Employment in Europe 2005
Recent Trends and Prospects

Employment & social affairs

Employment & European Social Fund

European Commission
Directorate-General for Employment, Social Affairs and Equal Opportunities
Unit A.1

Manuscript completed in September 2005

If you are interested in receiving the electronic newsletter "Esmail" from the European Commission's Directorate-General for Employment, Social Affairs and Equal Opportunities, please send an e-mail to empl-esmail@cec.eu.int. The newsletter is published on a regular basis in English, French and German.

Acknowledgements

This report was produced by DG Employment, Social Affairs and Equal Opportunities in close collaboration with Eurostat.

Comments from other services of the Commission are gratefully acknowledged. The provision of additional information by the National Statistical Offices, various labour market research institutes, ILO, OECD and Bureau of Labor Statistics (USA) is also gratefully acknowledged.

Comments would be gratefully received and should be sent to:

Unit A1
DG Employment, Social Affairs and Equal Opportunities
European Commission
B-1049 Brussels
empl-a1-unit@cec.eu.int

Note

The report is based on data available as of July 2005. More recent data, and subsequent data revisions, are available on request from Eurostat. For further information on employment analysis, previous Employment in Europe reports, other activities, conferences and events, and for direct access to the data and charts of this report, please visit our website:
http://europa.eu.int/comm/employment_social/employment_analysis/index_en.htm

Editing, layout and proof-reading: Commission services and GOPA-Cartermill S.A.

Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 2005

ISBN 92-894-9916-8

Printed in Belgium

PRINTED ON WHITE CHLORINE-FREE PAPER

Foreword by the Commissioner

The seventeenth edition of *Employment in Europe* appears at a challenging moment. In the international context of rapid economic growth in much of the developing world and sustained economic growth in the US, the EU seems to be mired in economic difficulties. This is why, at their 2005 Spring summit, Heads of State and Government have put employment and growth as the two main objectives of the renewed Lisbon strategy, in order to raise the living standards and the quality of life of EU citizens. As set out by the new Integrated Guidelines for Growth and Jobs (2005-2008), the Strategy implies raising growth performance of the EU on a sustainable basis and striving for full employment, improved quality and productivity at work, and greater social and territorial cohesion. Indeed, linking economic and social progress is at the heart of the European Social Model.

Creating more and better jobs largely depends on a subtle balance between the macro-economic policy mix, micro-economic reforms and effective employment and social policies. First, an appropriate macro-economic policy framework is important to reassure consumers and entrepreneurs and help maintain or restore high levels of demand. Second, reform of product markets and achieving a fully integrated economic area would bolster economic activity and thus trigger employment creation. Third, effective employment and social policies are crucial elements to attract and retain more people in employment, to improve the adaptability of workers and enterprises in the context of rapid economic change, and to increase investment in human capital through better education and skills. Action is all the more necessary in the EU in the context of current demographic trends, as the working age population will gradually diminish. These issues will feature prominently in the National Reform Programmes which Member States will adopt this autumn.

Against this background, the current report sees encouraging signs of global economic recovery which should spill over and benefit Europe, if Europe actively enacts further reforms and does not simply wait for growth to appear. The benefits from such structural reforms, which have already translated into structural improvements in the past few years, should not be jeopardised by inaction. Five issues developed in detail are politically prominent.

- The findings confirm that macro-economic, micro-economic and employment policies go hand in hand to deliver more and better jobs.
- Overall, positive employment prospects depend on the economic cycle and on improvements in domestic demand, especially in some larger countries in the EU.
- Particular concerns remain regarding the unemployment situation of young people; this is in large part why the European Council recently adopted the Youth Pact.
- In the face of an ageing and declining workforce, Europe still has a large potential labour reserve to draw upon; this should receive urgent priority.
- Attention must be paid to social inclusion and cohesion, preventing exclusion from the labour market and reducing regional disparities in terms of employment, unemployment and earnings, as there are worrying signs that the recent economic slowdown may have affected Europe's record in this regard.

Employment in Europe is an important part of the Commission's analytical work and I sincerely hope that the findings of this year's report will contribute to a better understanding of Europe's main employment challenges and serve the renewed endeavour of the Lisbon Strategy. Growth and jobs are at the core of our citizens' concerns: Europe must succeed.

Vladimir Špidla.

Table of contents

Executive summary

Continued slow employment response in 2004 to the pick-up in economic activity in Europe

Despite the pick up in economic activity …

After gathering momentum in the first half of 2004, economic activity in the EU25 decelerated in the second half of the year, reflecting in part the impact of the sharp rise in oil prices and the strength of the euro. Nevertheless, economic growth in the EU averaged 2.4% for the year as a whole (1.1% in 2003), supported by strong world GDP and trade growth.

… employment growth in the EU was again limited in 2004, while the unemployment rate remained unchanged.

Employment growth in the EU was again quite limited at 0.6% in 2004, slightly up on the previous year's level of 0.3%, and has now been low for three years in a row. This compares with employment growth of 1.1% in the US, where growth resumed in 2004 following two years of "jobless recovery". As a result the average employment rate for the EU increased by 0.4 of a percentage point to reach a level of 63.3%, an improvement on the years 2002 and 2003 when total employment rates hardly rose at all. The rise in the total employment rate was again driven by the ongoing increase in the employment rate for women (+0.7 of a percentage point on average in the EU). It also reflects continued strong rises for older people (aged 55-64) for whom the employment rate rose by 0.8 of a percentage point. Unemployment remained unchanged compared to 2003, although the long-term unemployment rate increased slightly to 4.1% (4.0% in 2003).

Recent progress towards the Lisbon and Stockholm objectives has been limited as a result….

The weak labour market performance in Europe over recent years is an important element in explaining the slow progress towards the Lisbon and Stockholm objectives. The overall employment rate remains 7 percentage points below the employment rate target for 2010, while the female and older people's employment rates are around 4 and 9 percentage points below their respective 2010 targets. In 2004, the rates were 63.3%, 55.7%, and 41.0%, respectively. It should be noted that the 2004 female employment rates and in particular the 2004 overall employment rates remain far away from the intermediate employment targets (for 2005). In response to the mixed results achieved so far and the increasing challenge to meet the 2010 objectives the European Council recently agreed to revise the Lisbon Strategy and re-focus its priorities on economic growth and employment. As part of this, a first set of 'Integrated Guidelines' has been adopted by the Council with the main aim to spur growth and job creation.

…although across Member States, overall employment performance in 2004 was generally positive, with negative growth in only a few countries.

