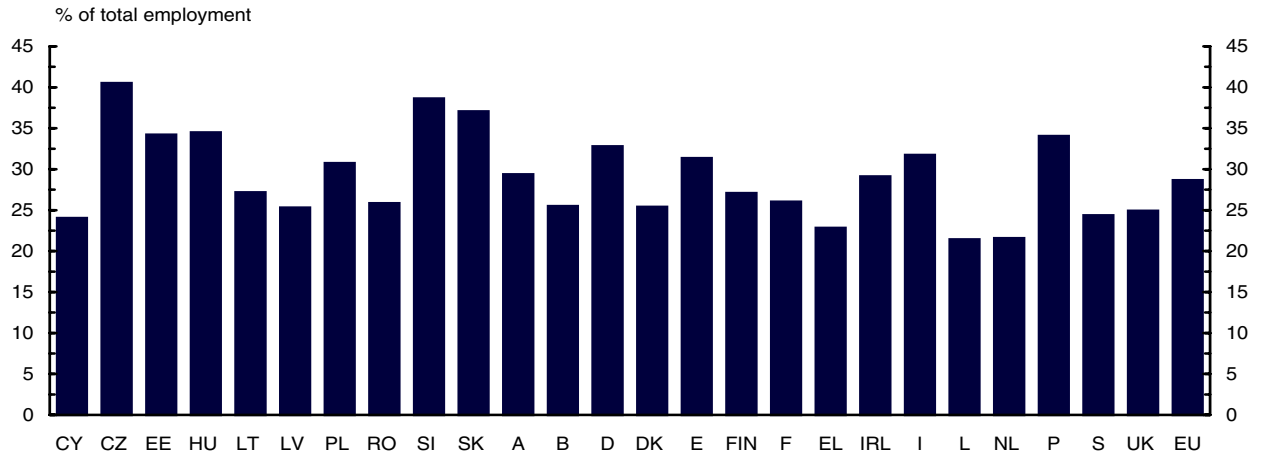
Industry

The reform process and structural adjustments led to sharp falls in output and employment. In 2001, the share of people employed in industry in the Czech Republic, Slovenia and Slovakia still remained significantly above Germany, which is the EU country with the highest workforce in industry (chart 160).

The manufacturing industry has been one of the more dynamic sectors in most Central European countries, although employment was weak or continued to decline despite growth in output. The United Nation's Economic Survey of Europe has analysed changes in manufacturing employment in individual industries between 1993–2000 in the Czech Republic, Hungary, Poland and Slovakia. According to this report, the weak labour response in net job creation in the sector may have been due to the rapid growth in labour productivity due to restructuring and technological innovation. Also, the share of manufacturing in total employment remained generally stable, or declined in the Czech Republic and Poland, reflecting, in part, excess employment at the beginning of the economic transformation.

At the individual branch level, rubber & plastics and electrical & optical equipment had the highest rates of job creation. By contrast, the

160 Employment in industry, 2001



Source: Eurostat, LFS

sharpest declines occurred in textiles and clothing (including leather), petroleum, machinery and equipment. The increases in expanding sectors in these countries could not, however, offset the falls in declining sectors except in Hungary. The growth in manufacturing output was particularly significant in the more skill-intensive engineering industries, largely due to inflows of Foreign Direct Investment (FDI) into the region.

These developments resulted in major shifts in the structure of manufacturing employment over 1993–2000. The scale of the shifts was considerable compared to the EU experience, underlying the radical structural changes that have taken place in a relatively short time. Change was especially pronounced in Hungary. As a result of these sub-sector dynamics there has been some convergence to the EU and significant changes in the specialisation of the workforce have resulted (table 46).

Table 47 — Main features of employment specialisation in 2000

Specialisation A	Under-representation B
Czech Republic	
Metal products C D	Food products
Transport equipment C	Wood products
Machinery and equipment C	Petroleum products
	Leather products
Hungary	
Leather products	Wood products
Petroleum products C	Non-metallic minerals
Electrical/optical equipment C D	Furniture/recycling
Poland	
Wood products C	Electrical/optical equipment
Furniture/recycling	
Slovakia	
Leather products C D	Food products
Petroleum products C D	Wood products
Electrical/optical equipment C	Rubber/plastics
	Furniture/recycling

Note: A (specialisation ratio of more than 120), B (specialisation ratio of less than 80), C (same specialisation as in 1993), D (notable increased level of specialisation).
Source: Economic Survey of Europe 2002, No 1, United Nations

Services

The service sector is the main driving force in employment creation in candidate countries. The share of employment in services in total employment has been increasing in the last years, but it remains significantly higher in the EU than in any candidate country, except for Cyprus (chart 161).

Looking deeper it is clear that the main difference between candidate countries and the EU in the service sector is the significantly higher proportion of employment in the EU in 'real estate, renting and business activities', on the one hand, and

Box 16 — Candidate countries' trade with the EU

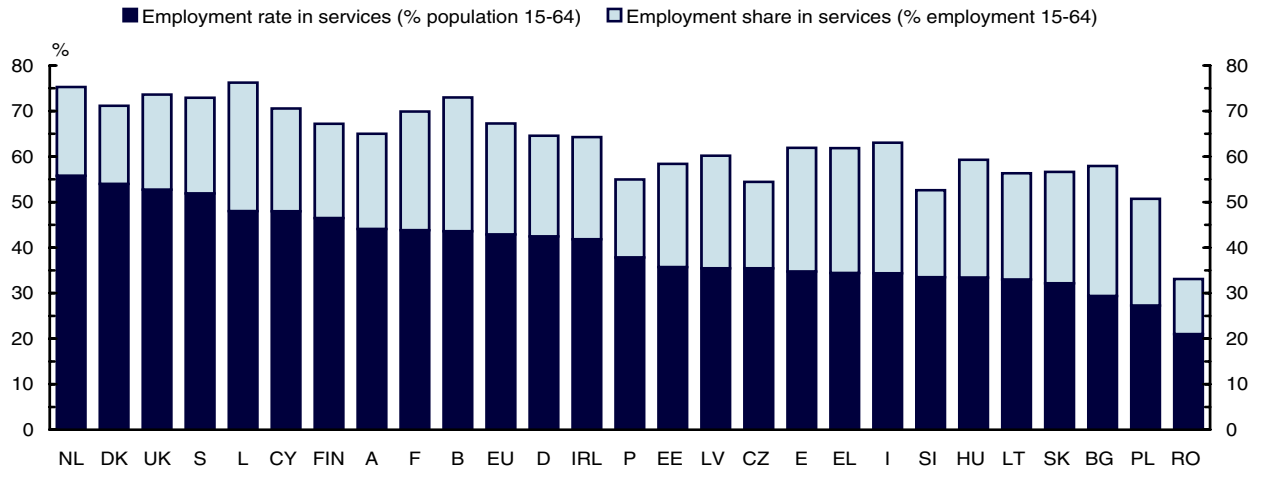
In 2000, the candidate countries grouping was the EU's second biggest trading partner, after the United States (US). The EU is the CC's leading trade partner, accounting for over 65% of total trade. Trade between the EU and the CC rose strongly throughout the 1990s. In 2000, imports and exports soared by 27%, with every country increasing its total trade with the EU. Their trade deficit with the EU also increased, except in the Baltic republics, Bulgaria and Poland. Poland, the EU's leading partner in the region, has a sizeable trade-balance deficit. In the EU, about 40% of total trade with the CCs was accounted for by Germany. Some 90% of the items traded are manufacture goods, among which machinery and transport equipment accounts for 44%. This product grouping also recorded the biggest trade deficit with the EU, primarily due to strong imports of road vehicles. Conversely, the CCs recorded a trade surplus in miscellaneous manufacturing, particularly in clothing and furniture.[7]

All the CCs have a comparative advantage in the trade of clothing. Several CCs also specialise in furniture (Estonia, Slovenia, Poland, Romania) and footwear (Romania and, Malta), all of which are labour-intensive. Some of them also specialise in capital-intensive manufactured products such as road vehicles (Slovakia, the Czech Republic and Slovenia), other transport equipment (Cyprus), office machines and power generated machinery (Hungary), telecommunications equipment (Estonia, Hungary) and electrical machinery (Malta, Slovenia). The Baltic States (Estonia, Latvia and Lithuania) stand out for their specialisation in raw materials and petroleum refining. Finally, in the manufacturing of goods by material, specialisation occurs in rubber manufactures (Malta), cork and wood (Latvia, Estonia), iron and steel (Bulgaria, Slovakia) and non-ferrous metals (Bulgaria) and production of fertilisers (Lithuania).[8]

[7] Eurostat, Statistics in Focus 8/2001

[8] Eurostat, Statistics in Focus 6/2001

161 Employment in services, 2001



Source: Eurostat, LFS

'health, social work and personal services', on the other. Job creation in these sectors has been strong in the EU with the former creating jobs at a rate of 6% a year between 1995 and 2000. It is also a sector that employs one of the highest number of high skilled employees in the economy. The under-representation in service sectors in the CCs is also significant in 'financial intermediation' and, with the exception of Cyprus, 'hotels and restaurants'.

Households in candidate countries spend a significantly higher proportion of their budget on food and non-alcoholic drinks than in the EU, as well as showing a lower level of equipment. In Bulgaria, Lithuania, Romania and Latvia the share of food in household expenditure is more than double the 17% of the EU. Furthermore, the share in recreation and culture in household expenditure is significantly lower except for in the Czech Republic. These features help to explain lower activity in the service sector and the over-representation in agriculture.

The restructuring process underway in the CCs will have an important impact on their sectoral employment structure, which will translate into higher employment in the service sector. The dynamics within the service sector will also be affected by economic development, integration into a single market and increasing competition. Enlargement to the EU should also lead to rising incomes in these countries, reducing, therefore, the existing large gap with the EU. Increasing wealth should also result in higher demand for services such as financial and business activities, hotels and restaurants and health and social work. As in the EU, the increasing demand for child care provision and for recreational activities and health care — which become more important in the light of increasing female participation and population ageing — should play a major role in increasing demand for services. These shifts in the sectoral employment structure will also provide the incentives to increase the qualifications of the labour supply — one that matches the dynamics of labour demand.

Chart 162 shows the difference in the employment structure across candidate countries and selected EU Member States, as measured by the deviation of the country-specific sectoral employment shares from the respective EU average.

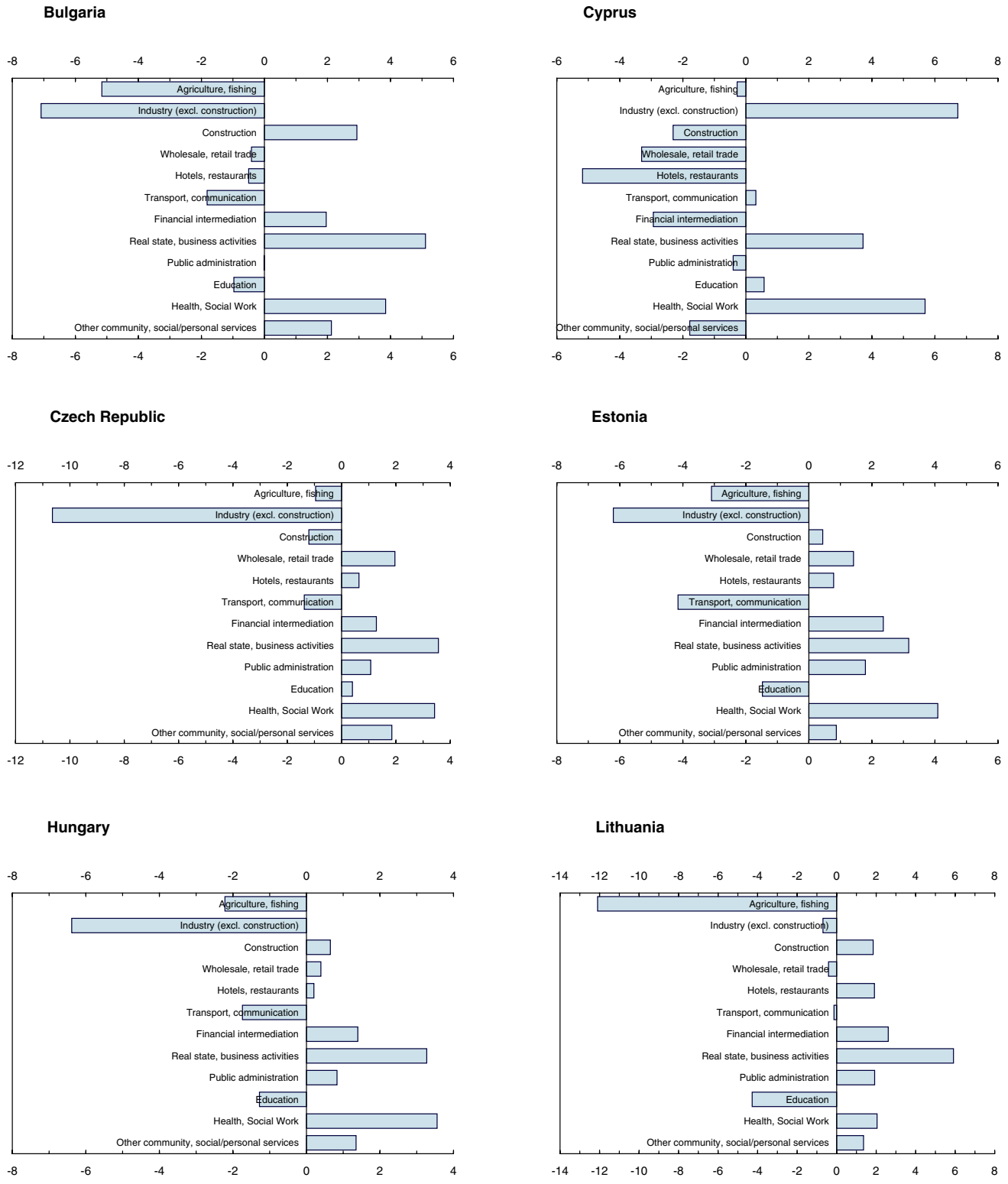
Occupational structure, education and training

Occupational structure of the occupied population

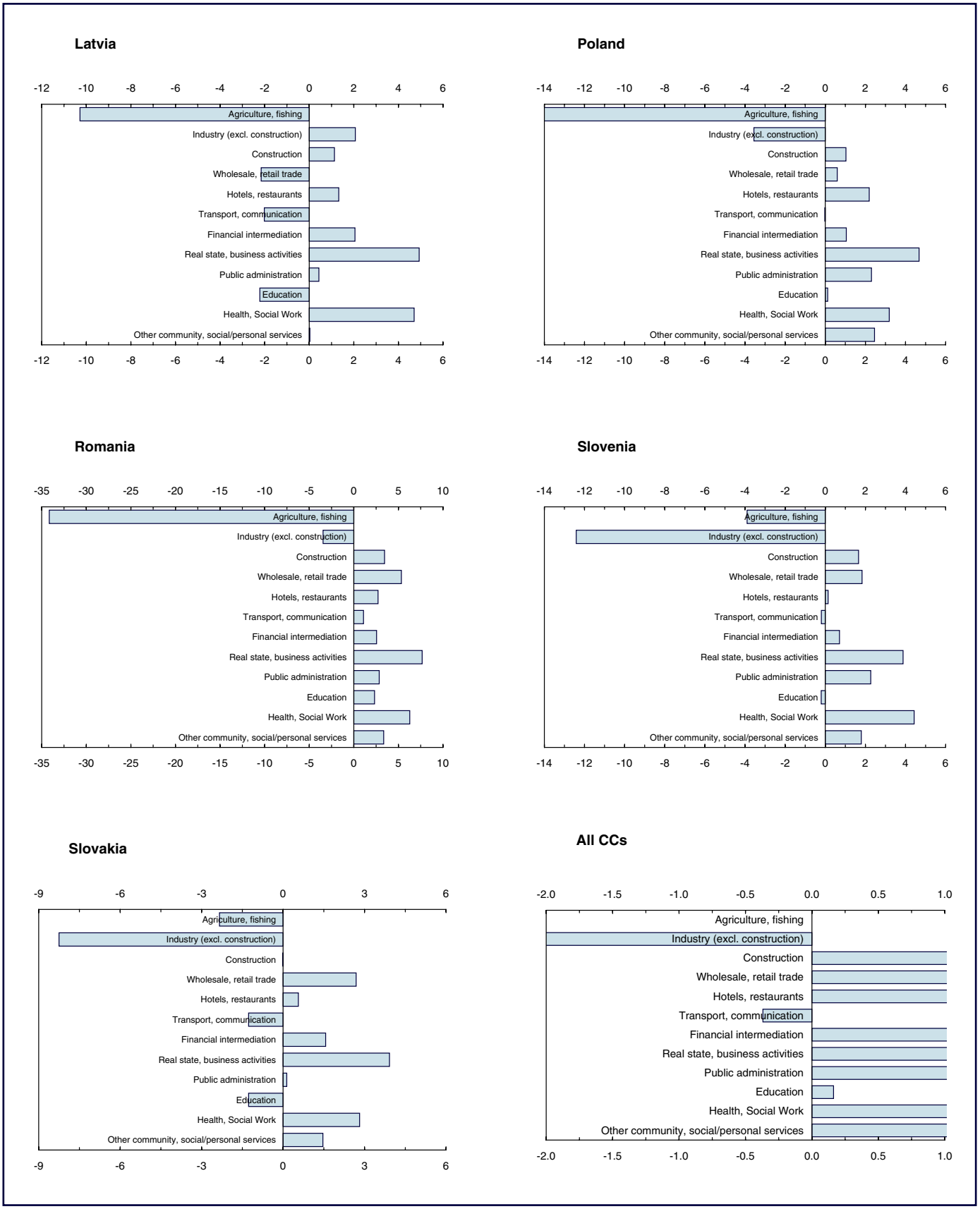
A close look at the occupational structure of the employed in the CCs reveals that, compared to the EU, there is an over-representation in manual occupations and an under-representation in high skilled non-manual occupations[9] (chart 163). The latter has been

[9] The strictly formal educational level is differentiated from the professional structure of the economy. The former is measured by the ISCED educational classification while the latter is measured by the ISCO occupational classification.

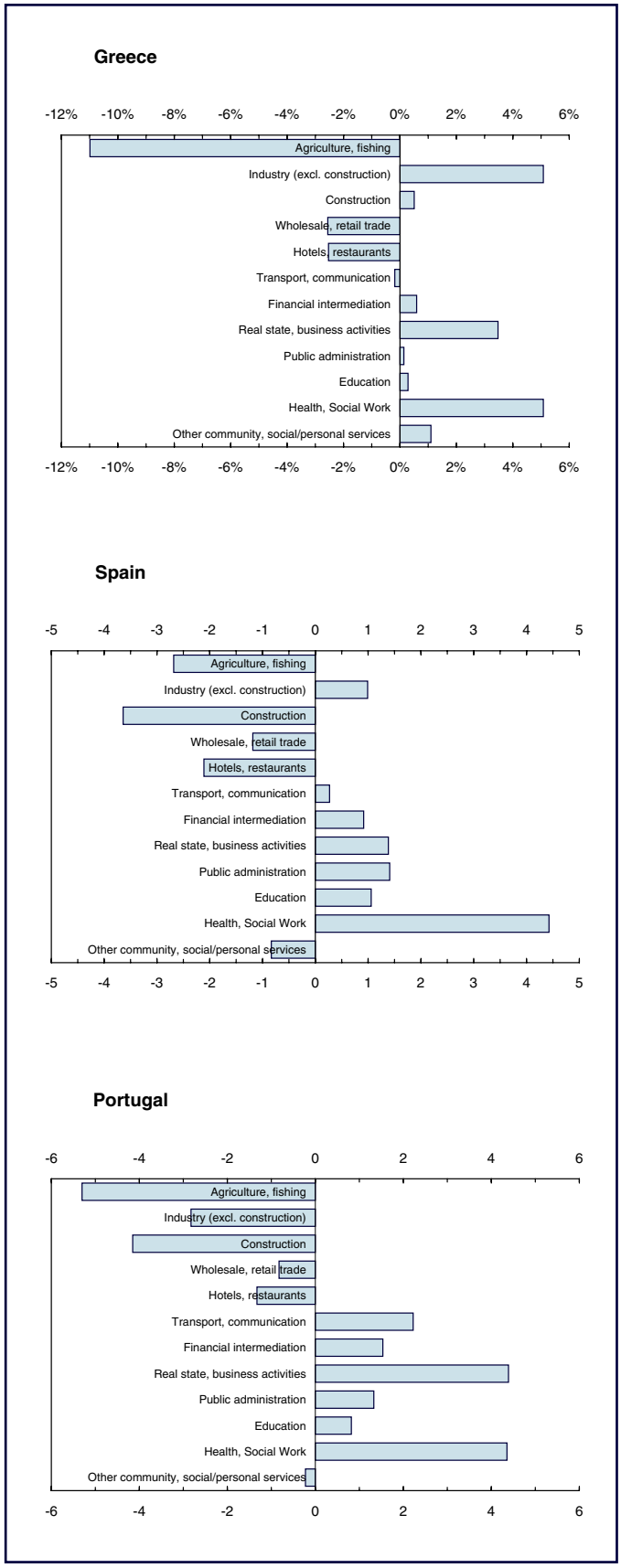
162 Sectoral structure of employment in the EU and candidate countries



Source: Commission Services



Source: Commission Services



Source: Commission Services

responsible for much of the employment growth that the EU has seen over the past years.

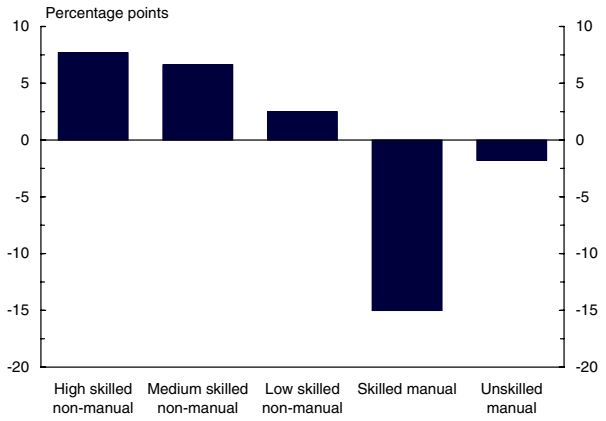
The five categories presented in the chart are based on the International Standard Classification of Occupations ISCO-88. The aggregation has been done at the 1 digit level (the highest level of aggregation. The five categories are (coding in brackets):

- High skilled non-manual (100 + 200 +300). Legislators, senior officials, and managers (100); professionals (200); technicians and associate professionals (300).
- Medium skilled non-manual (400). Clerks (400).
- Low skilled non-manual (500). Service workers and shop and market sales workers (500).
- Skilled manual (600 + 700). Craft and related trade workers (700). These include building trade workers, metal and machinery workers, glass makers, wood, textile and precision metal workers, among others. Skilled agricultural workers and fishery workers (600).
- Unskilled manual (800 + 900). Plant and machinery operators and assemblers (800); elementary occupations (900).

Following enlargement, the occupational structure of the employed in the EU will also change, with a significant increase in manual occupations. This new landscape will also reflect the more agricultural/industrial and less service-sector oriented activity of the Central and Eastern European countries compared to the EU (charts 164 and 165).

163 Occupational structure of the employed in the EU and the CCs, 2001

Difference in the respective employment shares in the 15-64 age-group



Note: Data refer to 2000 for the EU. *Source: Eurostat, LFS*

The five categories presented in the chart are based on the International Standard Classification of Occupations ISCO-88. The aggregation has been done at the 1 digit level (the highest level of aggregation. The five categories are (coding in brackets):

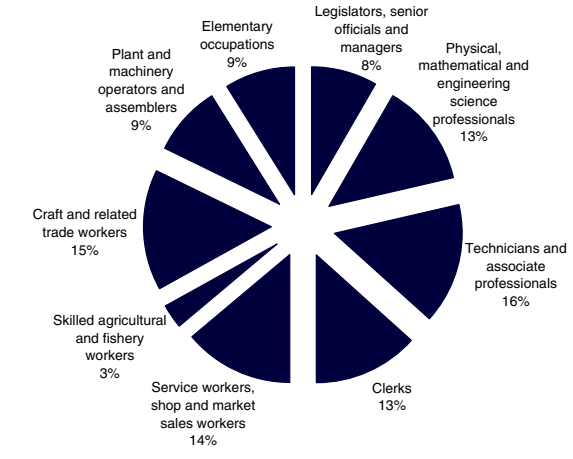
- *High skilled non-manual (100 + 200 + 300). Legislators, senior officials, and managers (100); professionals (200); technicians and associate professionals (300).*
- *Medium skilled non-manual (400). Clerks (400).*
- *Low skilled non-manual (500). Service workers and shop and market sales workers (500).*
- *Skilled manual (600 + 700). Craft and related trade workers (700). These include building trade workers, metal and machinery workers, glass makers, wood, textile and precision metal workers, among others. Skilled agricultural workers and fishery workers (600).*
- *Unskilled manual (800 + 900). Plant and machinery operators and assemblers (800); elementary occupations (900).*

Formal educational outcomes

It is often argued that candidate countries are characterised by high levels of formal education. In general, however, participation rates in education of students in age of leaving the educational system is lower in the CCs than in the EU (table 47). Enrolment for higher education of people aged 18–24 is also generally below the EU level and the length of compulsory schooling is generally shorter.[10]

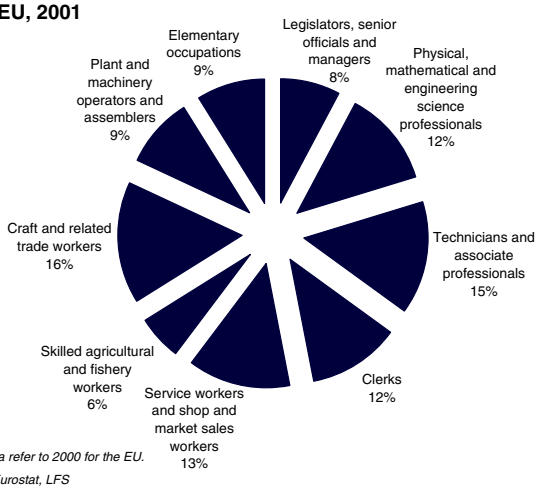
A recent study[11] shows that the capabilities of current pupils and students in the Central and Eastern European countries fall short of the skills of their counterparts in the OECD. Also, it would seem that the quality of vocational training at upper secondary level is in many cases outdated and is failing to respond efficiently to the demands of a dynamic and modern economy. The study concludes that while human capital endowments in these countries are gradually converging to the standards of the EU, the gap is still marked in secondary and higher education levels.

164 Occupational employment structure in the EU15, 2000



Source: Eurostat, LFS

165 Occupational employment structure in an enlarged EU, 2001



Note: Data refer to 2000 for the EU.
Source: Eurostat, LFS

[10] Eurostat, Statistics in Focus 14/2000

[11] European Commission (2001) "The impact of eastern enlargement on employment and the labour market in the EU member states", DG Employment and Social Affairs, Brussels.

According to the OECD's International Adult literacy Survey (IALS),[12] formal educational attainment is the main determinant of literacy proficiency (other important factors being occupation and age).[13] Individuals in the labour force show higher literacy skills than those who are inactive. The unemployment rate for those with low literacy skills also tends to be higher. Those in employment with low literacy skills also tend to receive less training, with high skilled occupations showing higher levels of literacy. As with formal education, younger cohorts show higher literacy scores than their older counterparts.

The results from the OECD's study shows that the countries with the highest levels of literacy skills have successfully increased the literacy levels of the more disadvantaged groups, particularly in initial education. However, countries differ in their efforts to update the skills that the population acquire through this initial education, concluding that refreshing the skill-stock for adults is also needed.

According to the Survey, four factors would help skill acquisition after initial education: labour force participation and occupational status; use of literacy skills in the workplace which is related to differences in occupational and industrial structures; participation in adult education and training, and finally social demand for the use of literacy skills at home.

Table 48 — Participation rates in education of students aged 15 to 20 (1999/2000)

	15	16	17	18	19	20
B	99.6	98.8	97.0	84.9	73.7	62.7
DK	96.3	90.8	81.6	76.8	58.8	44.9
D	99.2	97.6	92.6	85.8	67.4	49.9
F	98.1	96.8	92.3	81.5	67.9	54.3
IRL	100.0	92.6	82.3	72.7	51.2	42.3
I	88.9	82.9	73.0	67.1	45.9	35.7
L	91.1	87.1	80.5	70.1	40.6	23.8
NL	100.0	100.0	93.3	78.4	53.0	56.0
A	94.9	91.7	89.2	67.2	40.4	28.5
FIN	99.3	95.4	93.7	87.3	46.8	48.4
S	97.7	97.6	97.4	95.5	45.4	46.6
UK	100.0	84.4	73.2	55.5	51.0	46.2
EU	98.3	92.2	84.2	74.6	59.3	48.9
EL	93.4	94.0	65.5	93.5	91.0	64.6
E	99.8	90.2	80.1	68.7	60.3	55.1
P	100.0	87.7	86.8	69.2	54.2	47.0
CZ	100.0	100.0	97.8	70.1	40.8	28.6
HU	97.3	94.7	84.6	77.3	56.2	45.1
PL	96.0	94.1	89.9	77.5	62.1	54.8
SL	99.5	96.3	92.1	77.7	62.4	44.7
BG	87.7	82.5	68.8	46.2	30.0	29.5
EE	98.0	97.3	89.0	73.8	65.1	50.8
LT	96.1	99.3	88.0	72.3	57.2	46.5
LV	96.0	91.1	84.2	68.6	51.7	41.5
RO	80.2	75.8	64.5	48.6	31.5	27.1

Source: Eurostat

These findings point to the need for substantial improvements in skills through education and training to facilitate structural shifts to skilled non-manual occupations and to reduce unemployment. This is all the more important since a significant part of the adult population with low skills remains detached from life-long-learning policies. While there are some positive developments in CCs, more policy focus and resources are required to open training opportunities for the bulk of the low skilled.

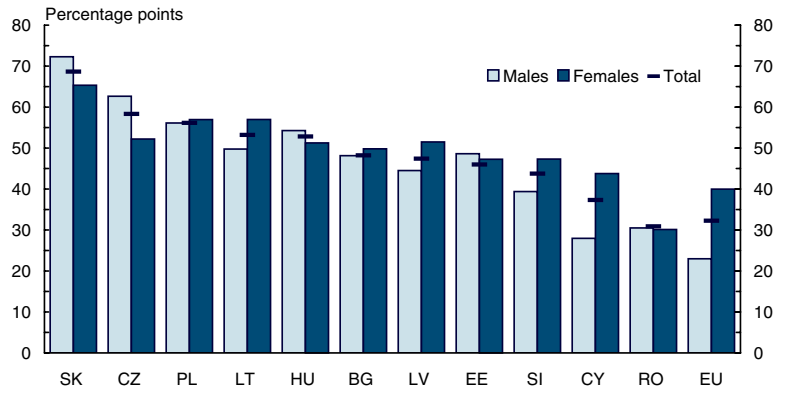
It appears evident that the low skilled in candidate countries are in a disproportionately worse situation compared to their high skilled counterparts and even more so than in the EU, where differences are already large.

The unemployment rate for the high skilled is above 5% in the Baltic

[12] http://www.nces.ed.gov/surveys/all/ials_results.asp

[13] Literacy scores are measured through three different variables: prose literacy, document literacy and quantitative literacy. Of the four candidate countries surveyed (Poland, Hungary, Slovenia, Czech Republic), the Czech Republic literacy scores are similar or above those of EU Member States (particularly in the quantitative literacy scale) although they are very low for the other 3 countries. The report suggests that the high literacy score of Czech youth is in large part due to a cumulative reduction over time in socio-economic inequality, measured by the effect of parents' education on the average level and range of literacy scores. The OECD's Pisa study (http://www.nces.ed.gov/surveys/pisa/) also shows that the scientific literacy of 15-year olds in the Czech Republic is above the OECD average.

166 Difference in the employment rate by educational attainment level: high and low, 2001



Note: 2000 for the EU. *Source: Eurostat, LFS*

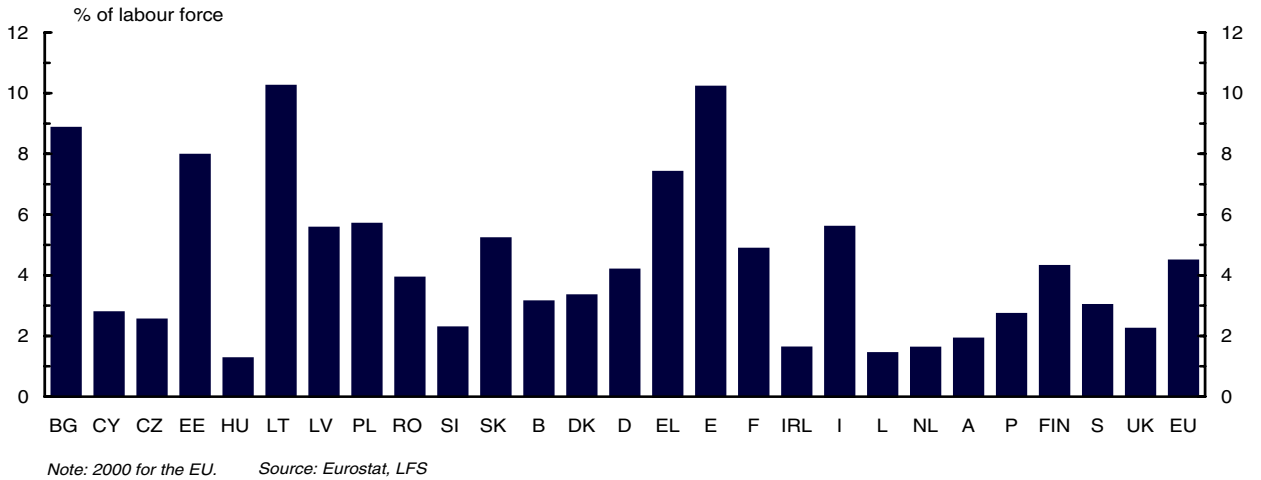
States, Bulgaria, Poland and Slovakia. In the existing Member States only Spain, Greece and Italy have comparable rates. Hungary is the country with the lowest unemployment rate for the high skilled, which at about 1% is comparable with that of Ireland, Luxembourg or the Netherlands. In an enlarged EU, there would be no striking differences in the rates between countries, as the relatively high unemployment rate for the high skilled of some countries partly reflects overall high unemployment rates. For the low skilled, the situation is quite different. The unemployment rates for the low skilled are not only higher than in any EU Member State in Slovakia, Poland, Bulgaria, the Czech Republic, Latvia and Lithuania, but the gap between high- and low skilled is also wider, suggesting a stronger dual labour market in these countries.

Not only are unemployment rates much higher for the low skilled, but also their employment rate is much lower (charts 166 to 169). In terms of unemployment, this is particularly visible in Bulgaria and Slovakia, but the effect is proportionally larger in Hungary and the Czech Republic.

In terms of employment, the differences between the employment rate of the high skilled and low skilled in CCs is above that in the EU. That is, the dual labour market is stronger in the candidate countries, with the low skilled showing extremely low employment rates except for Cyprus and Romania. The effect of formal education in employment opportunities is largest in Slovakia, the Czech Republic, Poland and Lithuania. The employment rate for the low skilled in Slovakia is only 17%, compared to 86% for the high skilled (chart 170).

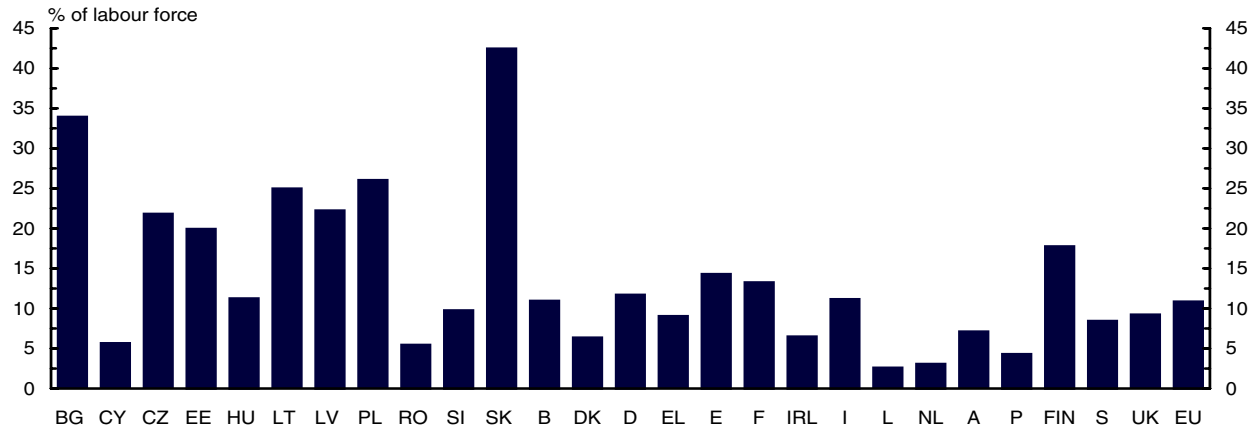
In an enlarged EU, the employment rates for the high skilled will be similar but will differ significantly more than in the already varied EU15 for the low skilled. The difference in the employment rate for the high skilled would range from 90% in Portugal to 75% in Bulgaria. Thus, the range for an enlarged EU today would be 15

167 Unemployment rate for high skilled in the EU and the CCs, 2001



Note: 2000 for the EU. *Source: Eurostat, LFS*

168 Unemployment rate for low skilled in the EU and the CCs, 2001



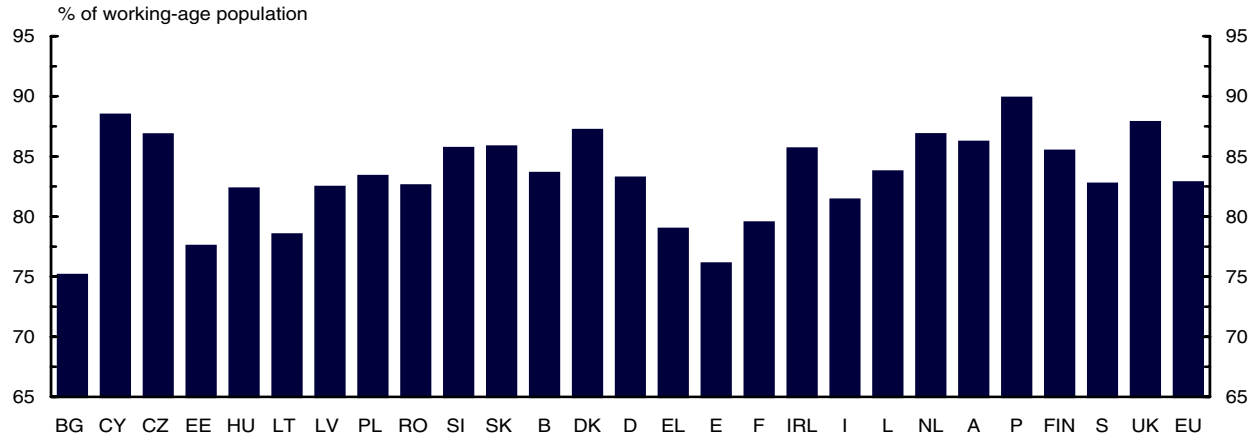
Note: 2000 for the EU. Source: Eurostat, LFS

percentage points, only 1 percentage point higher than for the EU15. However, the difference in the employment rate for the low skilled will widen significantly. In today's EU15, the range is 27 percentage points, between the highest low skilled employment rate of Portugal (68%) and the lowest of Belgium (41%). Following enlargement, Slovakia would take Belgium's place at the bottom, resulting in a sharp increase in the employment rate gap for the low skilled to more than 50 percentage points.

Training

In general, the candidate countries are characterised by relatively high levels of upper secondary education, particularly of a technical nature. The performance is less positive at university level. There are shortcomings in other important aspects of human capital formation, such as on-the-job training or the quality of the educational systems. According to the EBRD survey,[14] these countries arguably

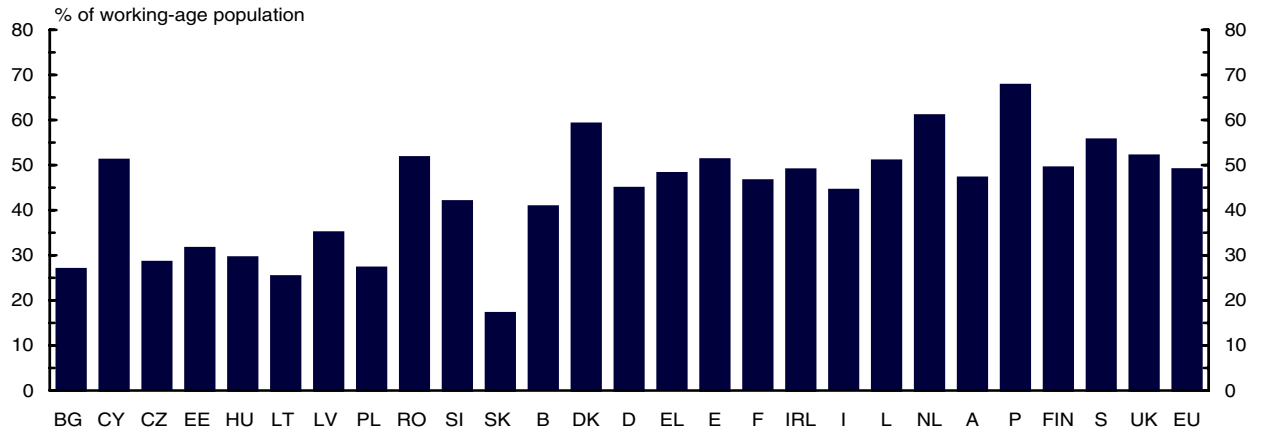
169 Employment rate for high skilled in the EU and the CCs, 2001



Note: 2000 for the EU. Source: Eurostat, LFS

[14] European Bank for Reconstruction and Development (EBRD) (2000), "The 2000 Transition Report among foreign investors in Eastern Europe", London

170 Employment rate for low skilled in the EU and the CCs, 2001



Note: 2000 for the EU. *Source: Eurostat, LFS*

have relatively educated labour forces, but they also have important additional training needs if they are to match workers in the EU of the same education level.

Broadening and updating skills are of great importance also in the context of attracting FDI, which has risen steeply since 1996 (box 17). The ERBD survey shows that foreign investors list the local availability of relatively cheap skilled labour as one of the most important factors influencing their decision to invest in the CCs. Investors in general do not find problems in hiring skilled staff, although 37% have difficulties in finding local managers and so employ expatriates instead. The main deficiencies quoted refer to the lack of general flexibility and ability to learn and adapt, although these diminish slightly at the higher educational levels. Lack of IT skills among workers with vocational and secondary education is also a frequently cited source of concern. This suggests that the quality of the educational system is one the main challenges for these countries in the medium term.

Table 49 — Participation in CVT courses

	Percentage of employees participating in CVT courses		Hours in CVT courses	
	All enterprises	Only enterprises with CVT courses	Per participant	Per employee (all enterprises)
B	41	54	31	13
DK	53	55	41	22
D	32	36	27	9
F	46	51	36	17
IRL	41	52	40	17
I				
L	36	48	39	14
NL	41	44	37	15
A	31	35	29	9
FIN	50	54	36	18
S	61	63	31	18
UK	49	51	26	13
EL	15	34	39	6
E	25	44	42	11
P	17	45	38	7
CZ	42	49	25	10
HU	12	26	38	5
PL	16	33	28	4
SL	32	46	24	8
BG	13	28	35	4
EE	19	28	31	6
LT	10	20	41	4
LV	12	25	34	4
RO	8	20	42	3

Source: Eurostat, CVTS 2

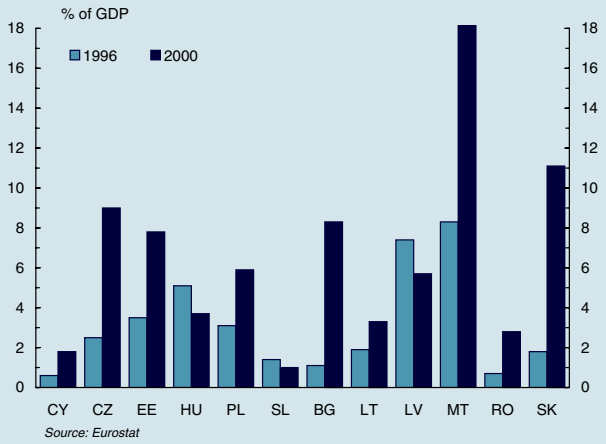
Box 17 — FDI and R&D

Since 1996, FDI flows to the CCs increased strongly to double their contribution to GDP to an average of 4% in 2000. The EU is the main source of FDI capital, mostly in manufacturing activities, with Poland, the Czech Republic and Hungary receiving about 75% of the total investment. The contribution of FDI to GDP was highest in Malta, Estonia, the Czech Republic, Bulgaria and Slovakia, with the latter two, also showing the greatest increases since 1996 (graph 1715).

The traditional forces behind FDI (large markets, natural resources, low labour costs) seem to be losing ground, particularly in the fast growing industries, in favour of factors such as trade/investment liberalisation, technical progress and management practices focussing on core competencies. This shift seems to be leading to a concentration of FDI at the regional level to benefit from networking activities that result in the formation of industrial clusters. Arguably, one key element for these clusters would be the availability of a high skilled labour force.

With the CCs advancing to a knowledge-based economy, more pressure will be put in the development of more skill-intensive activities. However, expenditure on research and development (R&D) in all candidate countries is significantly below the EU's level of 1.86% of GDP. Only in Slovenia and the Czech Republic it is above 1%. Moreover, the number of people engaged in R&D is also lower in all CCs than in the EU. Only Slovenia, Hungary and Estonia have more than 1% of their labour force in R&D activities, compared to 1.27% in the EU. Between 1994 and 1998 R&D personnel contracted in all CCs except for the Czech Republic, Poland and Hungary which experienced growth rates above the EU's.[16] This reduction in R&D personnel is partly related to major downsizing in applied research, accompanied by the collapse of industrial activity and the privatisation of public enterprises. Therefore, the capacity to train high skilled people needs to be improved to meet the demands of a more dynamic knowledge economy.

171 The evolution of FDI in the candidate countries



Source: Eurostat

To reach the productivity of graduates in Western Europe, 15% of university graduates in the CCs would require more than a year's additional training. These shares increase to about 20% for medium- and low skilled workers. On average, employees in the CC region would require some six months of training to reach the productivity levels of Western Europe. On-the-job training would ensure that the skills of the employees adapt to fast technological changes.

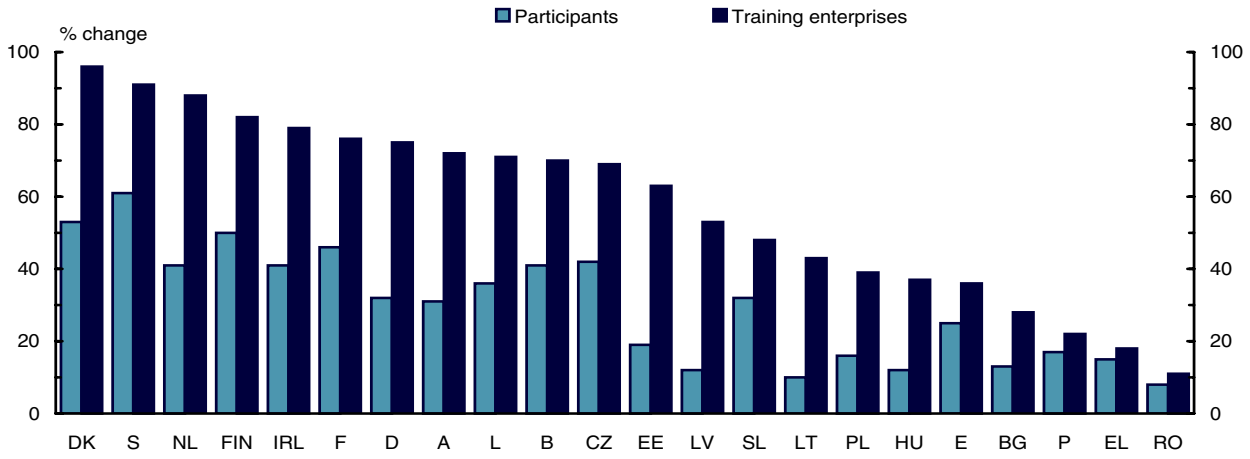
The need for training is also shown by the relatively low number of training enterprises and the lower number of participants in continuous vocational training courses (CVT) in the CCs compared to the EU (chart 172 and table 48). In the nine CCs participating in the survey,[15] an average of 40% of companies provided continuing vocational training in 1999. This share is significantly lower than the average of 57% for the 12 EU Member States in the first CVTS survey in 1993. The overall figure hides important differences among the CCs, with the Czech Republic and Estonia at the top of the table and Bulgaria and Romania, with much lower numbers of training enterprises, at the bottom.

The number of participants in CVT courses is also, on average, significantly lower than in the EU. Participation rates in the region are very heterogeneous, ranging from the 42% in the Czech Republic to the 8% in Romania. In addition, the first CVT survey showed that about 25% of the enterprises in Western Europe that provided no continuing training in 1993 had given such training in the previous two years. In candidate countries, the share of

[15] European Commission (2001), "CVTS2, Survey on continuous vocational training in enterprises", Eurostat, Luxembourg

[16] Eurostat, Statistics in Focus 3/2000

172 Percentage of employees participating in CVT courses and training enterprises as a percentage of all enterprises, 1999



Source: Eurostat, CVTS 2

enterprises that offered no training in 1999 or in the previous two years was considerably higher.[17]

According to the LFS, the share of the adult population (aged 25–64) having participated in education and training during the previous 4 weeks is also lower in the CCs than in the EU (chart 173).

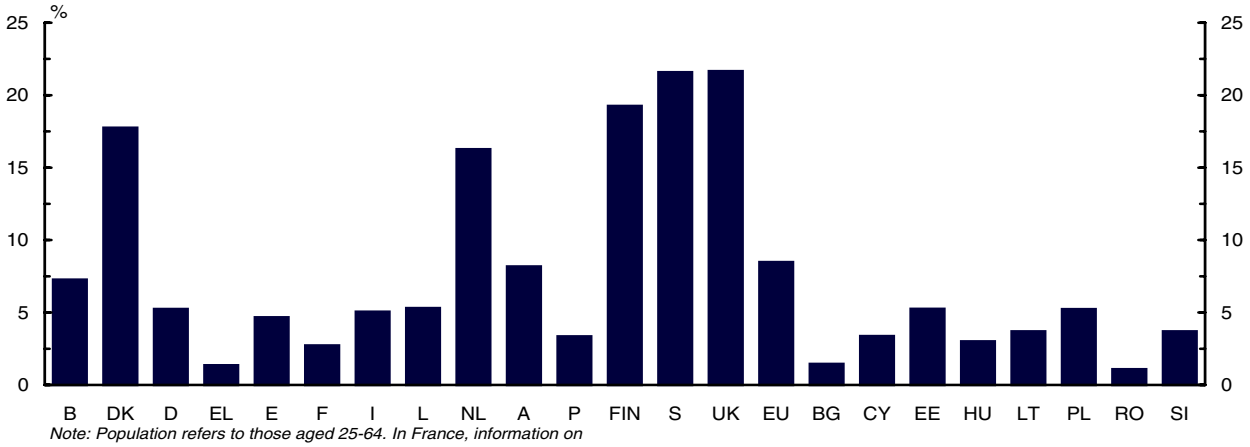
In general companies in the candidate countries that had not provided training in the reference year (according to the CVTS Survey) argued that the skills of their employees corresponded to the needs of the enterprise, or that they had recruited people with the required skills (table 49).

Regional disparities

General characteristics

As discussed previously, on average 21% of total employment in candidate countries in 2001 were agricultural workers (compared to about 4% in the EU) and workers over the age of 65 accounted for over 3% of

173 Participation in education and training 4 weeks previous to the Survey, 2001



Note: Population refers to those aged 25-64. In France, information on training is collected only if it is under way on the date of the survey.

Source: Eurostat, LFS

[17] Eurostat, Statistics in Focus 2/2002

Table 50 — Percentage of all non-training enterprises, by reason for not providing CVT

	No need (existing skills of employees correspond to the needs of the enterprise)	No time	Too expensive	People recruited with the skills needed	Initial training sufficient	Investment recently made; no need this year	Difficult to assess enterprise's needs	Other reasons
BG	82	13	37	71	14	1	9	4
CZ	86	6	14	48	12	3	5	6
EE	69	17	41	54	30	2	7	4
HU	83	12	22	70	39	3	5	3
LT	54	5	45	50	1	3	9	1
LV	79	9	16	42	13	5	11	1
PL	82	14	37	27	36	3	0	4
RO	77	11	29	63	40	1	3	4
SL	60	16	22	59	27	2	11	27

Source: Eurostat, CVTS 2

total employment. In 2000, only five regions within the CCs had a lower agricultural share than the EU as a whole. Three of these, Praha, Bratislavský and Közép-Magyarország, also have employment shares in services significantly above the EU's 67%. Regions in Romania show, on average, less than 30% of employment in the service sector and about 45% in the agricultural sector. Agriculture in the Sud-Vest and Nord-East regions of Romania represents some 60% of total employment in these two regions.

More than two thirds of the regions in candidate countries have an industrial sector which is larger than the EU's share of 29%. All regions in the Czech Republic had employment shares in industry above 40%, with the sole exception of Praha. Similarly, in Slovakia all the regions except for Bratislavský had about 40% of total employment in industry. The two northwestern regions in Hungary (Közép-Dunántúl, Nyugat-Dunántúl) also exhibit over 40% of total employment in the industry sector. The most industrialised region in the CCs is found in Poland (Slaskie), which accounts for almost a half of all employment in that region.

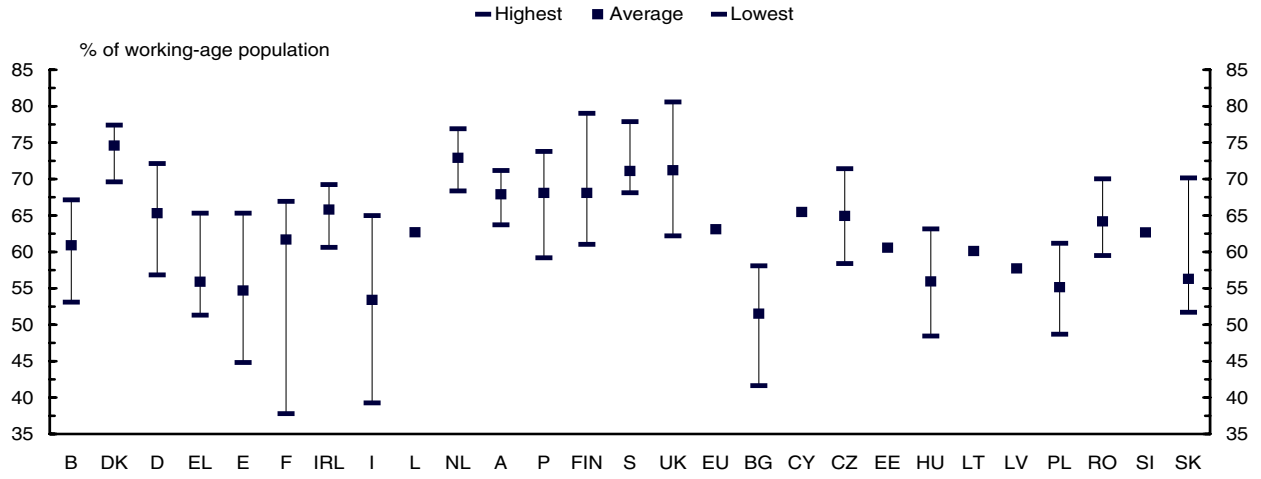
Twenty regions in the CEECs show a strong agricultural profile in employment terms. They share common characteristics such as high self-employment, high employment rates for older workers, lower unemployment rates overall but high rates among young people and generally low educational attainment levels in their populations. In addition, many of these regions show practically no access to metropolitan labour markets due to poor transport services. Many of the younger high skilled prefer self-employment in SME start-ups or employment in foreign-owned enterprises in urban areas, to working for former state enterprises, which offer lower earnings potential.

These problems are exacerbated by inadequate innovation and educational facilities in these regions, with universities and technical colleges located in the main urban areas and capital cities. Regional disparities in the provision of education and training have also widened as a consequence of unequal distribution of financial resources to local authorities, with reports suggesting falling educational quality and increasing learning costs.[18]

Better social protection systems can provide a safety net against poverty to enable agricultural workers to seize other opportunities in the labour market. In addition, investing more in education can also provide a guarantee against exclusion from the labour market, particularly in agricultural regions, which will bear most of the

[18] European Commission (2001), "Synthesis Report and Expert Panel on Employment and Societal Change", Joint Research Centre, Institute for Prospective Technological Studies (IPTS), Enlargement Futures Project, Sevilla; and World Bank Institute (2001), "Decentralizing education in transition societies: Case studies from Central and Eastern Europe", Washington, USA.

174 Regional disparities in employment rates in the EU and the CCs



Note: LFS results at NUTS2 level, Eurostat. National LFS at NUTS3 level for DK and IRL. *Source: Eurostat, LFS*

adjustment in an enlarged EU and where skills are lacking.

Disparities in employment

Regional disparities in employment in the candidate countries are lower than in the EU, but remain substantial. In the candidate countries,[19] regional disparities in the employment rate (as measured by the coefficient of variation) are greatest in Slovakia and in Bulgaria and to a lesser extent in Hungary. In the former, the difference between the employment rate of Bratislavský kraj and Východné Slovensko was 19 percentage points in 2000. In Bulgaria, the variation was 16 percentage points between Yugozapaden (the highest) and Severozapaden (the lowest). However, in contrast to Spain or Italy, these variations are heavily influenced by the effect of the two extreme values in Bulgaria and by the very high employment rate of Bratislavský kraj in Slovakia (about 70%) (chart 174).

At the overall level looking at all regions together, disparities in the employment rate for those aged 15–64 in the EU in 2001 were slightly higher than in the candidate countries, with coefficients of variation (from the mean employment rate in the whole area) of 12.4% and 12% respectively. Following enlargement, the variation would, nevertheless, rise to 13.1%. The difference between the highest and lowest employment rate would remain as in the current EU15. However, the employment rate for an enlarged EU would be lower and the differences of each region to the mean employment rate is likely to increase at the upper end, particularly for EU regions with high employment rates.

Disparities in unemployment

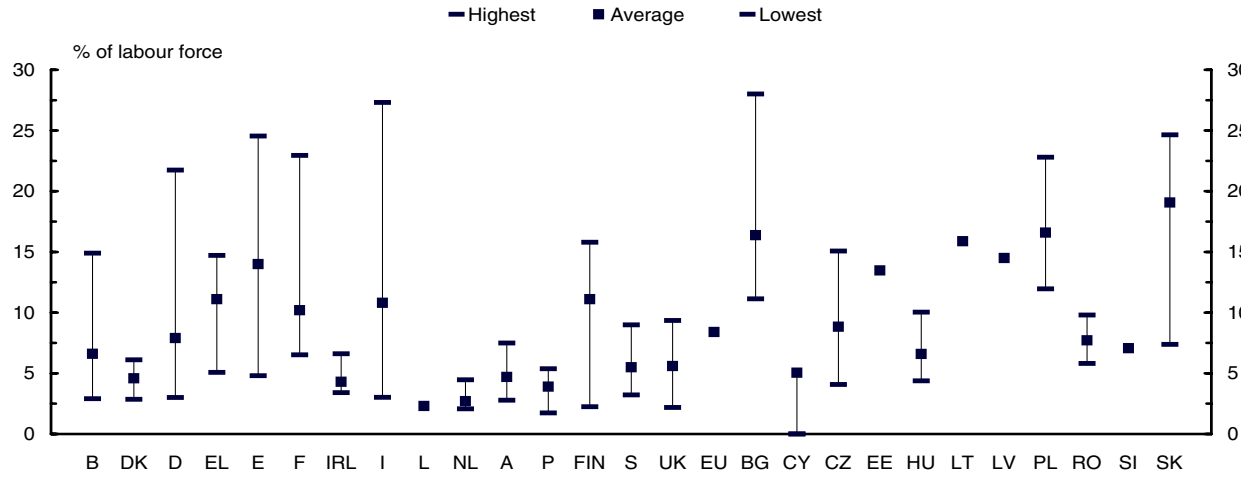
If measured by the coefficient of variation, regional variations are much larger in terms of unemployment rates. One of the drawbacks of interpreting disparities in unemployment is that one understates the extent of labour market imbalances as the unemployment rate fails to illustrate patterns in labour force participation. It is also true that countries with large disparities in employment rates also show important variations in unemployment rates, particularly for young people. Not only, therefore, are employment rates lower but also unemployment rates are higher, pointing to more serious regional imbalances.

In the CCs, unemployment has been increasing over the past years and has overtaken EU levels. Simultaneously labour force participation has been falling which has, to some extent, restricted the increases in the unemployment rate.

The range in regional unemployment rates is highest in Slovakia and Bulgaria, although in the former this is due only to the relatively low unemployment rate of Bratislavský kraj. These two countries plus the Czech Republic and

[19] LFS data at NUTS 2 level in the CEECs exists for Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia.

175 Regional disparities in unemployment rates in the EU and the CCs



Note: LFS results at NUTS2 level, Eurostat. National LFS at NUTS3 level for DK and IRL. *Source: Eurostat, LFS*

Hungary have sizeable disparities in unemployment at the regional level, but the variation is less than in Italy, Spain, Germany or Belgium. In Slovakia, the much lower unemployment rate of its capital increases disproportionately (two-fold) the coefficient of variation. Although regional variations in unemployment are relatively low in Poland, the actual unemployment rates, while similar, are very high (chart 175).

At the overall level (all regions together), disparities in the unemployment rate for those aged 15–64 in the EU in 2001 were higher than in the candidate countries, with coefficients of variation from the mean unemployment rate in the whole area of 65.9% and 52.8%, respectively. Following enlargement, the variation will, nevertheless, rise to 68.5%. The region with the highest unemployment rate would be in Bulgaria and the gap to the lowest (in Portugal) would widen. The unemployment rate of an enlarged EU would be higher while, at the same time, the differences of each region to the mean unemployment rate is likely to increase at the lower end, particularly for EU regions with low unemployment rates.

It is likely that regional disparities in employment and unemployment will increase in the medium-term following accession. As restructuring and the ongoing adjustment in labour markets proceed, unemployment should increase in some regions more than in others, particularly in agricultural or heavily industrialised regions. In addition, job creation in services in the capital cities could extend the gap in employment between these regions and the more agricultural or industrial ones.

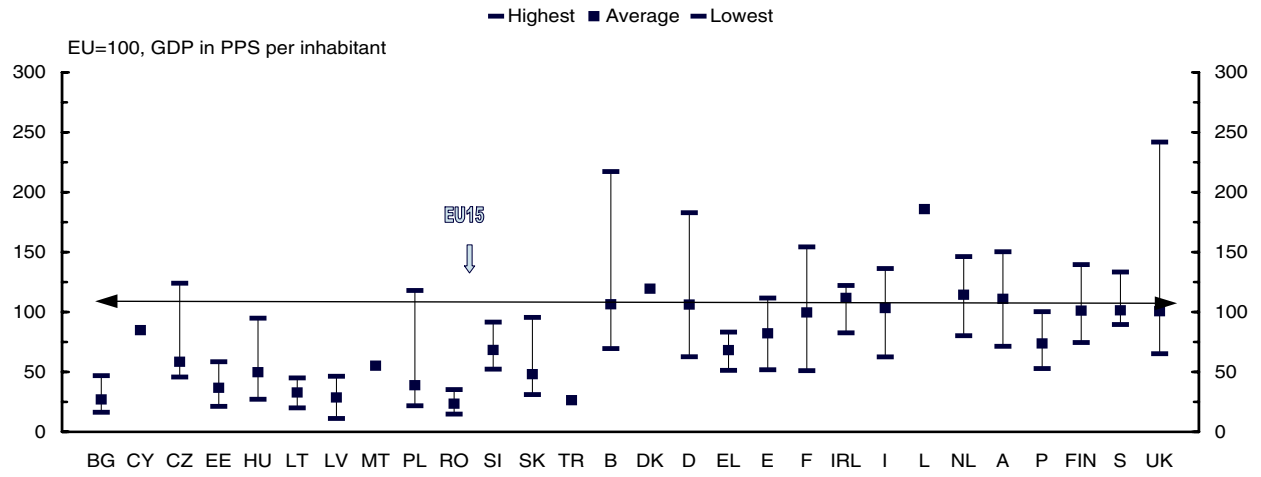
Disparities in income

Accession will have an immediate effect on real income in the EU. Regional disparities in GDP per capita will increase dramatically in an EU25, and even more so in an EU with 27 members. Such a widening of disparities in wealth at the EU level has no precedent in any previous enlargement. This is not only due to significantly lower per capita levels in the candidate countries than in the EU, but also because of the size of the population that the EU will need to absorb (chart 176). In moving from 15 members to 25 or 27, average GDP per head in the EU will fall by 13% or 18% respectively. Even though, the long-term growth rate of the candidate countries has tended to exceed the EU's, the wide disparities in levels of income are unlikely to be reduced appreciably in the short or medium-term.[20]

If enlargement occurred today, there would be a doubling of the income gaps between countries and regions in an EU27. At the national level over a third of the population would have an income per head of less than 90% of the EU27 average compared to a sixth in today's EU15. This is the current threshold for eligibility for aid under the Cohesion Fund. At regional level, the bottom 10% of the population of the least prosperous regions would

[20] Commission Communication. First progress report on economic and social cohesion

176 Regional disparities in GDP per capita in the CCs



Note: NUTS3 level for the candidate countries, NUTS2 level for the EU. Data refer to 1999. *Source: Eurostat*

be 31% of the EU27 average, which compares to 61% in the present EU15.[21]

Demographic developments

In 2000, the combined population of the 12 candidate countries was 105.7 million (about 75 million in CC-10), equivalent to 28% of the existing EU's population (about 20% for CCs 10). Thus, enlargement to include the 12 CCs will mean the total population of the EU will increase to 484 million inhabitants (about 454 million for a EU 25). Its share of the world population would rise from 6.2% to 8%.

There have been some important changes in the demographics of candidate countries in the past decade. Population in the region grew at a relatively high rate in the 1970s and 1980s, due to high fertility rates and increasing life expectancy. This came to a halt in the 1990s, with a sharp drop in fertility rates, lower life expectancy and significant outward migration. Populations declined in all the candidate countries except Poland, Slovakia, Malta and Cyprus, between 1990–1999. The crude rate of natural increase was negative (deaths higher than births) in Latvia, Estonia, Bulgaria, Romania, Hungary and the Czech Republic. Net migration flows were negative in the three Baltic States (particularly Latvia and Estonia), Bulgaria, Romania, Slovenia, Poland and Slovakia Republic. Thus, population growth started falling earlier in most of these countries than in the EU. In less than 10 years, these countries have lost 1.3 million people, equivalent to 1.2% of their 1990 populations[22] (chart 177).

In most EU regions population is still rising and in those where it has started falling, the rates are not as high as in the candidate countries. This situation is particularly worrying in Bulgaria, Estonia, Latvia and Slovenia. In many of these regions, this is the combination of higher death than birth rates as well as outward migration. Põhja-Eesti (Tallinn's region) recorded natural decreases during the 1990s. Outward migration, mainly of Russian military personnel, had a strong demographic impact in Latvia's Riga and Kurzeme. Also, negative net migration in Slovenia's Spodnjeposavska can be attributed to emigration of non-nationals who before independence were part of the wider metropolitan area of Zagreb. Praha experienced the sharpest drop in the country and Bratislavský kraj was the only Slovak region whose population fell, albeit only slightly.[23]

The EU's total population will continue to show positive growth for some years, mainly due to positive net migration and increasing life

[21] Second report on economic and social cohesion, European Commission, 31-01-2001

[22] Eurostat, Statistics in Focus 12/2001

[23] Eurostat, Statistics in Focus 6/2001

expectancy. In the candidate countries, life expectancy at birth is much lower than in the EU. Life expectancy for men of about 65–68 is lowest in the Baltic States, Hungary, Romania and Bulgaria (compared to 75 in the EU). For women, life expectancy for these six countries ranged between 74–78, which contrasts with 81 for EU women. More importantly, both natural increase and net migration are currently negative, which will bring forward the point at which the total population declines in an enlarged EU to about 2015 — eight years earlier than in EU15.

The average age of the population in the CCs is currently lower than in the EU. The proportion of children under 15 is higher than in the EU in all candidate countries except Bulgaria, Czech Republic and Slovenia, but it is also declining significantly faster. Furthermore, the share of the over 65 year-olds in candidate countries is below the EU's at present, except in Bulgaria, and the drop in fertility rates in the 1990s will only be felt in the long-run. Enlargement of the EU would, therefore, slow the ageing of the population in the short and medium term (chart 178).

The EU's current working-age population (15–64) is projected to start declining from 2010. In candidate countries this will occur slightly earlier. In the EU the share of children (below 15) and old people (over 65) to the working-age population (15–64) has remained stable in recent years. The drop in the number of children (less young dependency) and the increase in elderly (more old dependency) have offset each other resulting in little change in the total dependency ratio. In candidate countries the total dependency ratio is much lower than in the EU and is also declining faster, particularly due to fewer births in the 1990s. Although the total dependency ratio in the EU will be reduced following enlargement, it will start increasing from about 2010 as a result of declining working-age populations in both regions.

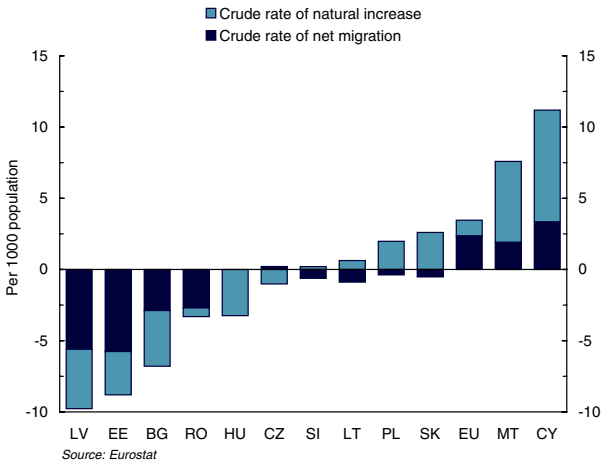
Conclusions

Enlargement is now within sight. Up to ten countries may join in 2004 and two more at a later date. The prospect has led many to start questioning the impact of this expansion on the EU's employment targets. Evidence suggests that the negative impact on the EU's employment rates will not be as important as some feared, since the working-age population of these twelve countries represents 30% of the current EU's.

Regional disparities in employment and unemployment will increase in an enlarged EU. The ongoing restructuring is likely to affect some regions more sharply than others, particularly those heavily dependent on agriculture or industry. Disparities in income in an enlarged EU will increase drastically. As economic development improves, rising incomes should contribute to an increase in the demand for services, which are underdeveloped in most regions of the Central and Eastern European countries.

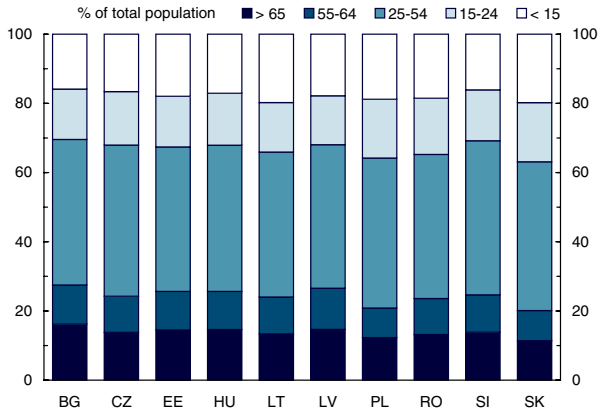
It is clear that the candidate countries must continue to adjust their economies to become fully integrated in the EU and to compete in the world economy. Key challenges include reducing their dependence on agriculture and boosting their service sectors. Success in this endeavour depends to a large

177 Demographic developments over the 1990s



Source: Eurostat

178 Age structure of the population in Central and Eastern European countries in 2000



Source: Eurostat, Demographic statistics

extent on achieving the right skills base within their labour force. Low skilled individuals are at a great disadvantage in most of these countries and additional education and training needs have been identified if they are to increase their productivity to the levels required to be competitive in an enlarged EU.

The Structural Funds that candidate countries will receive upon accession, and in particular the Social Fund, should help them adapting their labour markets and improving their employment performance.

Membership of the EU should improve the prosperity of the Central and Eastern European region and it is clear that the future will be one of dynamic change. The candidate countries must ensure now that they are preparing their economies and labour forces for the opportunities and challenges that lie ahead.

Statistical annex

Short-term projections

The projections of key employment indicators presented in this section are based on two main sources: first, the most recent Commission economic forecasts (Spring Forecasts) of GDP growth and employment growth, and second, annual key labour market indicators for the period 1991–2001 from the Eurostat Quarterly Labour Force Data (QLFD) series.

Activity rates and employment rates have been projected simultaneously on the basis of a dynamic panel data model of the changes in these rates, allowing to model the effect of overall economic growth on labour market participation and employment, while taking into account recent country-specific trends and ensuring consistency among the projections. The model component for changes in the employment rates takes the above employment growth projections as given and translates them into projections of employment rates. Further breakdowns of the projections by gender and age group are based on separate models specific to the sub-population of interest, taking the overall evolution of GDP, participation and employment as given.

Since the projections are model-based they imply unchanged labour market policies throughout the projection period 2002–2003. If there were important changes in labour market policies over this period — bringing about structural breaks in the analysed relationships between economic growth, participation behaviour, and employment growth — the evolution of activity, employment and unemployment rates might well differ from that projected. This could apply especially to the projected employment rates for older workers (55–64) the evolution of which could be more favourable than that projected if in the coming years, labour market policies stimulating older workers' participation and reducing the incidence of early retirement were significantly different from those during the 1990s.

Table 51 — Commission's Economic Spring Forecasts 2002/2003

	GDP growth					Employment growth				
	1995-99	2000	2001	2002	2003	1995-99	2000	2001	2002	2003
B	2.5	4.0	1.0	1.1	2.8	0.9	1.6	1.1	0.1	0.9
DK	2.6	3.0	0.9	1.7	2.5	1.3	0.8	0.5	0.1	0.4
D	1.5	3.0	0.6	0.8	2.7	0.4	1.6	0.2	-0.3	0.8
EL	3.0	4.1	4.1	3.7	4.2	0.6	-0.3	-0.1	0.3	0.5
E	3.5	4.1	2.8	2.1	3.1	2.6	3.1	2.4	1.2	2.1
F	2.2	3.1	2.0	1.6	2.8	0.9	2.2	1.9	0.5	1.2
IRL	9.5	11.5	6.8	3.5	6.1	5.8	4.7	2.9	1.0	2.1
I	1.9	2.9	1.8	1.4	2.7	0.6	1.9	1.6	0.8	1.2
L	5.5	7.5	5.1	2.9	5.2	2.9	5.3	5.7	2.0	3.0
NL	3.4	3.5	1.1	1.5	2.7	2.4	2.4	2.1	0.6	0.9
A	2.3	3.0	1.0	1.2	2.5	0.4	0.5	0.2	-0.4	0.5
P	3.7	3.4	1.8	1.5	2.2	-0.1	1.7	1.6	0.2	0.3
FIN	4.7	5.6	0.7	1.6	3.3	2.2	1.9	1.2	-0.1	0.3
S	3.0	3.6	1.2	1.7	2.8	0.6	2.1	2.0	-0.4	0.3
UK	2.8	3.0	2.2	2.0	3.0	1.4	1.0	0.8	0.2	0.6
EU	2.4	3.3	1.7	1.5	2.9	1.1	1.8	1.2	0.3	1.0

Source: European Commission 2002 Spring Forecasts

Table 52 — Short-term projections of activity rates, by gender

	All					Men					Women				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
B	64.9	65.1	63.9	6389	64.1	73.4	73.7	75.3	73.6	73.7	56.3	56.4	54.2	54.1	54.8
DK	80.6	80.0	79.9	79.7	79.4	84.9	84.2	83.8	83.4	83.0	76.1	75.6	75.9	75.6	75.2
D	71.1	71.1	71.4	71.6	71.6	79.2	78.8	78.8	78.7	78.5	62.9	63.2	63.8	64.3	64.5
EL	63.0	62.9	62.1	62.2	62.6	77.1	76.9	76.2	76.3	76.4	49.7	49.7	48.7	49.1	49.9
E	62.5	63.9	64.7	65.3	65.7	76.5	77.3	78.0	78.4	78.6	49.0	50.8	51.7	52.5	53.2
F	68.7	68.6	68.4	68.4	68.6	75.3	75.1	74.8	74.7	74.7	62.2	62.3	62.0	62.3	62.7
IRL	67.1	68.1	68.4	68.7	69.0	79.0	79.7	79.7	79.8	79.8	55.0	56.5	57.1	57.7	58.4
I	59.5	60.1	60.6	61.1	61.6	73.7	74.0	74.1	74.3	74.4	45.5	46.3	47.3	48.2	49.0
L	63.2	64.1	64.1	64.3	64.6	75.9	76.3	76.0	76.1	76.1	50.3	51.6	52.0	52.5	53.2
NL	73.7	75.2	75.8	76.0	75.9	82.7	84.1	84.3	84.3	84.0	64.4	66.0	67.1	67.4	67.3
A	71.2	71.0	71.0	71.0	71.1	80.5	79.9	79.4	79.2	79.0	62.1	62.1	62.5	62.9	63.2
P	70.7	71.3	71.9	72.3	72.4	79.0	79.2	79.6	79.7	79.6	62.8	63.7	64.6	65.1	65.4
FIN	73.9	74.6	75.0	75.1	75.0	76.8	77.3	77.6	77.6	77.4	71.1	71.9	72.4	72.5	72.3
S	75.7	75.0	75.2	75.3	75.2	78.0	77.0	76.9	76.7	76.5	73.3	72.9	73.4	73.6	73.5
UK	75.6	75.7	75.6	75.5	75.4	83.3	83.1	83.0	82.8	82.5	67.8	68.1	68.1	68.1	68.1
EU	68.6	69.0	69.2	69.4	69.5	78.1	78.1	78.1	78.1	78.1	59.2	59.8	60.2	60.6	61.0

Source: Commission Services

Table 53 — Short-term projections of activity rates, by age group

	15–24					25–54					55–64				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
B	35.7	35.3	37.9	39.7	41.5	82.3	82.4	80.4	80.0	80.0	25.9	27.1	24.7	25.8	26.7
DK	72.3	70.7	68.0	65.7	63.7	88.2	87.9	87.9	87.7	87.4	57.5	58.2	60.6	61.8	61.8
D	50.6	50.4	50.4	50.1	50.1	85.2	85.4	85.6	85.6	85.6	43.9	42.9	42.8	43.1	43.1
EL	39.4	38.5	36.2	35.8	36.0	77.4	77.5	77.2	77.5	78.1	40.7	40.2	39.7	39.4	39.6
E	42.4	43.4	43.9	44.4	44.9	76.2	77.4	77.8	78.2	78.6	38.7	40.7	42.4	43.5	43.9
F	36.5	36.0	35.2	35.1	35.4	86.4	86.2	85.8	85.7	85.7	31.9	32.5	32.6	32.3	32.0
IRL	53.7	54.4	53.4	53.6	54.2	77.3	78.4	79.0	79.5	79.8	45.5	46.5	48.1	48.5	48.4
I	38.2	38.3	36.6	35.7	35.2	73.8	74.3	75.1	75.8	76.3	29.0	29.0	29.2	29.4	29.5
L	34.1	34.1	34.7	35.7	36.9	78.5	79.7	79.7	80.0	80.4	26.7	27.0	24.4	26.0	27.7
NL	68.4	72.9	73.8	73.9	73.6	83.0	83.7	84.3	84.4	84.3	36.6	39.0	40.2	40.2	39.6
A	56.3	55.2	54.3	53.8	53.4	84.9	85.3	85.5	85.6	85.6	31.7	30.4	30.1	30.1	29.8
P	47.7	47.1	48.3	48.4	48.6	84.2	84.9	85.3	85.5	85.5	52.4	52.7	52.0	52.4	52.9
FIN	50.9	52.3	51.9	51.8	51.9	87.8	87.9	88.1	87.9	87.7	43.5	46.2	50.3	54.5	58.2
S	39.3	38.7	40.0	40.5	41.2	87.5	86.7	86.6	86.6	86.4	69.2	68.8	69.8	71.2	72.2
UK	65.3	65.1	64.6	64.2	64.1	83.9	84.0	83.8	83.8	83.7	52.0	52.9	54.1	54.4	54.1
EU	47.7	47.8	47.6	47.3	47.4	82.1	82.4	82.5	82.6	82.7	40.5	40.8	41.4	41.6	41.6

Source: Commission Services

Table 54 — Short-term projections of employment rates, by gender

	All					Men					Women				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
B	59.3	60.5	59.9	59.9	60.0	68.1	69.5	69.1	69.0	68.8	50.4	51.5	50.5	50.5	51.1
DK	76.0	76.3	76.2	76.0	75.8	80.8	80.8	80.2	79.9	79.7	71.1	71.6	72.0	71.8	71.4
D	64.8	65.4	65.8	65.9	66.3	72.4	72.7	72.6	72.5	72.7	57.1	57.9	58.8	59.2	59.8
EL	55.3	55.7	55.4	55.8	56.2	70.9	71.1	70.8	70.9	70.9	40.6	41.2	40.9	41.5	42.3
E	52.5	54.8	56.3	57.3	58.4	67.9	69.7	70.9	71.7	72.6	37.6	40.3	41.9	43.3	44.7
F	60.8	62.0	63.1	63.6	64.1	67.9	69.1	70.3	70.5	70.6	53.9	55.1	56.1	56.8	57.5
IRL	63.3	65.2	65.7	65.6	65.7	74.5	76.2	76.4	75.9	75.6	52.0	54.1	55.0	55.3	55.9
I	52.6	53.7	54.8	55.4	56.0	67.1	67.9	68.5	68.8	68.9	38.3	39.6	41.1	42.1	43.1
L	61.7	62.7	62.9	62.5	62.4	74.5	75.0	74.8	73.9	73.2	48.6	50.1	50.9	50.9	51.4
NL	71.1	72.9	74.1	74.3	74.1	80.5	82.1	82.8	82.7	82.2	61.5	63.5	65.2	65.7	65.8
A	68.5	68.4	68.4	68.0	67.8	77.5	77.3	76.7	75.9	75.4	59.6	59.6	60.1	60.1	60.1
P	67.4	68.3	68.8	68.9	68.7	75.8	76.5	76.9	76.6	76.3	59.4	60.3	61.1	61.3	61.4
FIN	66.4	67.3	68.1	68.5	68.9	69.2	70.2	70.9	71.3	71.8	63.4	64.3	65.4	65.6	65.9
S	70.1	70.7	71.7	71.7	71.6	71.6	72.3	73.0	72.8	72.6	68.4	69.1	70.4	70.3	70.1
UK	71.0	71.5	71.7	71.7	71.7	77.7	78.1	78.3	78.2	78.1	64.2	64.8	65.1	65.1	65.3
EU	62.3	63.2	64.0	64.3	64.6	71.7	72.5	73.0	73.0	73.2	52.8	54.0	54.9	55.5	56.1

Source: Commission Services

Table 55 — Short-term projections of employment rates, by age group

	15–24					25–54					55–64				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
B	28.2	29.1	32.7	34.2	35.6	76.2	77.4	75.9	76.0	76.0	24.6	26.3	24.1	25.3	26.0
DK	65.5	66.0	62.3	59.5	57.6	83.9	84.2	84.4	84.2	84.0	54.5	55.7	58.0	59.4	59.5
D	46.1	46.2	46.5	46.1	46.4	78.4	79.3	79.3	79.4	79.6	37.7	37.5	37.7	38.3	38.6
EL	26.8	27.1	26.0	26.1	26.3	69.6	70.0	70.1	70.7	71.2	39.1	38.6	38.0	37.7	37.8
E	29.8	32.0	33.1	34.1	35.4	65.6	67.8	68.8	69.7	70.8	34.9	36.8	38.9	40.1	41.0
F	27.7	29.0	29.5	29.8	30.3	77.7	78.8	79.9	80.4	80.7	29.4	30.3	31.0	30.8	30.8
IRL	49.1	50.8	49.6	49.0	49.1	73.4	75.4	76.4	76.5	76.6	43.7	45.3	46.8	47.3	47.1
I	25.6	26.4	26.3	26.0	25.8	67.0	67.9	69.2	70.0	70.6	27.6	27.7	28.0	28.2	28.3
L	31.8	31.9	32.4	32.6	32.2	76.9	78.2	78.7	78.3	78.1	26.4	26.7	24.4	25.9	27.4
NL	63.6	68.7	70.4	69.8	68.8	80.6	81.7	82.8	82.9	82.7	35.7	38.2	39.6	39.7	39.2
A	53.4	52.3	51.2	49.7	48.5	82.0	82.6	82.7	82.4	82.2	30.1	28.8	28.6	28.4	28.2
P	43.5	43.1	43.8	43.4	43.2	80.8	81.9	82.4	82.2	82.0	50.8	51.0	50.3	50.6	50.9
FIN	40.0	41.1	41.7	42.2	42.3	80.4	80.9	81.6	81.8	82.1	39.0	42.0	45.7	50.1	53.8
S	33.5	35.1	36.6	36.8	37.4	81.6	82.2	83.1	82.9	82.8	64.5	64.7	66.5	67.8	69.1
UK	56.9	57.1	56.9	56.4	56.1	79.9	80.4	80.6	80.6	80.6	49.6	50.8	52.3	52.6	52.4
EU	39.2	40.2	40.6	40.5	40.7	75.5	76.5	77.1	77.4	77.7	37.1	37.8	38.6	38.9	39.2