Although employment growth has been limited at EU level, it has been positive for the majority of Member States. Only four experienced negative annual growth, most notably the Netherlands where employment contracted by 1.3%. In contrast, seven Member States achieved positive employment growth of over 1%, with particularly strong growth in Cyprus, Greece, Ireland, Luxembourg and Spain. In Germany annual employment growth turned positive in 2004 following negative average growth in the previous two years, possibly already reflecting institutional changes in the context of the Hartz labour market reforms, while the decline in employment experienced in 2002 and 2003 in Poland also showed signs of coming to an end in 2004.

The services sector continues to drive employment expansion,….

Between 2003 and 2004 employment growth in the EU was again driven by the continued expansion of employment in the services sector. Over 2004 growth in this sector remained stable at just above the 1% level, an improvement on the

rates of the previous year. In contrast, employment in both the agriculture and industry sectors continued to contract in 2004, although the recent trend suggests the contraction in the industry sector may be coming to an end, at least temporarily.

….. while there are continuing rises in the employment shares of more flexible types of employment

The share of more flexible types of employment in total employment, such as part-time and fixed-term employment, continues to rise. In contrast, the share of self-employment has remained broadly stable since 2000.

The employment situation for older people keeps on improving in most Member States …

At EU level older people aged 55-64 have seen employment rates rise markedly since 2000, with an overall increase of 4.4 percentage points for this age group, and account for the majority of the increase in total employment between 2000 and 2004. The improvement in the employment rate of older workers since 2000 has been a general feature across almost all Member States, and suggests that policies to improve the participation of older people, and especially reforms of pension systems and early retirement schemes, may be taking effect in the labour market. Nevertheless, despite the recent improvement, efforts need to be stepped up if the 2010 target of an employment rate of 50% for those aged 55-64 is to be reached.

… but concerns remain for the employment situation of youth.

In contrast to the positive developments for older people, the large majority of Member States have experienced deterioration in the labour market situation for the youth population in recent years. At 18.7%, youth unemployment in the EU is still around twice as high as the overall unemployment rate. At EU level, for young people aged 15-24 increases in the employment rate over the late 1990s have been replaced by declines from 2002 onwards, with developments more severe for young men than young women. However, the decline was much more moderate in 2004. This evolution in employment rates reflects the general development in youth activity in Europe, namely a decline in labour market participation which coincides with recent trends for young people to remain longer in education and training. Greater efforts are needed to integrate young people into the labour market and to support them as they pursue "non-linear" careers alternating between employment, study, unemployment and retraining or the updating of skills. It is with this in mind that the European Council recently adopted a European Youth Pact to enable young people to benefit from a set of policies and measures fully integrated in the revised Lisbon Strategy.

Positive employment prospects for 2005 and 2006 are dependent on improving growth prospects.

The employment prospects for 2005 and 2006 are positive overall, with the employment situation expected to improve in line with the general pick-up in economic activity. However, these positive prospects remain dependent on improving business confidence and on rising economic growth. Further, the expected more positive development in employment does not reduce the need to implement further structural reforms in labour markets.

Taking stock of the European Employment Strategy: the evidence behind improved performances of EU labour markets

Evaluation has been at the core of the EES since 1997.

The European Employment Strategy (EES) was launched in 1997 with a view to making decisive progress in the fight against unemployment within five years. A 'mid-term review' was carried out in 2000 to provide a first assessment of the effectiveness of the new approach. At the end of the first five years, it was decided to launch a full-scale impact evaluation. The results of this impact evaluation

published in 2002 served as a basis for the debate on the future of the EES. As part of the revision of the Lisbon Strategy in 2005, several evaluation activities were carried out at EU level, including an exercise to take stock of the EES, the findings of which are summarised below.

Overall progress is heavily dependent on the economic cycle …

Economic growth in the EU nearly halved from close to 3% per year in the period 1998-2000 (the value implicitly assumed at the time the Lisbon targets were established) to the average value registered in the period 2001-2004. Given the close relation between economic growth and labour market performance, this slowdown in economic growth had a significant negative impact on employment creation.

… with the weakness of domestic demand in some Member States being a concern.

Although in the EU15 GDP growth was similar during the cyclical downturns of 1992-1994 and 2001-2003, an analysis of individual Member States shows different labour market performance during these periods. Germany, the Netherlands, and Poland, for instance, displayed a weaker labour market performance in the 2001-2003 economic slowdown than during that of 1992-1994, partly because of the weakness or stagnation of domestic demand.

Progress towards full employment was significant in the early years of the Strategy at EU level thanks to structural reforms …

Structural improvements have occurred since 1997 at the EU level thanks to reforms in a number of areas, such as competition policy and labour markets. These improvements are reflected in a number of features: lower structural rates of unemployment on average, despite the marked deterioration in some new Member States; lower long-term unemployment rates and shorter average spells in unemployment; increased efficiency in matching between the unemployed and unfilled vacancies; a rise in aggregate labour demand; a wage formation process that takes better account of prevailing conditions in the economy and competitiveness constraints, thus raising the employment content of growth; a positive effect of atypical labour contracts, such as part-time and fixed-term employment, although as regards the latter there is some evidence of market segmentation; and an increase in expenditure on labour market policies and on training which are better targeted to the labour market needs with positive results on job creation.

... but problems remain in a number of areas.

Despite structural progress unemployment remains high and problems remain in a number of areas, such as tax wedges on labour costs or the unemployment and low-wage traps. Little progress has been achieved in lowering marginal effective tax rates on low-wages or on facilitating the transition from unemployment or inactivity to employment, especially for low-skilled people.

Progress in terms of quality and productivity at work is mixed.

Moreover, progress in terms of quality and productivity at work is mixed. There has been some progress in rising participation in lifelong learning, while youth education attainment levels continue to rise, despite the emergence of a gender gap favourable to women. Nevertheless, further progress is necessary as regards both the transitions from temporary to permanent jobs and out of low-paid jobs. In addition since the mid 1990s, there has been a relative decline in hourly labour productivity growth in the EU when compared to the US. This relative decline may be partly explained by a higher rate of job creation, involving a high proportion of low-productivity jobs and, especially, a slowdown in total factor productivity growth. The latter has been associated with the following factors: low investment in R&D; the difficulty in the EU of reorienting outlays towards those sectors with high productivity growth prospects; and the difficulty in producing and absorbing new, more knowledge-based technologies. In order to fully benefit from ICTs, EU-based firms, especially in the services sector, have, in partic-

ular, to be more adaptable to the changing competitive environment by introducing new work practices while investing in ICTs.

There may have been some progress towards greater social cohesion …

Some signs of improvement towards greater social cohesion have been registered. In particular, labour market gaps related to gender and age have been somewhat reduced. Moreover, moving from unemployment into employment lowers considerably the likelihood of being exposed to the risk of poverty. Employment is a key factor for social inclusion, not only because it raises income but also because it can promote social inclusion per se and personal advancement in a professional career.