Source: Commission Services

Macroeconomic indicators, annual percentage growth

European Union	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	1.7	1.2	-0.4	2.8	2.4	1.6	2.5	2.9	2.7	3.4	1.6	1.5	2.9
Occupied population	0.3	-1.2	-1.7	-0.1	0.8	0.3	1.0	1.7	1.6	1.8	1.2	0.3	1.0
Labour productivity	1.6	2.5	1.5	2.9	1.7	1.4	1.5	1.2	1.1	1.6	0.4	1.2	1.9
Annual average hours worked	:	-0.3	-0.5	0.1	-0.5	-0.4	0.0	-0.2	-0.3	-	-		
Productivity per hour worked	:	2.7	1.8	2.9	2.2	1.4	1.6	1.5	1.3	2.1	0.3		
Harmonised CPI	5.2	4.0	3.4	2.8	2.8	2.4	1.7	1.3	1.2	2.1	2.3	2.1	1.9
Price deflator GDP	5.2	4.1	3.4	2.6	2.8	2.3	1.8	1.9	1.4	1.4	2.3	2.1	1.9
Nominal compensation per employee	7.1	6.9	4.3	3.1	3.3	3.0	2.4	2.1	2.7	3.0	3.3	3.3	3.3
Real compensation per employee (GDP deflator)	1.8	2.7	0.8	0.5	0.5	0.7	0.6	0.2	1.3	1.5	1.0	1.1	1.4
Real compensation per employee (private consumption deflator)	1.4	2.3	0.2	0.0	0.3	0.4	0.3	0.4	1.5	1.1	1.1	1.2	1.3
NULC	5.4	4.3	2.7	0.1	1.6	1.6	0.9	0.9	1.6	1.3	2.9	2.0	1.4
RULC	0.2	0.2	-0.7	-2.4	-1.1	-0.7	-0.9	-1.0	0.2	-0.1	0.6	-0.1	-0.5
Belgium													
Real GDP	1.8	1.5	-1.0	3.2	2.4	1.2	3.6	2.2	3.0	4.0	1.0	1.1	2.8
Occupied population	0.1	-0.5	-0.8	-0.4	0.7	0.4	0.7	1.2	1.4	1.6	1.2	0.1	0.9
Labour productivity	1.7	2.0	-0.2	3.6	1.7	0.8	2.8	1.0	1.6	2.4	-0.2	1.0	1.9
Annual average hours worked	:	-1.0	-2.4	0.1	1.9	-1.7	0.8	0.4	-	-	-		
Productivity per hour worked	:	3.1	2.1	3.5	-0.1	2.5	2.0	0.7	1.6	2.4	-0.2		
Harmonised CPI	:	2.3	2.5	2.4	1.3	1.8	1.5	0.9	1.1	2.7	2.4	1.7	1.7
Price deflator GDP	2.9	3.4	4.0	2.1	1.3	1.2	1.3	1.6	1.2	1.4	2.3	2.1	1.9
Nominal compensation per employee	7.7	5.7	4.7	4.4	2.1	1.6	2.9	1.8	3.2	3.2	3.5	3.2	3.2
Real compensation per employee (GDP deflator)	4.7	2.2	0.7	2.3	0.9	0.4	1.6	0.2	1.9	1.8	1.2	1.1	1.3
Real compensation per employee (private consumption deflator)	4.8	3.8	2.1	2.1	0.6	-0.5	1.1	0.6	2.1	0.9	1.2	1.5	1.5
NULC	5.9	3.6	4.9	0.8	0.4	0.8	0.1	0.8	1.6	0.8	3.7	2.2	1.2
RULC	2.9	0.2	0.9	-1.3	-0.8	-0.4	-1.2	-0.8	0.4	-0.6	1.3	0.1	-0.6
Denmark													
Real GDP	1.1	0.6	0.0	5.5	2.8	2.5	3.0	2.5	2.3	3.0	1.0	1.7	2.5
Occupied population	-0.6	-0.8	-1.5	1.4	0.5	0.7	1.2	1.7	1.5	0.8	0.2	0.1	0.4
Labour productivity	1.7	1.4	1.5	4.0	2.3	1.9	1.8	0.8	0.8	2.2	0.8	1.6	2.1
Annual average hours worked	:	1.3	-2.3	4.8	-2.5	0.5	0.7	-0.4	1.8	-	-		
Productivity per hour worked	:	0.1	3.8	-0.8	4.9	1.3	1.0	1.2	-0.9	2.2	1.0		
Harmonised CPI	2.2	1.9	0.9	1.8	2.0	2.1	1.9	1.3	2.1	2.7	2.3	2.3	2.1
Price deflator GDP	2.8	2.9	1.4	1.7	1.8	2.5	2.2	1.0	2.7	3.7	2.8	2.2	2.4
Nominal compensation per employee	3.9	4.1	2.3	1.5	3.8	4.1	3.7	3.8	2.9	3.9	4.5	3.6	3.8
Real compensation per employee (GDP deflator)	1.1	1.2	0.9	-0.3	2.0	1.6	1.5	2.7	0.2	0.2	1.7	1.4	1.3
Real compensation per employee (private consumption deflator)	1.0	2.2	0.3	-1.5	1.8	2.0	1.4	2.4	0.3	0.8	2.3	1.2	1.6
NULC	2.1	2.6	0.8	-2.4	1.5	2.2	1.9	3.0	2.0	1.6	3.7	2.0	1.7
RULC	-0.6	-0.2	-0.5	-4.1	-0.3	-0.3	-0.3	2.0	-0.6	-2.0	0.9	-0.2	-0.8
Germany													
Real GDP	5.0	2.2	-1.1	2.3	1.7	0.8	1.4	2.0	1.8	3.0	0.6	0.8	2.7
Occupied population	2.5	-1.5	-1.4	-0.2	0.2	-0.3	-0.2	1.1	1.2	1.6	0.2	-0.3	0.8
Labour productivity	2.5	3.8	0.3	2.5	1.5	1.1	1.6	0.9	0.6	1.3	0.4	1.2	1.9
Annual average hours worked	:	2.1	-1.2	-0.4	-1.6	-1.2	-0.3	0.2	-0.5	-1.5	-		
Productivity per hour worked	:	1.8	1.5	3.0	3.2	2.3	1.8	0.6	1.1	2.9	0.4		
Harmonised CPI	:	:	:	:	:	1.2	1.5	0.6	0.6	2.1	2.4	1.8	1.7
Price deflator GDP	3.9	5.0	3.7	2.5	2.0	1.0	0.7	1.1	0.5	-0.4	1.3	1.4	0.9
Nominal compensation per employee	5.9	10.5	4.1	3.0	3.6	1.3	0.8	1.0	1.2	1.2	1.6	2.5	2.6
Real compensation per employee (GDP deflator)	1.9	5.2	0.4	0.5	1.6	0.3	0.2	-0.1	0.7	1.6	0.3	1.0	1.7
Real compensation per employee (private consumption deflator)	2.1	5.8	0.2	0.4	1.7	-0.4	-1.2	-0.1	0.9	-0.2	-0.2	0.7	1.0
NULC	3.3	6.4	3.8	0.5	2.1	0.2	-0.7	0.2	0.6	-0.2	1.2	1.2	0.7
RULC	-0.6	1.3	0.2	-2.0	0.1	-0.8	-1.4	-0.9	0.2	0.2	-0.1	-0.2	-0.2

Macroeconomic indicators, annual percentage growth

Greece	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	3.1	0.7	-1.6	2.0	2.1	2.4	3.6	3.4	3.6	4.1	4.1	3.7	4.2
Occupied population	-2.3	1.4	1.0	1.9	0.9	-0.4	-0.6	4.1	-0.8	-0.3	-0.1	0.3	0.5
Labour productivity	5.5	-0.7	-2.6	0.2	1.2	2.8	4.2	-0.7	4.4	4.4	4.2	3.4	3.7
Annual average hours worked	:	1.5	1.0	-1.6	-0.5	0.9	-0.8	0.3	0.8	-	-		
Productivity per hour worked	:	-2.1	-3.4	1.8	1.7	1.9	5.0	-1.0	3.6	4.4	4.2		
Harmonised CPI	:	:	:	:	8.9	7.9	5.4	4.5	2.1	2.9	3.7	3.6	3.2
Price deflator GDP	19.8	14.8	14.5	11.2	9.8	7.4	6.8	5.2	3.0	3.4	3.2	3.3	3.2
Nominal compensation per employee	15.3	11.5	9.8	10.9	13.0	8.8	13.7	5.3	5.4	5.7	6.2	6.6	5.8
Real compensation per employee (GDP deflator)	-3.7	-2.9	-4.1	-0.2	2.9	1.4	6.5	0.1	2.4	2.3	2.9	3.2	2.6
Real compensation per employee (private consumption deflator)	-3.7	-3.5	-3.9	-0.1	3.9	0.6	7.7	0.8	3.3	2.6	3.0	3.2	2.8
NULC	9.3	12.3	12.7	10.7	11.7	5.9	9.1	6.1	1.0	1.3	1.9	3.1	2.0
RULC	-8.8	-2.2	-1.6	-0.4	1.7	-1.4	2.2	0.8	-1.9	-2.0	-1.2	-0.2	-1.1
Spain													
Real GDP	2.5	0.9	-1.0	2.4	2.8	2.4	4.0	4.3	4.1	4.1	2.8	2.1	3.1
Occupied population	1.0	-1.5	-2.9	-0.5	1.8	1.3	2.9	3.6	3.5	3.1	2.5	1.2	2.1
Labour productivity	1.6	2.5	2.0	2.9	0.9	1.2	0.9	0.5	0.5	1.0	0.3	0.9	1.1
Annual average hours worked	:	-0.5	-0.5	0.0	0.0	-0.3	0.2	1.1	-1.0	-0.1	-		
Productivity per hour worked	:	3.0	2.5	2.6	0.6	1.5	0.9	-0.4	1.6	1.2	0.3		
Harmonised CPI	:	:	4.9	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.0	2.5
Price deflator GDP	6.9	6.7	4.5	3.9	4.9	3.5	2.3	2.4	2.9	3.4	3.9	3.1	2.6
Nominal compensation per employee	10.3	11.3	7.4	3.7	3.6	4.5	2.3	2.7	2.7	3.4	4.3	3.5	3.0
Real compensation per employee (GDP deflator)	3.1	4.3	2.7	-0.1	-1.2	1.0	0.0	0.3	-0.1	0.0	0.4	0.3	0.4
Real compensation per employee (private consumption deflator)	3.6	4.4	2.0	-1.1	-1.1	1.0	-0.3	0.6	0.3	0.2	1.1	0.6	0.3
NULC	8.5	8.5	5.3	0.8	2.7	3.3	1.4	2.2	2.3	2.4	4.0	2.5	1.9
RULC	1.5	1.7	0.8	-3.0	-2.1	-0.2	-0.9	-0.2	-0.6	-1.0	0.0	-0.6	-0.7
France													
Real GDP	1.0	1.5	-0.9	2.1	1.7	1.1	1.9	3.4	3.2	3.8	1.8	1.6	2.8
Occupied population	0.1	-0.5	-1.2	0.0	0.8	0.3	0.5	1.3	1.8	2.3	1.9	0.5	1.2
Labour productivity	1.0	2.3	0.8	2.4	1.2	1.3	1.6	2.4	1.6	1.5	-0.4	1.2	1.5
Annual average hours worked	:	0.1	-0.2	-0.2	-1.5	-0.4	-0.2	-0.1	-0.4	-	-		
Productivity per hour worked	:	1.9	0.6	2.3	2.4	1.2	1.6	2.2	1.5	1.3	0.1		
Harmonised CPI	3.4	2.4	2.2	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8	1.7	1.6
Price deflator GDP	3.0	2.0	2.3	1.7	1.7	1.4	1.3	0.9	0.5	0.7	1.4	1.4	1.4
Nominal compensation per employee	4.1	4.1	3.0	2.1	2.6	2.7	2.3	2.3	2.5	2.2	2.3	2.5	2.5
Real compensation per employee (GDP deflator)	1.1	2.1	0.7	0.4	0.9	1.2	1.0	1.4	2.0	1.5	0.8	1.1	1.1
Real compensation per employee (private consumption deflator)	0.6	1.5	0.6	0.0	0.6	0.8	0.8	1.6	2.1	0.7	0.6	1.1	0.9
NULC	3.0	1.8	2.2	-0.3	1.4	1.3	0.6	-0.1	0.9	0.7	2.7	1.3	0.9
RULC	0.1	-0.2	-0.2	-2.0	-0.3	-0.1	-0.7	-1.0	0.4	-0.1	1.3	0.0	-0.5
Ireland													
Real GDP	1.9	3.3	2.7	5.8	10.0	7.8	10.8	8.6	10.8	11.5	6.8	3.5	6.1
Occupied population	0.0	1.0	0.6	3.1	5.1	3.6	5.6	8.6	6.0	4.7	2.9	1.0	2.1
Labour productivity	1.9	2.4	2.1	2.6	4.7	4.0	5.0	0.0	4.6	6.5	3.7	2.4	3.9
Annual average hours worked	:	-2.5	-0.7	0.2	0.0	0.1	-2.1	-4.3	-1.2	-	-		
Productivity per hour worked	:	5.7	1.8	2.4	5.3	4.0	7.2	5.9	5.5	6.3	3.7		
Harmonised CPI	:	:	:	:	2.8	2.2	1.2	2.1	2.5	5.3	4.0	4.5	3.3
Price deflator GDP	1.8	2.8	5.2	1.7	3.0	2.2	4.1	5.9	4.2	4.3	4.9	4.5	3.6
Nominal compensation per employee	4.3	7.0	6.4	2.5	2.4	3.5	4.1	4.6	5.3	8.8	9.2	8.1	6.9
Real compensation per employee (GDP deflator)	2.5	4.1	1.1	0.8	-0.6	1.3	-0.1	-1.3	1.1	4.4	4.1	3.4	3.1
Real compensation per employee (private consumption deflator)	1.6	3.9	4.1	-0.2	-0.4	0.9	1.3	1.0	1.9	4.1	4.5	3.5	3.5
NULC	2.3	4.5	4.2	-0.1	-2.2	-0.5	-0.9	4.5	0.7	2.2	5.3	5.5	2.9
RULC	0.5	1.7	-0.9	-1.8	-5.1	-2.7	-4.8	-1.3	-3.3	-2.0	0.3	1.0	-0.8

Macroeconomic indicators, annual percentage growth

Italy	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	1.4	0.8	-0.9	2.2	2.9	1.1	2.0	1.8	1.6	2.9	1.8	1.4	2.7
Occupied population	1.9	-0.5	-2.5	-1.5	-0.1	0.6	0.4	1.0	1.1	1.9	1.6	0.8	1.2
Labour productivity	0.6	1.4	2.2	3.2	2.9	0.8	1.6	0.8	0.8	1.1	0.2	0.6	1.5
Annual average hours worked	:	-2.2	0.4	-0.2	0.1	0.1	0.2	-0.1	-0.2	-	-		
Productivity per hour worked	:	3.3	1.7	4.3	3.3	0.1	1.5	1.0	0.7	1.1	0.2		
Harmonised CPI	6.2	5.0	4.5	4.2	5.4	4.0	1.9	2.0	1.7	2.6	2.3	2.2	2.0
Price deflator GDP	7.6	4.5	3.9	3.5	5.0	5.3	2.4	2.7	1.7	2.1	2.6	2.4	2.2
Nominal compensation per employee	8.8	5.8	4.6	3.0	4.2	6.1	4.0	-1.5	2.4	3.0	2.8	2.7	2.9
Real compensation per employee (GDP deflator)	1.1	1.2	0.6	-0.4	-0.8	0.8	1.6	-4.1	0.7	0.9	0.1	0.3	0.8
Real compensation per employee (private consumption deflator)	1.7	0.3	-0.9	-1.8	-1.7	1.7	1.7	-3.6	0.3	0.2	-0.1	0.4	0.8
NULC	8.1	4.3	2.3	-0.2	1.2	5.3	2.3	-2.3	1.6	1.9	2.6	2.1	1.5
RULC	0.5	-0.2	-1.6	-3.5	-3.6	0.0	0.0	-4.9	-0.1	-0.2	-0.1	-0.2	-0.7
Luxembourg													
Real GDP	4.6	3.7	4.1	3.8	3.2	3.6	9.0	5.8	6.0	7.5	3.5	2.9	5.2
Occupied population	4.1	2.5	1.8	2.5	2.5	2.6	3.1	4.5	5.0	5.6	5.6	2.0	3.0
Labour productivity	0.5	1.2	2.3	1.3	0.7	0.9	5.8	1.3	0.9	1.8	-2.0	0.9	2.1
Annual average hours worked	:	-1.1	-0.1	-1.2	0.9	-1.3	-0.1	-0.5	-0.2	-	-		
Productivity per hour worked	:	2.2	2.5	2.5	-0.3	4.0	8.1	4.1	3.7	4.4	-2.1		
Harmonised CPI	:	:	:	:	:	1.2	1.4	1.0	1.0	3.8	2.4	2.0	2.2
Price deflator GDP	3.9	3.3	5.1	5.1	0.8	1.9	2.8	2.6	2.2	3.5	0.2	2.3	3.7
Nominal compensation per employee	5.0	6.4	5.5	4.5	1.7	1.8	3.1	2.3	2.5	4.6	5.2	3.8	4.0
Real compensation per employee (GDP deflator)	1.1	3.0	0.4	-0.6	0.9	0.0	0.3	-0.3	0.3	1.1	4.9	1.4	0.2
Real compensation per employee (private consumption deflator)	2.3	5.6	-1.5	1.9	-0.5	0.1	1.6	1.0	0.9	1.7	2.6	1.8	1.8
NULC	4.5	5.2	3.2	3.1	1.0	0.9	-2.5	1.0	1.6	2.8	7.4	2.9	1.8
RULC	0.6	1.8	-1.8	-1.9	0.2	-0.9	-5.2	-1.6	-0.6	-0.7	7.1	0.6	-1.8
Netherlands													
Real GDP	2.5	1.7	0.9	2.6	2.9	3.0	3.8	4.3	3.7	3.5	1.1	1.5	2.7
Occupied population	1.8	1.6	0.0	0.7	1.5	2.3	3.2	2.6	2.5	2.4	2.1	0.6	0.7
Labour productivity	1.1	0.4	1.0	2.6	1.1	0.5	0.7	1.4	1.2	1.1	-0.9	0.9	1.8
Annual average hours worked	:	-0.6	-0.6	-1.1	-2.1	-0.1	-0.1	-1.1	0.2	-	-		
Productivity per hour worked	:	0.7	1.6	3.0	3.5	0.9	0.7	2.8	1.1	1.1	-0.9		
Harmonised CPI	3.2	2.8	1.6	2.1	1.4	1.4	1.9	1.8	2.0	2.3	5.1	3.5	2.2
Price deflator GDP	2.8	2.3	1.8	2.3	2.0	1.2	2.0	1.7	1.7	3.7	4.7	3.2	3.0
Nominal compensation per employee	4.7	4.6	3.3	2.8	1.7	1.3	2.1	3.5	3.3	4.6	4.8	5.2	4.5
Real compensation per employee (GDP deflator)	1.8	2.2	1.4	0.4	-0.3	0.1	0.1	1.7	1.6	0.8	0.1	1.9	1.5
Real compensation per employee (private consumption deflator)	1.3	1.2	1.0	-0.2	0.3	-0.6	0.1	1.7	1.4	1.7	0.6	1.8	2.0
NULC	3.6	4.1	2.3	0.1	0.6	0.8	1.4	2.0	2.1	3.5	5.7	4.3	2.6
RULC	0.7	1.8	0.4	-2.1	-1.4	-0.4	-0.6	0.3	0.4	-0.3	1.0	1.0	-0.3
Austria													
Real GDP	3.3	2.3	0.4	2.6	1.6	2.0	1.6	3.5	2.8	3.0	1.0	1.2	2.5
Occupied population	1.4	0.2	-0.6	-0.1	0.0	-0.6	0.5	0.7	1.2	0.5	0.2	-0.4	0.5
Labour productivity	2.1	2.2	1.3	2.8	2.0	2.2	1.1	2.7	1.8	1.6	0.8	1.6	2.0
Annual average hours worked	:	0.0	0.0	0.0	0.0	0.0	3.0	-5.7	0.7	-	-		
Productivity per hour worked	:	2.1	1.1	2.7	1.6	2.6	-1.9	9.1	0.9	2.5	0.8		
Harmonised CPI	3.1	3.5	3.2	2.7	1.6	1.8	1.2	0.8	0.5	2.0	2.3	1.6	1.7
Price deflator GDP	3.8	3.6	2.9	2.7	2.5	1.3	0.9	0.5	0.7	1.2	1.8	1.7	1.3
Nominal compensation per employee	6.7	5.9	4.8	4.0	4.2	1.1	1.5	2.8	2.4	2.1	2.8	2.3	2.6
Real compensation per employee (GDP deflator)	2.8	2.2	1.8	1.3	1.6	-0.3	0.6	2.2	1.6	0.9	0.9	0.6	1.3
Real compensation per employee (private consumption deflator)	3.1	2.0	1.2	1.2	2.1	-0.9	0.0	2.3	1.6	0.5	0.4	0.1	0.7
NULC	4.5	3.6	3.5	1.2	2.1	-1.1	0.4	0.1	0.6	0.5	2.0	0.7	0.6
RULC	0.7	0.0	0.5	-1.5	-0.4	-2.4	-0.5	-0.4	-0.2	-0.7	0.1	-1.0	-0.7

Macroeconomic indicators, annual percentage growth

Portugal	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	4.4	1.1	-2.0	1.0	4.3	3.5	3.9	4.5	3.5	3.5	1.7	1.5	2.2
Occupied population	2.8	-1.6	-2.0	-1.0	-0.7	:	1.7	2.7	1.8	1.7	1.6	0.3	0.3
Labour productivity	1.5	2.8	0.0	2.0	5.1	:	2.2	1.8	1.6	1.8	0.0	1.2	1.8
Annual average hours worked	:	-0.6	-0.5	-0.2	2.1	-1.3	-2.2	-1.1	1.0	-	-		
Productivity per hour worked	:	3.4	0.5	2.3	2.3	3.2	4.6	3.0	0.6	1.8	0.0		
Harmonised CPI	11.4	8.9	5.9	5.0	4.0	2.9	1.9	2.2	2.2	2.8	4.4	3.1	2.4
Price deflator GDP	10.1	11.4	7.4	7.3	3.4	3.0	3.8	3.8	3.2	3.1	4.9	3.2	2.4
Nominal compensation per employee	18.1	16.3	6.0	5.6	7.2	:	5.5	4.2	4.2	6.3	5.8	4.4	3.7
Real compensation per employee (GDP deflator)	7.3	4.4	-1.3	-1.6	3.7	:	1.7	0.4	1.0	3.1	0.8	1.1	1.3
Real compensation per employee (private consumption deflator)	5.7	6.5	-0.9	0.0	2.8	:	2.5	1.4	1.9	3.4	1.5	1.3	1.3
NULC	16.3	13.2	6.0	3.5	2.0	:	3.2	2.4	2.5	4.5	5.8	3.2	1.8
RULC	5.7	1.5	-1.3	-3.5	-1.3	:	-0.5	-1.4	-0.6	1.3	0.8	-0.1	-0.6
Finland													
Real GDP	-6.3	-3.3	-1.1	4.0	3.8	4.0	6.3	5.3	4.1	5.6	0.7	1.6	3.3
Occupied population	-5.6	-7.2	-6.2	-1.1	1.6	1.4	3.3	2.1	2.7	1.9	1.2	-0.1	0.3
Labour productivity	-0.7	4.2	5.4	5.1	2.2	2.6	2.9	3.2	1.3	3.6	-0.5	1.7	3.0
Annual average hours worked	:	1.2	-1.3	2.2	-0.3	0.9	-0.5	-1.1	0.3	-2.5	-		
Productivity per hour worked	:	3.0	6.9	2.9	2.4	1.6	3.5	4.3	1.0	6.3	-0.5		
Harmonised CPI	4.5	3.3	3.3	1.6	0.4	1.1	1.2	1.4	1.3	3.0	2.7	2.0	2.1
Price deflator GDP	1.8	0.9	2.3	2.0	4.1	-0.2	2.1	3.0	-0.2	3.2	2.2	1.2	1.9
Nominal compensation per employee	6.4	2.2	0.9	3.1	3.9	2.7	1.7	4.1	2.1	3.9	4.5	3.5	3.8
Real compensation per employee (GDP deflator)	4.4	1.3	-1.4	1.1	-0.2	2.9	-0.3	1.1	2.3	0.8	2.3	2.2	1.9
Real compensation per employee (private consumption deflator)	0.5	-1.9	-2.9	2.1	3.5	1.3	0.4	2.3	1.0	0.1	1.8	1.5	1.8
NULC	7.1	-1.9	-4.3	-2.0	1.7	0.1	-1.1	0.9	0.8	0.3	5.0	1.7	0.8
RULC	5.1	-2.8	-6.5	-3.9	-2.3	0.4	-3.1	-2.0	0.9	-2.8	2.8	0.5	-1.1
Sweden													
Real GDP	-1.1	-1.7	-1.8	4.1	3.7	1.1	2.1	3.6	4.5	3.6	1.2	1.7	2.8
Occupied population	-1.5	-4.5	-5.2	-0.8	1.3	-0.6	-1.1	1.2	2.2	2.1	1.9	-0.4	0.3
Labour productivity	0.4	2.8	3.6	4.9	2.3	1.6	3.2	2.3	2.3	1.5	-0.6	2.1	2.5
Annual average hours worked	:	1.1	1.2	2.1	0.7	0.5	0.3	0.1	0.3	-0.7	-		
Productivity per hour worked	:	1.7	2.3	2.7	1.6	1.2	2.8	2.3	1.8	2.2	-0.6		
Harmonised CPI	:	:	:	:	:	0.8	1.8	1.0	0.6	1.3	2.7	2.2	2.2
Price deflator GDP	7.3	1.0	2.7	2.4	3.5	1.4	1.7	0.9	0.7	1.0	2.0	2.2	2.1
Nominal compensation per employee	6.8	3.9	4.4	4.8	2.8	6.8	3.8	3.3	1.3	7.3	3.8	3.9	4.0
Real compensation per employee (GDP deflator)	-0.4	2.9	1.6	2.4	-0.7	5.3	2.1	2.4	0.6	6.2	1.7	1.7	1.9
Real compensation per employee (private consumption deflator)	-3.4	1.8	-1.4	2.0	-0.1	5.3	1.5	2.2	0.2	6.3	2.1	2.0	2.0
NULC	6.4	1.1	0.8	-0.1	0.5	5.1	0.6	0.9	-1.0	5.8	4.4	1.8	1.4
RULC	-0.9	0.1	-1.9	-2.4	-2.9	3.6	-1.1	0.1	-1.6	4.7	2.3	-0.4	-0.6
United Kingdom													
Real GDP	-1.4	0.2	2.5	4.7	2.9	2.6	3.4	3.0	2.1	3.0	2.2	2.0	3.0
Occupied population	-3.0	-2.3	-1.4	0.7	1.5	1.1	2.0	1.4	1.1	1.0	0.8	0.2	0.6
Labour productivity	1.7	2.6	4.0	3.9	1.4	1.5	1.4	1.6	1.1	2.0	1.4	1.8	2.3
Annual average hours worked	:	-2.2	-0.4	0.8	0.1	-0.1	-0.1	-0.3	-0.7	-0.7	-		
Productivity per hour worked	:	4.6	4.4	3.1	1.3	1.5	1.6	2.2	1.6	2.4	1.2		
Harmonised CPI	7.5	4.2	2.5	2.0	2.7	2.5	1.8	1.6	1.3	0.8	1.2	1.6	1.8
Price deflator GDP	6.6	4.0	2.6	1.4	2.6	3.3	2.9	2.9	2.6	1.7	2.4	2.5	2.5
Nominal compensation per employee	9.3	4.9	4.6	2.9	3.1	3.6	4.3	5.0	5.3	4.2	5.2	4.3	4.5
Real compensation per employee (GDP deflator)	2.5	0.9	2.0	1.6	0.5	0.3	1.4	2.0	2.6	2.4	2.7	1.8	1.9
Real compensation per employee (private consumption deflator)	1.3	0.2	1.3	1.0	0.0	0.5	1.9	2.2	3.7	3.6	3.7	2.3	2.5
NULC	7.5	2.3	0.6	-0.9	1.7	2.0	2.9	3.4	4.2	2.1	3.7	2.5	2.1
RULC	0.8	-1.7	-1.9	-2.2	-0.9	-1.2	0.0	0.4	1.5	0.4	1.3	0.0	-0.4

Macroeconomic indicators, annual percentage growth

United States	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	-0.5	3.1	2.7	4.1	2.7	3.6	4.5	4.3	4.1	4.2	1.2	2.7	3.1
Occupied population	-1.0	0.1	2.0	2.3	2.2	1.7	2.3	2.2	1.9	1.9	-0.1	-0.8	0.6
Labour productivity	0.6	3.2	0.6	1.5	0.2	1.7	2.0	2.0	2.2	2.1	1.3	3.5	2.5
Annual average hours worked	:	-0.5	0.9	0.6	0.8	-0.1	0.6	0.8	0.4	0.3	-		
Productivity per hour worked	:	3.4	-0.2	1.1	-0.3	1.9	1.5	1.2	1.8	1.9	1.3		
National CPI	4.2	3.0	3.0	2.6	2.8	2.9	2.3	1.6	2.2	3.4	2.8	1.4	2.4
Price deflator GDP	3.6	2.4	2.4	2.1	2.2	1.9	2.0	1.2	1.4	2.3	2.2	1.4	2.1
Nominal compensation per employee	4.6	5.3	2.8	2.4	1.8	2.5	3.1	4.5	4.1	5.1	5.2	3.9	4.0
Real compensation per employee (GDP deflator)	1.0	2.8	0.4	0.4	-0.4	0.6	1.1	3.2	2.7	2.8	3.0	2.5	1.9
Real compensation per employee (private consumption deflator)	0.8	2.2	0.4	0.4	-0.5	0.4	1.2	3.4	2.4	2.4	3.3	2.5	1.7
NULC	4.0	2.0	2.2	1.0	1.6	0.8	1.1	2.4	1.9	3.0	3.9	0.4	1.5
RULC	0.3	-0.4	-0.2	-1.1	-0.6	-1.1	-0.9	1.2	0.5	0.7	1.6	-1.0	-0.6
Japan													
Real GDP	3.1	0.9	0.4	1.0	1.6	3.5	1.8	-1.1	0.7	2.4	-0.5	-0.8	0.6
Occupied population	2.0	1.1	0.4	0.1	0.1	0.4	1.0	-0.7	-0.8	-0.2	-0.5	-0.5	-0.3
Labour productivity	1.1	-0.2	0.0	0.9	1.4	3.0	0.8	-0.4	1.5	2.6	-0.1	-0.3	0.9
Annual average hours worked	:	-1.7	-3.1	-0.4	-0.7	0.4	-1.5	-1.2	-0.1	-	-		
Productivity per hour worked	:	1.5	3.2	1.3	2.2	2.6	2.3	0.7	1.6	2.6	-0.1		
National CPI	3.3	1.7	1.3	0.7	-0.1	0.2	1.7	0.6	-0.3	-0.7	-0.6	-0.9	-0.1
Price deflator GDP	3.0	1.7	0.6	0.1	-0.4	-0.8	0.4	-0.1	-1.4	-2.0	-1.4	-1.2	0.2
Nominal compensation per employee	4.8	1.4	0.8	1.4	1.6	0.7	1.6	-0.2	-1.0	0.4	-1.0	-2.9	-0.1
Real compensation per employee (GDP deflator)	1.8	-0.3	0.2	1.3	2.0	1.5	1.2	-0.1	0.5	2.4	0.4	-1.7	-0.2
Real compensation per employee (private consumption deflator)	2.0	-0.2	-0.1	0.8	1.9	0.7	0.5	0.0	-0.4	1.5	0.6	-2.0	-0.2
NULC	3.7	1.6	0.8	0.5	0.2	-2.3	0.8	0.3	-2.5	-2.1	-0.9	-2.6	-1.0
RULC	0.7	-0.1	0.2	0.4	0.5	-1.5	0.5	0.3	-1.0	-0.2	0.5	-1.4	-1.1
Bulgaria													
Real GDP	:	-7.3	-1.5	1.8	2.9	-10.1	-7.0	3.5	2.4	5.8	4.3	4.0	5.0
Occupied population	-13.0	-8.1	-1.6	0.6	1.3	0.1	-2.7	-1.9	-3.8	-3.5	-2.0	0.0	0.5
Labour productivity	:	1.0	0.1	1.2	1.6	-10.2	-4.5	5.5	6.4	9.6	6.4	4.0	4.5
Harmonised CPI	:	:	:	:	:	:	:	18.7	2.6	10.3	7.4	7.5	5.0
Price deflator GDP	:	59.6	51.1	72.7	62.8	121.0	949.1	22.2	3.1	5.7	2.6	9.5	4.4
Nominal compensation per employee	:	:	:	:	:	:	:	:	:	:	:	:	:
Real compensation per employee (GDP deflator)	:	:	:	:	:	:	:	:	:	:	:	:	:
Real compensation per employee (private consumption deflator)	:	:	:	:	:	:	:	:	:	:	:	:	:
NULC	:	:	:	:	:	:	:	:	:	:	:	:	:
RULC	:	:	:	:	:	:	:	:	:	:	:	:	:
Cyprus													
Real GDP	0.7	9.7	0.7	5.9	6.1	1.9	2.4	5.0	4.5	5.1	3.7	2.5	4.0
Occupied population	:	:	:	:	3.4	1.0	-0.2	1.0	1.4	1.8	1.9	0.5	1.0
Labour productivity	:	:	:	:	2.6	0.9	2.7	3.9	3.3	3.2	1.8	2.0	2.9
Harmonised CPI	:	:	:	:	:	:	3.3	2.3	1.1	4.9	2.0	3.1	3.5
Price deflator GDP	:	:	:	5.3	3.0	1.9	2.5	2.1	1.1	4.0	3.2	3.4	4.1
Nominal compensation per employee	:	:	:	:	7.4	4.7	7.0	4.3	:	:	:	:	:
Real compensation per employee (GDP deflator)	:	:	:	:	4.2	2.7	4.4	2.1	:	:	:	:	:
Real compensation per employee (private consumption deflator)	:	:	:	:	4.9	2.3	4.4	2.4	:	:	:	:	:
NULC	:	:	:	:	4.6	3.7	4.3	0.4	:	:	:	:	:
RULC	:	:	:	:	1.5	1.8	1.7	-1.7	:	:	:	:	:
Czech Republic													
Real GDP	-11.6	-0.5	0.1	2.2	5.9	4.3	-0.8	-1.0	0.5	3.3	3.3	3.4	3.9
Occupied population	:	:	-0.2	1.1	0.7	0.2	-0.7	-1.4	-2.1	-0.7	0.4	0.0	0.1
Labour productivity	:	:	0.3	1.1	5.2	4.1	-0.1	0.4	2.6	4.0	2.9	3.4	3.8
Harmonised CPI	:	:	:	:	:	9.1	8.0	9.7	1.8	3.9	4.5	3.9	3.5
Price deflator GDP	36.2	12.4	21.0	13.4	10.2	8.8	8.0	10.6	3.0	1.1	5.3	4.1	3.5
Nominal compensation per employee	:	:	3.8	19.1	19.3	16.4	7.2	8.2	6.6	3.9	8.0	7.1	7.0
Real compensation per employee (GDP deflator)	:	:	-14.3	5.1	8.3	7.0	-0.7	-2.2	3.6	2.8	2.5	2.9	3.4
Real compensation per employee (private consumption deflator)	:	:	:	:	9.3	7.7	-0.2	-0.7	2.7	1.6	4.3	3.3	3.3
NULC	:	:	3.5	17.8	13.5	11.8	7.3	7.8	3.9	-0.1	5.0	3.6	3.2
RULC	:	:	-14.5	3.9	2.9	2.8	-0.7	-2.6	0.9	-1.1	-0.3	-0.5	-0.3

Macroeconomic indicators, annual percentage growth

Estonia	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	:	:	:	-2.0	4.6	4.0	10.4	5.0	-0.7	6.9	5.4	4.0	5.3
Occupied population	-2.3	-5.2	-7.5	-2.2	-5.3	-1.6	0.4	-1.3	-4.1	-0.9	1.0	0.3	0.8
Labour productivity	:	:	:	0.2	10.4	5.7	10.0	6.4	3.5	7.8	4.3	3.7	4.5
Harmonised CPI	:	:	:	:	:	19.8	9.3	8.8	3.1	3.9	5.6	4.1	4.4
Price deflator GDP	:	:	:	39.6	30.9	23.3	10.6	9.3	4.5	4.7	5.8	7.0	6.6
Nominal compensation per employee	:	:	:	54.3	40.4	23.3	19.3	14.4	14.2	4.5	7.9	10.6	11.0
Real compensation per employee (GDP deflator)	:	:	:	10.5	7.3	0.0	7.8	4.7	9.3	-0.2	2.0	3.3	4.1
Real compensation per employee (private consumption deflator)	:	:	:	8.3	12.6	0.5	8.8	5.6	10.8	0.6	2.0	6.3	6.5
NULC	:	:	:	54.0	27.2	16.7	8.4	7.6	10.3	-3.1	3.4	6.7	6.3
RULC	:	:	:	10.3	-2.9	-5.3	-2.0	-1.6	5.6	-7.4	-2.3	-0.4	-0.3
Hungary													
Real GDP	-11.9	-3.1	-0.6	2.9	1.5	1.3	4.6	4.9	4.2	5.2	3.8	3.5	4.5
Occupied population	:	:	-6.3	-2.0	-1.9	-0.8	0.0	1.4	3.1	1.0	0.3	-0.2	-0.3
Labour productivity	:	:	6.1	5.0	3.5	2.2	4.6	3.4	1.1	4.2	3.5	3.7	4.8
Harmonised CPI	:	:	:	:	:	23.5	18.5	14.2	10.0	10.0	9.1	5.2	4.2
Price deflator GDP	25.4	21.5	21.3	19.5	26.7	21.2	18.5	12.6	8.4	9.1	8.9	4.9	4.0
Nominal compensation per employee	:	:	80.8	17.9	21.5	20.2	20.8	13.9	5.0	9.5	9.6	10.9	7.7
Real compensation per employee (GDP deflator)	:	:	49.1	-1.3	-4.1	-0.8	2.0	1.1	-3.2	0.4	0.6	5.7	3.6
Real compensation per employee (private consumption deflator)	:	:	51.2	-1.0	-5.7	-2.6	2.4	0.5	-5.1	-0.3	0.5	4.8	4.2
NULC	:	:	70.5	12.2	17.4	17.6	15.5	10.2	3.9	5.1	5.9	6.9	2.7
RULC	:	:	40.6	-6.1	-7.3	-3.0	-2.5	-2.2	-4.2	-3.6	-2.8	1.9	-1.2
Latvia													
Real GDP	-10.4	-34.9	-14.9	0.6	-0.8	3.3	8.6	3.9	1.1	6.8	7.6	5.0	6.0
Occupied population	-0.8	-7.3	-6.9	-10.1	-3.5	-2.7	1.9	0.6	-0.5	0.0	-0.1	0.5	1.5
Labour productivity	-9.6	-29.7	-8.6	12.0	2.7	6.2	6.6	3.3	1.6	6.8	7.7	4.5	4.4
Harmonised CPI	:	:	:	:	:	:	8.1	4.3	2.1	2.6	2.5	3.0	3.0
Price deflator GDP	156.2	975.9	71.5	38.3	16.0	16.5	6.6	5.5	7.4	4.4	1.7	3.2	3.3
Nominal compensation per employee	:	:	138.3	54.3	23.9	24.2	15.2	7.0	4.1	12.6	6.4	7.0	2.4
Real compensation per employee (GDP deflator)	:	:	38.9	11.5	6.8	6.6	8.1	1.4	-3.1	7.8	4.6	3.6	-0.9
Real compensation per employee (private consumption deflator)	:	:	13.4	2.2	-0.7	5.3	6.1	7.1	3.6	7.2	2.3	4.1	-0.4
NULC	:	:	160.6	37.7	20.6	17.0	8.1	3.6	2.5	5.4	-1.2	2.4	-2.0
RULC	:	:	51.9	-0.4	4.0	0.4	1.4	-1.8	-4.6	0.9	-2.9	-0.8	-5.1
Lithuania													
Real GDP	-5.7	-21.3	-16.2	-9.8	3.3	4.7	7.3	5.1	-3.9	3.8	5.9	4.0	5.0
Occupied population	2.4	-2.2	-4.2	-5.8	-1.9	0.9	0.6	-0.8	-0.5	-3.7	-4.0	0.4	0.7
Labour productivity	-7.9	-19.5	-12.6	-4.2	5.3	3.7	6.6	5.9	-3.4	7.8	10.3	3.6	4.3
Harmonised CPI	:	:	:	:	:	24.7	8.8	5.0	0.7	0.9	1.3	2.7	2.4
Price deflator GDP	227.9	943.0	306.2	61.6	38.0	25.1	13.2	6.7	3.2	2.0	0.4	2.1	1.8
Nominal compensation per employee	:	:	:	67.7	74.1	33.5	26.2	17.2	6.6	-2.3	3.3	4.9	4.6
Real compensation per employee (GDP deflator)	:	:	:	3.7	26.1	6.7	11.5	9.9	3.2	-4.2	2.9	2.8	2.8
Real compensation per employee (private consumption deflator)	:	:	:	:	:	14.3	15.9	12.1	5.6	-2.0	1.1	2.3	2.3
NULC	:	:	:	75.1	65.4	28.7	18.4	10.6	10.3	-9.4	-6.4	1.3	0.3
RULC	:	:	:	8.3	19.8	2.9	4.5	3.7	6.9	-11.1	-6.7	-0.8	-1.4
Malta													
Real GDP	:	:	4.5	5.7	6.2	4.0	4.9	3.4	4.1	5.2	-1.0	3.9	4.0
Occupied population	1.7	1.6	1.1	-1.5	3.3	1.6	0.3	-0.2	0.7	-1.4		0.7	0.7
Labour productivity	:	:	3.4	7.3	2.8	2.4	4.6	3.6	3.4	6.8		3.2	3.2
Harmonised CPI	:	:	:	:	:	:	:	:	:	:	:	:	:
Price deflator GDP	:	:	2.8	3.5	4.9	0.8	2.3	2.3	2.7	1.7		3.0	2.2
Nominal compensation per employee	9.7	6.3	9.9	8.4	8.8	6.1	3.1	5.6	5.4	5.8		3.1	3.7
Real compensation per employee (GDP deflator)	:	:	6.9	4.7	3.7	5.2	0.8	3.2	2.6	4.1		0.1	1.5
Real compensation per employee (private consumption deflator)	:	:	:	:	:	:	:	:	:	:	:	:	:
NULC	:	:	6.3	1.0	5.8	3.7	-1.4	1.9	1.9	-0.9	6.8	-0.1	0.5
RULC	1.6	-0.3	3.4	-2.5	0.9	2.8	-3.6	-0.4	-0.8	-2.5	1.7	-3.0	-1.7

Macroeconomic indicators, annual percentage growth

Poland	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real GDP	-7.0	-33.9	3.8	44.5	7.0	6.0	6.8	4.8	4.1	4.0	1.1	1.4	3.2
Occupied population	:	:	-2.4	1.0	1.8	1.9	2.8	2.3	-2.7	-2.3	-2.3	-1.3	0.5
Labour productivity	:	:	6.3	43.1	5.1	4.0	3.9	2.4	6.9	6.4	3.5	2.7	2.6
Harmonised CPI	:	:	:	:	:	:	15.0	11.8	7.2	10.1	5.3	4.0	4.5
Price deflator GDP	55.2	114.9	30.6	0.0	27.9	18.7	14.0	11.8	6.8	7.1	4.3	3.9	3.6
Nominal compensation per employee	:	73.4	33.0	40.4	34.0	28.4	20.6	16.0	13.0	11.0	7.8	6.7	7.5
Real compensation per employee (GDP deflator)	:	-19.3	1.8	40.4	4.7	8.1	5.8	3.8	5.8	3.7	3.4	2.6	3.8
Real compensation per employee (private consumption deflator)	:	-28.4	1.2	40.4	4.7	7.0	5.1	4.0	5.8	0.9	2.6	2.6	2.9
NULC	:	:	25.1	-1.8	27.4	23.4	16.0	13.3	5.7	4.3	4.2	3.8	4.8
RULC	:	:	-4.2	-1.8	-0.4	4.0	1.8	1.3	-1.0	-2.6	-0.1	-0.1	1.1
Romania													
Real GDP	-13.1	-8.7	1.5	3.9	7.1	3.9	-6.1	-4.8	-1.2	1.8	5.3	4.2	4.9
Occupied population	-0.5	-3.0	-3.8	-0.5	-5.2	-1.2	-3.8	-2.3	-4.5	2.5	0.6	-0.2	0.1
Labour productivity	-12.6	-5.9	5.5	4.5	13.0	5.2	-2.3	-2.5	3.5	-0.7	4.6	4.4	4.8
Harmonised CPI	:	:	:	:	:	38.8	154.9	59.1	45.8	45.7	34.5	26.0	18.1
Price deflator GDP	195.6	199.7	227.3	139.0	35.3	45.3	147.2	55.3	47.7	44.1	37.0	26.1	16.4
Nominal compensation per employee	127.4	187.8	207.6	132.6	54.3	53.5	103.1	128.1	41.2	-2.8	0.0	0.0	0.0
Real compensation per employee (GDP deflator)	-23.1	-4.0	-6.0	-2.7	14.1	5.7	-17.8	46.9	-4.4	-32.5	-27.0	-20.7	-14.1
Real compensation per employee (private consumption deflator)	-19.6	-5.8	-8.0	-3.8	12.8	7.0	-20.9	37.6	-8.1	-31.2	-27.0	-20.6	-15.3
NULC	160.3	205.8	191.6	122.7	36.5	45.9	108.0	134.0	36.5	-2.1	-4.4	-4.2	-4.6
RULC	-11.9	2.0	-10.9	-6.8	0.9	0.4	-15.9	50.7	-7.6	-32.1	-30.2	-24.0	-18.0
Slovak Republic													
Real GDP	:	:	1.9	4.9	6.7	6.2	6.2	4.1	1.9	2.2	3.3	3.6	4.2
Occupied population	:	:	:	:	2.1	3.3	-1.1	1.5	-3.2	-1.5	1.0	0.5	0.6
Labour productivity	:	:	:	:	4.6	2.8	7.4	2.5	5.3	3.8	2.3	3.1	3.6
Harmonised CPI	:	:	:	:	:	5.8	6.1	6.7	10.6	12.1	7.3	4.1	6.8
Price deflator GDP	:	:	15.4	13.8	9.7	4.5	6.6	5.1	6.6	6.5	5.3	5.2	5.6
Nominal compensation per employee	:	:	:	:	:	:	:	:	7.6	7.0	8.1	7.2	8.7
Real compensation per employee (GDP deflator)	:	:	:	:	:	:	:	:	1.0	0.5	2.7	1.8	3.0
Real compensation per employee (private consumption deflator)	:	:	:	:	:	:	:	:	-2.4	-3.8	2.5	3.3	2.8
NULC	:	:	:	:	:	:	:	:	2.2	3.1	5.8	4.0	5.0
RULC	:	:	:	:	:	:	:	:	-4.1	-3.1	0.4	-1.2	-0.6
Slovenia													
Real GDP	-8.9	-5.5	2.8	5.3	4.1	3.5	4.6	3.8	5.2	4.6	3.0	3.1	4.0
Occupied population	-5.5	-4.5	-1.8	-0.4	1.0	-1.0	-0.5	0.0	1.2	1.1	0.6	0.4	0.6
Labour productivity	-3.6	-1.0	4.8	5.7	3.0	4.5	5.1	3.8	3.9	3.5	2.3	2.7	3.4
Harmonised CPI	:	:	:	:	:	9.9	8.3	7.9	6.1	8.9	8.6	7.5	6.7
Price deflator GDP	94.9	208.2	37.1	22.6	15.2	11.1	8.8	7.8	6.6	5.7	9.9	7.6	6.1
Nominal compensation per employee	101.5	211.7	35.6	26.3	17.3	10.6	11.7	9.2	9.3	10.7	12.1	9.4	8.2
Real compensation per employee (GDP deflator)	3.4	1.1	-1.0	3.0	1.8	-0.4	2.6	1.2	2.6	4.7	2.0	1.7	2.0
Real compensation per employee (private consumption deflator)	-2.1	2.5	3.5	5.1	3.5	-0.2	2.9	2.0	3.2	2.4	3.2	2.1	2.1
NULC	109.1	215.0	29.5	19.5	13.8	5.8	6.2	5.2	5.2	7.0	9.5	6.5	4.7
RULC	7.3	2.2	-5.5	-2.6	-1.2	-4.8	-2.4	-2.5	-1.3	1.2	-0.4	-1.0	-1.3
Turkey													
Real GDP	0.9	6.0	8.0	-5.5	7.2	7.0	7.5	3.1	-4.7	7.2	-7.4	2.5	3.7
Occupied population	0.6	0.5	-0.2	2.4	3.7	2.1	-2.5	2.8	2.1	-0.4	-1.1	-0.5	0.1
Labour productivity	0.4	5.5	8.2	-7.7	3.4	4.8	10.3	0.3	-6.7	7.5	-6.3	3.1	3.6
Harmonised CPI	:	:	:	:	:	:	:	:	:	:	:	:	:
Price deflator GDP	58.8	63.7	67.8	106.5	87.2	77.8	81.5	75.7	55.6	50.7	57.2	53.3	33.7
Nominal compensation per employee	90.9	63.1	75.2	61.8	71.2	90.3	103.0	76.2	84.4	51.3	41.0	65.0	42.6
Real compensation per employee (GDP deflator)	20.2	-0.4	4.5	-21.6	-8.5	7.0	11.8	0.3	18.6	0.4	-10.3	7.7	6.7
Real compensation per employee (private consumption deflator)	18.7	-1.5	5.6	-22.5	-11.0	13.4	11.6	-4.0	15.6	1.1	-12.9	5.8	5.6
NULC	90.2	54.6	61.9	75.3	65.6	81.5	84.2	75.7	97.6	40.6	50.6	60.1	37.7
RULC	19.7	-5.6	-3.5	-15.1	-11.5	2.0	1.4	0.0	27.0	-6.7	-4.2	4.5	3.0

Source: Commission Services, AMECO. Latest updates to Commission's 2002 Spring forecasts (July 1st 2002). Eurostat for annual and average hours worked.