… but the recent economic slowdown can negatively impact on social cohesion.

For instance, there is the risk that the 2001-2003 economic slowdown, accompanied by rising unemployment and fewer job opportunities, has put more people at risk of poverty and social exclusion and worsened the position of those who are already affected. The challenge is even greater in many of the new Member States, where economic restructuring requires appropriate social policies to limit the number of people at risk of poverty.

Earnings inequalities in the EU labour market: between efficiency and equity

The level and dynamics of earnings matter for productivity, the quality of jobs and social cohesion.

The distribution and growth of earnings are at the heart of concerns about efficiency and equity. Finding the right balance between these two objectives is central to societal/political choices, particularly as regards solving the possible dilemma between social cohesion and growth objectives. Many economic factors can influence this potential dilemma. As an example, the distribution of earnings reflects individual characteristics of workers (e.g. skills, gender, age), firms' specificities (e.g. size, activity), and institutional features (e.g. bargaining schemes, type of contract).

Overall there is no sign of increasing earnings inequality in Europe.

Overall there is no sign of an increase in earnings inequality in Europe since the 1970s. Yet there are marked country differences. Some countries such as the UK, Poland and Denmark have shown increasing earnings inequalities in the nineties, while others such as France and Sweden, display the opposite trend. Moreover there is no clear-cut relationship between the level and dynamics of earnings inequalities on the one hand and labour market and economic performance on the other hand. Nevertheless, the Scandinavian countries, which have the lowest degree of earnings inequality, are at the same time countries with good economic and labour market performance.

Earnings disparities are wide both within Member States and across regions.

Earnings disparities in old Member States are between two to four times larger than in new Member States. In 2002 these earnings disparities were also substantial within Member States, in particular in Estonia, Latvia, Lithuania, Poland and Slovenia. Regions driven by innovation and rich infrastructure connected to networks feature wider earnings disparities (e.g. Ile de France, North-Western Italy) than rural and traditional industrial areas. It also appears that certain specific groups are subject to higher degrees of earnings inequality than others, such as women (in Germany for instance), but also young men and women aged 20 to 29 across the EU.

Some services pay more than industries.

Across the EU, some services pay more than industry, yet industrial hourly wages are still comparatively high in Denmark, Germany, and the UK and rela-

tively low in Latvia and Lithuania. Among services, high-skilled activities, especially financial intermediation, pay much more than low-skilled activities (such as working in the hotels and restaurants sector). Within services and industry, the premium can vary widely: it is positive for financial intermediation and mining and quarrying whilst it is negative for hotels and restaurants and construction, for example.

Firm characteristics have a substantial impact on earnings.

Company size has a positive impact on individual earnings and notably company-specific reward schemes, such as bonuses, amount to on average 8.4% of annual earnings in the EU. Firms that introduce new methods of work organisation leading to more flexible practices tend to have a higher dispersion of salaries than others, because new work practices favour high-skilled and adaptable workers compared to low-skilled workers. Moreover, technical change and human capital are complementary. The more firms are involved in R&D activity, the more they need highly skilled and educated workers, and the more wage inequality may be exacerbated.

Individual characteristics such as skills and occupation are a major determinant of earnings…

Being a high-skilled worker brings a high earnings premium (i.e. returns to education are unambiguously positive), as well as working in top high- skilled occupations, pointing at the importance of human capital for employment and career prospects. Seniority, being a non-manual worker, and working in industrial sectors also leads to higher rewards in the case of men.

… but gender also remains a major factor.

Controlling for other characteristics (among which occupations play an important part in the persistent gender gap), gender accounts on average for a gap of slightly over 17% in earnings between male and female employees in the private sector.

Institutions affect unequally the distribution of earnings in most countries.

Workers having fixed-term or part-time contracts as well as apprentices earn less on average. The rate of coverage of collective bargaining and the existence of extension laws seems to reduce earnings dispersion and in general, labour market institutions have a dampening effect on earnings inequality, which points to a deliberate social choice of Europeans for more equality.

Tapping Europe's potential - Inactive people: permanently out of the labour force or potential labour supply?

The EU as a whole underutilises its labour force potential, and inactivity remains high in most Member States.

In 2004 the economically inactive population of working age (15-64) in the EU25, i.e. those that are neither working nor actively seeking and immediately available for work, amounted to some 92 million people, corresponding to an average inactivity rate of over 30%. The rate of inactivity varied quite markedly across Member States, ranging from a low of 19.9% in Denmark to a high of 39.5% in Hungary and 41.7% in Malta.

Inactivity is higher among women, the young, older workers and the low-skilled …

In the EU, inactivity is around 16 percentage points lower for men than for women. The inactive population aged 15-64 is distributed evenly with one third in each of the three main age segments - youth, prime-age and older people, despite the fact that the prime age group is the largest one. Inactivity rates are over 47% for the low-skilled against just over 13% for the high-skilled.

… but while the incidence of inactivity is higher among the low-

Just over 50% of the inactive population in the EU is low-skilled, and this percentage is as low as 33% in Luxembourg and the UK. If inactivity is to be

skilled, they often constitute less than 50% of the inactive population.

reduced substantially, it is also important to consider the problems of all skill groups including the higher skill groups: not only is it necessary to have an adequate level of skills per se, but it is equally important that these skills correspond to the changing requirements of the labour market.

The reasons why these people are inactive should be taken into account.

The main reason for inactivity is participation in education and training, corresponding to around a third of the inactive population, but once we exclude the younger age group (15-24), this percentage drops dramatically to 4.7%. The fact that over 85% of the young are inactive because of education or training means that for the majority of them inactivity is not necessarily a concern for the policy maker. The second most important reason for inactivity is retirement, at around 20% of the inactive population, while family or personal responsibilities comes third at approximately 16%. Finally, illness or disability accounts for around 13% of the inactive population while a further 4.5% are not looking for work because they believe that there is none available. However, there are important differences by age and gender, between countries and over time: in particular, in the past ten years, the proportion of women that are inactive because of personal or family responsibilities has decreased by almost 13 percentage points. This may be due to better public care facilities, higher income so that more people can afford private care facilities, more extensive parental leave, lower fertility rate or changes in social or cultural norms.

There has generally been a gradual long-term decline in the inactivity rates since the mid-1980s, especially for certain groups …

The decline in the inactive population in the EU over recent years has been driven by two main trends; the entry into the labour market of increasing numbers of women aged over 25 and the entry or staying longer of older people (aged 55-64) of both sexes. In contrast, men of prime working age have shown signs of a limited withdrawal from the labour market, while youth of both sexes have seen a more significant change with inactivity rates rising by around 1.5 percentage points in the period 2000 to 2004.