Key employment indicators in the European Union

All	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	359771	361611	363561	364961	366072	366986	367769	368987	369834	370914	372248
2. Population aged 15-64	241136	242265	243487	244281	244886	245689	246158	246912	247217	247708	248125
3. Total employment (000)				153522	155004	155862	157296	159944	162578	165537	167599
4. Population in employment aged 15-64	149929	148109	146055	145758	146686	147600	148814	151156	153901	156651	158653
5. Employment rate (% population aged 15-64)	62.2	61.1	60.0	59.7	59.9	60.1	60.5	61.2	62.3	63.2	63.9
6. Employment rate (% population aged 15-24)	45.2	42.4	39.3	37.9	37.2	36.5	36.9	38.0	39.2	40.2	40.7
7. Employment rate (% population aged 25-54)	74.7	73.9	73.1	72.9	73.3	73.5	73.8	74.5	75.5	76.5	77.1
8. Employment rate (% population aged 55-64)	37.0	36.2	35.7	35.7	35.9	36.2	36.3	36.6	37.1	37.8	38.5
9. FTE employment rate (% population aged 15-64)					55.4	55.3	55.5	56.1	57.1	57.9	58.5
10. Self-employed (% total employment)				16.2	16.1	16.0	15.9	15.7	15.3	15.0	14.8
11. Part-time employment (% total employment)				15.5	16.0	16.4	16.9	17.3	17.6	17.8	17.9
12. Fixed-term contracts (% total employment)				11.5	12.0	12.2	12.6	13.1	13.4	13.6	13.4
13. Employment in Services (% total employment)				65.9	66.4	67.0	67.4	67.8	68.5	69.0	69.4
14. Employment in Industry (% total employment)				28.7	28.5	28.0	27.7	27.5	27.1	26.7	26.4
15. Employment in Agriculture (% total employment)				5.4	5.2	5.0	4.9	4.7	4.5	4.3	4.2
16. Activity rate (% population aged 15-64)	67.7	67.4	67.2	67.2	67.2	67.4	67.7	68.1	68.6	69.0	69.2
17. Total unemployment (000)		14536	16838	17499	16941	17234	17024	16122	15026	13639	12919
18. Unemployment rate (% labour force 15+)			10.2	10.5	10.2	10.3	10.1	9.5	8.7	7.9	7.4
19. Youth unemployment rate (% labour force 15-24)			20.3	21.0	20.4	20.8	20.1	18.6	17.0	15.5	14.9
20. Long term unemployment rate (% labour force)	3.2	3.7	4.6	5.2	5.2	5.2	5.1	4.7	4.2	3.7	3.3
21. Youth unemployment ratio (% population aged 15-24)		8.8	9.9	10.0	9.5	9.6	9.2	8.7	8.0	7.4	7.1
Male											
1. Total population (000)	174654	175776	176889	177691	178275	178778	179233	179888	180346	181003	181747
2. Population aged 15-64	119903	120631	121426	121878	122174	122572	122891	123338	123456	123752	124040
3. Total employment (000)				90361	90989	91076	91698	92966	93894	95160	95931
4. Population in employment aged 15-64	89032	87499	85867	85419	85754	85903	86405	87545	88573	89763	90503
5. Employment rate (% population aged 15-64)	74.3	72.5	70.7	70.1	70.2	70.1	70.3	71.0	71.7	72.5	73.0
6. Employment rate (% population aged 15-24)	48.9	45.8	42.2	40.7	40.3	39.8	40.3	41.5	42.6	43.7	44.2
7. Employment rate (% population aged 25-54)	88.8	87.3	85.8	85.2	85.3	85.1	85.2	85.7	86.4	87.1	87.3
8. Employment rate (% population aged 55-64)	51.2	49.4	47.9	47.4	47.1	47.2	47.1	47.3	47.5	48.0	48.6
9. FTE employment rate (% population aged 15-64)					69.0	68.6	68.7	69.5	70.3	71.0	71.3
10. Self-employed (% total employment)				18.8	18.8	18.8	18.7	18.5	18.2	17.9	17.7
11. Part-time employment (% total employment)				5.0	5.2	5.5	5.8	6.0	6.1	6.2	6.2
12. Fixed-term contracts (% total employment)				10.7	11.2	11.5	11.9	12.4	12.6	12.7	12.4
13. Employment in Services (% total employment)				56.1	56.5	56.9	57.3	57.6	58.1	58.6	58.9
14. Employment in Industry (% total employment)				37.9	37.8	37.4	37.2	37.0	36.7	36.4	36.2
15. Employment in Agriculture (% total employment)				6.0	5.8	5.6	5.5	5.4	5.2	5.0	4.9
16. Activity rate (% population aged 15-64)	79.7	78.9	78.3	78.0	77.7	77.7	77.7	77.9	78.1	78.1	78.1
17. Total unemployment (000)		7423	8868	9149	8656	8862	8625	8031	7439	6671	6378
18. Unemployment rate (% labour force 15+)			9.2	9.5	9.0	9.2	8.9	8.2	7.6	6.8	6.4
19. Youth unemployment rate (% labour force 15-24)			19.8	20.3	19.1	19.7	18.7	17.3	15.9	14.3	14.0
20. Long term unemployment rate (% labour force)	2.6	3.1	4.0	4.6	4.5	4.5	4.4	4.0	3.5	3.1	2.8
21. Youth unemployment ratio (% population aged 15-24)		8.9	10.3	10.3	9.5	9.7	9.2	8.7	8.0	7.3	7.2
Female											
1. Total population (000)	185118	185836	186672	187270	187798	188208	188536	189099	189488	189911	190501
2. Population aged 15-64	121237	121639	122067	122409	122717	123120	123271	123574	123761	123955	124086
3. Total employment (000)				63157	64010	64780	65593	66973	68677	70374	71668
4. Population in employment aged 15-64	60901	60612	60191	60341	60933	61697	62409	63612	65328	66887	68152
5. Employment rate (% population aged 15-64)	50.2	49.8	49.3	49.3	49.7	50.1	50.6	51.5	52.8	54.0	54.9
6. Employment rate (% population aged 15-24)	41.4	39.1	36.3	34.9	34.0	33.2	33.4	34.5	35.7	36.7	37.1
7. Employment rate (% population aged 25-54)	60.5	60.5	60.4	60.5	61.1	61.8	62.4	63.2	64.6	65.9	66.8
8. Employment rate (% population aged 55-64)	23.9	24.0	24.2	24.6	25.3	25.8	26.1	26.3	27.1	27.9	28.8
9. FTE employment rate (% population aged 15-64)					42.2	42.4	42.6	43.1	44.3	45.3	46.0
10. Self-employed (% total employment)				12.6	12.3	12.1	12.0	11.8	11.4	11.1	11.0
11. Part-time employment (% total employment)				30.6	31.3	31.6	32.3	32.9	33.2	33.4	33.4
12. Fixed-term contracts (% total employment)				12.6	13.0	13.1	13.6	13.9	14.4	14.7	14.6
13. Employment in Services (% total employment)				79.6	80.1	80.8	81.3	81.7	82.3	82.7	83.1
14. Employment in Industry (% total employment)				15.9	15.5	15.1	14.8	14.6	14.2	13.9	13.7
15. Employment in Agriculture (% total employment)				4.5	4.3	4.1	3.9	3.7	3.5	3.4	3.3
16. Activity rate (% population aged 15-64)	55.8	55.9	56.1	56.5	56.8	57.3	57.8	58.4	59.2	59.8	60.2
17. Total unemployment (000)		7113	7970	8350	8285	8373	8399	8091	7587	6968	6541
18. Unemployment rate (% labour force 15+)			11.5	12.0	11.8	11.8	11.7	11.1	10.2	9.3	8.7
19. Youth unemployment rate (% labour force 15-24)			20.8	21.7	21.9	22.2	21.7	20.0	18.4	17.0	16.0
20. Long term unemployment rate (% labour force)	4.1	4.5	5.4	6.1	6.2	6.2	6.1	5.7	5.0	4.4	3.9
21. Youth unemployment ratio (% population aged 15-24)		8.6	9.5	9.6	9.5	9.5	9.2	8.6	8.1	7.5	7.0

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Belgium

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001*
1. Total population (000)	9890	9927	9968	10022	10072	10103	10126	10152	10175	10214	10239	10263
2. Population aged 15–64	6627	6625	6636	6658	6686	6697	6696	6700	6702	6710	6719	6729
3. Total employment (000)	3744	3748	3731	3703	3688	3714	3729	3757	3802	3856	3918	3965
4. Population in employment aged 15–64	3619	3701	3735	3717	3726	3757	3767	3809	3851	3980	4068	4029
5. Employment rate (% population aged 15–64)	54.6	55.9	56.3	55.8	55.7	56.1	56.3	56.9	57.5	59.3	60.5	59.9
6. Employment rate (% population aged 15–24)	31.8	32.6	32.0	29.2	28.4	27.6	26.9	26.4	26.8	28.2	29.1	32.7
7. Employment rate (% population aged 25–54)	71.4	72.7	73.1	73.0	72.8	73.2	73.5	74.1	74.3	76.2	77.4	75.9
8. Employment rate (% population aged 55–64)	21.5	21.7	22.2	21.9	22.5	22.9	21.9	22.1	22.9	24.6	26.3	24.1
9. FTE employment rate (% population aged 15–64)						53.4	53.3	53.8	53.9	55.7	57.4	55.7
10. Self-employed (% total employment)	18.0	18.2	18.4	18.8	18.9	18.8	18.9	18.6	18.2	17.9	17.5	17.2
11. Part-time employment (% total employment)	12.9	13.6	14.2	14.7	15.0	15.7	16.3	17.2	18.4	20.3	20.8	18.2
12. Fixed-term contracts (% total employment)	5.3	5.1	5.0	5.1	5.2	5.4	6.0	6.6	8.2	9.9	9.1	9.0
13. Employment in Services (% total employment)	70.5	70.7	71.1	71.6	72.0	72.4	73.1	73.7	73.9	74.3	74.6	74.8
14. Employment in Industry (% total employment)	27.0	26.8	26.5	26.0	25.6	25.2	24.7	24.2	24.0	23.6	23.4	23.3
15. Employment in Agriculture (% total employment)	2.5	2.5	2.4	2.4	2.4	2.4	2.2	2.1	2.1	2.1	2.0	2.0
16. Activity rate (% population aged 15–64)	59.1	60.2	60.7	61.1	61.8	62.1	62.3	62.7	63.5	64.9	65.1	63.9
17. Total unemployment (000)	255	256	287	354	407	407	401	390	400	377	302	286
18. Unemployment rate (% labour force 15+)	6.6	6.4	7.1	8.6	9.8	9.7	9.5	9.2	9.3	8.6	6.9	6.6
19. Youth unemployment rate (% labour force 15–24)	14.6	14.2	15.4	20.7	23.2	22.9	22.1	22.0	22.1	22.7	17.0	17.6
20. Long term unemployment rate (% labour force)	4.8	4.2	4.0	4.5	5.6	5.8	5.7	5.5	5.6	4.9	3.8	3.0
21. Youth unemployment ratio (% population aged 15–24)	5.2	5.2	5.6	7.4	8.2	7.9	7.4	7.2	7.3	7.7	6.1	6.1
Male												
1. Total population (000)	4817	4838	4862	4893	4927	4944	4954	4966	4977	4994	5006	5018
2. Population aged 15–64	3314	3317	3325	3341	3366	3373	3372	3374	3375	3380	3384	3388
3. Total employment (000)	2344	2312	2268	2233	2223	2234	2235	2234	2239	2234	2267	2300
4. Population in employment aged 15–64	2264	2280	2269	2241	2244	2259	2257	2264	2266	2302	2351	2342
5. Employment rate (% population aged 15–64)	68.3	68.7	68.2	67.1	66.7	67.0	66.9	67.1	67.1	68.1	69.5	69.1
6. Employment rate (% population aged 15–24)	35.2	35.1	33.9	31.7	31.2	30.7	30.9	30.4	30.5	31.2	32.8	36.9
7. Employment rate (% population aged 25–54)	88.3	88.6	87.7	86.6	86.1	86.2	86.1	86.0	85.6	86.3	87.3	86.2
8. Employment rate (% population aged 55–64)	33.8	33.5	33.6	32.4	32.7	33.5	31.8	31.7	32.1	33.8	36.4	34.4
9. FTE employment rate (% population aged 15–64)						67.2	67.0	67.1	66.9	68.6	70.7	68.6
10. Self-employed (% total employment)	19.2	19.5	19.5	20.2	20.5	20.1	20.4	20.3	19.8	19.3	19.3	19.1
11. Part-time employment (% total employment)	2.3	2.3	2.4	2.7	3.0	3.2	3.4	3.8	4.3	5.3	5.8	4.7
12. Fixed-term contracts (% total employment)	3.1	3.0	3.1	3.3	3.4	3.9	4.3	4.7	6.0	7.3	6.7	6.4
13. Employment in Services (% total employment)	61.4	61.2	61.4	61.6	62.3	62.8	63.5	64.0	63.9	63.8	64.2	64.7
14. Employment in Industry (% total employment)	35.6	36.0	35.8	35.5	34.9	34.4	33.9	33.4	33.5	33.7	33.2	32.9
15. Employment in Agriculture (% total employment)	3.1	2.9	2.8	2.9	2.8	2.8	2.6	2.6	2.6	2.5	2.6	2.4
16. Activity rate (% population aged 15–64)	71.7	72.2	72.0	71.8	72.3	72.5	72.4	72.5	72.8	73.4	73.7	73.5
17. Total unemployment (000)	96	101	123	161	189	186	182	179	189	183	142	149
18. Unemployment rate (% labour force 15+)	4.0	4.2	5.1	6.7	7.7	7.6	7.4	7.3	7.7	7.3	5.6	6.0
19. Youth unemployment rate (% labour force 15–24)	10.4	11.2	13.5	19.6	21.6	20.5	18.6	18.5	20.2	22.0	14.7	16.5
20. Long term unemployment rate (% labour force)	2.9	2.6	2.7	3.0	4.1	4.5	4.4	4.3	4.5	4.0	3.1	2.8
21. Youth unemployment ratio (% population aged 15–24)	3.9	4.2	5.0	7.3	8.1	7.5	6.7	6.5	7.3	8.1	5.7	6.3
Female												
1. Total population (000)	5073	5089	5106	5129	5145	5159	5172	5187	5198	5220	5233	5245
2. Population aged 15–64	3312	3308	3311	3316	3321	3324	3324	3326	3327	3330	3336	3341
3. Total employment (000)	1401	1437	1464	1471	1466	1481	1494	1523	1563	1622	1651	1665
4. Population in employment aged 15–64	1355	1420	1466	1477	1483	1499	1510	1546	1585	1678	1717	1687
5. Employment rate (% population aged 15–64)	40.9	42.9	44.3	44.5	44.6	45.1	45.4	46.5	47.6	50.4	51.5	50.5
6. Employment rate (% population aged 15–24)	28.3	29.9	30.0	26.8	25.5	24.3	22.9	22.4	23.1	25.1	25.4	28.3
7. Employment rate (% population aged 25–54)	54.2	56.4	58.1	59.0	59.2	60.0	60.7	61.8	62.8	65.8	67.2	65.5
8. Employment rate (% population aged 55–64)	9.9	10.6	11.4	12.0	12.8	12.9	12.4	12.9	14.0	15.7	16.6	14.3
9. FTE employment rate (% population aged 15–64)						39.6	39.7	40.5	40.9	42.9	44.2	43.0
10. Self-employed (% total employment)	16.1	16.3	16.7	16.6	16.4	16.9	16.5	16.2	15.9	15.9	15.0	14.5
11. Part-time employment (% total employment)	29.9	31.0	31.9	32.2	32.3	33.8	34.7	35.9	37.7	40.2	40.5	36.8
12. Fixed-term contracts (% total employment)	8.8	8.4	7.9	7.8	7.7	7.7	8.3	9.2	11.2	13.2	12.3	12.4
13. Employment in Services (% total employment)	84.8	85.2	85.3	86.0	86.1	86.4	86.7	87.1	87.6	88.3	88.3	88.2
14. Employment in Industry (% total employment)	13.5	12.8	12.8	12.3	12.2	11.9	11.6	11.3	10.9	10.2	10.4	10.4
15. Employment in Agriculture (% total employment)	1.7	1.9	1.9	1.7	1.7	1.8	1.7	1.6	1.5	1.5	1.2	1.4
16. Activity rate (% population aged 15–64)	46.4	48.2	49.4	50.4	51.2	51.7	52.1	52.9	54.0	56.3	56.4	54.2
17. Total unemployment (000)	160	156	165	194	218	220	219	211	211	194	161	136
18. Unemployment rate (% labour force 15+)	10.4	9.8	10.0	11.5	12.7	12.7	12.5	11.9	11.6	10.3	8.5	7.4
19. Youth unemployment rate (% labour force 15–24)	19.1	17.2	17.4	22.0	25.0	25.6	26.5	26.4	24.5	23.4	19.8	19.1
20. Long term unemployment rate (% labour force)	7.7	6.6	6.0	6.6	7.7	7.7	7.7	7.2	7.2	6.0	4.7	3.4
21. Youth unemployment ratio (% population aged 15–24)	6.6	6.1	6.2	7.4	8.4	8.3	8.1	7.9	7.4	7.3	6.5	5.9

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Denmark

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	5107	5117	5111	5129	5152	5197	5210	5232	5255	5277	5298	5321
2. Population aged 15–64	3450	3465	3471	3480	3483	3496	3514	3516	3523	3525	3532	3545
3. Total employment (000)	2636	2621	2600	2562	2599	2611	2628	2659	2704	2745	2765	2771
4. Population in employment aged 15–64	2582	2572	2558	2509	2518	2567	2594	2633	2646	2680	2694	2700
5. Employment rate (% population aged 15–64)	74.8	74.2	73.7	72.1	72.3	73.4	73.8	74.9	75.1	76.0	76.3	76.2
6. Employment rate (% population aged 15–24)	64.0	63.4	61.7	59.7	61.6	64.6	65.3	66.6	65.4	65.5	66.0	62.3
7. Employment rate (% population aged 25–54)	83.4	82.7	82.2	80.4	80.3	81.3	81.9	82.4	83.1	83.9	84.2	84.4
8. Employment rate (% population aged 55–64)	54.0	52.8	53.0	52.0	50.8	49.8	49.1	51.7	52.0	54.5	55.7	58.0
9. FTE employment rate (% population aged 15–64)						66.8	67.0	68.1	67.8	69.7	69.3	69.8
10. Self-employed (% total employment)	9.1	9.1	9.3	9.2	8.6	8.2	8.1	7.8	7.4	7.3	7.2	7.0
11. Part-time employment (% total employment)	23.5	23.3	23.0	23.1	21.7	21.8	21.9	22.5	22.3	21.6	21.3	20.2
12. Fixed-term contracts (% total employment)	10.6	11.3	10.7	10.6	11.5	11.6	10.9	10.6	9.9	9.6	9.7	9.2
13. Employment in Services (% total employment)	69.7	70.2	70.6	71.1	71.8	71.5	71.9	72.3	72.8	73.3	73.6	74.1
14. Employment in Industry (% total employment)	25.0	24.5	24.2	23.9	23.7	24.1	23.9	23.6	23.4	23.1	22.9	22.6
15. Employment in Agriculture (% total employment)	5.4	5.3	5.2	5.0	4.6	4.4	4.2	4.1	3.8	3.6	3.5	3.3
16. Activity rate (% population aged 15–64)	82.8	82.7	82.5	81.4	79.5	79.8	79.8	79.8	79.7	80.6	80.0	79.9
17. Total unemployment (000)	205	225	246	271	213	188	178	148	137	137	126	123
18. Unemployment rate (% labour force 15+)	7.2	7.9	8.6	9.5	7.7	6.7	6.3	5.2	4.9	4.8	4.4	4.3
19. Youth unemployment rate (% labour force 15–24)	10.5	10.7	11.7	12.8	10.2	9.6	9.7	7.7	7.3	8.8	7.0	8.5
20. Long term unemployment rate (% labour force)	2.9	3.2	2.9	3.1	2.9	2.3	2.1	1.7	1.5	1.2	1.0	0.9
21. Youth unemployment ratio (% population aged 15–24)	7.6	7.6	8.2	8.8	7.0	7.0	7.0	5.6	5.2	6.3	5.0	5.9
Male												
1. Total population (000)	2505	2512	2513	2523	2537	2560	2573	2578	2584	2609	2620	2632
2. Population aged 15–64	1745	1752	1756	1759	1760	1766	1774	1774	1780	1783	1783	1792
3. Total employment (000)	1423	1409	1390	1368	1411	1439	1442	1446	1459	1478	1481	1482
4. Population in employment aged 15–64	1384	1373	1359	1333	1364	1411	1420	1428	1423	1441	1441	1438
5. Employment rate (% population aged 15–64)	79.3	78.4	77.4	75.8	77.5	79.9	80.1	80.5	79.9	80.8	80.8	80.2
6. Employment rate (% population aged 15–24)	65.2	64.1	61.2	59.3	63.1	67.6	67.6	68.6	65.0	68.3	68.5	64.5
7. Employment rate (% population aged 25–54)	86.9	86.4	85.8	84.0	85.5	87.0	88.0	88.3	88.5	88.6	88.5	88.2
8. Employment rate (% population aged 55–64)	67.5	64.1	63.9	63.0	62.9	64.7	61.7	62.7	61.3	62.6	64.2	65.5
9. FTE employment rate (% population aged 15–64)						76.6	76.4	76.9	76.2	77.6	76.9	76.9
10. Self-employed (% total employment)	12.2	12.0	12.3	12.2	11.0	10.7	10.6	10.3	9.9	9.7	9.6	10.0
11. Part-time employment (% total employment)	10.7	10.8	10.7	11.1	10.5	10.8	11.4	12.2	11.1	10.4	10.2	10.2
12. Fixed-term contracts (% total employment)	10.5	10.6	9.8	9.5	10.8	10.7	10.6	10.2	9.2	8.6	8.5	7.7
13. Employment in Services (% total employment)	57.8	58.6	58.7	59.2	60.5	60.5	61.2	61.1	61.5	62.1	62.4	62.9
14. Employment in Industry (% total employment)	34.4	33.9	33.8	33.6	33.0	33.4	32.9	33.0	32.9	32.5	32.6	32.2
15. Employment in Agriculture (% total employment)	7.7	7.5	7.5	7.2	6.5	6.1	5.9	6.0	5.6	5.4	5.0	4.9
16. Activity rate (% population aged 15–64)	87.1	86.5	85.8	85.1	84.2	85.4	85.2	84.8	83.8	84.9	84.2	83.8
17. Total unemployment (000)	104	111	122	140	106	86	81	68	59	66	61	57
18. Unemployment rate (% labour force 15+)	6.8	7.2	8.0	9.3	7.1	5.6	5.3	4.4	3.9	4.4	4.1	3.8
19. Youth unemployment rate (% labour force 15–24)	10.9	10.7	11.8	13.1	10.2	8.2	8.5	6.8	7.1	8.8	7.0	7.6
20. Long term unemployment rate (% labour force)	2.3	2.5	2.4	2.7	2.5	2.0	1.7	1.3	1.0	1.0	0.9	0.8
21. Youth unemployment ratio (% population aged 15–24)	7.9	7.6	8.2	8.9	7.2	6.0	6.3	5.0	4.9	6.5	4.9	5.5
Female												
1. Total population (000)	2603	2605	2598	2606	2615	2638	2637	2654	2671	2669	2678	2689
2. Population aged 15–64	1708	1715	1718	1723	1727	1733	1743	1744	1743	1743	1749	1752
3. Total employment (000)	1213	1212	1209	1194	1188	1172	1186	1212	1244	1266	1283	1288
4. Population in employment aged 15–64	1198	1199	1198	1176	1155	1157	1174	1205	1223	1239	1253	1261
5. Employment rate (% population aged 15–64)	70.2	69.9	69.8	68.2	66.9	66.7	67.4	69.1	70.2	71.1	71.6	72.0
6. Employment rate (% population aged 15–24)	62.6	62.5	62.0	60.1	59.9	61.4	62.5	64.2	65.8	62.7	63.3	60.0
7. Employment rate (% population aged 25–54)	79.7	79.0	78.6	76.9	75.1	75.4	75.7	76.7	77.6	79.2	79.8	80.6
8. Employment rate (% population aged 55–64)	41.5	42.3	42.6	41.4	39.0	36.0	37.1	40.3	42.0	45.8	46.5	49.8
9. FTE employment rate (% population aged 15–64)						57.3	58.0	59.7	59.8	62.1	62.2	63.0
10. Self-employed (% total employment)	5.5	5.7	6.0	5.9	5.8	5.2	5.0	4.7	4.6	4.4	4.5	3.8
11. Part-time employment (% total employment)	38.5	37.8	37.1	37.0	35.0	35.4	34.7	34.9	35.5	34.8	34.1	31.7
12. Fixed-term contracts (% total employment)	10.8	12.1	11.6	11.8	12.4	12.6	11.4	11.0	10.6	10.7	11.1	10.7
13. Employment in Services (% total employment)	83.1	83.2	83.9	84.4	84.6	84.5	84.5	85.4	85.5	86.0	86.0	86.5
14. Employment in Industry (% total employment)	14.2	14.1	13.5	13.1	13.0	13.1	13.3	12.8	12.7	12.5	12.2	11.9
15. Employment in Agriculture (% total employment)	2.7	2.8	2.7	2.5	2.4	2.5	2.2	1.8	1.8	1.6	1.9	1.6
16. Activity rate (% population aged 15–64)	78.3	78.9	78.9	77.6	74.7	74.0	74.2	74.7	75.6	76.1	75.6	75.9
17. Total unemployment (000)	101	114	124	130	107	102	97	80	78	71	64	65
18. Unemployment rate (% labour force 15+)	7.6	8.6	9.2	9.9	8.5	8.1	7.5	6.2	6.0	5.4	4.8	4.9
19. Youth unemployment rate (% labour force 15–24)	10.0	10.6	11.5	12.5	10.1	11.2	11.0	8.8	7.4	8.8	7.1	9.5
20. Long term unemployment rate (% labour force)	3.5	4.0	3.5	3.6	3.4	2.7	2.5	2.3	2.1	1.4	1.2	1.0
21. Youth unemployment ratio (% population aged 15–24)	7.1	7.6	8.3	8.7	6.9	8.0	7.9	6.3	5.4	6.2	5.0	6.3

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Germany

All	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)		79464	80116	80406	80594	80712	80645	80895	80946	81128	81305
2. Population aged 15–64		54486	54942	54910	54838	55007	55001	55188	55139	55066	54988
3. Total employment (000)	38454	37878	37365	37304	37382	37270	37208	37611	38081	38706	38773
4. Population in employment aged 15–64		36161	35770	35530	35433	35238	35015	35281	35752	35994	36162
5. Employment rate (% population aged 15–64)		66.4	65.1	64.7	64.6	64.1	63.7	63.9	64.8	65.4	65.8
6. Employment rate (% population aged 15–24)		54.4	51.7	49.7	47.7	45.5	44.6	45.3	46.1	46.2	46.5
7. Employment rate (% population aged 25–54)		77.9	76.9	76.7	76.9	76.7	76.6	77.2	78.4	79.3	79.3
8. Employment rate (% population aged 55–64)		36.2	35.8	36.6	37.7	37.9	38.1	37.7	37.7	37.5	37.7
9. FTE employment rate (% population aged 15–64)					59.7	58.7	57.9	57.7	58.3	58.6	58.6
10. Self-employed (% total employment)	9.3	9.6	9.9	10.2	10.3	10.3	10.5	10.6	10.4	10.3	10.2
11. Part-time employment (% total employment)	14.1	14.5	15.2	15.8	16.3	16.7	17.6	18.4	19.0	19.6	20.3
12. Fixed-term contracts (% total employment)	10.2	10.5	10.3	10.4	10.5	11.2	11.8	12.4	13.0	12.7	12.4
13. Employment in Services (% total employment)	59.2	61.2	62.6	63.6	64.3	65.4	66.2	66.8	67.7	68.4	68.9
14. Employment in Industry (% total employment)	36.7	35.3	34.1	33.2	32.7	31.9	31.1	30.6	29.8	29.2	28.6
15. Employment in Agriculture (% total employment)	4.0	3.5	3.3	3.1	3.0	2.7	2.7	2.6	2.6	2.5	2.4
16. Activity rate (% population aged 15–64)		71.0	70.6	70.8	70.5	70.4	70.6	70.8	71.1	71.1	71.4
17. Total unemployment (000)		2575	3092	3303	3194	3482	3881	3681	3414	3133	3111
18. Unemployment rate (% labour force 15+)		6.6	7.9	8.4	8.2	8.9	9.9	9.3	8.6	7.9	7.9
19. Youth unemployment rate (% labour force 15–24)		6.5	8.0	8.8	8.8	10.0	10.8	9.8	9.1	9.1	9.4
20. Long term unemployment rate (% labour force)		2.3	3.2	3.8	4.0	4.3	4.9	4.9	4.4	4.0	3.9
21. Youth unemployment ratio (% population aged 15–24)		3.8	4.5	4.8	4.6	5.0	5.4	5.0	4.7	4.6	4.8
Male											
1. Total population (000)		38482	38898	39073	39184	39275	39283	39426	39493	39593	39714
2. Population aged 15–64		27476	27794	27788	27709	27761	27789	27865	27813	27754	27731
3. Total employment (000)	22335	22065	21756	21634	21562	21337	21237	21374	21491	21735	21639
4. Population in employment aged 15–64		21063	20823	20592	20426	20158	19970	20027	20150	20176	20123
5. Employment rate (% population aged 15–64)		76.7	74.9	74.1	73.7	72.6	71.9	71.9	72.4	72.7	72.6
6. Employment rate (% population aged 15–24)		56.5	53.7	51.4	49.6	47.9	47.0	47.8	48.5	48.6	48.6
7. Employment rate (% population aged 25–54)		89.4	87.9	87.2	87.0	86.1	85.7	85.8	86.7	87.2	86.7
8. Employment rate (% population aged 55–64)		49.4	47.8	48.1	48.5	47.8	47.5	47.2	46.8	46.3	46.1
9. FTE employment rate (% population aged 15–64)					73.2	71.7	70.6	70.3	70.8	71.1	70.9
10. Self-employed (% total employment)	10.5	11.0	11.3	11.7	11.9	12.2	12.6	12.7	12.6	12.5	12.2
11. Part-time employment (% total employment)	2.5	2.7	3.0	3.3	3.6	3.8	4.3	4.7	4.9	5.1	5.3
12. Fixed-term contracts (% total employment)	9.5	10.0	9.9	9.8	10.1	11.0	11.6	12.2	12.7	12.5	12.2
13. Employment in Services (% total employment)	48.8	50.2	51.3	52.3	52.8	53.7	54.4	55.1	55.9	56.6	57.2
14. Employment in Industry (% total employment)	47.1	46.2	45.2	44.4	44.0	43.3	42.6	41.9	41.1	40.4	39.9
15. Employment in Agriculture (% total employment)	4.1	3.6	3.4	3.3	3.2	3.0	3.0	3.0	3.0	2.9	2.9
16. Activity rate (% population aged 15–64)		80.9	80.2	80.1	79.6	79.3	79.2	79.2	79.2	78.8	78.8
17. Total unemployment (000)		1162	1484	1613	1579	1829	2056	1962	1830	1686	1700
18. Unemployment rate (% labour force 15+)		5.2	6.6	7.2	7.1	8.2	9.2	8.8	8.2	7.6	7.7
19. Youth unemployment rate (% labour force 15–24)		5.9	7.8	8.9	8.9	10.6	11.7	10.6	9.8	9.8	10.3
20. Long term unemployment rate (% labour force)		1.9	2.5	3.1	3.3	3.7	4.3	4.5	4.1	3.8	3.7
21. Youth unemployment ratio (% population aged 15–24)		3.6	4.5	5.0	4.8	5.7	6.3	5.7	5.3	5.3	5.6
Female											
1. Total population (000)		40982	41218	41333	41410	41437	41362	41469	41453	41536	41591
2. Population aged 15–64		27011	27148	27122	27129	27246	27212	27324	27326	27312	27257
3. Total employment (000)	16119	15813	15609	15670	15820	15933	15971	16237	16590	16971	17134
4. Population in employment aged 15–64		15098	14947	14938	15007	15080	15044	15254	15602	15818	16039
5. Employment rate (% population aged 15–64)		55.9	55.1	55.1	55.3	55.3	55.3	55.8	57.1	57.9	58.8
6. Employment rate (% population aged 15–24)		52.3	49.8	48.1	45.7	43.0	42.1	42.7	43.7	43.7	44.4
7. Employment rate (% population aged 25–54)		66.1	65.4	65.8	66.4	67.0	67.3	68.3	70.0	71.1	71.8
8. Employment rate (% population aged 55–64)		23.5	24.0	25.2	27.1	28.2	28.7	28.3	28.7	28.8	29.5
9. FTE employment rate (% population aged 15–64)					46.1	45.8	45.2	45.0	45.8	46.1	46.5
10. Self-employed (% total employment)	7.6	7.8	7.9	8.0	8.0	7.7	7.8	7.8	7.5	7.5	7.8
11. Part-time employment (% total employment)	30.2	30.9	32.1	33.2	33.7	33.9	35.3	36.4	37.3	38.2	39.2
12. Fixed-term contracts (% total employment)	11.0	11.1	10.9	11.0	11.1	11.4	12.1	12.6	13.3	13.0	12.7
13. Employment in Services (% total employment)	73.2	75.9	77.6	78.6	79.3	80.5	81.2	81.5	82.1	82.6	82.9
14. Employment in Industry (% total employment)	22.9	20.8	19.4	18.5	17.9	17.1	16.6	16.3	15.8	15.5	15.2
15. Employment in Agriculture (% total employment)	3.9	3.3	3.1	2.9	2.8	2.3	2.2	2.2	2.0	1.9	1.9
16. Activity rate (% population aged 15–64)		61.0	60.8	61.3	61.3	61.4	61.8	62.2	62.9	63.2	63.8
17. Total unemployment (000)		1413	1609	1690	1615	1652	1825	1719	1585	1446	1412
18. Unemployment rate (% labour force 15+)		8.5	9.6	10.1	9.6	9.8	10.7	10.0	9.1	8.3	8.1
19. Youth unemployment rate (% labour force 15–24)		7.0	8.1	8.7	8.7	9.3	9.8	9.0	8.4	8.2	8.3
20. Long term unemployment rate (% labour force)		2.7	4.1	4.8	4.9	5.0	5.6	5.5	4.8	4.3	4.1
21. Youth unemployment ratio (% population aged 15–24)		4.0	4.4	4.5	4.4	4.4	4.6	4.3	4.0	3.9	4.0

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Greece

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	9851	9918	9974	10123	10206	10238	10255	10269	10292	10310	10321	10356
2. Population aged 15–64	6569	6628	6651	6727	6761	6772	6788	6812	6924	6922	6876	6858
3. Total employment (000)	3711	3658	3695	3738	3800	3820	3805	3784	3940	3910	3898	3894
4. Population in employment aged 15–64	3588	3538	3570	3614	3666	3702	3732	3753	3841	3830	3831	3802
5. Employment rate (% population aged 15–64)	54.6	53.4	53.7	53.7	54.2	54.7	55.0	55.1	55.5	55.3	55.7	55.4
6. Employment rate (% population aged 15–24)	30.0	29.0	28.3	27.4	26.7	26.3	25.3	25.3	28.0	26.8	27.1	26.0
7. Employment rate (% population aged 25–54)	68.1	66.9	67.6	67.9	68.5	68.9	69.5	69.7	69.7	69.6	70.0	70.1
8. Employment rate (% population aged 55–64)	41.0	39.7	39.8	39.5	40.1	41.0	41.2	40.9	39.0	39.1	38.6	38.0
9. FTE employment rate (% population aged 15–64)						54.2	54.6	54.4	55.0	54.5	55.3	55.1
10. Self-employed (% total employment)	47.2	46.7	46.9	46.4	46.3	45.8	45.7	45.4	45.1	44.8	44.3	43.3
11. Part-time employment (% total employment)	4.0	3.9	4.5	4.3	4.7	4.8	5.0	4.8	5.6	5.8	4.5	4.0
12. Fixed-term contracts (% total employment)	15.0	12.8	9.6	9.5	9.4	9.4	10.0	10.3	12.1	12.0	12.8	12.6
13. Employment in Services (% total employment)	50.2	51.8	52.8	54.3	55.4	55.9	56.0	57.0	57.7	58.3	59.1	59.5
14. Employment in Industry (% total employment)	27.0	26.8	26.3	25.3	24.7	24.5	24.7	24.2	24.3	24.1	24.1	24.2
15. Employment in Agriculture (% total employment)	22.8	21.4	20.9	20.4	19.9	19.6	19.4	18.8	18.0	17.5	16.7	16.3
16. Activity rate (% population aged 15–64)	59.0	58.0	58.5	59.0	59.7	60.4	61.0	61.3	62.6	63.0	62.9	62.1
17. Total unemployment (000)	255	276	318	351	370	386	411	421	483	515	484	447
18. Unemployment rate (% labour force 15+)	6.4	7.1	7.9	8.6	8.9	9.2	9.6	9.8	10.9	11.6	10.9	10.2
19. Youth unemployment rate (% labour force 15–24)	21.5	22.7	25.2	26.8	27.7	28.5	31.0	30.8	30.1	31.3	29.4	28.1
20. Long term unemployment rate (% labour force)	3.4	3.5	3.8	4.2	4.4	4.6	5.2	5.3	5.9	6.5	6.1	5.4
21. Youth unemployment ratio (% population aged 15–24)	8.4	8.7	9.5	10.1	10.3	10.5	11.4	11.2	12.0	12.3	11.1	10.2
Male												
1. Total population (000)	4770	4815	4830	4901	4932	4928	4928	4943	5006	4998	4990	5004
2. Population aged 15–64	3169	3205	3204	3247	3257	3255	3259	3276	3374	3368	3337	3334
3. Total employment (000)	2412	2410	2408	2426	2452	2445	2421	2392	2485	2446	2426	2425
4. Population in employment aged 15–64	2329	2327	2321	2340	2358	2361	2368	2363	2415	2386	2374	2360
5. Employment rate (% population aged 15–64)	73.5	72.6	72.4	72.1	72.4	72.5	72.7	72.1	71.6	70.9	71.1	70.8
6. Employment rate (% population aged 15–24)	37.3	36.1	35.5	34.4	33.6	33.0	31.4	31.1	34.1	31.9	32.0	30.2
7. Employment rate (% population aged 25–54)	91.1	90.3	90.1	89.9	89.9	89.8	90.2	89.7	88.8	88.2	88.4	88.5
8. Employment rate (% population aged 55–64)	59.1	58.7	58.8	57.9	58.9	59.6	59.8	59.1	55.8	55.4	54.9	55.0
9. FTE employment rate (% population aged 15–64)						72.8	73.2	72.3	72.1	71.0	71.5	71.2
10. Self-employed (% total employment)	47.2	47.4	47.7	47.4	47.2	47.1	46.9	46.9	46.6	46.5	46.2	45.7
11. Part-time employment (% total employment)	2.1	2.2	2.6	2.5	2.8	2.7	3.0	2.6	3.1	3.3	2.5	2.2
12. Fixed-term contracts (% total employment)	15.6	13.2	9.8	9.4	9.4	9.1	9.7	9.9	11.3	10.8	11.1	10.9
13. Employment in Services (% total employment)	48.8	49.9	50.6	51.4	52.2	52.5	52.6	53.3	52.9	53.6	54.1	53.7
14. Employment in Industry (% total employment)	31.7	31.2	30.9	30.4	30.0	29.9	30.1	29.8	30.7	30.5	30.6	31.1
15. Employment in Agriculture (% total employment)	19.5	19.0	18.5	18.2	17.8	17.6	17.3	16.9	16.5	15.9	15.3	15.2
16. Activity rate (% population aged 15–64)	76.9	76.4	76.4	76.6	77.2	77.5	77.5	77.2	77.3	77.1	76.9	76.2
17. Total unemployment (000)	99	111	127	146	157	161	159	166	190	200	191	176
18. Unemployment rate (% labour force 15+)	3.9	4.4	5.0	5.7	6.0	6.2	6.1	6.4	7.1	7.5	7.2	6.7
19. Youth unemployment rate (% labour force 15–24)	14.4	15.9	17.5	18.9	19.7	19.8	21.5	22.0	21.7	22.8	22.0	21.1
20. Long term unemployment rate (% labour force)	1.6	1.7	1.9	2.2	2.4	2.5	2.7	2.8	3.2	3.7	3.5	3.2
21. Youth unemployment ratio (% population aged 15–24)	6.4	7.0	7.6	8.1	8.3	8.2	8.7	8.8	9.4	9.5	8.9	8.1
Female												
1. Total population (000)	5081	5104	5144	5222	5274	5310	5327	5326	5286	5312	5332	5352
2. Population aged 15–64	3400	3423	3447	3480	3505	3517	3529	3536	3550	3553	3539	3524
3. Total employment (000)	1299	1247	1287	1311	1348	1375	1384	1392	1455	1464	1472	1469
4. Population in employment aged 15–64	1260	1211	1249	1274	1308	1341	1364	1391	1426	1443	1457	1443
5. Employment rate (% population aged 15–64)	37.1	35.4	36.2	36.6	37.3	38.1	38.7	39.3	40.2	40.6	41.2	40.9
6. Employment rate (% population aged 15–24)	23.6	22.6	21.8	21.1	20.6	20.3	20.0	20.0	22.1	21.9	22.4	22.0
7. Employment rate (% population aged 25–54)	46.5	44.8	46.4	47.1	48.2	49.1	49.9	50.8	51.4	51.8	52.5	52.7
8. Employment rate (% population aged 55–64)	23.8	21.5	22.0	22.3	23.0	24.1	24.3	24.6	23.4	24.0	23.9	22.5
9. FTE employment rate (% population aged 15–64)						36.9	37.4	37.8	38.6	38.9	40.0	40.0
10. Self-employed (% total employment)	47.4	45.4	45.4	44.8	44.6	43.7	43.5	42.8	42.5	41.8	41.0	39.4
11. Part-time employment (% total employment)	7.5	7.3	8.1	7.7	8.0	8.4	8.7	8.5	10.0	9.9	7.8	7.1
12. Fixed-term contracts (% total employment)	13.9	12.3	9.4	9.7	9.5	10.0	10.5	11.1	13.4	13.9	15.5	15.0
13. Employment in Services (% total employment)	52.8	55.6	56.9	59.8	61.1	61.9	62.0	63.6	66.1	66.3	67.6	69.1
14. Employment in Industry (% total employment)	18.3	18.4	17.8	15.8	15.0	14.9	15.0	14.3	13.2	13.5	13.4	12.7
15. Employment in Agriculture (% total employment)	28.8	26.0	25.3	24.5	23.9	23.2	23.1	22.1	20.7	20.2	19.0	18.2
16. Activity rate (% population aged 15–64)	42.2	40.7	41.8	42.5	43.4	44.6	45.8	46.6	48.6	49.7	49.7	48.7
17. Total unemployment (000)	156	165	191	205	213	225	252	254	293	316	294	271
18. Unemployment rate (% labour force 15+)	10.8	11.9	12.9	13.6	13.7	14.1	15.2	15.2	16.7	17.6	16.5	15.4
19. Youth unemployment rate (% labour force 15–24)	29.9	31.1	34.4	36.1	37.0	38.3	41.0	40.4	39.7	40.4	37.5	35.8
20. Long term unemployment rate (% labour force)	6.5	6.8	7.2	7.6	7.7	8.1	9.3	9.2	10.1	10.6	9.9	8.7
21. Youth unemployment ratio (% population aged 15–24)	10.1	10.3	11.3	11.9	12.0	12.5	13.8	13.4	14.4	14.9	13.2	12.2

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Spain

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	38505	38540	38648	38685	38679	38756	38855	38918	39000	39045	39130	39221
2. Population aged 15–64	25259	25386	25534	25684	25769	25967	26237	26297	26246	26110	26190	26051
3. Total employment (000)	13801	13966	13772	13381	13318	13572	13745	14147	14653	15161	15633	16026
4. Population in employment aged 15–64	12430	12478	12237	11700	11600	11913	12283	12666	13104	13704	14361	14654
5. Employment rate (% population aged 15–64)	49.2	49.2	47.9	45.6	45.0	45.9	46.8	48.2	49.9	52.5	54.8	56.3
6. Employment rate (% population aged 15–24)	32.0	31.6	29.2	24.6	23.5	24.0	23.9	25.2	26.8	29.8	32.0	33.1
7. Employment rate (% population aged 25–54)	61.0	61.3	60.3	58.4	58.1	59.2	60.3	61.6	63.1	65.6	67.8	68.8
8. Employment rate (% population aged 55–64)	36.8	36.2	35.7	34.1	32.3	32.1	33.0	33.5	34.8	34.9	36.8	38.9
9. FTE employment rate (% population aged 15–64)						44.2	44.7	46.0	47.6	50.2	52.5	53.8
10. Self-employed (% total employment)	19.6	18.8	19.3	19.2	19.1	18.7	18.9	18.1	17.7	17.1	16.5	16.4
11. Part-time employment (% total employment)	4.8	4.6	5.9	6.4	6.7	7.4	7.7	8.0	7.9	8.1	8.0	8.1
12. Fixed-term contracts (% total employment)	30.3	32.3	33.5	32.4	33.8	34.9	33.8	33.6	33.1	32.8	32.0	31.7
13. Employment in Services (% total employment)	58.9	60.2	61.6	62.9	63.7	64.0	63.9	63.8	63.6	63.7	63.7	63.8
14. Employment in Industry (% total employment)	30.6	30.4	29.5	28.4	27.9	28.2	28.3	28.6	29.0	29.4	29.7	29.8
15. Employment in Agriculture (% total employment)	10.5	9.4	8.9	8.7	8.4	7.9	7.9	7.7	7.4	6.9	6.6	6.5
16. Activity rate (% population aged 15–64)	58.9	58.9	58.8	59.1	59.5	59.7	60.3	60.9	61.6	62.5	63.9	64.7
17. Total unemployment (000)	2041	2068	2341	2918	3133	3007	2961	2815	2561	2181	1994	1892
18. Unemployment rate (% labour force 15+)	13.1	13.2	14.9	18.6	19.8	18.8	18.1	17.0	15.2	12.8	11.3	10.6
19. Youth unemployment rate (% labour force 15–24)	28.1	27.1	30.2	38.5	40.2	37.8	37.1	34.5	31.1	25.6	22.6	21.5
20. Long term unemployment rate (% labour force)	8.2	7.9	8.1	10.7	12.9	12.3	11.7	10.8	9.4	7.3	5.9	5.1
21. Youth unemployment ratio (% population aged 15–24)	12.5	11.7	12.6	15.4	15.9	14.5	14.1	13.2	12.1	10.2	9.3	9.1
Male												
1. Total population (000)	18642	18688	18762	18777	18831	18868	18903	18950	18910	18884	19000	19044
2. Population aged 15–64	12409	12484	12599	12700	12743	12835	12977	13017	12951	12840	12926	12888
3. Total employment (000)	9413	9452	9218	8869	8790	8892	8947	9162	9451	9646	9814	9998
4. Population in employment aged 15–64	8481	8448	8201	7768	7660	7811	7997	8202	8451	8716	9010	9135
5. Employment rate (% population aged 15–64)	68.3	67.7	65.1	61.2	60.1	60.9	61.6	63.0	65.3	67.9	69.7	70.9
6. Employment rate (% population aged 15–24)	38.4	38.0	34.8	28.7	27.6	28.4	28.4	30.0	32.3	35.6	37.6	39.2
7. Employment rate (% population aged 25–54)	85.5	84.9	82.1	78.6	77.6	78.4	79.0	80.0	82.0	84.1	85.4	85.6
8. Employment rate (% population aged 55–64)	57.1	56.2	54.7	51.6	48.6	48.0	49.9	50.5	52.1	52.4	55.0	57.4
9. FTE employment rate (% population aged 15–64)						60.4	60.7	62.0	64.3	67.2	69.0	70.3
10. Self-employed (% total employment)	19.5	18.8	19.6	19.8	20.0	19.5	20.0	19.5	19.1	18.7	18.2	18.2
11. Part-time employment (% total employment)	1.6	1.5	2.1	2.3	2.5	2.8	3.0	3.1	2.9	2.9	2.8	2.8
12. Fixed-term contracts (% total employment)	28.0	29.4	30.8	29.9	31.8	33.2	32.3	32.4	32.1	31.5	30.6	30.0
13. Employment in Services (% total employment)	50.7	51.6	52.8	54.1	54.8	54.7	54.4	53.8	53.2	52.9	53.0	52.6
14. Employment in Industry (% total employment)	38.0	38.1	37.4	36.3	35.8	36.5	36.6	37.4	38.1	39.0	39.4	39.8
15. Employment in Agriculture (% total employment)	11.4	10.3	9.8	9.6	9.4	8.8	9.0	8.8	8.7	8.1	7.7	7.6
16. Activity rate (% population aged 15–64)	77.7	77.2	76.1	75.6	75.1	74.5	74.9	75.1	75.8	76.5	77.3	78.0
17. Total unemployment (000)	992	1019	1186	1567	1632	1504	1474	1355	1168	947	845	809
18. Unemployment rate (% labour force 15+)	9.6	9.9	11.7	15.5	16.2	14.9	14.4	13.1	11.2	9.0	7.9	7.5
19. Youth unemployment rate (% labour force 15–24)	22.4	21.9	25.6	35.1	36.1	32.3	31.6	28.7	24.9	19.7	17.4	16.6
20. Long term unemployment rate (% labour force)	5.0	4.9	5.1	7.6	9.3	8.7	8.2	7.5	6.0	4.5	3.5	3.1
21. Youth unemployment ratio (% population aged 15–24)	11.2	10.7	11.9	15.6	15.7	13.6	13.2	12.1	10.8	8.8	7.9	7.8
Female												
1. Total population (000)	19863	19852	19886	19908	19847	19889	19952	19967	20090	20162	20130	20177
2. Population aged 15–64	12850	12901	12935	12985	13026	13132	13260	13281	13294	13270	13263	13163
3. Total employment (000)	4389	4515	4553	4511	4528	4680	4798	4985	5201	5515	5819	6028
4. Population in employment aged 15–64	3948	4030	4036	3933	3941	4102	4286	4464	4654	4988	5351	5520
5. Employment rate (% population aged 15–64)	30.7	31.2	31.2	30.3	30.3	31.2	32.3	33.6	35.0	37.6	40.3	41.9
6. Employment rate (% population aged 15–24)	25.6	25.2	23.5	20.4	19.4	19.6	19.3	20.3	21.2	23.9	26.2	26.9
7. Employment rate (% population aged 25–54)	37.2	38.4	38.8	38.5	38.9	40.2	41.9	43.4	44.8	47.6	50.7	52.5
8. Employment rate (% population aged 55–64)	18.1	17.9	18.6	18.4	17.4	17.6	17.8	18.0	18.8	19.1	20.0	21.8
9. FTE employment rate (% population aged 15–64)						28.4	29.2	30.3	31.5	33.8	36.6	37.8
10. Self-employed (% total employment)	19.9	18.6	18.8	18.2	17.5	17.3	16.9	15.6	15.3	14.3	13.6	13.4
11. Part-time employment (% total employment)	11.8	11.2	13.5	14.3	14.8	16.2	16.6	17.1	16.9	17.1	16.9	16.8
12. Fixed-term contracts (% total employment)	35.2	38.3	38.9	37.2	37.6	38.0	36.5	35.5	34.6	35.0	34.2	34.2
13. Employment in Services (% total employment)	75.8	77.4	78.6	79.7	80.4	81.0	81.2	81.6	82.0	82.1	81.5	81.9
14. Employment in Industry (% total employment)	15.4	14.9	14.2	13.4	13.1	12.8	13.0	12.8	12.8	13.1	13.8	13.5
15. Employment in Agriculture (% total employment)	8.8	7.6	7.2	6.9	6.5	6.1	5.8	5.6	5.2	4.9	4.7	4.6
16. Activity rate (% population aged 15–64)	40.6	41.1	42.0	42.9	44.2	45.1	46.0	46.9	47.7	49.0	50.8	51.7
17. Total unemployment (000)	1049	1049	1156	1351	1501	1502	1487	1461	1394	1235	1149	1083
18. Unemployment rate (% labour force 15+)	19.8	19.5	21.0	24.1	26.1	25.3	24.4	23.4	21.8	18.7	16.7	15.5
19. Youth unemployment rate (% labour force 15–24)	35.3	33.6	36.2	42.8	45.4	44.4	44.0	41.5	38.8	33.0	29.2	27.9
20. Long term unemployment rate (% labour force)	14.1	13.3	13.5	16.2	18.9	18.2	17.3	16.1	14.5	11.5	9.5	8.1
21. Youth unemployment ratio (% population aged 15–24)	13.9	12.7	13.2	15.1	16.0	15.5	15.1	14.3	13.4	11.7	10.7	10.3

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in France

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	54622	55292	55587	55850	56058	56245	56424	56628	56873	57137	57430	57729
2. Population aged 15-64	35947	36335	36431	36546	36664	36778	36866	36987	37135	37315	37505	37688
3. Total employment (000)	22835	22878	22703	22422	22451	22555	22650	22709	23045	23484	24037	24535
4. Population in employment aged 15-64	21816	21934	21824	21662	21657	21893	21937	22011	22289	22687	23260	23789
5. Employment rate (% population aged 15-64)	60.7	60.4	59.9	59.3	59.1	59.5	59.5	59.5	60.0	60.8	62.0	63.1
6. Employment rate (% population aged 15-24)	34.4	31.7	30.1	27.6	26.2	26.1	25.3	25.0	26.1	27.7	29.0	29.5
7. Employment rate (% population aged 25-54)	77.5	77.7	77.2	76.8	76.6	77.1	76.9	76.7	77.1	77.7	78.8	79.9
8. Employment rate (% population aged 55-64)	30.7	30.3	29.8	29.7	29.6	29.6	29.4	29.1	28.9	29.4	30.3	31.0
9. FTE employment rate (% population aged 15-64)						56.5	56.7	56.4	56.9	57.2	58.7	59.9
10. Self-employed (% total employment)	13.1	12.6	12.0	11.7	11.3	10.9	10.5	10.3	10.0	9.8	9.5	9.2
11. Part-time employment (% total employment)	12.0	12.3	13.1	14.3	15.2	15.8	16.3	17.0	17.3	17.1	16.7	16.4
12. Fixed-term contracts (% total employment)	10.4	10.3	10.6	10.9	11.5	12.4	12.8	13.4	14.0	14.6	15.3	14.9
13. Employment in Services (% total employment)	66.5	67.2	68.2	69.4	70.2	70.4	71.0	71.5	72.0	72.5	72.9	73.2
14. Employment in Industry (% total employment)	27.5	27.1	26.3	25.4	24.7	24.6	24.1	23.7	23.4	23.0	22.8	22.7
15. Employment in Agriculture (% total employment)	5.9	5.7	5.5	5.3	5.1	5.0	4.8	4.8	4.7	4.5	4.3	4.1
16. Activity rate (% population aged 15-64)	66.9	66.8	67.1	67.3	67.5	67.8	68.1	68.0	68.4	68.7	68.6	68.4
17. Total unemployment (000)	2076	2202	2434	2766	2915	2799	2968	2963	2866	2734	2381	2238
18. Unemployment rate (% labour force 15+)	8.6	9.1	10.0	11.3	11.8	11.3	11.9	11.8	11.4	10.7	9.3	8.6
19. Youth unemployment rate (% labour force 15-24)	19.2	21.0	23.1	27.1	28.7	26.9	28.4	28.3	25.6	23.3	19.7	19.5
20. Long term unemployment rate (% labour force)	3.6	3.5	3.6	4.1	4.7	4.7	4.8	5.0	4.9	4.4	3.7	2.9
21. Youth unemployment ratio (% population aged 15-24)	8.1	8.2	8.8	10.0	10.1	9.2	9.6	9.4	8.5	8.0	6.9	7.1
Male												
1. Total population (000)	26395	26736	26876	27011	27110	27203	27288	27392	27533	27697	27856	28010
2. Population aged 15-64	17695	17874	17912	17983	18046	18102	18152	18219	18310	18432	18540	18640
3. Total employment (000)	13083	13003	12819	12543	12512	12547	12580	12591	12747	12972	13254	13515
4. Population in employment aged 15-64	12490	12454	12309	12106	12057	12164	12165	12185	12308	12509	12809	13098
5. Employment rate (% population aged 15-64)	70.6	69.7	68.7	67.3	66.8	67.2	67.0	66.9	67.2	67.9	69.1	70.3
6. Employment rate (% population aged 15-24)	38.0	34.8	33.0	29.9	28.6	28.8	28.1	27.6	29.1	31.1	32.4	33.3
7. Employment rate (% population aged 25-54)	89.9	89.3	88.2	86.9	86.4	86.7	86.3	86.0	86.1	86.5	87.7	88.7
8. Employment rate (% population aged 55-64)	36.8	36.2	35.7	35.1	34.3	33.8	33.6	33.5	33.1	33.0	34.1	35.4
9. FTE employment rate (% population aged 15-64)						67.4	67.4	67.2	67.7	67.8	69.2	70.3
10. Self-employed (% total employment)	15.0	14.4	13.9	13.7	13.3	12.9	12.7	12.5	12.2	12.0	11.6	11.3
11. Part-time employment (% total employment)	3.3	3.5	3.8	4.3	4.8	5.1	5.3	5.5	5.6	5.5	5.3	5.0
12. Fixed-term contracts (% total employment)	9.1	8.9	9.1	9.4	10.4	11.4	11.7	12.5	13.1	13.8	14.3	13.6
13. Employment in Services (% total employment)	56.5	57.1	58.1	59.3	60.2	60.3	60.7	61.2	61.7	62.3	62.6	62.9
14. Employment in Industry (% total employment)	36.6	36.3	35.6	34.5	33.6	33.7	33.4	32.9	32.4	32.1	32.0	31.9
15. Employment in Agriculture (% total employment)	6.8	6.5	6.3	6.2	6.1	6.0	6.0	6.0	5.9	5.6	5.4	5.2
16. Activity rate (% population aged 15-64)	76.1	75.4	75.3	75.0	74.9	75.0	75.2	75.1	75.1	75.3	75.1	74.8
17. Total unemployment (000)	882	956	1083	1304	1369	1280	1385	1392	1322	1256	1057	991
18. Unemployment rate (% labour force 15+)	6.6	7.1	8.1	9.7	10.2	9.5	10.2	10.2	9.7	9.1	7.6	7.1
19. Youth unemployment rate (% labour force 15-24)	15.7	17.6	19.8	24.8	25.9	23.3	25.5	25.7	23.2	21.3	17.6	17.6
20. Long term unemployment rate (% labour force)	2.6	2.5	2.7	3.4	4.0	3.9	4.0	4.2	4.2	3.7	3.0	2.4
21. Youth unemployment ratio (% population aged 15-24)	7.0	7.3	7.9	9.5	9.5	8.3	9.1	9.0	8.3	8.0	6.7	7.0
Female												
1. Total population (000)	28227	28555	28711	28839	28948	29042	29136	29236	29339	29440	29575	29719
2. Population aged 15-64	18252	18461	18519	18563	18617	18676	18714	18768	18825	18883	18965	19048
3. Total employment (000)	9752	9876	9884	9879	9940	10008	10070	10117	10298	10513	10783	11020
4. Population in employment aged 15-64	9326	9481	9515	9556	9600	9729	9772	9827	9981	10178	10451	10690
5. Employment rate (% population aged 15-64)	51.1	51.4	51.4	51.5	51.6	52.1	52.2	52.4	53.0	53.9	55.1	56.1
6. Employment rate (% population aged 15-24)	31.0	28.8	27.3	25.5	24.0	23.4	22.7	22.4	23.2	24.3	25.6	25.7
7. Employment rate (% population aged 25-54)	65.1	66.1	66.4	66.8	67.0	67.6	67.7	67.7	68.3	69.0	70.1	71.2
8. Employment rate (% population aged 55-64)	25.0	24.9	24.4	24.6	25.2	25.6	25.5	25.1	24.8	25.9	26.7	26.7
9. FTE employment rate (% population aged 15-64)						46.1	46.4	46.1	46.6	47.1	48.7	50.0
10. Self-employed (% total employment)	10.6	10.2	9.6	9.1	8.8	8.4	7.9	7.7	7.3	7.1	6.8	6.7
11. Part-time employment (% total employment)	23.6	23.9	25.2	26.9	28.3	29.1	30.0	31.2	31.6	31.4	30.8	30.4
12. Fixed-term contracts (% total employment)	12.0	12.1	12.4	12.7	12.8	13.6	14.1	14.6	15.0	15.5	16.4	16.3
13. Employment in Services (% total employment)	79.6	80.1	80.9	81.8	82.4	82.9	83.6	83.9	84.2	84.7	85.1	85.3
14. Employment in Industry (% total employment)	15.7	15.3	14.7	14.0	13.8	13.4	12.9	12.7	12.5	12.3	12.0	11.9
15. Employment in Agriculture (% total employment)	4.7	4.6	4.5	4.2	3.8	3.7	3.5	3.4	3.2	3.1	2.9	2.8
16. Activity rate (% population aged 15-64)	58.1	58.5	59.2	59.8	60.3	60.8	61.1	61.2	61.8	62.2	62.3	62.0
17. Total unemployment (000)	1195	1247	1351	1462	1546	1519	1584	1571	1545	1478	1324	1247
18. Unemployment rate (% labour force 15+)	11.3	11.6	12.4	13.2	13.8	13.5	13.9	13.7	13.4	12.6	11.2	10.5
19. Youth unemployment rate (% labour force 15-24)	22.9	24.5	26.5	29.6	31.6	30.7	31.5	31.2	28.3	25.6	22.3	21.8
20. Long term unemployment rate (% labour force)	4.9	4.7	4.7	5.0	5.6	5.8	5.8	5.9	5.8	5.3	4.6	3.5
21. Youth unemployment ratio (% population aged 15-24)	9.1	9.2	9.6	10.4	10.8	10.1	10.1	9.8	8.8	8.0	7.1	7.1

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Ireland

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	3455	3476	3492	3484	3523	3543	3572	3630	3713	3754	3799	3853
2. Population aged 15–64	2126	2159	2190	2200	2241	2282	2332	2391	2456	2503	2549	2600
3. Total employment (000)	1149	1154	1166	1182	1232	1285	1331	1405	1526	1617	1693	1743
4. Population in employment aged 15–64	1105	1109	1120	1138	1189	1241	1291	1375	1488	1584	1661	1710
5. Employment rate (% population aged 15–64)	52.0	51.4	51.2	51.7	53.0	54.4	55.4	57.5	60.6	63.3	65.2	65.7
6. Employment rate (% population aged 15–24)	41.1	38.9	37.0	36.5	37.2	37.6	37.5	41.3	45.6	49.1	50.8	49.6
7. Employment rate (% population aged 25–54)	60.1	60.1	60.4	61.3	63.0	64.9	66.5	68.1	70.9	73.4	75.4	76.4
8. Employment rate (% population aged 55–64)	37.9	38.0	37.9	38.4	38.8	39.2	39.7	40.3	41.7	43.7	45.3	46.8
9. FTE employment rate (% population aged 15–64)						50.8	51.5	53.2	55.5	58.6	60.6	60.7
10. Self-employed (% total employment)	23.1	22.0	22.2	21.6	21.0	20.5	19.9	19.4	19.7	18.7	18.2	17.6
11. Part-time employment (% total employment)	7.9	8.3	9.1	10.5	11.1	11.6	11.4	13.6	16.5	16.4	16.4	16.5
12. Fixed-term contracts (% total employment)	8.5	8.4	8.9	9.4	9.7	10.0	9.3	9.1	7.3	5.0	4.5	3.7
13. Employment in Services (% total employment)	57.0	58.0	59.3	60.4	60.5	61.1	61.8	61.9	62.5	63.1	63.6	64.0
14. Employment in Industry (% total employment)	29.4	29.4	28.5	27.8	28.3	28.3	28.3	28.8	28.6	28.5	28.9	29.0
15. Employment in Agriculture (% total employment)	13.6	12.6	12.2	11.7	11.2	10.6	9.8	9.3	8.9	8.4	7.5	7.0
16. Activity rate (% population aged 15–64)	60.9	60.9	60.4	61.2	61.8	61.9	62.5	64.1	65.6	67.1	68.1	68.4
17. Total unemployment (000)	176	197	209	216	203	177	174	152	123	95	74	68
18. Unemployment rate (% labour force 15+)	13.4	14.7	15.4	15.6	14.3	12.3	11.7	9.9	7.5	5.6	4.2	3.8
19. Youth unemployment rate (% labour force 15–24)	19.4	22.4	24.4	25.3	23.0	19.5	18.2	15.3	11.3	8.4	6.5	6.6
20. Long term unemployment rate (% labour force)	9.8	9.9	9.4	9.7	9.4	7.8	7.1	6.1	3.9	2.6	1.6	1.3
21. Youth unemployment ratio (% population aged 15–24)	9.6	10.8	11.5	11.9	10.7	8.8	8.0	7.1	5.5	4.2	3.3	3.3
Male												
1. Total population (000)	1733	1739	1742	1737	1752	1762	1779	1807	1843	1863	1887	1913
2. Population aged 15–64	1081	1093	1103	1107	1124	1145	1171	1200	1233	1256	1280	1305
3. Total employment (000)	768	762	754	751	775	802	821	853	917	962	1000	1024
4. Population in employment aged 15–64	733	727	718	717	741	768	790	829	888	935	975	997
5. Employment rate (% population aged 15–64)	67.9	66.5	65.1	64.8	65.9	67.1	67.5	69.0	72.0	74.5	76.2	76.4
6. Employment rate (% population aged 15–24)	43.6	41.1	38.7	37.6	38.5	39.6	39.8	43.8	48.7	52.3	54.5	53.4
7. Employment rate (% population aged 25–54)	81.1	80.1	78.6	78.5	79.7	81.0	81.8	82.5	84.9	86.9	88.2	88.6
8. Employment rate (% population aged 55–64)	60.0	60.2	59.5	59.4	59.5	59.7	59.1	58.7	60.1	61.7	63.3	64.7
9. FTE employment rate (% population aged 15–64)						65.2	65.2	67.0	70.0	73.6	75.9	75.6
10. Self-employed (% total employment)	29.5	28.5	29.0	28.5	28.0	27.5	26.6	26.2	26.5	25.5	25.0	24.6
11. Part-time employment (% total employment)	3.3	3.5	3.8	4.6	4.9	5.1	4.9	6.0	7.6	7.2	6.9	6.6
12. Fixed-term contracts (% total employment)	6.6	6.3	6.7	7.5	8.1	8.4	7.3	6.9	5.6	3.9	3.5	3.0
13. Employment in Services (% total employment)	46.8	47.4	48.4	49.1	49.0	49.7	50.2	50.0	50.0	50.2	50.5	50.4
14. Employment in Industry (% total employment)	34.8	35.2	34.3	34.3	34.9	35.1	35.7	36.5	36.9	37.3	38.2	39.0
15. Employment in Agriculture (% total employment)	18.4	17.5	17.3	16.6	16.0	15.2	14.1	13.4	13.1	12.6	11.3	10.6
16. Activity rate (% population aged 15–64)	79.2	78.6	76.8	76.6	76.8	76.4	76.2	77.0	78.2	79.0	79.7	79.7
17. Total unemployment (000)	111	124	132	134	126	109	106	93	76	58	44	41
18. Unemployment rate (% labour force 15+)	12.8	14.2	15.1	15.4	14.2	12.2	11.5	9.9	7.7	5.7	4.2	3.9
19. Youth unemployment rate (% labour force 15–24)	20.4	23.6	25.7	27.1	24.8	20.8	19.0	15.9	11.5	8.2	6.2	6.8
20. Long term unemployment rate (% labour force)	10.0	10.2	9.7	10.0	9.7	8.2	7.6	6.6	4.6	3.1	2.1	1.6
21. Youth unemployment ratio (% population aged 15–24)	10.8	12.4	13.0	13.5	12.3	10.0	9.0	7.9	6.1	4.5	3.4	3.8
Female												
1. Total population (000)	1722	1737	1749	1747	1772	1781	1792	1824	1870	1891	1913	1940
2. Population aged 15–64	1046	1065	1087	1094	1117	1137	1160	1190	1224	1247	1269	1295
3. Total employment (000)	382	392	413	431	458	483	510	552	609	655	693	719
4. Population in employment aged 15–64	373	383	403	421	448	473	501	546	600	649	687	712
5. Employment rate (% population aged 15–64)	35.6	35.9	37.1	38.5	40.1	41.6	43.2	45.9	49.0	52.0	54.1	55.0
6. Employment rate (% population aged 15–24)	38.5	36.5	35.1	35.4	35.8	35.5	35.2	38.8	42.4	45.8	46.9	45.8
7. Employment rate (% population aged 25–54)	38.5	39.9	42.2	44.2	46.5	49.0	51.3	53.7	57.1	60.1	62.6	64.2
8. Employment rate (% population aged 55–64)	16.1	16.2	16.5	17.7	18.2	18.6	20.2	21.7	23.1	25.5	27.2	28.8
9. FTE employment rate (% population aged 15–64)						36.4	37.8	39.3	41.0	43.6	45.2	45.7
10. Self-employed (% total employment)	10.3	9.7	9.8	9.9	9.2	9.0	9.1	9.0	9.4	8.7	8.3	7.6
11. Part-time employment (% total employment)	17.3	17.6	18.7	20.8	21.5	22.4	22.0	25.2	30.0	30.0	30.1	30.5
12. Fixed-term contracts (% total employment)	11.5	11.6	11.9	12.0	11.7	12.2	12.0	11.8	9.3	6.3	5.7	4.6
13. Employment in Services (% total employment)	77.2	78.3	78.8	79.8	79.6	79.8	80.3	80.1	81.3	82.0	82.3	83.3
14. Employment in Industry (% total employment)	18.8	18.4	18.0	16.8	17.1	17.1	16.6	17.0	16.2	15.6	15.7	14.9
15. Employment in Agriculture (% total employment)	3.9	3.3	3.1	3.4	3.2	3.1	3.1	2.9	2.6	2.3	2.0	1.8
16. Activity rate (% population aged 15–64)	42.0	42.8	43.8	45.6	46.7	47.3	48.7	51.1	52.9	55.0	56.5	57.1
17. Total unemployment (000)	64	73	78	81	77	68	68	60	47	38	30	27
18. Unemployment rate (% labour force 15+)	14.6	15.8	16.0	16.0	14.6	12.5	11.8	9.9	7.3	5.5	4.2	3.7
19. Youth unemployment rate (% labour force 15–24)	18.2	20.8	22.7	23.1	20.7	17.9	17.2	14.6	11.0	8.5	6.9	6.3
20. Long term unemployment rate (% labour force)	9.4	9.6	8.9	9.2	8.9	7.1	6.5	5.3	2.8	1.9	1.0	0.8
21. Youth unemployment ratio (% population aged 15–24)	8.2	9.2	9.9	10.2	9.0	7.5	7.0	6.2	4.9	4.0	3.2	2.8

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Italy

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)				56325	56498	56627	56717	56835	56934	56978	57069	57229
2. Population aged 15-64				38657	38748	38769	38732	38733	38729	38679	38665	38645
3. Total employment (000)	22610	23032	22920	22348	22017	21993	22130	22215	22448	22701	23129	23505
4. Population in employment aged 15-64				20146	19831	19701	19795	19842	20091	20358	20753	21169
5. Employment rate (% population aged 15-64)				52.1	51.2	50.8	51.1	51.2	51.9	52.6	53.7	54.8
6. Employment rate (% population aged 15-24)				28.1	26.4	25.5	25.2	25.1	25.6	25.6	26.4	26.3
7. Employment rate (% population aged 25-54)				66.7	65.8	65.5	65.7	65.7	66.2	67.0	67.9	69.2
8. Employment rate (% population aged 55-64)				30.3	29.3	28.4	28.7	27.9	27.7	27.6	27.7	28.0
9. FTE employment rate (% population aged 15-64)						49.5	49.5	49.3	50.5	51.0	51.7	52.7
10. Self-employed (% total employment)	27.4	27.5	27.3	26.7	26.7	26.9	26.9	26.7	26.6	26.2	26.1	25.8
11. Part-time employment (% total employment)	6.0	6.0	6.0	5.5	5.9	6.3	6.5	6.8	7.3	7.9	8.4	8.4
12. Fixed-term contracts (% total employment)	7.1	7.1	7.1	6.2	6.8	7.3	7.3	7.9	8.6	9.5	10.1	9.8
13. Employment in Services (% total employment)	60.2	61.1	61.8	62.3	62.6	63.0	63.8	64.0	64.3	64.9	65.6	65.8
14. Employment in Industry (% total employment)	32.4	31.8	31.3	31.2	31.1	31.0	30.5	30.4	30.4	30.1	29.6	29.4
15. Employment in Agriculture (% total employment)	7.5	7.1	6.9	6.5	6.3	6.0	5.7	5.6	5.3	5.0	4.8	4.8
16. Activity rate (% population aged 15-64)				58.0	57.6	57.6	57.9	58.1	58.9	59.5	60.1	60.6
17. Total unemployment (000)	2083	2023	2055	2296	2498	2605	2627	2652	2711	2628	2455	2248
18. Unemployment rate (% labour force 15+)	8.9	8.5	8.7	10.1	11.0	11.5	11.5	11.6	11.7	11.3	10.4	9.4
19. Youth unemployment rate (% labour force 15-24)	26.9	25.5	26.7	30.1	31.9	33.3	33.6	33.5	33.5	32.3	30.7	28.1
20. Long term unemployment rate (% labour force)				5.8	6.7	7.3	7.5	7.5	7.0	6.9	6.4	5.9
21. Youth unemployment ratio (% population aged 15-24)				12.1	12.4	12.7	12.8	12.6	12.8	12.2	11.7	10.2
Male												
1. Total population (000)				27309	27391	27443	27483	27551	27608	27625	27676	27764
2. Population aged 15-64				19168	19226	19244	19236	19258	19272	19251	19254	19258
3. Total employment (000)	14775	15052	14978	14635	14372	14298	14299	14308	14379	14437	14611	14700
4. Population in employment aged 15-64				13173	12922	12784	12767	12752	12841	12921	13076	13201
5. Employment rate (% population aged 15-64)				68.7	67.2	66.4	66.4	66.2	66.6	67.1	67.9	68.5
6. Employment rate (% population aged 15-24)				33.1	31.0	30.1	29.9	30.0	30.4	30.0	30.6	30.4
7. Employment rate (% population aged 25-54)				86.8	85.2	84.3	84.1	83.8	83.9	84.3	84.8	85.5
8. Employment rate (% population aged 55-64)				48.1	46.4	44.7	44.0	42.1	41.4	41.2	40.9	40.4
9. FTE employment rate (% population aged 15-64)						65.5	65.1	64.7	66.3	66.7	67.0	67.6
10. Self-employed (% total employment)	29.6	29.6	29.4	29.0	29.1	29.6	29.8	29.7	29.7	29.4	29.6	29.4
11. Part-time employment (% total employment)	2.8	2.8	2.8	2.5	2.7	2.9	3.0	3.1	3.4	3.5	3.7	3.5
12. Fixed-term contracts (% total employment)	5.9	5.9	5.9	5.0	5.7	6.2	6.4	6.9	7.5	8.2	8.7	8.3
13. Employment in Services (% total employment)	54.4	55.3	56.1	56.6	56.9	57.2	57.7	58.0	58.0	58.2	58.8	58.7
14. Employment in Industry (% total employment)	38.3	37.7	37.2	37.0	36.8	36.7	36.3	36.1	36.3	36.3	35.9	36.0
15. Employment in Agriculture (% total employment)	7.2	6.9	6.7	6.4	6.3	6.1	6.0	5.9	5.6	5.4	5.3	5.3
16. Activity rate (% population aged 15-64)				74.4	73.6	73.1	73.0	72.9	73.4	73.7	74.0	74.1
17. Total unemployment (000)	939	917	947	1095	1224	1263	1277	1274	1295	1246	1156	1057
18. Unemployment rate (% labour force 15+)	6.2	6.0	6.3	7.5	8.5	8.8	8.9	8.9	9.0	8.6	8.0	7.3
19. Youth unemployment rate (% labour force 15-24)	23.0	22.4	23.2	26.3	28.6	29.1	29.3	29.1	29.4	28.7	27.1	24.9
20. Long term unemployment rate (% labour force)				4.1	5.0	5.5	5.6	5.7	5.4	5.3	4.9	4.5
21. Youth unemployment ratio (% population aged 15-24)				11.8	12.4	12.4	12.4	12.3	12.6	12.0	11.4	10.1
Female												
1. Total population (000)				29016	29108	29183	29233	29284	29327	29353	29393	29465
2. Population aged 15-64				19489	19522	19525	19496	19475	19456	19428	19410	19388
3. Total employment (000)	7834	7981	7942	7712	7645	7695	7831	7906	8069	8265	8518	8805
4. Population in employment aged 15-64				6973	6909	6916	7027	7089	7250	7437	7677	7968
5. Employment rate (% population aged 15-64)				35.8	35.4	35.4	36.0	36.4	37.3	38.3	39.6	41.1
6. Employment rate (% population aged 15-24)				23.2	21.8	20.9	20.4	20.3	20.7	21.3	22.1	22.1
7. Employment rate (% population aged 25-54)				46.6	46.3	46.6	47.3	47.6	48.5	49.6	50.9	52.8
8. Employment rate (% population aged 55-64)				14.1	13.7	13.5	14.5	14.8	15.0	15.0	15.3	16.2
9. FTE employment rate (% population aged 15-64)						33.8	34.3	34.3	35.0	35.7	36.7	38.1
10. Self-employed (% total employment)	23.5	23.5	23.4	22.5	22.4	21.9	21.8	21.4	21.2	20.8	20.3	19.9
11. Part-time employment (% total employment)	11.8	11.8	11.8	11.2	12.0	12.7	12.9	13.4	14.2	15.6	16.5	16.6
12. Fixed-term contracts (% total employment)	9.4	9.4	9.4	8.2	8.6	9.3	8.8	9.4	10.3	11.5	12.2	11.9
13. Employment in Services (% total employment)	70.8	71.6	72.2	72.7	73.1	73.6	74.7	74.7	75.1	76.4	76.8	77.3
14. Employment in Industry (% total employment)	21.3	20.9	20.5	20.5	20.7	20.5	20.1	20.2	20.1	19.4	19.1	18.6
15. Employment in Agriculture (% total employment)	7.9	7.5	7.2	6.8	6.3	5.9	5.3	5.1	4.7	4.2	4.1	4.1
16. Activity rate (% population aged 15-64)				41.9	41.9	42.3	43.0	43.5	44.6	45.5	46.3	47.3
17. Total unemployment (000)	1145	1106	1108	1201	1273	1342	1351	1379	1416	1382	1299	1191
18. Unemployment rate (% labour force 15+)	13.5	12.9	13.0	14.5	15.4	16.1	15.9	16.1	16.1	15.5	14.3	12.9
19. Youth unemployment rate (% labour force 15-24)	31.7	29.6	31.0	35.0	36.2	38.5	39.1	39.2	38.6	36.9	35.0	32.0
20. Long term unemployment rate (% labour force)				8.8	9.7	10.5	10.7	10.5	9.7	9.5	8.9	8.0
21. Youth unemployment ratio (% population aged 15-24)				12.5	12.4	13.1	13.1	13.0	13.0	12.4	11.9	10.4