… which is accompanied at any point in time by relatively large flows into and out of inactivity.

Between 2003 and 2004 around 9.5% of the inactive population moved into employment, while a further 4% entered the labour force as unemployed. At the same time, 3% of the employed and almost 22% of the unemployed withdrew from the labour force. In the present circumstances, the main reason why the unemployed leave the labour market is because they stop searching for a job since they believe there is none available (5.6% become discouraged against 3.1% who leave the labour market because of illness or disability and 1% who retire). Therefore withdrawal of unemployed people from the labour market in the short-term is not primarily linked to institutional factors, such as the design of the benefit system or early retirement schemes, but to the functioning of the labour market, either because of imperfect information or lack of demand.

Being inactive is a broad and partly misleading concept.

Between "unemployment" – whereby someone without a job has been actively looking for work in the four weeks prior to the survey and is willing and available to work in the following two weeks - and "inactivity", whereby the individual is out of the labour force, lies a "grey" area, which is also classified as "inactivity", with varying degrees of labour market attachment. As an example, in 2004 more than 8% of the inactive population in the EU was registered at a Public Employment Office (PEO) and 14% of the inactive population (23% for those aged 25-54) were willing to work. Furthermore, around 37% of the inactive population receives some education and training, although this percentage declines with age, while the proportion of those attending training not leading to a formal qualification increases with age.

The heterogeneity of the inactive population is a major challenge for policy-making.

Several categories of the inactive have tendencies to work that equal those of the unemployed. Potential labour supply extends far beyond the unemployed, as traditionally defined, and it is also constituted by a sizeable part of the inactive population. Effective targeting is crucial in order to support their labour market participation: demographic characteristics, reasons of inactivity, work experience, skill levels and individual preferences for work are all key aspects that should be taken into account. This calls for a personalised approach and support.

Policies aimed at activating inactive people should take into account for how long they have been out of the labour force …

Over 40% of the inactive population of working age (15-64 year old) have never been in employment. A further 23% has been without a job for the previous 8 years and only around 15% of the inactive population were without a job for less than 2 years.

…and should also take into account demand-side problems.

Reducing inactivity does not mean dealing with supply-side constraints only, such as high reservation wages, low skills or disadvantageous individual characteristics. Inactivity tends to be strongly correlated with unemployment and an effective response to the need for mobilising the workforce more than is currently the case should therefore be characterised by a comprehensive set of policies that combines Active Labour Market Policies (ALMPs) with other measures aimed at supporting job creation and opportunities.

Conclusions: putting growth and jobs at the core of the renewed Lisbon Strategy

The EU and its Member States must step up their efforts to create more and better jobs ….

Despite evidence of progress over the years, the EU still has a large gap to bridge to reach full employment, improve quality and productivity at work and strengthen social and territorial cohesion. The re-launch of the Lisbon Strategy in 2005 is meant to strengthen momentum of action at national and EU level, by putting a greater focus on growth and jobs, and setting three priorities of action for employment policies: attracting and retaining more people in employment, improving the adaptability of workers and enterprises and investing more in human capital.

… by linking employment-friendly macro-economic management and the pursuit of structural reforms.

The findings of this year's Employment in Europe confirm that macro-economic, micro-economic and employment policies go hand-in-hand for delivering more and better jobs. A growth- and employment-friendly macro-economic environment, as sought for in the framework of the Integrated Guidelines, is crucial for Europe to grow and deliver employment and greater social cohesion, as well as to initiate and sustain structural reforms. At the same time, Europe should not just wait for growth to appear; structural reforms played an important role in the past and further reforms are needed in order to raise Europe's economic and employment potential. Synergies between employment policies and reforms in the service, product and capital markets should be fully exploited.

The experience of European Employment Strategy will serve the renewed Lisbon Agenda.

The European Employment Strategy, backed up by the European Social Fund, is a central pillar of the revised Lisbon Agenda in order to strengthen employment performances and improve policy-making and delivery, including through better governance and mutual learning. While stressing the prime responsibility of Member States in economic and employment policies, the Council has adopted a first set of integrated guidelines with the main aim to spur growth and job creation. Based on the National Reform Programmes established by the Member States in Autumn 2005 and the Community Lisbon programme, the Commission will present its first Annual Progress Report in January 2006.

Chapter 1

Panorama of the European labour markets

1. Introduction

This chapter provides a detailed overview of recent developments in the European labour market and compares them with developments for certain other economic partners, in particular the US and Japan. The chapter begins with a review of recent labour market performance, examining the current labour market situation and trends in the recently enlarged EU in a global perspective, and reports on the short-term prospects for the EU labour market in the coming years. It then focuses in more detail on the latest developments in activity, employment and unemployment rates across the individual Member States. This is followed by an overview of recent employment trends according to type of employment, an examination of self-employment in Europe in 2004, and an update on recent labour market developments for the older and younger elements of the working age population. Further issues reviewed include recent sectoral employment trends, as well as a brief overview of the latest labour market trends in the remaining Acceding and Candidate Countries for EU membership. The findings reported in this chapter are based on data available up to mid-June 2005[1], while many of the tables and charts include data for the EU-15 aggregate to provide a longer-term historical perspective.

2. Recent labour market performance

2.1. EU labour market performance in 2004 in a global perspective

After gathering momentum in the first half of 2004, economic activity in the EU decelerated in the second half of the year, reflecting in part the impact of the sharp rise in oil prices and the strength of the euro. Nevertheless, economic growth in the EU averaged 2.4% for the year as a whole supported by strong global growth and trade, an improvement on the previous year's rate of just 1.1% (Table 1).

World GDP growth reached a level of 5% in 2004, the fastest pace since the 1970s, with particularly strong growth in certain emerging economies such as China (9.5%), India (6.7%) and Brazil (5.2%). In the US, economic activity remained strong, with GDP growth of 4.4%, up from 3.1% in the previous year, although the high current account deficit and general government deficit cast doubt over the sustainability of this rate of economic expansion. In Japan the economy experienced a recession in the second and third quarters of 2004, but strong first quarter performance and a rebound in the last quarter meant that annual growth reached 2.7% for the year as a whole, up from 1.4% the year before.