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Luxembourg

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	380	384	384	391	397	404	411	416	420	425	430	433
2. Population aged 15-64	264	265	266	269	272	275	278	280	282	285	288	295
3. Total employment (000)	187	195	200	203	208	214	220	227	236	248	262	277
4. Population in employment aged 15-64	157	161	163	164	163	162	165	168	171	176	181	186
5. Employment rate (% population aged 15-64)	59.5	60.8	61.4	60.8	59.9	58.7	59.2	59.9	60.5	61.7	62.7	62.9
6. Employment rate (% population aged 15-24)	45.4	50.8	48.9	45.4	42.1	38.3	36.6	34.5	32.9	31.8	31.9	32.4
7. Employment rate (% population aged 25-54)	71.9	73.0	73.9	73.4	73.2	72.2	73.3	74.4	75.1	76.9	78.2	78.7
8. Employment rate (% population aged 55-64)	27.1	23.8	24.9	25.4	23.5	23.7	22.9	23.9	25.1	26.4	26.7	24.4
9. FTE employment rate (% population aged 15-64)						56.6	57.4	58.3	58.0	59.1	60.4	60.0
10. Self-employed (% total employment)	8.9	8.4	8.2	8.0	7.7	7.6	7.5	7.3	7.1	6.8	6.4	6.1
11. Part-time employment (% total employment)	6.5	6.5	6.5	6.9	7.9	8.5	8.0	8.2	9.1	9.8	10.3	10.3
12. Fixed-term contracts (% total employment)	3.3	3.3	3.4	3.9	4.6	5.0	4.3	4.1	4.9	5.2	5.4	5.8
13. Employment in Services (% total employment)	66.6	67.3	67.9	68.7	70.1	70.5	71.5	72.2	72.8	74.5	75.3	75.4
14. Employment in Industry (% total employment)	30.7	30.2	29.8	29.0	27.8	27.6	26.6	25.9	25.4	23.9	23.1	23.1
15. Employment in Agriculture (% total employment)	2.7	2.5	2.4	2.3	2.2	2.0	1.9	1.9	1.8	1.6	1.6	1.6
16. Activity rate (% population aged 15-64)	60.4	61.8	62.7	62.4	62.0	60.6	61.2	61.6	62.1	63.2	64.1	64.1
17. Total unemployment (000)	3	3	4	4	5	5	5	5	5	4	4	4
18. Unemployment rate (% labour force 15+)	1.7	1.6	2.1	2.6	3.2	2.9	2.9	2.7	2.7	2.4	2.3	2.0
19. Youth unemployment rate (% labour force 15-24)	3.8	3.1	3.8	5.2	7.1	7.2	8.2	7.9	6.9	6.9	7.2	7.5
20. Long term unemployment rate (% labour force)	0.5	0.4	0.4	0.7	0.9	0.7	0.9	0.9	0.8	0.7	0.5	0.5
21. Youth unemployment ratio (% population aged 15-24)	1.8	1.6	2.0	2.5	3.1	2.9	3.3	2.9	2.5	2.3	2.5	2.7
Male												
1. Total population (000)	185	188	189	193	196	199	203	206	208	210	212	214
2. Population aged 15-64	134	135	135	137	138	140	140	141	142	144	146	149
3. Total employment (000)	119	124	128	131	135	140	142	145	149	157	166	176
4. Population in employment aged 15-64	102	104	104	104	104	104	104	105	106	107	109	111
5. Employment rate (% population aged 15-64)	76.7	77.1	76.5	76.4	74.9	74.4	74.3	74.3	74.5	74.5	75.0	74.8
6. Employment rate (% population aged 15-24)	47.2	53.2	49.9	47.2	43.3	39.6	38.3	36.9	34.9	34.1	35.0	33.9
7. Employment rate (% population aged 25-54)	94.1	94.2	93.7	93.2	92.5	92.2	92.1	92.1	92.8	92.8	92.9	93.2
8. Employment rate (% population aged 55-64)	41.0	34.6	35.1	37.0	34.1	35.1	35.5	35.4	35.2	35.8	37.2	34.8
9. FTE employment rate (% population aged 15-64)						74.7	74.6	75.0	74.9	74.7	75.9	74.9
10. Self-employed (% total employment)	8.7	8.2	8.0	8.0	7.5	8.0	8.1	7.9	7.8	7.3	7.1	6.6
11. Part-time employment (% total employment)	1.1	1.1	1.0	0.9	1.1	1.4	1.1	1.0	1.5	1.5	1.7	1.3
12. Fixed-term contracts (% total employment)	2.5	2.5	2.6	3.1	3.8	4.7	4.0	3.5	4.8	5.2	4.6	5.2
13. Employment in Services (% total employment)	54.9	55.7	56.1	56.5	58.8	60.0	60.8	61.2	62.5	64.0	64.9	65.1
14. Employment in Industry (% total employment)	42.0	41.5	41.2	40.9	38.8	37.8	36.8	36.5	35.4	34.2	33.2	32.9
15. Employment in Agriculture (% total employment)	3.0	2.8	2.7	2.6	2.4	2.2	2.3	2.3	2.1	1.8	1.9	1.9
16. Activity rate (% population aged 15-64)	77.6	78.0	77.8	78.0	77.1	76.1	76.1	75.8	75.9	75.9	76.3	76.0
17. Total unemployment (000)	1	1	2	2	3	2	2	2	2	2	2	2
18. Unemployment rate (% labour force 15+)	1.2	1.3	1.7	2.2	2.6	2.0	2.2	2.0	1.9	1.8	1.8	1.7
19. Youth unemployment rate (% labour force 15-24)	3.0	3.1	4.0	4.8	7.1	6.6	8.0	6.5	6.5	6.1	6.6	8.5
20. Long term unemployment rate (% labour force)	0.4	0.4	0.3	0.6	0.9	0.6	0.7	0.6	0.7	0.6	0.5	0.5
21. Youth unemployment ratio (% population aged 15-24)	1.6	1.6	2.0	2.5	3.3	2.8	3.3	2.5	2.5	2.0	2.4	3.2
Female												
1. Total population (000)	194	195	194	198	201	204	208	210	212	214	218	219
2. Population aged 15-64	130	131	131	132	134	136	138	139	140	141	142	146
3. Total employment (000)	68	71	72	72	74	74	78	82	87	91	97	101
4. Population in employment aged 15-64	54	57	60	59	59	58	60	63	65	69	71	74
5. Employment rate (% population aged 15-64)	41.8	44.0	45.7	44.8	44.4	42.6	43.8	45.3	46.2	48.6	50.1	50.9
6. Employment rate (% population aged 15-24)	43.6	48.3	47.8	43.6	41.0	36.9	34.8	32.1	30.8	29.4	28.8	30.8
7. Employment rate (% population aged 25-54)	48.9	50.8	53.0	52.8	52.9	51.4	53.9	56.1	56.9	60.5	63.0	63.8
8. Employment rate (% population aged 55-64)	13.5	13.5	15.0	14.2	13.3	12.6	10.8	12.9	15.5	17.2	16.4	14.0
9. FTE employment rate (% population aged 15-64)						38.1	39.9	41.3	41.2	43.5	44.6	45.1
10. Self-employed (% total employment)	9.4	8.9	8.5	7.9	8.1	6.9	6.3	6.3	5.8	6.0	5.2	5.2
11. Part-time employment (% total employment)	16.1	16.1	16.3	17.6	20.5	21.8	20.5	21.0	22.0	24.0	25.1	26.1
12. Fixed-term contracts (% total employment)	4.6	4.6	4.7	5.3	6.0	5.6	4.7	5.1	5.2	5.2	6.6	6.6
13. Employment in Services (% total employment)	87.4	87.8	88.6	90.4	89.6	89.8	90.5	91.1	90.2	91.8	92.5	92.2
14. Employment in Industry (% total employment)	10.6	10.3	9.7	7.8	8.6	8.5	8.3	7.8	8.5	6.8	6.4	6.7
15. Employment in Agriculture (% total employment)	2.0	1.9	1.8	1.8	1.7	1.6	1.2	1.1	1.4	1.4	1.1	1.1
16. Activity rate (% population aged 15-64)	42.8	45.0	47.1	46.4	46.4	44.6	45.9	47.1	48.1	50.3	51.6	52.0
17. Total unemployment (000)	1	1	2	2	3	3	3	3	3	2	2	2
18. Unemployment rate (% labour force 15+)	2.5	2.3	2.8	3.3	4.1	4.3	4.2	3.9	4.0	3.3	3.1	2.4
19. Youth unemployment rate (% labour force 15-24)	4.6	3.1	3.6	5.6	7.1	7.8	8.4	9.5	7.3	7.9	7.9	6.3
20. Long term unemployment rate (% labour force)	0.6	0.4	0.6	0.9	1.0	1.0	1.2	1.3	1.1	0.9	0.6	0.5
21. Youth unemployment ratio (% population aged 15-24)	2.1	1.6	1.7	2.6	3.0	2.9	3.3	3.4	2.5	2.5	2.5	2.1

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in the Netherlands

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	14618	14743	14859	14998	15103	15192	15269	15359	15459	15568	15679	15837
2. Population aged 15–64	10176	10249	10311	10376	10438	10481	10520	10562	10606	10664	10722	10801
3. Total employment (000)	6750	6873	6986	6986	7036	7144	7309	7541	7741	7938	8122	8291
4. Population in employment aged 15–64	6239	6402	6560	6597	6667	6764	6937	7181	7398	7581	7819	8005
5. Employment rate (% population aged 15–64)	61.3	62.5	63.6	63.6	63.9	64.5	65.9	68.0	69.8	71.1	72.9	74.1
6. Employment rate (% population aged 15–24)	53.1	54.2	55.5	54.1	53.9	54.4	54.8	57.8	60.9	63.6	68.7	70.4
7. Employment rate (% population aged 25–54)	70.9	72.4	73.5	73.7	74.0	74.7	76.3	78.2	79.6	80.6	81.7	82.8
8. Employment rate (% population aged 55–64)	29.4	28.5	28.7	28.9	29.1	29.1	30.3	31.8	33.6	35.7	38.2	39.6
9. FTE employment rate (% population aged 15–64)						51.4	52.1	54.1	55.6	56.8	57.5	58.1
10. Self-employed (% total employment)	15.4	15.1	15.5	15.6	15.9	15.7	15.8	15.8	15.3	14.5	14.1	13.8
11. Part-time employment (% total employment)	32.0	33.1	34.6	35.3	36.6	37.5	38.1	38.2	39.0	39.8	41.5	42.2
12. Fixed-term contracts (% total employment)	7.6	8.2	9.8	10.2	10.9	11.2	11.8	11.7	12.5	12.2	13.7	14.3
13. Employment in Services (% total employment)	70.9	71.4	71.9	72.5	73.4	74.2	74.8	75.2	75.8	76.1	76.4	76.7
14. Employment in Industry (% total employment)	24.7	24.3	23.7	23.1	22.3	21.8	21.2	20.9	20.6	20.3	20.1	19.8
15. Employment in Agriculture (% total employment)	4.4	4.3	4.4	4.4	4.3	4.0	4.0	3.9	3.6	3.5	3.5	3.4
16. Activity rate (% population aged 15–64)	66.4	67.1	67.5	68.0	68.8	69.4	70.3	71.8	72.8	73.7	75.2	75.8
17. Total unemployment (000)	390	373	373	442	488	478	443	374	295	250	224	198
18. Unemployment rate (% labour force 15+)	5.8	5.5	5.3	6.2	6.8	6.6	6.0	4.9	3.8	3.2	2.8	2.4
19. Youth unemployment rate (% labour force 15–24)	8.1	7.8	8.1	10.6	10.9	11.4	11.1	9.1	7.6	6.7	5.6	5.5
20. Long term unemployment rate (% labour force)	3.3	2.9	2.5	2.9	3.1	3.1	2.8	2.3	1.7	1.3	1.1	0.8
21. Youth unemployment ratio (% population aged 15–24)	4.7	4.7	4.9	6.4	6.6	7.0	6.9	5.8	5.0	4.6	4.1	4.1
Male												
1. Total population (000)	7233	7301	7363	7440	7494	7545	7585	7630	7678	7731	7789	7865
2. Population aged 15–64	5133	5177	5212	5253	5286	5315	5336	5356	5376	5403	5431	5469
3. Total employment (000)	4192	4218	4222	4179	4173	4231	4302	4417	4501	4561	4639	4699
4. Population in employment aged 15–64	3865	3920	3954	3935	3944	3995	4070	4194	4288	4347	4460	4526
5. Employment rate (% population aged 15–64)	75.3	75.7	75.9	74.9	74.6	75.2	76.3	78.3	79.8	80.5	82.1	82.8
6. Employment rate (% population aged 15–24)	54.0	54.8	55.6	54.0	53.7	54.9	55.4	59.2	62.0	64.0	70.0	71.2
7. Employment rate (% population aged 25–54)	88.9	89.3	89.1	88.0	87.5	87.9	89.0	90.4	91.1	91.4	92.2	92.7
8. Employment rate (% population aged 55–64)	44.0	42.4	41.9	41.2	40.9	40.1	41.3	43.8	46.9	48.7	50.2	51.1
9. FTE employment rate (% population aged 15–64)						69.0	69.7	71.7	73.1	73.8	74.7	75.0
10. Self-employed (% total employment)	14.9	15.3	16.7	16.8	17.1	17.0	17.5	17.5	17.0	16.2	15.9	15.5
11. Part-time employment (% total employment)	15.2	15.6	15.4	15.5	16.2	16.8	17.0	17.3	18.0	18.2	19.3	20.0
12. Fixed-term contracts (% total employment)	6.0	6.1	6.9	7.2	8.1	8.7	9.0	9.2	10.0	9.6	11.2	11.9
13. Employment in Services (% total employment)	61.1	61.7	62.2	62.7	63.3	64.4	65.1	65.6	66.5	66.7	67.0	67.2
14. Employment in Industry (% total employment)	33.7	33.1	32.3	31.9	31.3	30.4	29.8	29.6	29.0	28.9	28.7	28.7
15. Employment in Agriculture (% total employment)	5.2	5.2	5.5	5.4	5.4	5.2	5.1	4.9	4.5	4.4	4.3	4.1
16. Activity rate (% population aged 15–64)	79.8	79.9	79.4	79.4	79.8	79.9	80.3	81.7	82.4	82.7	84.1	84.3
17. Total unemployment (000)	168	161	171	227	256	234	205	163	132	103	99	90
18. Unemployment rate (% labour force 15+)	4.1	3.9	4.1	5.4	6.0	5.5	4.7	3.7	3.0	2.3	2.1	1.9
19. Youth unemployment rate (% labour force 15–24)	7.1	7.0	8.0	11.4	11.6	10.7	10.5	7.9	7.4	5.1	4.6	4.7
20. Long term unemployment rate (% labour force)	2.8	2.5	2.0	2.5	2.9	2.9	2.4	1.8	1.4	1.1	1.0	0.7
21. Youth unemployment ratio (% population aged 15–24)	4.2	4.2	4.9	7.0	7.0	6.6	6.5	5.0	4.9	3.5	3.4	3.5
Female												
1. Total population (000)	7385	7442	7497	7558	7610	7647	7685	7729	7781	7837	7890	7972
2. Population aged 15–64	5043	5072	5099	5123	5152	5166	5184	5206	5230	5261	5291	5332
3. Total employment (000)	2558	2655	2765	2807	2863	2912	3007	3124	3240	3376	3483	3592
4. Population in employment aged 15–64	2374	2482	2606	2661	2723	2770	2866	2987	3110	3234	3359	3479
5. Employment rate (% population aged 15–64)	47.1	48.9	51.1	51.9	52.9	53.6	55.3	57.4	59.5	61.5	63.5	65.2
6. Employment rate (% population aged 15–24)	52.3	53.7	55.4	54.1	54.2	53.9	54.2	56.3	59.8	63.3	67.3	69.6
7. Employment rate (% population aged 25–54)	52.2	54.7	57.3	58.8	60.0	61.0	63.1	65.6	67.7	69.4	70.8	72.5
8. Employment rate (% population aged 55–64)	15.6	15.2	16.1	16.9	17.6	18.3	19.5	19.8	20.3	22.7	26.1	28.0
9. FTE employment rate (% population aged 15–64)						33.8	34.5	36.6	38.3	40.0	40.5	41.6
10. Self-employed (% total employment)	16.3	14.8	13.6	13.7	14.3	13.9	13.4	13.3	12.8	12.2	11.8	11.6
11. Part-time employment (% total employment)	59.7	60.9	64.0	64.9	66.3	67.6	68.3	67.9	68.1	69.1	71.0	71.3
12. Fixed-term contracts (% total employment)	10.3	11.5	14.1	14.6	14.8	14.6	15.7	15.2	15.9	15.6	16.8	17.4
13. Employment in Services (% total employment)	86.5	86.9	87.1	87.3	88.2	88.5	89.0	88.9	88.6	88.9	88.9	89.2
14. Employment in Industry (% total employment)	10.3	10.2	10.2	9.9	9.1	9.2	8.7	8.6	8.9	8.7	8.7	8.2
15. Employment in Agriculture (% total employment)	3.2	2.9	2.7	2.8	2.6	2.4	2.4	2.5	2.5	2.4	2.4	2.6
16. Activity rate (% population aged 15–64)	52.7	54.0	55.4	56.3	57.6	58.6	60.0	61.6	63.0	64.4	66.0	67.1
17. Total unemployment (000)	222	213	201	215	233	244	238	211	164	148	126	108
18. Unemployment rate (% labour force 15+)	8.5	7.9	7.2	7.5	7.9	8.1	7.7	6.6	5.0	4.3	3.6	3.0
19. Youth unemployment rate (% labour force 15–24)	9.1	8.7	8.2	9.7	10.2	12.1	11.8	10.4	7.9	8.4	6.7	6.3
20. Long term unemployment rate (% labour force)	4.2	3.4	3.3	3.6	3.5	3.4	3.4	3.0	2.2	1.6	1.3	1.0
21. Youth unemployment ratio (% population aged 15–24)	5.3	5.1	4.9	5.8	6.2	7.5	7.2	6.5	5.1	5.8	4.9	4.6

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Austria

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)					7866	7884	7897	7909	7916	7922	7941	7959
2. Population aged 15-64					5293	5301	5312	5326	5336	5347	5373	5400
3. Total employment (000)	3894	3949	3957	3932	3926	3926	3902	3924	3950	3999	4019	4028
4. Population in employment aged 15-64					3617	3643	3604	3613	3621	3665	3677	3692
5. Employment rate (% population aged 15-64)					68.3	68.7	67.8	67.8	67.9	68.5	68.4	68.4
6. Employment rate (% population aged 15-24)					58.9	56.6	55.0	54.2	53.5	53.4	52.3	51.2
7. Employment rate (% population aged 25-54)					79.8	80.7	80.4	80.9	81.1	82.0	82.6	82.7
8. Employment rate (% population aged 55-64)					28.0	30.1	29.1	28.5	29.0	30.1	28.8	28.6
9. FTE employment rate (% population aged 15-64)						65.8	63.6	63.5	63.8	63.9	63.5	63.4
10. Self-employed (% total employment)	22.8	22.3	21.8	21.4	20.9	20.4	20.0	19.7	19.4	19.0	18.4	18.2
11. Part-time employment (% total employment)	14.0	14.0	14.0	14.0	13.6	14.1	14.0	14.7	15.7	16.4	16.4	17.6
12. Fixed-term contracts (% total employment)	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.8	7.9	7.9	8.0	8.1
13. Employment in Services (% total employment)												
14. Employment in Industry (% total employment)												
15. Employment in Agriculture (% total employment)												
16. Activity rate (% population aged 15-64)					70.9	71.4	70.8	70.9	70.9	71.2	71.0	71.0
17. Total unemployment (000)	116	130	135	151	146	149	164	167	171	151	140	137
18. Unemployment rate (% labour force 15+)				3.9	3.8	3.9	4.4	4.4	4.5	3.9	3.7	3.6
19. Youth unemployment rate (% labour force 15-24)				6.3	5.7	5.6	6.3	6.7	6.4	5.4	5.3	5.8
20. Long term unemployment rate (% labour force)					1.0	1.0	1.1	1.2	1.3	1.1	1.0	0.9
21. Youth unemployment ratio (% population aged 15-24)					3.5	3.4	3.7	3.9	3.7	3.1	2.9	3.2
Male												
1. Total population (000)					3793	3804	3812	3819	3822	3825	3838	3850
2. Population aged 15-64					2644	2648	2653	2658	2660	2664	2676	2690
3. Total employment (000)	2212	2243	2248	2233	2233	2241	2222	2227	2236	2255	2263	2250
4. Population in employment aged 15-64					2058	2076	2050	2050	2049	2065	2068	2062
5. Employment rate (% population aged 15-64)					77.8	78.4	77.3	77.1	77.0	77.5	77.3	76.7
6. Employment rate (% population aged 15-24)					61.4	59.9	58.4	57.8	56.8	57.7	56.8	55.5
7. Employment rate (% population aged 25-54)					90.4	91.1	90.3	90.6	90.6	90.8	91.3	90.9
8. Employment rate (% population aged 55-64)					39.4	42.7	41.6	40.6	41.1	43.0	41.2	40.0
9. FTE employment rate (% population aged 15-64)						78.3	76.0	75.9	76.4	76.9	76.2	76.0
10. Self-employed (% total employment)	22.9	22.4	21.9	21.5	21.2	20.7	20.2	20.2	20.0	19.8	19.4	19.4
11. Part-time employment (% total employment)	4.5	4.5	4.5	4.5	4.3	4.1	3.7	4.1	4.4	4.2	4.1	4.5
12. Fixed-term contracts (% total employment)	8.1	8.1	8.1	8.1	8.1	8.1	7.8	7.5	8.0	7.9	7.4	7.1
13. Employment in Services (% total employment)												
14. Employment in Industry (% total employment)												
15. Employment in Agriculture (% total employment)												
16. Activity rate (% population aged 15-64)					80.4	81.0	80.4	80.3	80.2	80.5	79.9	79.4
17. Total unemployment (000)	47	53	57	67	64	66	78	78	80	72	66	64
18. Unemployment rate (% labour force 15+)				3.1	3.0	3.1	3.7	3.7	3.8	3.4	3.1	3.0
19. Youth unemployment rate (% labour force 15-24)				5.1	4.6	4.5	5.3	5.6	5.0	4.3	4.8	5.1
20. Long term unemployment rate (% labour force)					0.8	0.8	1.0	1.1	1.1	1.0	0.9	0.9
21. Youth unemployment ratio (% population aged 15-24)					2.9	2.9	3.2	3.4	3.0	2.6	2.8	3.0
Female												
1. Total population (000)					4073	4080	4085	4090	4094	4096	4103	4109
2. Population aged 15-64					2648	2652	2659	2668	2675	2683	2697	2711
3. Total employment (000)	1682	1706	1709	1698	1693	1684	1679	1697	1713	1744	1755	1777
4. Population in employment aged 15-64					1559	1566	1554	1563	1572	1600	1609	1630
5. Employment rate (% population aged 15-64)					58.9	59.1	58.4	58.6	58.8	59.6	59.6	60.1
6. Employment rate (% population aged 15-24)					56.6	53.5	51.7	50.8	50.4	49.2	48.0	47.0
7. Employment rate (% population aged 25-54)					68.9	70.2	70.3	71.1	71.4	73.1	73.8	74.5
8. Employment rate (% population aged 55-64)					17.5	18.5	17.4	17.2	17.5	17.9	17.2	17.9
9. FTE employment rate (% population aged 15-64)						53.4	51.2	51.3	51.3	51.0	51.0	50.9
10. Self-employed (% total employment)	22.7	22.2	21.7	21.3	20.6	20.1	19.8	19.1	18.6	18.0	17.2	16.7
11. Part-time employment (% total employment)	26.5	26.5	26.5	26.5	26.0	27.4	27.6	28.5	30.5	32.2	32.2	34.1
12. Fixed-term contracts (% total employment)	7.9	7.9	7.9	7.9	7.9	7.9	8.1	8.1	7.7	8.0	8.8	9.4
13. Employment in Services (% total employment)												
14. Employment in Industry (% total employment)												
15. Employment in Agriculture (% total employment)												
16. Activity rate (% population aged 15-64)					61.4	61.8	61.2	61.5	61.6	62.1	62.1	62.5
17. Total unemployment (000)	69	77	77	84	83	83	87	89	91	80	73	73
18. Unemployment rate (% labour force 15+)				5.0	4.9	5.0	5.2	5.4	5.4	4.7	4.3	4.3
19. Youth unemployment rate (% labour force 15-24)				7.6	7.0	6.8	7.4	8.0	7.9	6.6	6.0	6.7
20. Long term unemployment rate (% labour force)					1.2	1.3	1.3	1.4	1.5	1.3	1.0	1.0
21. Youth unemployment ratio (% population aged 15-24)					4.1	4.0	4.2	4.4	4.4	3.5	3.1	3.4

Note: In the case of Austria, employment in agriculture - as derived from national accounts - includes a significant number of persons with occasional or small jobs. When calculated on the basis of the LFS and limited to the main job, the share of agriculture in employment is found to be significantly lower (5.8% in 2001) compared to about 65% and 29% in services and industry, respectively. Due to these substantial differences in the estimates of sectoral employment shares, no data is provided.
Source: Eurostat

Key employment indicators in Portugal

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	9887	9884	9860	9870	9874	9886	9909	9925	9957	9977	9997	10050
2. Population aged 15–64	6543	6557	6705	6726	6806	6808	6779	6725	6740	6769	6787	6824
3. Total employment (000)	4562	4691	4647	4557	4546	4515	4538	4615	4739	4818	4914	4994
4. Population in employment aged 15–64	4343	4456	4446	4342	4312	4263	4255	4306	4487	4563	4632	4698
5. Employment rate (% population aged 15–64)	66.4	68.0	66.3	64.6	63.4	62.6	62.8	64.0	66.6	67.4	68.3	68.9
6. Employment rate (% population aged 15–24)	53.1	51.9	47.0	42.1	39.3	36.6	36.4	38.4	43.1	43.5	43.1	43.8
7. Employment rate (% population aged 25–54)	77.5	79.5	79.1	78.9	78.2	78.0	77.9	78.6	80.2	80.8	81.9	82.4
8. Employment rate (% population aged 55–64)	47.4	49.3	47.0	44.6	45.7	45.0	46.3	47.3	50.0	50.8	51.0	50.3
9. FTE employment rate (% population aged 15–64)						61.9	61.8	62.5	64.8	65.7	66.6	67.4
10. Self-employed (% total employment)	25.4	26.5	26.9	27.5	29.0	29.2	29.6	29.4	29.4	28.4	27.4	28.5
11. Part-time employment (% total employment)	7.4	7.9	7.6	7.8	8.3	8.1	9.3	10.7	10.9	10.9	10.8	10.8
12. Fixed-term contracts (% total employment)	16.1	14.8	13.7	12.3	12.0	12.3	13.8	15.7	17.5	19.0	20.4	20.6
13. Employment in Services (% total employment)	52.3	53.5	54.9	55.1	55.0	55.9	56.3	55.9	56.0	57.7	58.0	58.5
14. Employment in Industry (% total employment)	34.9	34.0	33.2	32.9	32.8	32.2	31.5	32.0	32.1	31.3	31.2	30.6
15. Employment in Agriculture (% total employment)	12.8	12.5	11.9	12.0	12.2	11.9	12.2	12.2	12.0	11.0	10.8	10.9
16. Activity rate (% population aged 15–64)	69.7	71.0	69.3	68.5	68.2	67.7	68.0	69.0	70.2	70.7	71.3	71.9
17. Total unemployment (000)	223	200	201	266	330	345	347	329	257	227	209	212
18. Unemployment rate (% labour force 15+)	4.8	4.2	4.3	5.6	6.9	7.3	7.3	6.8	5.1	4.5	4.1	4.1
19. Youth unemployment rate (% labour force 15–24)	10.7	9.4	10.4	12.8	15.0	16.5	16.7	15.1	10.5	8.9	8.8	9.3
20. Long term unemployment rate (% labour force)	2.0	1.6	1.2	1.8	2.6	3.1	3.3	3.2	2.1	1.7	1.6	1.5
21. Youth unemployment ratio (% population aged 15–24)	6.0	5.1	5.0	5.8	6.5	6.8	6.8	6.4	5.0	4.2	4.1	4.5
Male												
1. Total population (000)	4752	4766	4723	4747	4754	4765	4780	4752	4788	4798	4808	4836
2. Population aged 15–64	3144	3152	3197	3210	3257	3276	3256	3239	3286	3305	3318	3341
3. Total employment (000)	2647	2679	2635	2568	2554	2529	2537	2569	2628	2650	2698	2737
4. Population in employment aged 15–64	2495	2519	2481	2405	2381	2346	2328	2349	2485	2504	2539	2569
5. Employment rate (% population aged 15–64)	79.4	79.9	77.6	74.9	73.1	71.6	71.5	72.5	75.6	75.8	76.5	76.9
6. Employment rate (% population aged 15–24)	60.2	58.8	53.2	47.2	44.0	41.2	41.4	43.7	47.6	48.4	49.0	49.9
7. Employment rate (% population aged 25–54)	92.0	92.3	91.5	90.5	89.0	88.3	87.6	87.5	90.0	89.8	90.3	90.4
8. Employment rate (% population aged 55–64)	65.3	66.4	62.1	59.8	60.3	58.1	58.9	58.8	63.4	62.1	62.5	61.6
9. FTE employment rate (% population aged 15–64)						72.2	72.1	72.8	75.8	75.8	76.6	77.5
10. Self-employed (% total employment)	26.7	27.7	28.4	28.9	30.6	31.5	31.7	30.9	30.4	29.5	28.5	29.8
11. Part-time employment (% total employment)	3.7	4.1	4.1	4.2	4.5	4.1	5.1	5.8	6.0	6.2	6.2	6.4
12. Fixed-term contracts (% total employment)	14.3	12.9	11.7	10.6	10.5	11.0	13.1	14.7	16.3	17.6	18.8	18.8
13. Employment in Services (% total employment)	47.5	48.3	49.3	48.8	49.1	49.1	49.7	48.4	48.3	49.9	49.6	50.3
14. Employment in Industry (% total employment)	40.3	39.9	39.4	39.6	39.2	39.3	38.6	40.3	40.7	40.2	40.6	39.7
15. Employment in Agriculture (% total employment)	12.2	11.8	11.4	11.5	11.7	11.6	11.8	11.3	11.0	9.9	9.9	9.9
16. Activity rate (% population aged 15–64)	82.0	82.2	80.4	78.7	77.9	76.7	76.7	77.4	78.9	79.0	79.2	79.6
17. Total unemployment (000)	87	76	94	124	160	170	170	161	113	109	91	91
18. Unemployment rate (% labour force 15+)	3.3	2.8	3.6	4.8	6.1	6.5	6.5	6.1	4.1	3.9	3.3	3.2
19. Youth unemployment rate (% labour force 15–24)	8.3	6.6	8.9	10.7	13.4	15.0	14.3	12.0	8.3	7.1	6.7	7.3
20. Long term unemployment rate (% labour force)	1.2	0.9	0.9	1.4	2.1	2.7	2.8	2.7	1.6	1.4	1.3	1.2
21. Youth unemployment ratio (% population aged 15–24)	5.1	3.9	4.8	5.4	6.4	6.9	6.6	5.8	4.2	3.7	3.4	3.9
Female												
1. Total population (000)	5135	5117	5136	5124	5121	5121	5128	5173	5168	5179	5189	5214
2. Population aged 15–64	3401	3407	3512	3519	3553	3534	3524	3487	3454	3464	3469	3483
3. Total employment (000)	1918	2014	2013	1989	1993	1987	2002	2046	2111	2168	2216	2257
4. Population in employment aged 15–64	1847	1937	1967	1938	1932	1917	1927	1957	2002	2059	2093	2129
5. Employment rate (% population aged 15–64)	54.3	56.9	56.0	55.1	54.4	54.3	54.7	56.1	58.0	59.4	60.3	61.1
6. Employment rate (% population aged 15–24)	45.8	44.7	40.8	36.8	34.4	31.8	30.9	32.9	38.8	38.7	37.1	37.7
7. Employment rate (% population aged 25–54)	64.4	67.9	67.8	68.5	68.4	68.8	69.2	70.3	70.7	72.1	73.9	74.7
8. Employment rate (% population aged 55–64)	31.8	34.6	34.0	31.9	33.1	33.3	35.3	37.2	38.4	41.1	41.1	40.6
9. FTE employment rate (% population aged 15–64)						52.3	52.2	53.1	54.5	56.1	57.1	57.7
10. Self-employed (% total employment)	23.8	25.0	24.9	25.8	26.9	26.3	27.0	27.6	28.1	27.2	26.1	26.9
11. Part-time employment (% total employment)	12.6	13.1	12.3	12.5	13.1	13.1	14.7	16.8	17.1	16.7	16.3	16.1
12. Fixed-term contracts (% total employment)	18.5	17.2	16.2	14.4	13.8	13.8	14.7	17.0	19.0	20.7	22.3	22.8
13. Employment in Services (% total employment)	58.5	60.2	62.0	62.8	62.3	64.1	64.4	64.9	65.2	66.9	67.8	68.1
14. Employment in Industry (% total employment)	27.8	26.5	25.4	24.6	25.0	23.6	22.8	21.8	21.7	20.9	20.3	19.9
15. Employment in Agriculture (% total employment)	13.6	13.4	12.6	12.5	12.8	12.3	12.8	13.2	13.2	12.2	12.0	11.9
16. Activity rate (% population aged 15–64)	58.3	60.6	59.1	59.2	59.4	59.4	60.0	61.1	62.0	62.8	63.7	64.6
17. Total unemployment (000)	136	124	107	142	170	175	178	168	144	119	118	121
18. Unemployment rate (% labour force 15+)	6.7	5.9	5.1	6.7	7.9	8.2	8.2	7.6	6.4	5.2	5.0	5.1
19. Youth unemployment rate (% labour force 15–24)	13.6	12.8	12.1	15.2	16.9	18.4	19.8	18.9	13.0	11.1	11.5	11.8
20. Long term unemployment rate (% labour force)	3.2	2.6	1.7	2.4	3.1	3.7	3.9	3.7	2.7	2.0	2.0	1.9
21. Youth unemployment ratio (% population aged 15–24)	7.0	6.3	5.3	6.2	6.5	6.6	7.0	7.0	5.8	4.8	4.8	5.1

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Finland

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1. Total population (000)	4960	4989	5017	5041	5067	5085	5102	5118	5132	5144	5155	5167
2. Population aged 15–64	3336	3352	3368	3378	3388	3394	3401	3411	3426	3440	3448	3452
3. Total employment (000)	2477	2337	2168	2033	2010	2042	2072	2139	2184	2243	2285	2313
4. Population in employment aged 15–64	2481	2362	2198	2066	2048	2094	2126	2160	2212	2282	2319	2352
5. Employment rate (% population aged 15–64)	74.4	70.5	65.3	61.1	60.4	61.7	62.5	63.3	64.6	66.4	67.3	68.1
6. Employment rate (% population aged 15–24)	53.6	45.6	36.6	31.0	28.8	30.2	30.9	34.4	36.2	40.0	41.1	41.7
7. Employment rate (% population aged 25–54)	87.9	84.4	79.6	75.3	75.2	76.5	77.3	77.7	79.1	80.4	80.9	81.6
8. Employment rate (% population aged 55–64)	42.2	40.5	37.3	35.0	33.4	34.5	35.5	35.7	36.2	39.0	42.0	45.7
9. FTE employment rate (% population aged 15–64)						56.5	57.5	59.5	60.6	64.2	64.9	65.7
10. Self-employed (% total employment)	12.9	12.9	13.2	13.4	13.4	12.8	12.8	12.6	11.8	11.8	11.6	11.1
11. Part-time employment (% total employment)	9.5	10.1	10.4	11.3	11.5	11.7	11.5	11.0	11.4	12.1	12.3	12.2
12. Fixed-term contracts (% total employment)	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	17.4	16.7	16.3	16.4
13. Employment in Services (% total employment)	61.1	62.3	63.5	64.3	64.7	64.7	65.3	65.4	65.5	65.6	65.7	66.4
14. Employment in Industry (% total employment)	30.0	28.7	27.5	26.8	26.5	27.2	27.1	27.5	27.9	27.9	28.1	27.7
15. Employment in Agriculture (% total employment)	8.9	9.0	9.0	8.9	8.8	8.1	7.6	7.1	6.6	6.5	6.2	5.8
16. Activity rate (% population aged 15–64)	76.8	75.5	73.9	73.1	72.5	72.9	73.2	72.5	72.9	73.9	74.6	75.0
17. Total unemployment (000)	82	169	293	405	408	382	363	314	285	261	253	238
18. Unemployment rate (% labour force 15+)	3.2	6.6	11.7	16.4	16.6	15.4	14.6	12.7	11.4	10.2	9.8	9.1
19. Youth unemployment rate (% labour force 15–24)	9.3	16.3	26.4	33.6	34.0	29.7	28.0	25.2	23.5	21.4	21.3	19.7
20. Long term unemployment rate (% labour force)	1.2	2.5	4.3	6.0	6.1	5.7	5.4	4.7	4.0	3.0	2.8	2.5
21. Youth unemployment ratio (% population aged 15–24)	5.5	8.9	13.1	15.7	14.8	12.7	11.9	11.6	11.1	10.9	11.1	10.3
Male												
1. Total population (000)	2397	2413	2428	2441	2456	2466	2476	2485	2493	2499	2506	2514
2. Population aged 15–64	1670	1678	1687	1694	1700	1703	1707	1714	1721	1728	1732	1736
3. Total employment (000)	1290	1204	1111	1046	1037	1068	1089	1125	1154	1178	1201	1212
4. Population in employment aged 15–64	1294	1219	1128	1063	1058	1097	1119	1137	1168	1196	1216	1230
5. Employment rate (% population aged 15–64)	77.5	72.6	66.9	62.8	62.2	64.4	65.6	66.3	67.9	69.2	70.2	70.9
6. Employment rate (% population aged 15–24)	54.9	45.5	35.9	31.2	29.1	32.0	32.4	36.2	38.4	41.7	42.2	42.7
7. Employment rate (% population aged 25–54)	90.6	86.4	81.3	76.8	76.8	79.3	80.5	80.7	82.5	83.5	84.3	84.8
8. Employment rate (% population aged 55–64)	45.9	43.4	39.0	36.6	34.9	35.4	37.6	38.0	38.4	40.1	43.4	46.7
9. FTE employment rate (% population aged 15–64)						59.1	60.5	63.5	64.8	68.4	69.3	69.8
10. Self-employed (% total employment)	16.2	16.5	17.3	17.6	17.5	16.7	16.5	16.3	15.0	15.2	15.1	14.4
11. Part-time employment (% total employment)	5.9	6.7	7.3	8.0	8.3	8.3	8.1	7.1	7.4	7.8	8.0	8.0
12. Fixed-term contracts (% total employment)	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	14.4	13.8	12.8	12.8
13. Employment in Services (% total employment)	46.8	48.2	49.5	50.4	50.9	50.7	51.4	51.1	51.6	51.5	51.4	52.4
14. Employment in Industry (% total employment)	42.1	40.6	39.0	38.0	37.9	39.1	39.1	39.7	40.0	40.1	40.4	40.0
15. Employment in Agriculture (% total employment)	11.1	11.2	11.5	11.6	11.2	10.2	9.6	9.2	8.3	8.4	8.2	7.6
16. Activity rate (% population aged 15–64)	80.4	79.0	77.4	76.6	76.0	76.4	76.5	75.7	76.2	76.8	77.3	77.6
17. Total unemployment (000)	49	106	178	235	235	204	186	160	143	130	122	117
18. Unemployment rate (% labour force 15+)	3.6	8.0	13.6	18.1	18.1	15.7	14.3	12.3	10.9	9.7	9.0	8.6
19. Youth unemployment rate (% labour force 15–24)	10.3	19.0	30.1	36.4	37.2	30.7	29.5	25.3	22.8	20.8	21.1	19.5
20. Long term unemployment rate (% labour force)	1.4	3.1	5.3	7.0	7.0	6.1	5.5	4.8	4.3	3.2	2.9	2.7
21. Youth unemployment ratio (% population aged 15–24)	6.3	10.7	15.5	17.8	17.2	14.1	13.4	12.3	11.3	11.0	11.3	10.3
Female												
1. Total population (000)	2563	2576	2589	2600	2612	2619	2627	2633	2640	2645	2649	2653
2. Population aged 15–64	1666	1674	1681	1684	1688	1691	1693	1697	1704	1711	1715	1717
3. Total employment (000)	1188	1134	1058	988	974	975	983	1014	1030	1065	1084	1101
4. Population in employment aged 15–64	1188	1143	1070	1002	990	997	1006	1023	1044	1086	1103	1122
5. Employment rate (% population aged 15–64)	71.3	68.3	63.7	59.5	58.7	59.0	59.4	60.3	61.2	63.4	64.3	65.4
6. Employment rate (% population aged 15–24)	52.3	45.8	37.3	30.8	28.5	28.4	29.4	32.6	34.0	38.3	40.0	40.6
7. Employment rate (% population aged 25–54)	85.0	82.2	77.9	73.8	73.4	73.5	74.0	74.6	75.6	77.1	77.3	78.1
8. Employment rate (% population aged 55–64)	38.9	37.9	35.6	33.5	32.0	33.8	33.5	33.5	34.2	38.0	40.7	44.8
9. FTE employment rate (% population aged 15–64)						53.8	54.3	55.5	56.4	60.2	60.5	61.8
10. Self-employed (% total employment)	9.3	9.1	8.9	9.0	9.1	8.6	8.7	8.7	8.2	8.0	7.7	7.5
11. Part-time employment (% total employment)	13.4	13.6	13.7	14.8	14.9	15.4	15.3	15.3	15.9	16.9	17.0	16.8
12. Fixed-term contracts (% total employment)	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.5	19.7	19.7	19.9
13. Employment in Services (% total employment)	76.6	77.3	78.3	79.2	79.5	80.1	80.8	81.2	81.2	81.3	81.8	82.0
14. Employment in Industry (% total employment)	16.8	16.0	15.4	14.8	14.3	14.2	13.8	13.9	14.3	14.4	14.2	14.1
15. Employment in Agriculture (% total employment)	6.6	6.7	6.3	6.0	6.2	5.7	5.3	4.9	4.6	4.3	4.0	3.9
16. Activity rate (% population aged 15–64)	73.3	72.0	70.5	69.6	69.0	69.5	69.8	69.4	69.6	71.1	71.9	72.4
17. Total unemployment (000)	33	63	114	170	174	178	176	154	142	131	131	121
18. Unemployment rate (% labour force 15+)	2.7	5.2	9.6	14.4	14.9	15.1	14.9	13.0	12.0	10.7	10.6	9.7
19. Youth unemployment rate (% labour force 15–24)	8.2	13.5	22.6	30.6	30.5	28.7	26.3	25.1	24.4	22.1	21.6	20.0
20. Long term unemployment rate (% labour force)	0.9	1.8	3.4	5.0	5.2	5.3	5.2	4.5	3.8	2.8	2.8	2.3
21. Youth unemployment ratio (% population aged 15–24)	4.7	7.1	10.8	13.6	12.5	11.4	10.5	10.9	11.0	10.8	11.0	10.2

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Sweden

All	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001*
1. Total population (000)	8555	8612	8664	8707	8773	8825	8840	8841	8854	8857	8863	8884
2. Population aged 15-64	5506	5528	5546	5558	5593	5623	5637	5649	5660	5670	5691	5731
3. Total employment (000)	4576	4485	4294	4065	4034	4088	4065	4022	4071	4161	4247	4236
4. Population in employment aged 15-64	4402	4320	4142	3908	3873	3930	3906	3849	3891	3972	4022	4110
5. Employment rate (% population aged 15-64)	80.0	78.1	74.7	70.3	69.2	69.9	69.3	68.1	68.7	70.1	70.7	71.7
6. Employment rate (% population aged 15-24)	53.9	49.7	42.8	34.9	33.9	34.6	32.8	31.7	32.7	33.5	35.1	36.6
7. Employment rate (% population aged 25-54)	91.1	89.3	86.4	82.7	81.4	82.1	81.3	80.2	80.4	81.6	82.2	83.1
8. Employment rate (% population aged 55-64)	70.2	70.1	67.7	63.9	62.4	62.5	63.6	61.8	62.9	64.5	64.4	66.5
9. FTE employment rate (% population aged 15-64)						63.9	62.8	61.9	62.4	63.8	65.1	
10. Self-employed (% total employment)	4.6	4.6	5.0	5.5	5.6	5.6	5.5	5.6	5.5	5.5	5.3	5.0
11. Part-time employment (% total employment)	23.9	24.2	24.8	25.7	25.8	25.2	24.6	24.4	23.8	23.7	22.4	24.1
12. Fixed-term contracts (% total employment)	8.3	8.1	8.7	9.4	11.1	11.7	11.4	11.9	12.7	13.4	14.0	13.5
13. Employment in Services (% total employment)	69.5	70.5	72.1	72.8	73.2	72.4	72.6	72.8	72.8	73.3	73.5	74.1
14. Employment in Industry (% total employment)	27.0	26.1	24.4	23.9	23.5	24.4	24.4	24.3	24.3	23.9	23.8	23.3
15. Employment in Agriculture (% total employment)	3.5	3.4	3.4	3.4	3.3	3.1	3.0	2.9	2.8	2.8	2.7	2.6
16. Activity rate (% population aged 15-64)	81.4	80.7	79.1	77.4	76.5	76.7	76.7	75.7	75.3	75.7	75.0	75.2
17. Total unemployment (000)	80	143	252	401	412	391	426	437	368	319	264	229
18. Unemployment rate (% labour force 15+)	1.7	3.1	5.6	9.1	9.4	8.8	9.6	9.9	8.3	7.2	5.9	5.1
19. Youth unemployment rate (% labour force 15-24)	4.4	7.6	13.2	22.0	22.0	19.0	20.5	20.6	16.6	13.6	11.3	11.1
20. Long term unemployment rate (% labour force)	0.1	0.2	0.6	1.5	2.5	2.5	2.9	3.4	3.1	2.2	1.8	1.2
21. Youth unemployment ratio (% population aged 15-24)	2.7	4.5	7.2	10.9	10.6	9.0	9.4	9.3	7.4	6.0	5.1	5.2
Male												
1. Total population (000)	4227	4255	4281	4303	4336	4361	4368	4370	4376	4379	4381	4394
2. Population aged 15-64	2796	2808	2817	2824	2842	2857	2864	2870	2876	2881	2892	2912
3. Total employment (000)	2373	2318	2202	2071	2065	2107	2107	2104	2149	2179	2217	2250
4. Population in employment aged 15-64	2271	2220	2113	1981	1973	2015	2013	1999	2036	2064	2088	2127
5. Employment rate (% population aged 15-64)	81.2	79.1	75.0	70.2	69.4	70.5	70.3	69.6	70.8	71.6	72.2	70.3
6. Employment rate (% population aged 15-24)	53.5	49.0	41.0	33.1	32.6	33.9	32.9	32.3	34.0	34.3	35.3	35.5
7. Employment rate (% population aged 25-54)	92.2	90.2	86.7	82.5	81.7	82.9	82.3	81.7	82.4	83.2	83.8	84.8
8. Employment rate (% population aged 55-64)	74.2	73.5	70.5	65.7	64.3	64.2	65.8	64.2	65.8	67.2	67.1	69.1
9. FTE employment rate (% population aged 15-64)						69.5	67.9	67.3	68.5	69.3	70.0	
10. Self-employed (% total employment)	6.6	6.7	7.4	8.1	8.1	8.1	8.0	8.0	7.8	7.9	7.7	7.4
11. Part-time employment (% total employment)	7.1	7.3	8.1	8.9	9.4	9.0	9.1	9.2	9.1	9.8	10.2	13.3
12. Fixed-term contracts (% total employment)	5.9	6.0	6.7	7.9	9.9	9.9	9.5	9.8	10.3	10.8	11.7	11.0
13. Employment in Services (% total employment)	54.5	55.6	57.7	58.5	59.2	58.3	58.6	59.1	59.8	59.9	60.4	61.2
14. Employment in Industry (% total employment)	40.5	39.7	37.6	36.7	36.1	37.2	37.0	36.6	36.1	35.9	35.6	34.9
15. Employment in Agriculture (% total employment)	5.0	4.7	4.7	4.8	4.7	4.5	4.4	4.3	4.2	4.2	4.0	3.9
16. Activity rate (% population aged 15-64)	82.7	82.0	80.5	78.9	78.1	78.4	78.6	78.1	78.3	78.0	77.0	76.9
17. Total unemployment (000)	42	83	157	247	248	225	236	238	199	169	142	123
18. Unemployment rate (% labour force 15+)	1.7	3.4	6.6	10.7	10.7	9.7	10.1	10.2	8.6	7.2	6.0	5.2
19. Youth unemployment rate (% labour force 15-24)	4.5	8.3	15.7	25.6	24.9	20.4	21.3	21.0	16.8	13.1	10.7	11.1
20. Long term unemployment rate (% labour force)	0.1	0.2	0.8	2.1	3.4	3.2	3.5	3.8	3.6	2.6	2.1	1.4
21. Youth unemployment ratio (% population aged 15-24)	2.8	5.0	8.5	12.8	12.0	9.7	9.9	9.7	7.7	6.0	5.0	5.2
Female												
1. Total population (000)	4328	4357	4382	4404	4438	4464	4471	4471	4477	4478	4482	4490
2. Population aged 15-64	2710	2720	2728	2734	2751	2766	2773	2778	2784	2788	2799	2819
3. Total employment (000)	2203	2168	2093	1994	1968	1981	1958	1918	1922	1982	2030	2076
4. Population in employment aged 15-64	2131	2099	2030	1927	1900	1915	1893	1850	1855	1908	1934	1983
5. Employment rate (% population aged 15-64)	78.7	77.2	74.4	70.5	69.1	69.2	68.3	66.6	66.6	68.4	69.1	70.4
6. Employment rate (% population aged 15-24)	54.3	50.5	44.6	36.7	35.4	35.4	32.7	31.1	31.4	32.8	34.8	37.8
7. Employment rate (% population aged 25-54)	89.9	88.4	86.0	82.8	81.2	81.3	80.2	78.6	78.3	80.1	80.6	81.3
8. Employment rate (% population aged 55-64)	66.4	66.9	65.1	62.2	60.6	60.7	61.5	59.4	60.0	61.8	61.8	63.8
9. FTE employment rate (% population aged 15-64)						58.5	57.8	56.7	56.4	58.5	60.2	
10. Self-employed (% total employment)	2.6	2.5	2.6	2.9	3.1	3.2	3.0	3.0	3.1	3.0	2.7	2.6
11. Part-time employment (% total employment)	42.6	42.8	43.1	43.7	43.7	43.0	41.9	41.4	40.5	39.3	36.1	36.4
12. Fixed-term contracts (% total employment)	10.7	10.2	10.6	10.9	12.2	13.3	13.2	14.0	15.1	15.9	16.2	16.0
13. Employment in Services (% total employment)	85.2	86.0	86.8	87.2	87.5	87.2	87.3	87.4	87.1	87.7	87.7	88.0
14. Employment in Industry (% total employment)	12.8	12.0	11.1	10.9	10.6	11.0	11.1	11.2	11.5	10.9	11.0	10.7
15. Employment in Agriculture (% total employment)	2.0	2.0	2.1	2.0	1.9	1.8	1.5	1.4	1.4	1.4	1.3	1.3
16. Activity rate (% population aged 15-64)	80.0	79.3	77.8	75.9	74.8	75.0	74.8	73.3	72.2	73.3	72.9	73.4
17. Total unemployment (000)	38	61	95	154	164	166	190	199	168	150	122	106
18. Unemployment rate (% labour force 15+)	1.7	2.8	4.4	7.3	7.8	7.8	9.0	9.5	8.1	7.1	5.8	4.9
19. Youth unemployment rate (% labour force 15-24)	4.3	6.8	10.7	18.2	19.0	17.7	19.7	20.1	16.3	14.1	11.9	11.2
20. Long term unemployment rate (% labour force)	0.1	0.1	0.4	0.9	1.5	1.7	2.3	3.0	2.5	1.7	1.5	1.0
21. Youth unemployment ratio (% population aged 15-24)	2.7	4.1	5.9	9.0	9.1	8.4	8.9	8.8	7.1	6.1	5.2	5.2

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in the United Kingdom

All	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1. Total population (000)	56340	56497	56705	56978	57284	57493	57688	57893	58112	58280	58434	58655
2. Population aged 15–64	36735	36770	36858	36999	37228	37405	37591	37768	37959	38140	38296	38535
3. Total employment (000)					25354	26145	26470	26945	27295	27616	27910	28160
4. Population in employment aged 15–64	26248	25751	25308	25144	25362	25624	25971	26432	26786	27088	27380	27647
5. Employment rate (% population aged 15–64)	71.5	70.0	68.7	68.0	68.1	68.5	69.1	70.0	70.6	71.0	71.5	71.7
6. Employment rate (% population aged 15–24)	66.4	62.7	59.4	56.8	55.8	55.5	56.0	56.7	56.9	56.9	57.1	56.9
7. Employment rate (% population aged 25–54)	78.8	77.7	76.7	76.4	76.7	77.2	77.7	78.6	79.3	79.9	80.4	80.6
8. Employment rate (% population aged 55–64)	49.1	48.8	47.6	46.8	47.4	47.5	47.7	48.3	49.0	49.6	50.8	52.3
9. FTE employment rate (% population aged 15–64)						59.2	59.4	60.2	60.7	61.2	61.7	62.1
10. Self-employed (% total employment)					13.5	13.5	13.2	13.0	12.4	12.1	11.8	11.7
11. Part-time employment (% total employment)					24.2	24.3	24.8	24.8	24.7	24.8	25.0	24.9
12. Fixed-term contracts (% total employment)					7.0	7.3	7.5	7.7	7.5	7.1	7.0	6.8
13. Employment in Services (% total employment)					70.2	70.6	70.8	71.3	71.6	72.5	73.2	73.7
14. Employment in Industry (% total employment)					27.8	27.4	27.3	26.9	26.7	26.0	25.3	24.8
15. Employment in Agriculture (% total employment)					2.0	2.0	1.9	1.8	1.7	1.5	1.5	1.4
16. Activity rate (% population aged 15–64)	77.1	76.8	76.2	75.8	75.4	75.0	75.2	75.3	75.3	75.6	75.7	75.6
17. Total unemployment (000)	1967	2471	2809	2908	2659	2431	2281	1973	1779	1708	1576	1485
18. Unemployment rate (% labour force 15+)	6.9	8.6	9.8	10.2	9.4	8.5	8.0	6.9	6.2	5.8	5.4	5.0
19. Youth unemployment rate (% labour force 15–24)	10.4	13.9	16.3	17.5	16.4	15.3	15.0	13.7	13.1	12.8	12.3	11.9
20. Long term unemployment rate (% labour force)	2.3	2.5	3.5	4.3	4.2	3.7	3.2	2.6	1.9	1.7	1.5	1.3
21. Youth unemployment ratio (% population aged 15–24)	7.7	10.0	11.5	12.0	10.9	10.2	9.9	9.1	8.7	8.3	8.0	7.7
Male												
1. Total population (000)	27510	27619	27801	27940	28110	28243	28371	28502	28636	28740	28842	28987
2. Population aged 15–64	18384	18412	18493	18569	18700	18806	18915	19005	19115	19208	19298	19421
3. Total employment (000)					13998	14454	14595	14887	15097	15249	15388	15520
4. Population in employment aged 15–64	14863	14445	14028	13836	13965	14137	14295	14578	14795	14930	15073	15211
5. Employment rate (% population aged 15–64)	80.8	78.5	75.9	74.5	74.7	75.2	75.6	76.7	77.4	77.7	78.1	78.3
6. Employment rate (% population aged 15–24)	70.4	65.4	61.4	58.5	57.7	57.6	57.8	58.7	59.0	59.0	59.3	59.5
7. Employment rate (% population aged 25–54)	89.1	87.0	84.6	83.7	84.0	84.7	84.8	85.8	86.6	87.0	87.5	87.5
8. Employment rate (% population aged 55–64)	62.2	61.1	58.3	56.2	56.5	56.2	57.1	58.4	59.1	59.7	60.1	61.7
9. FTE employment rate (% population aged 15–64)						72.2	72.1	73.1	73.8	73.9	74.4	74.8
10. Self-employed (% total employment)					18.0	18.1	17.7	17.2	16.2	15.9	15.4	15.5
11. Part-time employment (% total employment)					7.7	8.0	8.6	8.8	8.7	9.1	9.1	9.1
12. Fixed-term contracts (% total employment)					6.0	6.4	6.5	6.7	6.5	6.4	6.2	6.0
13. Employment in Services (% total employment)					58.5	59.0	59.1	59.5	60.0	60.9	61.7	62.2
14. Employment in Industry (% total employment)					38.8	38.2	38.3	38.0	37.7	36.9	36.2	35.8
15. Employment in Agriculture (% total employment)					2.7	2.7	2.6	2.5	2.3	2.2	2.1	2.0
16. Activity rate (% population aged 15–64)	87.6	86.9	85.9	84.9	84.2	83.7	83.5	83.4	83.1	83.3	83.1	83.0
17. Total unemployment (000)	1180	1572	1878	1938	1761	1587	1492	1236	1101	1057	959	907
18. Unemployment rate (% labour force 15+)	7.2	9.7	11.6	12.1	11.0	9.9	9.3	7.7	6.8	6.5	5.9	5.5
19. Youth unemployment rate (% labour force 15–24)	11.5	16.1	19.4	20.6	19.0	17.4	17.5	15.4	14.7	14.2	13.3	13.2
20. Long term unemployment rate (% labour force)	3.0	3.3	4.7	5.7	5.6	4.9	4.3	3.4	2.5	2.2	2.0	1.7
21. Youth unemployment ratio (% population aged 15–24)	9.0	12.3	14.6	15.1	13.5	12.3	12.3	10.8	10.3	9.8	9.0	9.1
Female												
1. Total population (000)	28830	28878	28904	29038	29173	29251	29318	29391	29476	29539	29592	29668
2. Population aged 15–64	18351	18358	18364	18429	18528	18599	18677	18764	18844	18932	18998	19114
3. Total employment (000)					11351	11685	11868	12054	12193	12360	12520	12640
4. Population in employment aged 15–64	11385	11306	11279	11307	11397	11487	11676	11854	11991	12157	12308	12435
5. Employment rate (% population aged 15–64)	62.0	61.6	61.4	61.4	61.5	61.8	62.5	63.2	63.6	64.2	64.8	65.1
6. Employment rate (% population aged 15–24)	62.3	59.8	57.4	55.0	53.7	53.2	54.1	54.7	54.8	54.6	54.7	54.3
7. Employment rate (% population aged 25–54)	68.5	68.4	68.7	69.1	69.4	69.6	70.5	71.3	71.8	72.7	73.2	73.5
8. Employment rate (% population aged 55–64)	36.7	37.1	37.4	37.7	38.6	39.0	38.7	38.5	39.2	39.9	41.7	43.1
9. FTE employment rate (% population aged 15–64)						47.0	47.4	48.0	48.3	49.2	49.7	50.2
10. Self-employed (% total employment)					8.0	7.8	7.8	7.9	7.7	7.4	7.4	7.0
11. Part-time employment (% total employment)					44.6	44.5	44.7	44.7	44.5	44.2	44.6	44.1
12. Fixed-term contracts (% total employment)					8.0	8.3	8.5	8.8	8.5	7.9	8.0	7.6
13. Employment in Services (% total employment)					84.5	84.8	85.1	85.7	86.1	86.7	87.3	87.8
14. Employment in Industry (% total employment)					14.4	14.0	13.8	13.2	13.0	12.5	11.9	11.4
15. Employment in Agriculture (% total employment)					1.1	1.2	1.1	1.0	0.9	0.8	0.8	0.7
16. Activity rate (% population aged 15–64)	66.7	66.6	66.5	66.6	66.5	66.3	66.8	67.2	67.3	67.8	68.1	68.1
17. Total unemployment (000)	787	899	931	970	898	844	789	737	678	651	617	577
18. Unemployment rate (% labour force 15+)	6.4	7.3	7.5	7.8	7.2	6.7	6.3	5.8	5.3	5.0	4.7	4.4
19. Youth unemployment rate (% labour force 15–24)	9.2	11.3	12.7	13.8	13.2	12.8	12.0	11.7	11.3	11.1	11.1	10.3
20. Long term unemployment rate (% labour force)	1.5	1.6	2.1	2.5	2.4	2.1	1.7	1.5	1.2	1.1	0.9	0.8
21. Youth unemployment ratio (% population aged 15–24)	6.3	7.6	8.3	8.8	8.2	7.9	7.4	7.2	7.0	6.8	6.8	6.3

*Note: * indicates Eurostat estimation*
Source: Eurostat

Key employment indicators in Bulgaria

All	1996	1997	1998	1999	2000	2001
1. Total population (000) *					6832.2	7933.2
2. Population aged 15–64					5501.9	5366.1
3. Total employment (000) — 15 years and more					2872.4	2752.2
4. Population in employment aged 15–64					2834.2	2718.4
5. Annual change in employment					.	.
6. Employment rate — Population aged 15–64					51.5	50.7
7. Employment rate — Population aged 15–24					20.5	21.0
8. Employment rate — Population aged 25–54					69.7	68
9. Employment rate — Population aged 55–64					22.1	23.9
10. FTE employment rate					.	50.3
11. Self-employed (/total employment)					14.7	13.7
12. Part-time employment / total employment					.	3.4
13. Fixed-term contracts / total employment					.	5.7
14. Employment in Services / total employment					54.0	57.6
15. Employment in Industry / total employment					32.8	32.7
16. Employment in Agriculture / total employment					13.2	9.7
17. Activity rate / population aged 15–64					61.6	63.3
18. Activity rate / population aged 15–24					30.7	34.5
19. Activity rate / population aged 25–54					81.6	82.6
20. Activity rate / population aged 55–64					25.1	29.3
21. Total unemployment (000)					556	683.9
22. Unemployment rate / labour force aged 15+					16.2	19.9
23. Unemployment rate / labour force aged 15–24					33.3	39.3
24. Long term unemployment rate / labour force					9.5	12.5
25. Youth unemployment ratio / population aged 15–24					10.2	13.6
Female						
1. Total population (000)					3565.8	4085.2
2. Population aged 15–64					2814.7	2735.8
3. Total employment (000) — 15 years and more					1340.6	1320.7
4. Population in employment aged 15–64					1327.8	1309.8
5. Annual change in employment					.	.
6. Employment rate — Population aged 15–64					47.2	47.9
7. Employment rate — Population aged 15–24					18	21.1
8. Employment rate — Population aged 25–54					67.4	66.8
9. Employment rate — Population aged 55–64					11.2	14.8
10. FTE employment rate					.	47.2
11. Self-employed (/total employment)					10.6	9.8
12. Part-time employment / total employment					.	3.7
13. Fixed-term contracts / total employment					.	5.6
14. Employment in Services / total employment					62.1	64.1
15. Employment in Industry / total employment					27.3	28.8
16. Employment in Agriculture / total employment					10.6	7.1
17. Activity rate / population aged 15–64					56.1	59.1
18. Activity rate / population aged 15–24					25.6	32.6
19. Activity rate / population aged 25–54					78.9	80.2
20. Activity rate / population aged 55–64					12.5	18.3
21. Total unemployment (000)					251.9	307.2
22. Unemployment rate / labour force aged 15+					15.8	18.9
23. Unemployment rate / labour force aged 15–24					29.6	35.5
24. Long term unemployment rate / labour force					9.2	11.8
25. Youth unemployment ratio / population aged 15–24						
Male						
1. Total population (000)					3266.4	3848
2. Population aged 15–64					2687.3	2630.3
3. Total employment (000) — 15 years and more					1531.8	1431.4
4. Population in employment aged 15–64					1506.4	1408.6
5. Annual change in employment					.	.
6. Employment rate — Population aged 15–64					56.1	53.6
7. Employment rate — Population aged 15–24					23.0	20.9
8. Employment rate — Population aged 25–54					72.1	69.3
9. Employment rate — Population aged 55–64					34.9	34.2
10. FTE employment rate					.	53.5
11. Self-employed (/total employment)					18.3	17.2
12. Part-time employment / total employment					.	3.1
13. Fixed-term contracts / total employment					.	5.7
14. Employment in Services / total employment					46.9	51.6
15. Employment in Industry / total employment					37.7	36.4
16. Employment in Agriculture / total employment					15.4	12.1
17. Activity rate / population aged 15–64					67.4	67.8
18. Activity rate / population aged 15–24					35.9	36.5
19. Activity rate / population aged 25–54					84.4	85.0
20. Activity rate / population aged 55–64					39.9	41.8
21. Total unemployment (000)					304.2	376.7
22. Unemployment rate / labour force aged 15+					16.6	20.8
23. Unemployment rate / labour force aged 15–24					36.1	42.8
24. Long term unemployment rate / labour force					9.7	13.0
25. Youth unemployment ratio / population aged 15–24						

*Note: * 2000: 15 years and more*
Agricultural employment estimated by the Labour Force Survey refers to employed persons whose main activity is in agriculture. Due to the very high proportion of persons having agricultural activity in addition to another main occupation in Bulgaria, LFS does not provide an accurate estimate of total employment in this sector.
Significant changes in the Bulgarian survey design (sampling and weighting procedures) hamper the comparability of 2001 results with previous years, especially for unemployment estimates (new questionnaire)
Source: Eurostat

Key employment indicators in Cyprus

All	1996	1997	1998	1999	2000	2001
1. Total population (000)				638.9	643.7	648.6
2. Population aged 15–64				411.8	414.9	420.9
3. Total employment (000) — 15 years and more				269.9	279.2	293.8
4. Population in employment aged 15–64				264.3	271.7	286
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				64.2	65.5	67.9
7. Employment rate — Population aged 15–24				36.6	34.4	38.0
8. Employment rate — Population aged 25–54				75.9	78.2	81.1
9. Employment rate — Population aged 55–64				47.0	49.0	49.8
10. FTE employment rate				63.2	64.1	66.4
11. Self-employed (/total employment)				21.6	21.4	20.6
12. Part-time employment / total employment				6.4	8.3	8.1
13. Fixed-term contracts / total employment				7.7	7.9	8.1
14. Employment in Services / total employment				70.7	70.5	71.1
15. Employment in Industry / total employment				24.6	24.1	24.0
16. Employment in Agriculture / total employment				4.7	5.4	4.9
17. Activity rate / population aged 15–64				.	69.0	70.8
18. Activity rate / population aged 15–24				.	38.4	41.5
19. Activity rate / population aged 25–54				.	81.8	83.8
20. Activity rate / population aged 55–64				.	50.8	52.6
21. Total unemployment (000)				.	14.5	12.2
22. Unemployment rate / labour force aged 15+				.	4.9	4.0
23. Unemployment rate / labour force aged 15–24				.	10.5	8.4
24. Long term unemployment rate / labour force				.	1.3	0.9
25. Youth unemployment ratio / population aged 15–24				.	4.0	3.5
Female						
1. Total population (000)				325	327.2	328.8
2. Population aged 15–64				209.6	211	213
3. Total employment (000) — 15 years and more				106.3	112.5	122.2
4. Population in employment aged 15–64				105.2	110.7	120.3
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				50.2	52.5	56.5
7. Employment rate — Population aged 15–24				33.7	31.0	36.6
8. Employment rate — Population aged 25–54				60.1	63.8	68.5
9. Employment rate — Population aged 55–64				28.8	31.9	32.6
10. FTE employment rate				47.9	49.6	53.5
11. Self-employed (/total employment)				11.0	9.9	9.8
12. Part-time employment / total employment				11.2	14.1	12.6
13. Fixed-term contracts / total employment				10.7	11.7	12.4
14. Employment in Services / total employment				81.8	82.0	83.3
15. Employment in Industry / total employment				14.1	13.2	12.6
16. Employment in Agriculture / total employment				4.2	4.8	4.1
17. Activity rate / population aged 15–64				.	56.7	60.0
18. Activity rate / population aged 15–24				.	36.1	40.8
19. Activity rate / population aged 25–54				.	68.4	71.9
20. Activity rate / population aged 55–64				.	33.3	35.3
21. Total unemployment (000)				.	8.9	7.5
22. Unemployment rate / labour force aged 15+				.	7.4	5.8
23. Unemployment rate / labour force aged 15–24				.	14.2	10.3
24. Long term unemployment rate / labour force				.	2.4	1.1
25. Youth unemployment ratio / population aged 15–24				.	5.1	4.2
Male						
1. Total population (000)				313.9	316.5	319.8
2. Population aged 15–64				202.2	204	208
3. Total employment (000) — 15 years and more				163.7	166.7	171.6
4. Population in employment aged 15–64				159.1	161	165.7
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				78.7	78.9	79.7
7. Employment rate — Population aged 15–24				40.0	38.3	39.6
8. Employment rate — Population aged 25–54				91.7	92.5	93.6
9. Employment rate — Population aged 55–64				66.3	67.1	67.9
10. FTE employment rate				79.2	79.3	79.6
11. Self-employed (/total employment)				28.5	29.2	28.3
12. Part-time employment / total employment				3.3	4.4	4.9
13. Fixed-term contracts / total employment				5.7	5.3	5.0
14. Employment in Services / total employment				63.6	62.7	62.4
15. Employment in Industry / total employment				31.4	31.4	32.2
16. Employment in Agriculture / total employment				5.0	5.9	5.4
17. Activity rate / population aged 15–64				.	81.6	81.9
18. Activity rate / population aged 15–24				.	41.0	42.3
19. Activity rate / population aged 25–54				.	95.3	95.5
20. Activity rate / population aged 55–64				.	69.3	70.7
21. Total unemployment (000)				.	5.5	4.7
22. Unemployment rate / labour force aged 15+				.	3.2	2.7
23. Unemployment rate / labour force aged 15–24				.	6.7	6.3
24. Long term unemployment rate / labour force				.	0.5	0.7
25. Youth unemployment ratio / population aged 15–24				.	2.8	2.7

Source: Eurostat

Key employment indicators in the Czech Republic

All	1996	1997	1998	1999	2000	2001
1. Total population (000)		10270.1	10254.4	10236.9	10222.1	10216.2
2. Population aged 15–64		7049.8	7070.3	7086.7	7111.4	7142.4
3. Total employment (000) — 15 years and more		4905.5	4833.9	4715.5	4675.1	4700.7
4. Population in employment aged 15–64		4835.7	4770.2	4652.4	4617.3	4645.5
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		68.6	67.5	65.6	64.9	65.0
7. Employment rate — Population aged 15–24		42.7	41.3	38.3	36.4	34.4
8. Employment rate — Population aged 25–54		85.2	84.0	82.0	81.5	82.0
9. Employment rate — Population aged 55–64		38.5	37.5	37.6	36.1	36.9
10. FTE employment rate		67.8	66.6	64.8	64.1	64.4
11. Self-employed (/total employment)		11.8	13.0	13.9	14.5	14.6
12. Part-time employment / total employment		6.1	5.9	5.7	5.4	4.3
13. Fixed-term contracts / total employment		6.9	5.8	6.4	6.9	6.9
14. Employment in Services / total employment		52.6	52.9	54.1	54.8	54.6
15. Employment in Industry / total employment		41.6	41.5	40.6	39.9	40.5
16. Employment in Agriculture / total employment		5.8	5.6	5.3	5.2	4.9
17. Activity rate / population aged 15–64		71.7	71.7	71.8	71.2	70.7
18. Activity rate / population aged 15–24		45.9	46.3	45.9	43.9	41.2
19. Activity rate / population aged 25–54		88.6	88.5	88.6	88.5	88.3
20. Activity rate / population aged 55–64		40.0	38.9	39.5	38.1	38.7
21. Total unemployment (000)		218.9	303.3	437.4	449	409.1
22. Unemployment rate / labour force aged 15+		4.3	5.9	8.5	8.8	8.0
23. Unemployment rate / labour force aged 15–24		7.0	10.8	16.6	17.0	16.3
24. Long term unemployment rate / labour force		1.3	1.8	3.1	4.3	4.1
25. Youth unemployment ratio / population aged 15–24		3.2	5.0	7.6	7.5	6.7
Female						
1. Total population (000)		5294.5	5287.5	5281.2	5273.9	5266.7
2. Population aged 15–64		3541.7	3552.9	3563.5	3576.3	3588.1
3. Total employment (000) — 15 years and more		2155.9	2113.1	2071.1	2052.4	2063
4. Population in employment aged 15–64		2130.6	2092.9	2045.4	2032	2043.6
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		60.2	58.9	57.4	56.8	57.0
7. Employment rate — Population aged 15–24		35.9	35.1	33.9	33.6	31.5
8. Employment rate — Population aged 25–54		78.1	76.4	74.3	73.7	74.3
9. Employment rate — Population aged 55–64		24.0	23.2	23.6	22.1	23.0
10. FTE employment rate		58.5	57.2	55.7	55.2	55.6
11. Self-employed (/total employment)		7.3	8.2	8.7	9.0	9.2
12. Part-time employment / total employment		10.3	10.0	9.9	9.5	7.1
13. Fixed-term contracts / total employment		8.2	7.1	8.1	8.5	8.3
14. Employment in Services / total employment		66.3	66.8	68.0	68.9	68.3
15. Employment in Industry / total employment		29.3	29.0	28.1	27.3	28.4
16. Employment in Agriculture / total employment		4.3	4.2	3.9	3.8	3.4
17. Activity rate / population aged 15–64		63.4	63.7	63.9	63.5	63.0
18. Activity rate / population aged 15–24		38.6	40.2	40.9	40.2	37.6
19. Activity rate / population aged 25–54		82.1	82.0	81.9	81.9	81.7
20. Activity rate / population aged 55–64		25.1	24.3	24.8	23.3	24.2
21. Total unemployment (000)		116.4	172.6	233.2	241.5	219.5
22. Unemployment rate / labour force aged 15+		5.1	7.5	10.1	10.5	9.6
23. Unemployment rate / labour force aged 15–24		7.2	12.7	16.9	16.4	16.2
24. Long term unemployment rate / labour force		1.7	2.3	4.1	5.3	5.1
25. Youth unemployment ratio / population aged 15–24		2.8	5.1	6.9	6.6	6.1
Male						
1. Total population (000)		4975.6	4966.9	4955.7	4948.2	4949.5
2. Population aged 15–64		3508.1	3517.3	3523.2	3535.1	3554.3
3. Total employment (000) — 15 years and more		2749.6	2720.8	2644.4	2622.7	2637.7
4. Population in employment aged 15–64		2705.1	2677.3	2607	2585.3	2601.9
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		77.1	76.1	74.0	73.1	73.2
7. Employment rate — Population aged 15–24		49.5	47.6	42.7	39.3	37.4
8. Employment rate — Population aged 25–54		92.3	91.4	89.5	89.2	89.6
9. Employment rate — Population aged 55–64		54.8	53.4	53.2	51.6	52.4
10. FTE employment rate		77.3	76.2	74.0	73.2	73.3
11. Self-employed (/total employment)		15.3	16.7	18.0	18.8	18.9
12. Part-time employment / total employment		2.9	2.7	2.5	2.2	2.2
13. Fixed-term contracts / total employment		6.0	4.8	5.0	5.7	5.8
14. Employment in Services / total employment		41.9	42.2	43.2	43.8	44.0
15. Employment in Industry / total employment		51.1	51.2	50.4	49.9	50.0
16. Employment in Agriculture / total employment		6.9	6.6	6.4	6.3	6.0
17. Activity rate / population aged 15–64		80.0	79.8	79.7	79.0	78.5
18. Activity rate / population aged 15–24		53.1	52.5	51.0	47.7	44.7
19. Activity rate / population aged 25–54		95.1	95.0	95.1	95.0	94.9
20. Activity rate / population aged 55–64		56.8	55.4	55.9	54.5	54.7
21. Total unemployment (000)		102.5	130.7	204.2	207.5	189.5
22. Unemployment rate / labour force aged 15+		3.6	4.6	7.2	7.3	6.7
23. Unemployment rate / labour force aged 15–24		6.8	9.3	16.3	17.4	16.5
24. Long term unemployment rate / labour force		1.1	1.4	2.3	3.5	3.3
25. Youth unemployment ratio / population aged 15–24		3.6	4.9	8.3	8.3	7.4

Source: Eurostat

Key employment indicators in Estonia

All	1996	1997	1998	1999	2000	2001
1. Total population (000) *		1072.8	1445.2	1436.4	1430.5	1428.8
2. Population aged 15–64		937.5	963.1	966.1	972.1	972.9
3. Total employment (000) — 15 years and more		623	642.6	614.8	604.4	613.2
4. Population in employment aged 15–64		608.7	629.3	598.8	588.8	594.7
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		64.9	65.3	62.0	60.6	61.1
7. Employment rate — Population aged 15–24		35.4	35.3	29.2	27.4	27.1
8. Employment rate — Population aged 25–54		78.9	79.9	77.3	76.8	75.8
9. Employment rate — Population aged 55–64		48.8	50.2	47.9	43.0	48.6
10. FTE employment rate		64.1	65.2	61.7	59.8	60.2
11. Self-employed (/total employment)		6.2	8.0	8.2	8.1	6.7
12. Part-time employment / total employment		10.3	7.3	7.1	6.7	6.9
13. Fixed-term contracts / total employment		2.0	1.5	1.8	2.1	2.6
14. Employment in Services / total employment		56.7	57.4	59.4	58.3	58.7
15. Employment in Industry / total employment		33.4	33.1	31.8	34.7	34.2
16. Employment in Agriculture / total employment		9.9	9.5	8.8	7.0	7.1
17. Activity rate / population aged 15–64		72.7	72.4	70.3	70.0	69.9
18. Activity rate / population aged 15–24		43.7	41.4	37.5	35.9	35.9
19. Activity rate / population aged 25–54		88.0	88.4	87.0	88.0	85.6
20. Activity rate / population aged 55–64		51.7	53.0	51.0	46.8	53.1
21. Total unemployment (000)		73.9	67.9	81.2	92	87
22. Unemployment rate / labour force aged 15+		10.6	9.6	11.7	13.2	12.4
23. Unemployment rate / labour force aged 15–24		19.0	14.8	22.1	23.7	24.5
24. Long term unemployment rate / labour force		4.2	4.4	5.0	6.3	5.8
25. Youth unemployment ratio / population aged 15–24		8.3	6.1	8.3	8.5	8.8
Female						
1. Total population (000)		577.5	774.5	769.7	767.1	764.5
2. Population aged 15–64		489.9	499.8	502	502.4	500.5
3. Total employment (000) — 15 years and more		304.3	309.8	299.6	295.1	293.1
4. Population in employment aged 15–64		296.9	303.6	291.3	287	284.8
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		60.6	60.7	58.0	57.1	56.9
7. Employment rate — Population aged 15–24		30.5	31.0	24.4	23.2	21.3
8. Employment rate — Population aged 25–54		76.2	76.4	75.2	74.2	72.2
9. Employment rate — Population aged 55–64		40.5	42.0	39.3	37.5	41.9
10. FTE employment rate		59.0	59.5	57.2	55.6	55.2
11. Self-employed (/total employment)		3.1	5.1	5.6	6.4	3.9
12. Part-time employment / total employment		12.6	10.2	9.0	9.3	9.5
13. Fixed-term contracts / total employment		1.6	1.2	1.6	1.3	2.2
14. Employment in Services / total employment		67.6	69.4	70.5	72.5	71.5
15. Employment in Industry / total employment		25.2	23.9	22.9	22.3	24.9
16. Employment in Agriculture / total employment		7.2	6.7	6.7	5.2	3.6
17. Activity rate / population aged 15–64		67.1	66.5	64.8	64.8	65.6
18. Activity rate / population aged 15–24		36.2	35.2	31.3	29.9	32.2
19. Activity rate / population aged 25–54		84.5	84.0	83.6	83.9	81.3
20. Activity rate / population aged 55–64		42.3	43.5	41.0	39.3	46.6
21. Total unemployment (000)		32.5	29.0	34.2	38.8	44.2
22. Unemployment rate / labour force aged 15+		9.7	8.6	10.2	11.6	13.1
23. Unemployment rate / labour force aged 15–24		15.8	11.8	21.9	22.4	33.8
24. Long term unemployment rate / labour force		3.4	4.1	4.2	5.4	5.4
25. Youth unemployment ratio / population aged 15–24		5.7	4.2	6.9	6.7	10.9
Male						
1. Total population (000)		495.3	670.7	666.6	663.4	664.3
2. Population aged 15–64		447.7	463.3	464.1	469.7	472.4
3. Total employment (000) — 15 years and more		318.8	332.8	315.1	309.3	320.2
4. Population in employment aged 15–64		311.8	325.7	307.5	301.9	309.9
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		69.7	70.3	66.3	64.3	65.6
7. Employment rate — Population aged 15–24		40.3	39.4	34.1	31.4	32.4
8. Employment rate — Population aged 25–54		81.7	83.6	79.4	79.5	79.5
9. Employment rate — Population aged 55–64		59.6	60.9	59.2	50.2	57.1
10. FTE employment rate		69.7	71.4	66.6	64.3	65.5
11. Self-employed (/total employment)		9.2	10.7	10.6	9.7	9.3
12. Part-time employment / total employment		8.2	4.6	5.2	4.2	4.5
13. Fixed-term contracts / total employment		2.3	1.7	2.1	2.8	3.0
14. Employment in Services / total employment		46.3	46.1	48.9	44.9	47.0
15. Employment in Industry / total employment		41.3	41.7	40.2	46.5	42.7
16. Employment in Agriculture / total employment		12.4	12.1	10.9	8.7	10.3
17. Activity rate / population aged 15–64		78.8	78.7	76.2	75.6	74.5
18. Activity rate / population aged 15–24		51.2	47.5	43.8	41.7	39.3
19. Activity rate / population aged 25–54		91.7	93.0	90.6	92.3	90.3
20. Activity rate / population aged 55–64		63.9	65.5	64.3	56.7	61.5
21. Total unemployment (000)		41.4	38.9	47.0	53.2	42.8
22. Unemployment rate / labour force aged 15+		11.5	10.5	13.0	14.7	11.8
23. Unemployment rate / labour force aged 15–24		21.4	16.9	22.2	24.7	17.6
24. Long term unemployment rate / labour force		4.9	4.7	5.7	7.1	6.1
25. Youth unemployment ratio / population aged 15–24		10.9	8.0	9.8	10.3	6.9

*Note: * 1997: 15 years and more*
Source: Eurostat

Key employment indicators in Hungary

All	1996	1997	1998	1999	2000	2001
1. Total population (000)	10099.8	10086.9	10020.2	9975.8	9927.1	9900.3
2. Population aged 15–64	6838.3	6845.2	6806.6	6787.6	6759.8	6776
3. Total employment (000) — 15 years and more	3584.8	3579.5	3640.5	3784.8	3806.6	3834.8
4. Population in employment aged 15–64	3556.4	3559.8	3623	3762.4	3781.5	3817.5
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	52.0	52.0	53.2	55.4	55.9	56.3
7. Employment rate — Population aged 15–24	27.4	28.6	33.6	34.9	33.1	31.4
8. Employment rate — Population aged 25–54	70.2	69.8	69.8	72.2	72.8	73.1
9. Employment rate — Population aged 55–64	17.6	17.9	16.7	19.1	21.9	23.7
10. FTE employment rate	52.1	52.0	53.1	55.4	56.0	56.3
11. Self-employed (/total employment)	16.8	16.3	15.2	14.9	14.5	13.9
12. Part-time employment / total employment	3.2	3.7	3.8	3.9	3.6	3.3
13. Fixed-term contracts / total employment	.	5.5	5.6	5.2	5.8	6.4
14. Employment in Services / total employment	58.5	59.0	57.9	58.7	59.8	59.4
15. Employment in Industry / total employment	33.2	33.2	34.8	34.4	33.8	34.5
16. Employment in Agriculture / total employment	8.2	7.8	7.3	7.0	6.5	6.1
17. Activity rate / population aged 15–64	57.8	57.1	58.4	59.6	59.9	59.7
18. Activity rate / population aged 15–24	33.9	34.4	39.6	39.8	37.8	35.1
19. Activity rate / population aged 25–54	77.0	75.7	75.7	77.0	77.3	77.2
20. Activity rate / population aged 55–64	18.7	19.0	17.8	19.6	22.6	24.4
21. Total unemployment (000)	399.3	353.6	356.8	281.8	267.4	230.7
22. Unemployment rate / labour force aged 15+	10.0	9.0	8.9	6.9	6.6	5.7
23. Unemployment rate / labour force aged 15–24	19.4	16.9	15.2	12.3	12.3	10.5
24. Long term unemployment rate / labour force	5.3	4.2	4.4	3.3	3.1	2.5
25. Youth unemployment ratio / population aged 15–24	6.6	5.8	6.0	4.9	4.6	3.7
Female						
1. Total population (000)	5299.4	5280.9	5244.8	5223.3	5199.8	5185
2. Population aged 15–64	3519.3	3508.8	3481.9	3473.2	3447.6	3455.5
3. Total employment (000) — 15 years and more	1598.4	1582.1	1634.6	1703.3	1715	1722.2
4. Population in employment aged 15–64	1586.1	1572.9	1628.2	1694.9	1704.6	1715.3
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	45.1	44.8	46.8	48.8	49.4	49.6
7. Employment rate — Population aged 15–24	24.0	24.7	29.9	31.2	29.2	27.1
8. Employment rate — Population aged 25–54	62.9	62.1	63.5	65.8	66.7	67.0
9. Employment rate — Population aged 55–64	10.2	10.7	9.3	11.1	13.0	14.6
10. FTE employment rate	44.5	43.9	46.0	47.9	48.7	48.9
11. Self-employed (/total employment)	11.1	10.8	10.5	10.2	9.5	9.3
12. Part-time employment / total employment	4.4	5.6	5.4	5.6	5.3	4.8
13. Fixed-term contracts / total employment	.	5.5	5.1	5.2	5.7	6.1
14. Employment in Services / total employment	70.5	71.0	70.2	71.4	71.9	71.2
15. Employment in Industry / total employment	25.2	24.7	25.9	25.0	24.8	25.5
16. Employment in Agriculture / total employment	4.3	4.3	3.9	3.7	3.3	3.4
17. Activity rate / population aged 15–64	49.5	48.6	50.8	52.0	52.5	52.2
18. Activity rate / population aged 15–24	29.0	28.8	34.2	34.9	32.5	29.9
19. Activity rate / population aged 25–54	68.3	66.8	68.4	69.8	70.5	70.1
20. Activity rate / population aged 55–64	10.8	11.1	10.0	11.3	13.2	14.8
21. Total unemployment (000)	158.7	135	143.9	112.9	105.3	88.2
22. Unemployment rate / labour force aged 15+	9.0	7.9	8.1	6.2	5.8	4.9
23. Unemployment rate / labour force aged 15–24	17.3	14.1	12.6	10.6	10.4	9.3
24. Long term unemployment rate / labour force	4.4	3.6	4.0	2.9	2.5	2.1
25. Youth unemployment ratio / population aged 15–24	5.0	4.0	4.3	3.7	3.4	2.8
Male						
1. Total population (000)	4800.4	4806	4775.4	4752.5	4727.3	4715.4
2. Population aged 15–64	3319	3336.4	3324.7	3314.3	3312.3	3320.5
3. Total employment (000) — 15 years and more	1986.4	1997.4	2005.9	2081.5	2091.6	2112.5
4. Population in employment aged 15–64	1970.3	1986.9	1994.8	2067.5	2076.9	2102.2
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	59.4	59.6	60.0	62.4	62.7	63.3
7. Employment rate — Population aged 15–24	30.8	32.4	37.3	38.6	37.0	35.6
8. Employment rate — Population aged 25–54	77.7	77.7	76.3	78.8	79.0	79.4
9. Employment rate — Population aged 55–64	27.1	27.1	26.3	29.3	33.0	35.0
10. FTE employment rate	60.1	60.4	60.5	63.2	63.6	63.8
11. Self-employed (/total employment)	21.3	20.7	19.1	18.8	18.7	17.6
12. Part-time employment / total employment	2.1	2.0	2.4	2.5	2.1	2.0
13. Fixed-term contracts / total employment	.	5.5	5.9	5.2	5.9	6.7
14. Employment in Services / total employment	48.9	49.4	47.8	48.3	49.8	49.8
15. Employment in Industry / total employment	39.7	40.0	42.0	42.0	41.1	41.8
16. Employment in Agriculture / total employment	11.4	10.6	10.2	9.7	9.0	8.4
17. Activity rate / population aged 15–64	66.6	66.0	66.3	67.5	67.6	67.6
18. Activity rate / population aged 15–24	39.0	39.9	45.0	44.6	42.8	40.2
19. Activity rate / population aged 25–54	85.9	84.8	83.2	84.4	84.3	84.3
20. Activity rate / population aged 55–64	28.8	28.9	27.8	30.3	34.3	36.3
21. Total unemployment (000)	240.6	218.6	212.9	168.9	162	142.5
22. Unemployment rate / labour force aged 15+	10.8	9.9	9.6	7.5	7.2	6.3
23. Unemployment rate / labour force aged 15–24	21	18.8	17.1	13.5	13.7	11.4
24. Long term unemployment rate / labour force	6.1	4.8	4.8	3.7	3.6	2.9
25. Youth unemployment ratio / population aged 15–24	8.2	7.5	7.7	6.0	5.9	4.6