Table 1 – International comparison of key indicators (2004)

	EU-25	EU-15	US	JP
Population (millions)	457	383	293	128
GDP (in 1 000 million PPS, current prices)	10 213	9 316	10 164	3 210
GDP Growth, at constant prices (annual % change)	2.4	2.3	4.4	2.7
Employment Rate (as % of working age population)	63.3	64.7	71.2	68.7
Employment Growth (annual % change)	0.6	0.7	1.1	0.2
Unemployment Rate (as % of civilian labour force)	9.0	8.1	5.5	4.8

Source: GDP and employment growth from Commission's Spring 2005 Economic Forecasts and QLFD, Eurostat. GDP in PPS from AMECO database, Commission Services. Employment rate from QLFD, Eurostat and OECD data for US and Japan. Unemployment rate from the harmonised unemployment series, Eurostat. Population from demographic statistics, Eurostat.
Note: Employment rates for the EU and Japan refer to persons aged 15-64; US employment rate refers to persons aged 16 to 64.

1 The figures in this chapter are based on the data available up to mid-June 2005 and generally include data for the years up until 2004. Where "LFS" is mentioned as the data source this refers to the spring results from the Labour Force Survey unless otherwise stated. Where "QLFD" is mentioned, this should be understood to mean either annual averages from national accounts or annual averages of quarterly data from the Labour Force Survey, depending on the specific variable in question. Due to the transition to a quarterly survey, data for missing quarters for the LFS are estimated by Eurostat until 2003. For further details on the data and the sources used, see the statistical annexes.

In 2004, employment in the EU continued to respond slowly to the economic upturn that followed the slowdown from mid-2000 to mid-2003. Employment growth was once again quite limited at 0.6%, although slightly up from the previous year's level of 0.3%, and has now been low (around the 0.5% mark or below) for three years in a row (Chart 1). As a result the employment rate in the EU edged up to 63.3% in 2004 (Chart 2), while unemployment, at 9.0%, remained unchanged compared to 2003.

In the US employment growth resumed in 2004, following two years of "jobless recovery", and averaged 1.1% after zero growth in 2003. It nevertheless remains well below the normal increase associated with the third year of an economic recovery and considerably down on the levels observed in the late 1990s and 2000. The unemployment rate fell to 5.5%, down from 6.0% in 2003. Meanwhile, in Japan employment growth also resumed but at a much more moderate pace, climbing to 0.2% in 2004 following a contraction of 0.3% in 2003. Nevertheless, this was the first time since 1997 that Japan has reported positive employment growth. Reflecting this positive development, the employment rate rose to 68.7%, while unemployment dropped from 5.3% to 4.8%.

2.2. General labour market developments in the EU over recent years

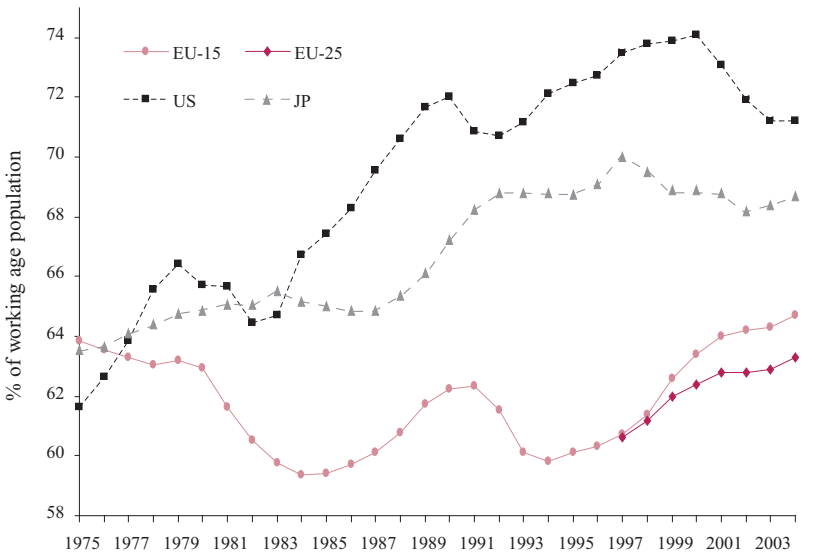
2.2.1. Employment growth across Member States

While employment growth for the EU as a whole was again rather limited in 2004, as employment continued to respond slowly to the economic upturn, underlying this overall trend quite broad variations can be observed between individual Member States (Table 2).

Chart 1 – Employment growth rates in the EU, US and Japan, 1997-2004

Source: EU data from QLFD, Eurostat; US and Japan data from AMECO database, Commission Services.

Chart 2 – Employment rates in the EU, US and Japan, 1975-2004



Source: DG EMPL calculation based on long-term trends in employment and population, Commission Services.

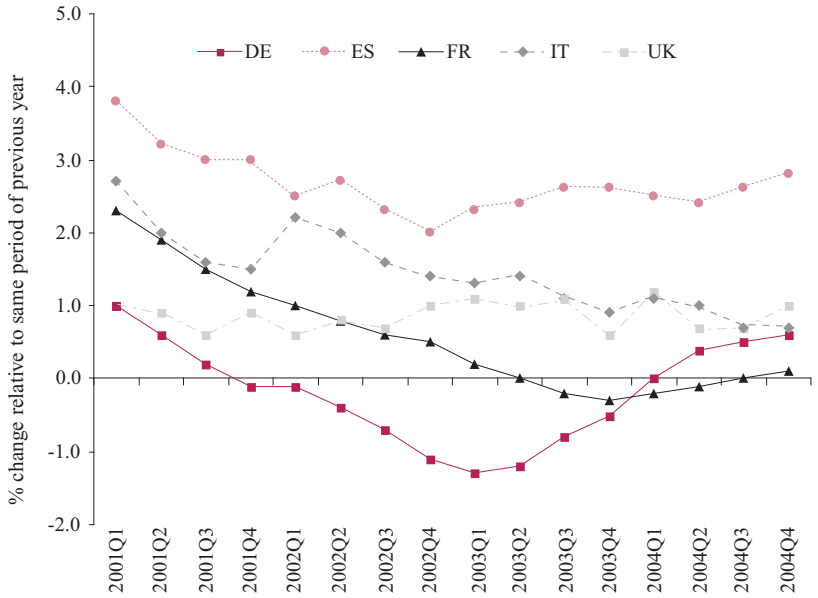
Table 2 – Annual change in employment growth, by quarter, from 2001 to 2004