Source: Eurostat

Key employment indicators in Latvia

All	1996	1997	1998	1999	2000	2001
1. Total population (000)			2458.4	2439.4	2424.2	2365.2
2. Population aged 15–64			1666.8	1626.7	1636.5	1595.8
3. Total employment (000) — 15 years and more			1003.9	996.9	968.4	963.9
4. Population in employment aged 15–64			977.5	967	944.8	939.5
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			58.6	59.4	57.7	58.9
7. Employment rate — Population aged 15–24			30.0	33.2	30.1	29.0
8. Employment rate — Population aged 25–54			76.0	74.7	73.6	75.9
9. Employment rate — Population aged 55–64			37.0	36.6	35.4	36.4
10. FTE employment rate			57.1	57.9	56.4	57.7
11. Self-employed (/total employment)			11.7	11.2	10.6	10.3
12. Part-time employment / total employment			12.3	11.8	10.8	10.0
13. Fixed-term contracts / total employment			6.7	6.2	5.7	6.0
14. Employment in Services / total employment			54.2	57.0	58.7	59.6
15. Employment in Industry / total employment			27.1	25.8	26.8	25.3
16. Employment in Agriculture / total employment			18.7	17.2	14.4	15.1
17. Activity rate / population aged 15–64			68.7	69.1	67.5	68.0
18. Activity rate / population aged 15–24			41.2	43.4	38.3	37.6
19. Activity rate / population aged 25–54			87.4	86.1	85.7	86.4
20. Activity rate / population aged 55–64			41.5	39.9	39.1	41.3
21. Total unemployment (000)			170.4	158.7	160.6	145.3
22. Unemployment rate / labour force aged 15+			14.5	13.7	14.2	13.1
23. Unemployment rate / labour force aged 15–24			27.1	23.4	21.4	22.9
24. Long term unemployment rate / labour force			8.1	7.4	8.1	7.7
25. Youth unemployment ratio / population aged 15–24			11.2	10.2	8.2	8.6
Female						
1. Total population (000)			1322.7	1311.7	1301.3	1276.7
2. Population aged 15–64			868.5	843.2	848.5	831.8
3. Total employment (000) — 15 years and more			485.7	471.6	465.6	479.5
4. Population in employment aged 15–64			470.8	455.8	453.6	466.8
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			54.2	54.1	53.5	56.1
7. Employment rate — Population aged 15–24			25.9	28.7	24.9	24.5
8. Employment rate — Population aged 25–54			73.0	71.1	71.8	75.1
9. Employment rate — Population aged 55–64			28.1	26.4	25.9	30.1
10. FTE employment rate			52.4	52.3	51.8	54.1
11. Self-employed (/total employment)			9.7	9.2	8.6	7.8
12. Part-time employment / total employment			12.7	12.9	12.2	12.1
13. Fixed-term contracts / total employment			5.1	3.8	4.0	4.7
14. Employment in Services / total employment			63.9	67.3	68.5	71.2
15. Employment in Industry / total employment			19.7	17.6	18.7	17.2
16. Employment in Agriculture / total employment			16.4	15.1	12.8	11.7
17. Activity rate / population aged 15–64			62.9	62.6	61.9	63.6
18. Activity rate / population aged 15–24			35.4	35.7	31.8	31.1
19. Activity rate / population aged 25–54			83.8	82.0	82.7	84.3
20. Activity rate / population aged 55–64			29.8	29.2	28.1	33.0
21. Total unemployment (000)			76.3	72.6	72.0	62.5
22. Unemployment rate / labour force aged 15+			13.6	13.3	13.4	11.5
23. Unemployment rate / labour force aged 15–24			26.9	19.5	21.8	21.4
24. Long term unemployment rate / labour force			7.8	7.3	7.6	6.5
25. Youth unemployment ratio / population aged 15–24			9.5	7.0	6.9	6.7
Male						
1. Total population (000)			1135.7	1127.7	1122.9	1088.5
2. Population aged 15–64			798.3	783.5	788	764
3. Total employment (000) — 15 years and more			518.3	525.3	502.7	484.4
4. Population in employment aged 15–64			506.6	511.2	491.2	472.7
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			63.5	65.2	62.3	61.9
7. Employment rate — Population aged 15–24			33.9	37.6	35.2	33.3
8. Employment rate — Population aged 25–54			79.1	78.5	75.4	76.8
9. Employment rate — Population aged 55–64			49.2	50.2	48.3	44.8
10. FTE employment rate			62.1	63.9	61.3	61.5
11. Self-employed (/total employment)			13.5	12.9	12.5	12.7
12. Part-time employment / total employment			11.9	10.9	9.5	7.9
13. Fixed-term contracts / total employment			8.2	8.2	7.4	7.4
14. Employment in Services / total employment			45.1	47.8	49.7	48.2
15. Employment in Industry / total employment			34.1	33.2	34.4	33.4
16. Employment in Agriculture / total employment			20.8	19.1	16.0	18.4
17. Activity rate / population aged 15–64			75.1	76.0	73.6	72.7
18. Activity rate / population aged 15–24			46.6	50.8	44.6	43.8
19. Activity rate / population aged 25–54			91.3	90.3	88.7	88.6
20. Activity rate / population aged 55–64			57.6	54.1	53.9	52.3
21. Total unemployment (000)			94.1	86.1	88.6	82.8
22. Unemployment rate / labour force aged 15+			15.4	14.1	15.0	14.6
23. Unemployment rate / labour force aged 15–24			27.3	26.1	21.1	24.0
24. Long term unemployment rate / labour force			8.5	7.4	8.5	8.9
25. Youth unemployment ratio / population aged 15–24			12.7	13.2	9.4	10.5

Source: Eurostat

Key employment indicators in Lithuania

All	1996	1997	1998	1999	2000	2001
1. Total population (000) *			2941.9	2957.8	2967.1	2980.9
2. Population aged 15–64			2441.7	2434.7	2472.1	2478.3
3. Total employment (000) — 15 years and more			1563.6	1613.3	1524.7	1481.8
4. Population in employment aged 15–64			1536.2	1583.6	1486	1451.2
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			62.9	65.0	60.1	58.6
7. Employment rate — Population aged 15–24			34.0	33.8	26.7	22.9
8. Employment rate — Population aged 25–54			78.9	81.5	76.0	75.5
9. Employment rate — Population aged 55–64			40.2	42.6	42.2	39.1
10. FTE employment rate			.	.	60.0	58.5
11. Self-employed (/total employment)			16.3	17.0	15.9	15.9
12. Part-time employment / total employment			.	.	8.6	8.2
13. Fixed-term contracts / total employment			5.1	4.2	3.1	5.3
14. Employment in Services / total employment			50.9	52.1	54.2	56.3
15. Employment in Industry / total employment			28.4	26.5	27.4	27.2
16. Employment in Agriculture / total employment			20.7	21.4	18.4	16.5
17. Activity rate / population aged 15–64			72.1	72.6	71.5	70.4
18. Activity rate / population aged 15–24			44.6	42.9	36.9	33.1
19. Activity rate / population aged 25–54			89.3	90.0	89.5	89.2
20. Activity rate / population aged 55–64			42.5	44.4	46.5	45.6
21. Total unemployment (000)			224	183.5	281	293.1
22. Unemployment rate / labour force aged 15+			12.5	10.2	15.6	16.5
23. Unemployment rate / labour force aged 15–24			23.7	21.3	27.5	30.9
24. Long term unemployment rate / labour force			7.8	4.0	8.2	9.3
25. Youth unemployment ratio / population aged 15–24			10.6	9.1	10.1	10.2
Female						
1. Total population (000)			1580.9	1584.7	1597.4	1607.1
2. Population aged 15–64			1260.2	1251.4	1273.6	1278.6
3. Total employment (000) — 15 years and more			748.6	782.1	767.2	749.2
4. Population in employment aged 15–64			737.1	768.4	745.2	733.4
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			58.5	61.4	58.5	57.4
7. Employment rate — Population aged 15–24			28.0	29.2	23.2	21.3
8. Employment rate — Population aged 25–54			77.8	80.7	76.8	76.4
9. Employment rate — Population aged 55–64			27.4	31.8	34.5	31.8
10. FTE employment rate			.	.	57.7	56.6
11. Self-employed (/total employment)			13.3	13.4	12.7	11.9
12. Part-time employment / total employment			.	.	9.6	9.1
13. Fixed-term contracts / total employment			3.8	2.7	2.3	3.7
14. Employment in Services / total employment			60.3	61.5	64.2	66.3
15. Employment in Industry / total employment			22.0	21.2	21.2	21.2
16. Employment in Agriculture / total employment			17.7	17.3	14.6	12.5
17. Activity rate / population aged 15–64			65.7	67.7	67.6	66.5
18. Activity rate / population aged 15–24			34.4	36.2	32.0	28.0
19. Activity rate / population aged 25–54			86.8	88.6	88.1	88.0
20. Activity rate / population aged 55–64			29.1	32	36.5	35.0
21. Total unemployment (000)			90.6	79	116.1	117.2
22. Unemployment rate / labour force aged 15+			10.8	9.2	13.1	13.5
23. Unemployment rate / labour force aged 15–24			18.8	19.3	27.4	24.0
24. Long term unemployment rate / labour force			6.6	3.3	6.2	7.0
25. Youth unemployment ratio / population aged 15–24			6.5	7.0	8.8	6.7
Male						
1. Total population (000)			1361	1373.1	1369.7	1373.8
2. Population aged 15–64			1181.5	1183.3	1198.5	1199.7
3. Total employment (000) — 15 years and more			815	831.3	757.5	732.6
4. Population in employment aged 15–64			799.1	815.1	740.9	717.7
5. Annual change in employment			.	.	.	.
6. Employment rate — Population aged 15–64			67.6	68.9	61.8	59.8
7. Employment rate — Population aged 15–24			39.9	38.3	30.2	24.5
8. Employment rate — Population aged 25–54			80.1	82.4	75.1	74.6
9. Employment rate — Population aged 55–64			57.0	56.7	52.2	48.6
10. FTE employment rate			.	.	62.4	60.3
11. Self-employed (/total employment)			19.1	20.3	19.2	20.1
12. Part-time employment / total employment			.	.	7.6	7.3
13. Fixed-term contracts / total employment			6.3	5.5	3.9	6.9
14. Employment in Services / total employment			42.3	43.3	44.0	46.0
15. Employment in Industry / total employment			34.2	31.4	33.7	33.3
16. Employment in Agriculture / total employment			23.5	25.3	22.3	20.7
17. Activity rate / population aged 15–64			78.9	77.7	75.5	74.5
18. Activity rate / population aged 15–24			54.5	49.5	41.7	38.2
19. Activity rate / population aged 25–54			92.0	91.5	91.0	90.4
20. Activity rate / population aged 55–64			60.1	60.6	59.5	59.4
21. Total unemployment (000)			133.4	104.5	165	176
22. Unemployment rate / labour force aged 15+			14.1	11.2	17.9	19.4
23. Unemployment rate / labour force aged 15–24			26.8	22.7	27.6	35.9
24. Long term unemployment rate / labour force			8.8	4.7	10.0	11.4
25. Youth unemployment ratio / population aged 15–24			14.6	11.2	11.5	13.7

*Note: * 15 years and more*
Source: Eurostat

Key employment indicators in Poland

All	1996	1997	1998	1999	2000	2001
1. Total population (000) *		29562.7	29887.5	30136.2	30535.3	30794.2
2. Population aged 15–64		24902.1	25145.2	25252.2	25652.3	25819
3. Total employment (000) — 15 years and more		15132.8	15364.2	14939.8	14517.6	14251.8
4. Population in employment aged 15–64		14636.5	14878.4	14522.5	14145.4	13878.5
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		58.8	59.2	57.5	55.1	53.8
7. Employment rate — Population aged 15–24		27.8	27.8	24.3	24.1	21.4
8. Employment rate — Population aged 25–54		74.3	75.3	73.7	71	69.5
9. Employment rate — Population aged 55–64		35.5	33.3	32.5	29	30.5
10. FTE employment rate		.	.	.	.	53.0
11. Self-employed (/total employment)		23.3	22.8	22.8	22.5	22.5
12. Part-time employment / total employment		10.7	10.4	10.2	10.6	9.5
13. Fixed-term contracts / total employment		4.0	3.9	3.5	4.2	8.6
14. Employment in Services / total employment		.	.	.	50.3	50.1
15. Employment in Industry / total employment		.	.	.	31.1	30.7
16. Employment in Agriculture / total employment		.	.	.	18.7	19.2
17. Activity rate / population aged 15–64		66.2	65.9	65.8	66.1	66.1
18. Activity rate / population aged 15–24		36	35.3	34.5	37.5	36.7
19. Activity rate / population aged 25–54		82.7	82.8	82.5	82.7	82.7
20. Activity rate / population aged 55–64		37.4	35.2	35.0	32.1	33.9
21. Total unemployment (000)		1863.5	1694.9	2093.3	2829.9	3208
22. Unemployment rate / labour force aged 15+		11	9.9	12.3	16.3	18.4
23. Unemployment rate / labour force aged 15–24		22.8	21.3	29.6	35.7	41.5
24. Long term unemployment rate / labour force		5.1	4.7	5.1	7.3	9.2
25. Youth unemployment ratio / population aged 15–24		8.2	7.5	10.2	13.4	15.2
Female						
1. Total population (000)		15502.2	15665.7	15793.4	15984.2	16116.5
2. Population aged 15–64		12633	12748.6	12795.4	12981.9	13057.9
3. Total employment (000) — 15 years and more		6742.1	6872.1	6776	6542.6	6470
4. Population in employment aged 15–64		6516.9	6653.7	6597.5	6395.4	6320.6
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		51.6	52.2	51.6	49.3	48.4
7. Employment rate — Population aged 15–24		23.6	24.5	21.5	21.9	19.8
8. Employment rate — Population aged 25–54		66.7	67.8	67.6	64.5	63.5
9. Employment rate — Population aged 55–64		27.7	25.2	24.5	21.8	23.8
10. FTE employment rate		.	.	.	.	46.9
11. Self-employed (/total employment)		19.8	19.1	19.0	18.4	18.8
12. Part-time employment / total employment		13.5	13.0	13.1	13.2	11.2
13. Fixed-term contracts / total employment		3.4	3.5	3.4	3.6	8.5
14. Employment in Services / total employment		.	.	.	62.7	62.0
15. Employment in Industry / total employment		.	.	.	18.9	18.6
16. Employment in Agriculture / total employment		.	.	.	18.4	19.4
17. Activity rate / population aged 15–64		59.5	59.4	59.6	60.5	60.8
18. Activity rate / population aged 15–24		32.0	32.0	31.4	34.9	34.1
19. Activity rate / population aged 25–54		76.0	76.2	76.4	77.1	77.4
20. Activity rate / population aged 55–64		29.2	26.6	25.9	24.4	26.0
21. Total unemployment (000)		1006.6	920.3	1027.6	1467.7	1619.2
22. Unemployment rate / labour force aged 15+		13.0	11.8	13.2	18.3	20.0
23. Unemployment rate / labour force aged 15–24		26.1	23.5	31.6	37.2	42.1
24. Long term unemployment rate / labour force		6.6	6.1	6.2	8.9	10.8
25. Youth unemployment ratio / population aged 15–24		8.3	7.5	9.9	13.0	14.4
Male						
1. Total population (000)		14060.5	14221.8	14342.8	14551.1	14677.8
2. Population aged 15–64		12269.1	12396.6	12456.8	12670.4	12761.1
3. Total employment (000) — 15 years and more		8390.7	8492.1	8163.9	7975	7781.9
4. Population in employment aged 15–64		8119.7	8224.8	7925	7750	7558
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		66.2	66.3	63.6	61.2	59.2
7. Employment rate — Population aged 15–24		32.0	31.1	27.2	26.4	23.1
8. Employment rate — Population aged 25–54		82.0	82.9	79.8	77.5	75.5
9. Employment rate — Population aged 55–64		44.5	42.7	41.8	37.4	38.3
10. FTE employment rate		.	.	.	.	59.3
11. Self-employed (/total employment)		26.2	25.7	26.1	25.9	25.6
12. Part-time employment / total employment		8.5	8.3	7.8	8.4	8.1
13. Fixed-term contracts / total employment		4.4	4.2	3.6	4.7	8.7
14. Employment in Services / total employment		.	.	.	40.0	40.2
15. Employment in Industry / total employment		.	.	.	41.1	40.8
16. Employment in Agriculture / total employment		.	.	.	18.9	19.0
17. Activity rate / population aged 15–64		73.1	72.5	72.1	71.8	71.6
18. Activity rate / population aged 15–24		40.1	38.6	37.7	40.2	39.2
19. Activity rate / population aged 25–54		89.5	89.4	88.5	88.4	88.0
20. Activity rate / population aged 55–64		47.0	45.2	45.7	41.1	43.3
21. Total unemployment (000)		857	774.6	1065.7	1362.2	1588.7
22. Unemployment rate / labour force aged 15+		9.3	8.4	11.5	14.6	17.0
23. Unemployment rate / labour force aged 15–24		20.1	19.5	27.9	34.3	41.0
24. Long term unemployment rate / labour force		3.8	3.5	4.2	5.9	7.8
25. Youth unemployment ratio / population aged 15–24		8.1	7.5	10.5	13.8	16.1

*Note: * 15 years and more*
Source: Eurostat

Key employment indicators in Romania

All	1996	1997	1998	1999	2000	2001
1. Total population (000)		22327.1	22396.9	22357.6	22338.3	22344.6
2. Population aged 15–64		15153.6	15195.2	15190.4	15213.4	15278.3
3. Total employment (000) — 15 years and more		11200	11097.1	11022	10897.6	10807.5
4. Population in employment aged 15–64		10175.6	10013.3	9869.7	9765	9674.1
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		67.2	65.9	65.0	64.2	63.3
7. Employment rate — Population aged 15–24		38.1	37.4	35.3	34	32.7
8. Employment rate — Population aged 25–54		82.2	80.3	79.6	78.6	77.6
9. Employment rate — Population aged 55–64		55.0	54.7	52.9	52.0	50.5
10. FTE employment rate		67.5	65.6	64.5	63.8	62.9
11. Self-employed (/total employment)		22.4	23.2	23.8	25.4	25.7
12. Part-time employment / total employment		15.2	16.3	16.5	16.4	16.8
13. Fixed-term contracts / total employment		1.8	1.7	1.7	1.6	1.6
14. Employment in Services / total employment		28.8	29.3	28.9	29.0	29.7
15. Employment in Industry / total employment		30.3	28.8	27.1	25.8	25.8
16. Employment in Agriculture / total employment		40.9	42.0	44.0	45.2	44.4
17. Activity rate / population aged 15–64		71.5	70.3	69.8	69.6	68.3
18. Activity rate / population aged 15–24		46.2	44.9	42.7	41.3	39.6
19. Activity rate / population aged 25–54		86.1	84.5	84.6	84.4	82.8
20. Activity rate / population aged 55–64		55.5	55.0	53.4	52.5	51.4
21. Total unemployment (000)		653.6	661.9	733.2	816.1	758.5
22. Unemployment rate / labour force aged 15+		5.5	5.6	6.2	7.0	6.6
23. Unemployment rate / labour force aged 15–24		17.4	16.8	17.3	17.8	17.6
24. Long term unemployment rate / labour force		2.6	2.5	2.8	3.4	3.2
25. Youth unemployment ratio / population aged 15–24		8.0	7.5	7.4	7.4	7.0
Female						
1. Total population (000)		11462.9	11499	11487.4	11475.4	11467.1
2. Population aged 15–64		7696.3	7709.9	7713.4	7714.2	7727.2
3. Total employment (000) — 15 years and more		5238.4	5196.3	5214.4	5147.5	5095.1
4. Population in employment aged 15–64		4704.9	4633.2	4608.7	4553.4	4495.8
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		61.1	60.1	59.7	59.0	58.2
7. Employment rate — Population aged 15–24		34.2	33.3	31.9	31.1	30.0
8. Employment rate — Population aged 25–54		75.8	74.3	74.1	72.7	71.7
9. Employment rate — Population aged 55–64		48.2	48.4	47.3	47.3	45.8
10. FTE employment rate		59.6	58.2	57.9	57.3	56.5
11. Self-employed (/total employment)		17.6	17.7	16.8	17.4	17.5
12. Part-time employment / total employment		18.3	19.4	19.2	18.6	19.1
13. Fixed-term contracts / total employment		1.7	1.7	1.7	1.5	1.5
14. Employment in Services / total employment		31.7	32.0	31.7	31.7	31.7
15. Employment in Industry / total employment		23.3	22.2	20.8	20.4	20.9
16. Employment in Agriculture / total employment		45.0	45.8	47.6	47.9	47.4
17. Activity rate / population aged 15–64		65.4	64.0	63.7	63.6	62.4
18. Activity rate / population aged 15–24		42.3	40.0	37.7	37.0	36.2
19. Activity rate / population aged 25–54		79.7	78.1	78.3	77.9	76.2
20. Activity rate / population aged 55–64		48.4	48.4	47.5	47.5	46.0
21. Total unemployment (000)		327.7	300.7	305.4	350.5	325.6
22. Unemployment rate / labour force aged 15+		5.9	5.5	5.5	6.4	6.0
23. Unemployment rate / labour force aged 15–24		19.2	16.9	15.5	15.9	17.1
24. Long term unemployment rate / labour force		3.0	2.5	2.8	3.1	3.0
25. Youth unemployment ratio / population aged 15–24		8.1	6.8	5.8	5.9	6.2
Male						
1. Total population (000)		10864.2	10897.9	10870.2	10862.8	10877.5
2. Population aged 15–64		7457.3	7485.3	7477	7499.1	7551.1
3. Total employment (000) — 15 years and more		5961.6	5900.8	5807.6	5750	5712.4
4. Population in employment aged 15–64		5470.8	5380	5261	5211.6	5178.3
5. Annual change in employment		.	.	.	.	.
6. Employment rate — Population aged 15–64		73.4	71.9	70.4	69.5	68.6
7. Employment rate — Population aged 15–24		42.1	41.6	38.8	36.9	35.3
8. Employment rate — Population aged 25–54		88.6	86.4	85.2	84.6	83.5
9. Employment rate — Population aged 55–64		62.8	61.9	59.4	57.4	56.0
10. FTE employment rate		75.6	73.3	71.3	70.5	69.4
11. Self-employed (/total employment)		26.6	28.0	30.1	32.6	33.0
12. Part-time employment / total employment		12.5	13.6	14.0	14.3	14.7
13. Fixed-term contracts / total employment		1.9	1.8	1.8	1.7	1.8
14. Employment in Services / total employment		26.3	26.8	26.5	26.6	28
15. Employment in Industry / total employment		36.5	34.6	32.7	30.7	30.3
16. Employment in Agriculture / total employment		37.2	38.6	40.8	42.8	41.7
17. Activity rate / population aged 15–64		77.7	76.7	76.1	75.7	74.3
18. Activity rate / population aged 15–24		50.1	49.9	47.8	45.7	43.1
19. Activity rate / population aged 25–54		92.5	90.9	90.9	91.0	89.4
20. Activity rate / population aged 55–64		63.6	62.6	60.2	58.4	57.7
21. Total unemployment (000)		326	361.2	427.8	465.5	432.9
22. Unemployment rate / labour force aged 15+		5.2	5.8	6.9	7.5	7.0
23. Unemployment rate / labour force aged 15–24		15.9	16.7	18.8	19.3	18.1
24. Long term unemployment rate / labour force		2.3	2.4	2.9	3.8	3.3
25. Youth unemployment ratio / population aged 15–24		8.0	8.3	9.0	8.8	7.8

Source: Eurostat

Key employment indicators in Slovakia

All	1996	1997	1998	1999	2000	2001
1. Total population (000)				5369.1	5377	5376.1
2. Population aged 15–64				3657	3691.3	3719.8
3. Total employment (000) — 15 years and more				2128.3	2083	2115.8
4. Population in employment aged 15–64				2121.2	2077.9	2110.1
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				58.0	56.3	56.7
7. Employment rate — Population aged 15–24				31.1	28.3	27.7
8. Employment rate — Population aged 25–54				75.9	74.3	74.6
9. Employment rate — Population aged 55–64				22.2	21.4	22.5
10. FTE employment rate				58.0	56.4	55.7
11. Self-employed (/total employment)				7.4	7.8	8.4
12. Part-time employment / total employment				2.1	1.9	2.3
13. Fixed-term contracts / total employment				3.4	3.7	4.6
14. Employment in Services / total employment				54.3	55.8	56.7
15. Employment in Industry / total employment				38.4	37.3	37.1
16. Employment in Agriculture / total employment				7.2	6.9	6.3
17. Activity rate / population aged 15–64				69.0	69.6	70.4
18. Activity rate / population aged 15–24				45.8	44.8	45.3
19. Activity rate / population aged 25–54				87.2	88.3	88.9
20. Activity rate / population aged 55–64				24.8	24.5	25.4
21. Total unemployment (000)				403.8	490.6	508.7
22. Unemployment rate / labour force aged 15+				15.9	19.1	19.4
23. Unemployment rate / labour force aged 15–24				32.0	36.9	38.9
24. Long term unemployment rate / labour force				7.4	10.3	11.3
25. Youth unemployment ratio / population aged 15–24				14.7	16.5	17.6
Female						
1. Total population (000)				2769.6	2773.5	2776.4
2. Population aged 15–64				1855	1870.4	1886.3
3. Total employment (000) — 15 years and more				969.2	957.9	977.9
4. Population in employment aged 15–64				967.2	956.6	976.4
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				52.1	51.1	51.8
7. Employment rate — Population aged 15–24				29.1	27.9	26.9
8. Employment rate — Population aged 25–54				70.5	69.4	70.5
9. Employment rate — Population aged 55–64				10.6	10.2	10.0
10. FTE employment rate				51.0	50.3	50.1
11. Self-employed (/total employment)				4.2	4.2	4.8
12. Part-time employment / total employment				3.2	2.9	3.6
13. Fixed-term contracts / total employment				3.5	4.1	4.6
14. Employment in Services / total employment				69.1	70.2	71.4
15. Employment in Industry / total employment				26.1	25.5	24.8
16. Employment in Agriculture / total employment				4.8	4.3	3.8
17. Activity rate / population aged 15–64				62.0	62.8	63.6
18. Activity rate / population aged 15–24				42.1	41.8	41.0
19. Activity rate / population aged 25–54				81.2	82.6	83.8
20. Activity rate / population aged 55–64				11.3	11.1	11.1
21. Total unemployment (000)				183.3	219.1	222.8
22. Unemployment rate / labour force aged 15+				15.9	18.6	18.6
23. Unemployment rate / labour force aged 15–24				30.8	33.3	34.5
24. Long term unemployment rate / labour force				8.1	10.1	11.1
25. Youth unemployment ratio / population aged 15–24				13	13.9	14.1
Male						
1. Total population (000)				2599.5	2603.5	2599.7
2. Population aged 15–64				1801.9	1820.9	1833.6
3. Total employment (000) — 15 years and more				1159.1	1125	1137.9
4. Population in employment aged 15–64				1154	1121.3	1133.7
5. Annual change in employment				.	.	.
6. Employment rate — Population aged 15–64				64.0	61.6	61.8
7. Employment rate — Population aged 15–24				33.1	28.7	28.5
8. Employment rate — Population aged 25–54				81.3	79.1	78.7
9. Employment rate — Population aged 55–64				36.4	35.2	37.7
10. FTE employment rate				65.2	62.7	61.5
11. Self-employed (/total employment)				10.1	10.9	11.5
12. Part-time employment / total employment				1.1	1.0	1.2
13. Fixed-term contracts / total employment				3.4	3.4	4.6
14. Employment in Services / total employment				42.0	43.6	44.0
15. Employment in Industry / total employment				48.7	47.3	47.6
16. Employment in Agriculture / total employment				9.3	9.2	8.4
17. Activity rate / population aged 15–64				76.3	76.5	77.4
18. Activity rate / population aged 15–24				49.4	47.8	49.6
19. Activity rate / population aged 25–54				93.3	94	94.1
20. Activity rate / population aged 55–64				41.2	41.0	43.0
21. Total unemployment (000)				220.5	271.5	285.9
22. Unemployment rate / labour force aged 15+				16.0	19.4	20.1
23. Unemployment rate / labour force aged 15–24				33.1	40.0	42.6
24. Long term unemployment rate / labour force				6.9	10.4	11.4
25. Youth unemployment ratio / population aged 15–24				16.4	19.1	21.1

Source: Eurostat

Key employment indicators in Slovenia

All	1996	1997	1998	1999	2000	2001
1. Total population (000)	1991.2	1986.4	1983.4	1979.7	1988.2	1990.7
2. Population aged 15–64	1387.9	1383.7	1381.8	1379.3	1393	1400
3. Total employment (000) — 15 years and more	871.1	893.4	904.7	888.7	893.6	914.1
4. Population in employment aged 15–64	856.9	868.7	878	862.5	872.9	890.3
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	61.7	62.8	63.5	62.5	62.7	63.6
7. Employment rate — Population aged 15–24	35.5	38.5	36.2	32.9	31.2	30.3
8. Employment rate — Population aged 25–54	82.0	81.3	82.2	82.2	82.6	83.8
9. Employment rate — Population aged 55–64	19.9	22.7	25.9	23.4	22.3	23.4
10. FTE employment rate	60.5	60.9	61.8	60.8	61.5	62.4
11. Self-employed (/total employment)	12.6	12.0	12.5	12.6	11.2	11.8
12. Part-time employment / total employment	6.8	8.2	7.6	6.6	6.1	6.1
13. Fixed-term contracts / total employment	7.0	11.6	9.2	8.8	10.8	10.8
14. Employment in Services / total employment	47.8	47.4	48.4	51.4	52.7	51.4
15. Employment in Industry / total employment	42.0	40.5	39.5	37.8	37.7	38.6
16. Employment in Agriculture / total employment	10.2	12.1	12.1	10.8	9.6	9.9
17. Activity rate / population aged 15–64	66.3	67.4	68.8	67.6	67.4	67.5
18. Activity rate / population aged 15–24	42.6	46.1	44.0	40.4	37.3	36.0
19. Activity rate / population aged 25–54	86.6	85.8	87.7	87.5	87.7	87.8
20. Activity rate / population aged 55–64	20.6	23.5	26.5	24.3	23.7	24.6
21. Total unemployment (000)	64.6	63.6	72.2	70.2	66.4	55.1
22. Unemployment rate / labour force aged 15+	6.9	6.6	7.4	7.3	6.9	5.7
23. Unemployment rate / labour force aged 15–24	16.6	16.3	17.6	18.5	16.4	15.7
24. Long term unemployment rate / labour force	3.5	3.4	3.4	3.1	4.3	3.6
25. Youth unemployment ratio / population aged 15–24	7.1	7.5	7.7	7.5	6.1	5.7
Female						
1. Total population (000)	1026.4	1017.4	1016.7	1015.4	1017.7	1018.3
2. Population aged 15–64	696.3	685.3	682.7	680.9	689	691.8
3. Total employment (000) — 15 years and more	406.6	413.5	418.5	408.6	412.5	416.9
4. Population in employment aged 15–64	400.2	400	406.2	395.7	403.1	405.4
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	57.5	58.4	59.5	58.1	58.5	58.6
7. Employment rate — Population aged 15–24	34.0	34.3	34.0	31.2	27.4	26.4
8. Employment rate — Population aged 25–54	78.5	78.1	78.5	78.6	79.6	80.0
9. Employment rate — Population aged 55–64	12.9	16.4	19.4	14.9	14.3	14.4
10. FTE employment rate	55.6	55.9	57.2	56.1	56.8	56.9
11. Self-employed (/total employment)	7.7	7.5	7.7	8.0	6.5	7.0
12. Part-time employment / total employment	8.6	9.9	8.7	7.8	7.7	7.4
13. Fixed-term contracts / total employment	7.9	12.6	10.8	9.9	11.7	11.4
14. Employment in Services / total employment	58.1	57.1	57.8	61.3	62.0	61.3
15. Employment in Industry / total employment	32.3	30.4	29.9	27.8	28.4	29.0
16. Employment in Agriculture / total employment	9.6	12.5	12.3	11.0	9.7	9.7
17. Activity rate / population aged 15–64	61.5	62.9	64.4	63.0	63.1	62.5
18. Activity rate / population aged 15–24	40.7	42.4	41.6	39.0	33.6	31.7
19. Activity rate / population aged 25–54	82.6	82.5	83.7	83.7	84.7	84.2
20. Activity rate / population aged 55–64	13.2	16.8	19.7	15.1	14.8	15.0
21. Total unemployment (000)	29.0	30.9	33.8	33.0	31.4	26.7
22. Unemployment rate / labour force aged 15+	6.6	7.0	7.5	7.5	7.1	6.0
23. Unemployment rate / labour force aged 15–24	16.5	19.1	18.2	19.8	18.5	16.6
24. Long term unemployment rate / labour force	3.2	3.4	3.5	2.8	4.3	3.8
25. Youth unemployment ratio / population aged 15–24	6.7	8.1	7.6	7.7	6.2	5.3
Male						
1. Total population (000)	964.7	969.1	966.7	964.3	970.5	972.5
2. Population aged 15–64	691.6	698.4	699.1	698.4	704	708.2
3. Total employment (000) — 15 years and more	464.5	480	486.1	480.1	481.1	497.1
4. Population in employment aged 15–64	456.7	468.7	471.8	466.8	469.7	484.9
5. Annual change in employment	.	.	.	.	.	.
6. Employment rate — Population aged 15–64	66.0	67.1	67.5	66.8	66.7	68.5
7. Employment rate — Population aged 15–24	37.1	42.6	38.4	34.7	34.7	34.1
8. Employment rate — Population aged 25–54	85.4	84.3	85.7	85.6	85.5	87.5
9. Employment rate — Population aged 55–64	28.1	29.8	32.8	32.2	31.0	33.0
10. FTE employment rate	65.5	65.8	66.2	65.5	66.1	67.9
11. Self-employed (/total employment)	16.9	15.8	16.7	16.6	15.3	15.9
12. Part-time employment / total employment	5.2	6.7	6.7	5.6	4.7	5.0
13. Fixed-term contracts / total employment	6.2	10.8	7.9	7.9	10.1	10.3
14. Employment in Services / total employment	38.8	39.0	40.3	42.9	44.8	43.1
15. Employment in Industry / total employment	50.4	49.2	47.8	46.4	45.7	46.8
16. Employment in Agriculture / total employment	10.7	11.8	11.9	10.7	9.5	10.1
17. Activity rate / population aged 15–64	71.1	71.8	73.0	72.2	71.7	72.5
18. Activity rate / population aged 15–24	44.6	49.6	46.3	41.9	40.7	40.1
19. Activity rate / population aged 25–54	90.6	89	91.4	91.2	90.7	91.4
20. Activity rate / population aged 55–64	29.1	31.0	33.7	33.9	33.5	34.8
21. Total unemployment (000)	35.7	32.7	38.4	37.2	35.1	28.4
22. Unemployment rate / labour force aged 15+	7.1	6.4	7.3	7.2	6.8	5.4
23. Unemployment rate / labour force aged 15–24	16.7	14.1	17.0	17.2	14.8	15.0
24. Long term unemployment rate / labour force	3.7	3.5	3.3	3.3	4.4	3.5
25. Youth unemployment ratio / population aged 15–24	7.4	7.0	7.9	7.2	6.0	6.0

Source: Eurostat

Data sources

Most of the data used in this report originates from Eurostat, the Statistical Office of the European Communities. The main data sources used are:
- the European Community Labour force survey (LFS)
- the Eurostat quarterly labour force data (QLFD) series
- the European Community household panel (ECHP)
- the Eurostat harmonised series on unemployment
- the Continuing Vocational Survey (CVTS)
- the Annual Macroeconomic Database (AMECO)

The European Community Labour Force Survey (LFS) is the EU's harmonised survey on labour market developments. The survey has been carried out since 1983 in the EU Members States. Some Member States provide quarterly results from a continuous labour force survey, others conduct a single annual survey in the spring. If not mentioned otherwise, results based on the LFS refer to surveys conducted in the spring ("second quarter") of each year.

The Quarterly Labour Force Data (QLFD) series is a harmonised series of quarterly employment statistics based on LFS and on national sources where applicable. It covers all EU Member States for the period of 1991 to present. All key employment indicators except the full-time equivalent employment rate, the unemployment rates and the youth unemployment ratio are based on the QLFD series. They present yearly averages if not stated otherwise. Where the QLFD series does not provide the relevant breakdowns the original LFS data were used in this report.

The QLFD consist of two sets of quarterly series: 1) population, employment and unemployment by sex and age, mainly based on the community LFS results, and 2) employment by economic activity and employment status (mainly based on the ESA-1995 national accounts employment data), further broken down by sex and by some job characteristics.

1) Population, employment and unemployment by sex and age

The community LFS results (provided by the National Statistical Offices in accordance with Council Regulation n° 577/1998) are made consistent over time (to eliminate breaks in the series) and completed (by estimates based on national employment data or on other sources) when quarterly community LFS results are not available. Data include the population living in private households only (collective households are excluded) and refer to the place of residence (national concept). They are provided by aggregate age-group breakdowns (15–24, 25–54, 55–64, 15–64). For Bulgaria, Lithuania and Poland, total population excludes those aged below 15 due to the lack of data in the LFS. In 1997, population and employment data for Estonia refer to the age group 15–75.

The employment data by sex and age are further broken down by civilian employment and armed forces. The unemployment data by sex and age are further broken down by job search duration (less than 6 months, 6–11, 12–23, 24 or more)

2) Employment by economic activity and employment status

The ESA-1995 employment data (provided by the National Statistical Offices in accordance with Council Regulation n° 2223/1996) are available by NACE, rev.1-A6 and by employment status (employees/self-employed persons). They are made consistent over time where necessary and completed (by estimates based on LFS results or national employment data sources) when quarterly ESA-1995 data are not available. Data cover all people employed in resident producer units (domestic concept), including persons living in collective households. They are further broken down by sex, full-time/part-time, permanent/temporary contracts (using a top-down approach with LFS or other national data).

The European Community Household Panel (ECHP) is an annual longitudal survey of a representative panel of households launched in 1994, covering living conditions, employment status, health, education and income. Data were available for the first three waves of the panel (1994–1997) at the time of publication of this report. The survey is based on a harmonised questionnaire from Eurostat and subsequently adapted by national agencies. Data are accessible to the public by means of the ECHP user database. Results on quality in work and on transitions between labour market states or job characteristics are based on this database.

For the unemployment related indicators, the main source is the Eurostat Harmonised series on unemployment. This is a data set on unemployment collected by Eurostat comprising of yearly averages, quarterly and monthly data. It is based on LFS and register data on unemployment from national sources. Monthly data from national surveys or from registers of the public employment services are used to extrapolate the LFS data and to compile monthly unemployment estimates. This data set does not cover skills and long term unemployment for the analysis of which the LFS was used instead.

The Continuing Vocational Training Survey (CVTS) is an enterprise survey which was carried out for the first time in 1994 in the then twelve Member States of the European Union. The second survey on continuing vocational training (CVTS2) was conducted in 2000/2001 in all Member States, nine candidate countries and Norway. The surveys cover information on employer-provided — internal and external — training measures which have as their primary objectives the acquisition of new competencies or the development and improvement of existing ones.

Macroeconomic indicators are obtained from the Economic and Financial Affairs DG Annual Macroeconomic Database (AMECO) and are based on ESA 95 national accounts. The database comprises *inter alia* information on GDP, productivity, real unit labour costs and employment growth. The data is collected by Eurostat from the Member States' National Statistical Offices. Besides regular weekly updates this database is revised twice a year in the framework of the Commission's Spring and Autumn Economic Forecasts.

Definitions and Data Sources of Macroeconomic Indicators

Sources: AMECO and national accounts (ESA 95)
1. Real GDP, Gross Domestic Product at 1995 market prices, annual change
2. Occupied population, Occupied population total economy, annual change
3. Labour productivity, GDP at 1995 market prices per person employed.
4. Annual average hours worked
5. Productivity per hours worked, Gross domestic product per hours worked, annual change
6. Harmonised CPI, Harmonised consumer price index, annual change
7. Price deflator GDP, Price deflator Gross domestic product at market prices, annual change
8. Nominal compensation per employee total economy, annual change
9. Real compensation per employee deflator Gross domestic product, total economy, annual change
10. Real compensation per employee total economy (private consumption deflator), annual change
11. NULC, Nominal unit labour costs total economy, annual change.
12. RULC, Real unit labour costs total economy, annual change

Definitions and Data Sources of Key Employment Indicators

Sources: QLFD, LFS, Eurostat harmonised series on unemployment
1. Total population in the unit of 000s (source: Eurostat QLFD)
2. Total Population aged 15–64 in 000s (source: Eurostat QLFD)
3. Total Employment in 000s (source: Eurostat QLFD)
4. Population in employment aged 15-64 in 000s (source: Eurostat QLFD)
5-8. Employment rate, Employed divided by population in the corresponding age bracket (source: Eurostat QLFD)
9. Full-time equivalent employment rates.
   The full-time equivalent employment rate is calculated by dividing the full-time equivalent employment by the total population in the 15–64 age-group. Full-time equivalent employment is defined as total hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory (European System of Accounts 1995). The data for making this calculation is obtained from the LFS which contains information on the hours worked in a person's main employment (first job) and also, for persons with more than one job, those worked in a second job. To obtain the total number of hours worked, the hours worked the second job were added to those worked in the first job.
10. Self-employed in total employment, Number of self-employed as the share of total employment (source: Eurostat QLFD)
11. Part-time employment in total employment, Number of part-time employed as a share of total employment (source: Eurostat QLFD)
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