	2001Q1	2001Q2	2001Q3	2001Q4	2002Q1	2002Q2	2002Q3	2002Q4	2003Q1	2003Q2	2003Q3	2003Q4	2004Q1	2004Q2	2004Q3	2004Q4
BE	1.9	1.8	1.5	0.7	0.1	0.0	-0.5	-0.7	-0.2	0.0	0.1	0.3	0.5	0.5	0.7	0.9
CZ	0.3	0.1	-0.4	-0.3	-0.1	0.8	1.2	1.1	2.2	2.0	1.4	1.5	-0.2	-0.4	0.4	0.1
DK	-0.9	0.7	0.7	0.6	0.8	-0.8	-0.5	-0.9	-1.0	-1.0	-1.0	-0.7	-0.7	0.4	0.6	0.0
DE	1.0	0.6	0.2	-0.1	-0.1	-0.4	-0.7	-1.1	-1.3	-1.2	-0.8	-0.5	0.0	0.4	0.5	0.6
EE	-0.5	0.9	0.7	2.3	1.8	1.0	1.2	1.0	0.2	1.2	2.0	2.4	2.3	0.5	-1.8	-1.0
EL	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
ES	3.8	3.2	3.0	3.0	2.5	2.7	2.3	2.0	2.3	2.4	2.6	2.6	2.5	2.4	2.6	2.8
FR	2.3	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.2	0.0	-0.2	-0.3	-0.2	-0.1	0.0	0.1
IE	3.5	3.0	2.9	2.7	2.5	2.0	1.2	1.4	1.7	1.6	1.9	2.7	2.7	2.7	3.3	3.9
IT	2.7	2.0	1.6	1.5	2.2	2.0	1.6	1.4	1.3	1.4	1.1	0.9	1.1	1.0	0.7	0.7
CY	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
LV	2.1	2.2	2.4	1.9	0.6	1.2	4.5	2.7	1.5	1.5	0.5	0.5	0.9	1.8	0.3	1.5
LT	-5.5	-5.3	-4.1	-1.3	-10.2	-6.6	-5.5	-7.5	2.4	4.4	0.8	2.0	1.6	-2.4	-0.2	1.0
LU	6.2	5.7	5.6	4.8	4.4	3.2	2.5	2.1	1.4	1.7	1.7	2.1	2.1	2.7	2.7	2.7
HU	1.4	0.6	0.2	-1.1	-0.5	0.2	-0.1	0.6	0.5	1.4	1.6	1.6	0.7	-0.9	-1.2	-1.2
MT	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
NL	2.5	2.2	2.0	1.7	0.8	0.5	0.2	0.2	0.2	-0.2	-0.5	-0.9	-1.3	-1.4	-1.3	-1.1
AT	0.7	0.6	0.8	0.2	0.2	-0.2	0.0	-0.5	-0.1	0.2	0.2	0.0	0.9	0.8	0.9	1.1
PL	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
PT	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
SI	0.9	0.6	0.2	-0.1	-0.2	-0.4	-0.4	-0.3	-0.2	-0.1	-0.3	-0.4	-0.4	-0.2	0.3	0.6
SK	1.6	2.0	0.7	-1.7	-1.1	-0.6	-0.1	-0.3	2.0	1.7	1.5	1.9	-0.4	-1.0	-0.2	0.3
FI	1.9	1.4	0.9	1.8	1.2	0.8	0.9	0.8	0.5	0.3	-0.1	-0.7	-0.8	-0.6	0.7	1.2
SE	3.0	1.7	2.0	0.9	0.4	0.3	0.1	-0.1	-0.3	0.1	-0.2	-0.5	-0.7	-0.8	-0.2	-0.3
UK	1.0	0.9	0.6	0.9	0.6	0.8	0.7	1.0	1.1	1.0	1.1	0.6	1.2	0.7	0.7	1.0
EU-25	**1.7**	**1.4**	**1.1**	**0.9**	**0.7**	**0.5**	**0.3**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	**0.5**	**0.5**	**0.6**	**0.7**

Source: Eurostat, national accounts, quarterly results.
Note: No quarterly employment growth data from national accounts for CY, EL, MT, PL and PT. Break in time series for LT 2002Q1.

In the largest Member State, Germany, the long run of negative employment growth which began in the last quarter of 2001 finally came to an end in the first quarter of 2004, following which growth picked up over the course of the year to reach around 0.6% in the last quarter (Chart 3). Among the other large Member States, employment growth in Italy and the UK remained positive over 2004 at around the 1% level while in Spain growth was especially strong, remaining around 2.5% in all four quarters. By contrast, employment growth in France was more or less at a standstill during 2004, turning from marginally negative in the first half of the year to just positive in the second half.

Chart 3 – Employment growth in the larger Member States, 2001-2004

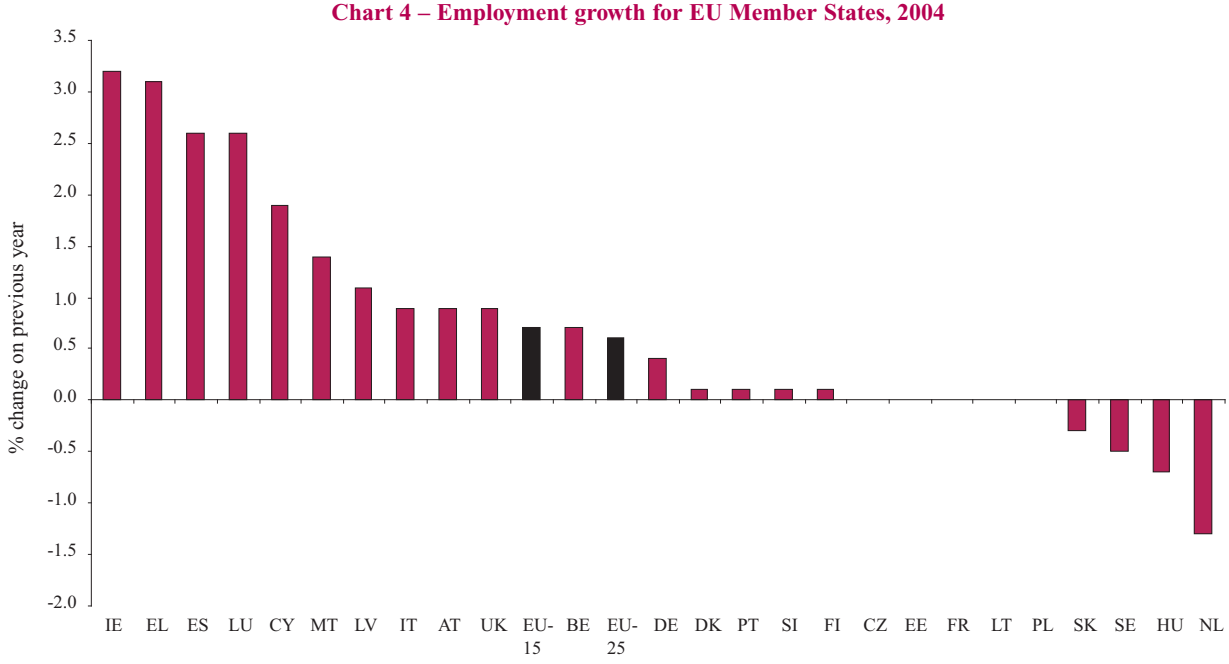


Source: Eurostat, national accounts, quarterly results.

Among the remaining Member States, the employment situation in Sweden and the Netherlands deteriorated compared to the previous year, with negative growth in every quarter, especially in the Netherlands where employment contraction remained above 1% for all quarters. The situation also deteriorated in Estonia and Hungary where employment growth turned negative over the course of the year. By contrast, employment growth strengthened in Austria, Belgium, Ireland and Luxembourg, with growth in the last two especially strong and showing signs of picking up. Similarly, the situation improved in the Czech Republic, Denmark, Finland and Slovenia where growth turned positive over the course of 2004 signalling an end to periods of employment contraction.

In line with these developments, employment growth for the year as a whole was positive for the majority of Member States (Chart 4). Only four (Hungary, the Netherlands, Slovakia

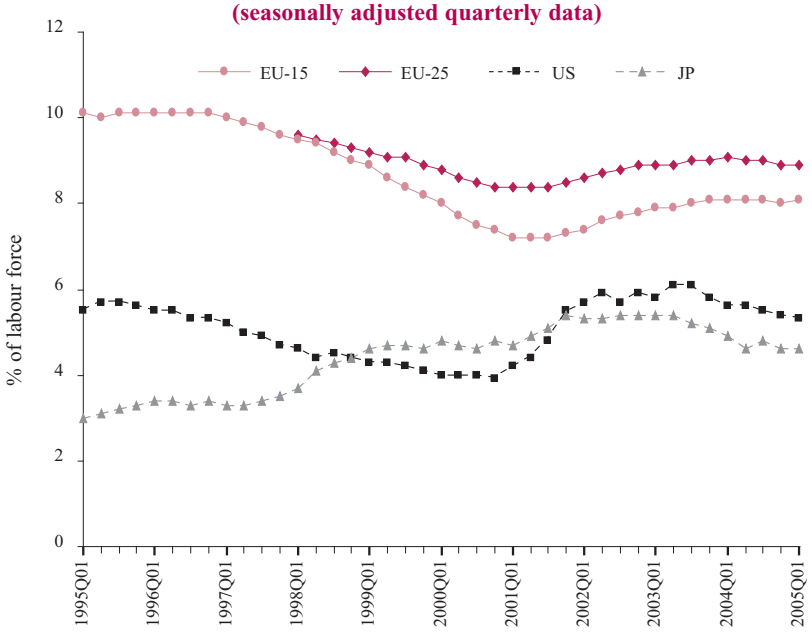
Chart 4 – Employment growth for EU Member States, 2004



Source: Eurostat, QLFD.

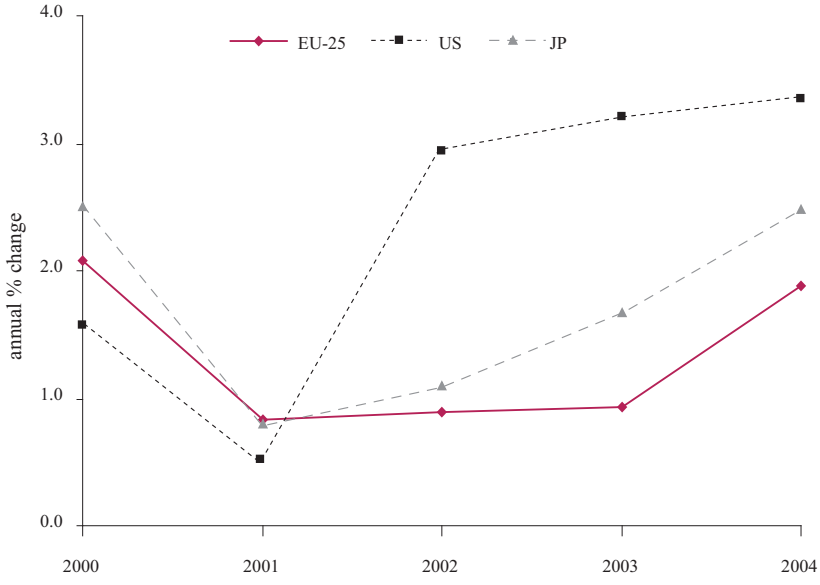
and Sweden) recorded negative annual growth, most notably the Netherlands where employment contracted by 1.3%. By contrast, seven Member States achieved positive employment growth of over 1%, with particularly strong growth in Cyprus (1.9%), Greece (3.1%), Ireland (3.2%), Luxembourg (2.6%) and Spain (2.6%). In Germany annual employment growth turned positive in 2004 following negative average growth in the previous two years, possibly already reflecting institutional changes in the context of the Hartz labour market reforms, while the decline in employment experienced in Poland in 2002 and 2003 also showed signs of coming to an end in 2004.

Chart 5 – Trends in unemployment rates in the EU, US and Japan since 1995 (seasonally adjusted quarterly data)



Source: Eurostat, harmonised series on unemployment.

Chart 6 – Growth in productivity per person employed, 2000-2004



Source: Commission Services.

2.2.2. Overall trends in unemployment

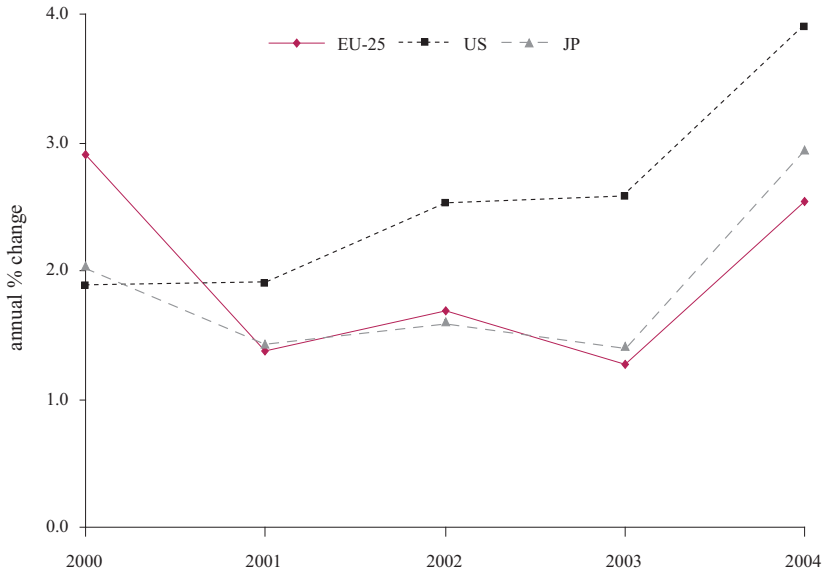
At around 9.0% the (seasonally adjusted) overall unemployment rate for the EU-25 remained essentially unchanged over the course of 2004 before showing signs of a moderate decline over the last quarter and into 2005 (Chart 5). At this level it is still only some 0.6 percentage points higher than the minimum of 8.4% achieved in the first half of 2001. In the last quarter of 2004 (seasonally adjusted) unemployment rates ranged from as low as 4.4% in Ireland and Luxembourg to as high as 18.4% in Poland.

In the US, the unemployment rate continued to fall gradually over the course of 2004, having peaked at 6.1% in the second quarter of 2003. By the first quarter of 2005, it had fallen to 5.3%. Nevertheless, it still remained at the sort of level last experienced in the US in the mid-1990s, and some 1.4 percentage points above the minimum of 3.9% attained in the fourth quarter of 2000. Unemployment rates also declined in Japan over 2004 to reach 4.6% by the first quarter of 2005, down from the peak of 5.4% in early 2003. In line with these developments, the gap between the EU-25 unemployment rate and those of the US and Japan widened over 2004, and by the first quarter of 2005 had risen to 3.6 and 4.3 percentage points respectively.

2.2.3. Developments in productivity growth

Average labour productivity growth (in terms of GDP per person employed) for the EU stood at 1.9% in 2004, a marked improvement on the preceding three years when average annual growth was below 1% (Chart 6). However, this compares unfavourably with produc-

Chart 7 – Growth in productivity per hour worked, 2000-2004



Source: Commission Services.

tivity growth rates of 3.3% for the US and 2.5% for Japan in 2004. Furthermore, growth rates for Japan and especially the US have been above those for the EU since 2002, with the US sustaining rates of 3% and higher over this period.

Considering productivity in terms of GDP per hour worked, the disparity between productivity growth in the EU and in the US and Japan has generally been more moderate (Chart 7), with EU growth at 2.5% in 2004 and having been around the 1.5% mark since 2001. On this basis productivity improvements in the EU have been very similar to those in Japan since 2001, though the gap with respect to the US has nevertheless been growing.

Within the EU, big differences in productivity growth persist between individual Member States, with continuing strong growth in the new Member States from central and eastern Europe, while growth in most large Member States remained relatively weak in 2004, especially in Germany, Italy and Spain (Table 3). Nevertheless, compared to 2003 developments in productivity growth were more positive as rates picked up in almost all Member States in 2004.

2.3. Short-term prospects for the EU labour market

According to the European Commission's 2005 Spring Economic Forecasts, the recovery in the EU economy is expected to continue over 2005-2006, despite the unexpected deceleration experienced in the second half of 2004. Due to the oil price hike and strong euro, GDP growth in the enlarged EU is expected to decline to 2.0% in 2005, before rising again to 2.3% in 2006 as growth regains momentum. However, recent survey indicators have been sending out mixed signals about the prospects for the strength and sustainability of the recovery. In particular, the surge in oil prices seems to have dented business confidence and the balance of risks has tilted towards the downside. Furthermore, world GDP growth, estimated to have peaked at around 5% in 2004 (the fastest rate of growth since the 1970s), is set to ease off to around 4% in both 2005 and 2006. Nevertheless, although moderating, the momentum of global economic growth remains strong and trade is still growing vigorously, while there are also signs that domestic demand is recovering in some Member States.

During 2004 the main driver of economic growth in the EU shifted from external trade in the first half of the year to domestic demand in the second half. However, private consumption remained relatively flat throughout the year, although the pace of investment expenditure is expected to pick up and be accompanied by a more gradual increase in private consumption.

The restrained response of the EU labour market to the slowdown of 2001-2003 (as reported on in detail in Employment in Europe 2003 and 2004) has been followed by a slow response by employment to the upturn. Employment growth has now been low for three years and has not picked up markedly since the start of the economic upturn in mid-2003. However, as the effects of the protracted economic slowdown wear off, the performance of the labour market, supported by wage moderation, is expected to respond positively to the general pick-up in economic activity. Employment growth in the EU is forecast to increase to 0.7% in 2005 and 0.8% in 2006, while the unemployment rate is expected to remain stable at around 9.0% in 2005 before edging downwards to 8.7% in 2006.

Table 3 – Annual productivity growth 2000-2004

	Growth in GDP per person employed					Growth in GDP per hour worked				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
BE	1.9	-0.7	1.2	1.2	2.1	3.4	-2.3	1.3	1.5	3.3
CZ	4.6	2.2	0.0	3.9	4.6	4.4	7.0	1.5	5.5	5.6
DK	2.5	1.0	0.9	1.6	2.4	4.3	-0.7	3.1	0.7	2.1
DE	1.1	0.4	0.7	0.9	1.2	2.2	1.3	1.4	0.7	1.9
EE	11.0	5.6	5.6	4.3	6.0	9.5	4.6	6.7	4.8	5.1
EL	4.2	4.6	3.7	3.2	1.0	5.7	4.6	2.9	2.7	3.2
ES	0.7	0.3	0.9	0.7	0.6	-0.7	-0.7	0.7	0.6	1.0
FR	1.0	0.2	0.2	0.4	2.8	4.1	1.9	3.3	0.7	4.2
IE	5.0	2.9	4.3	1.6	2.4	5.0	3.6	5.0	5.3	3.9
IT	1.3	0.1	-0.9	-0.2	0.4	1.5	0.6	-0.8	-0.2	0.8
CY	2.6	2.0	0.9	0.9	2.2	2.9	3.2	1.6	2.9	3.3
LV	10.1	5.7	4.8	5.6	7.5	10.2	7.1	5.4	7.7	8.4
LT	8.3	10.0	2.7	7.2	7.0	8.4	12.3	3.4	8.6	7.5
LU	3.2	-3.9	-0.5	1.1	1.7	2.3	-2.9	0.2	1.4	2.2
HU	3.9	2.6	3.5	2.2	4.4	4.5	5.7	2.3	1.8	4.7
MT	4.0	-3.7	2.9	-1.1	0.1	4.1	-2.4	3.5	0.8	1.7
NL	1.6	0.1	0.7	0.1	3.0	0.4	-0.3	1.6	-1.7	2.9
AT	2.0	0.3	1.1	0.7	1.0	2.2	-0.5	3.5	1.2	1.7
PL	5.6	3.3	4.5	5.1	5.3	5.8	3.7	4.6	5.2	5.3
PT	1.6	0.0	0.0	-0.7	0.9	3.9	0.1	0.2	0.9	1.4
SI	0.7	2.2	3.7	2.8	4.5	0.8	3.6	4.4	4.9	5.3
SK	3.9	3.2	5.2	2.6	5.9	3.9	2.3	7.3	12.2	8.0
FI	2.8	-0.4	1.3	2.4	3.5	4.3	0.6	2.4	3.5	4.3
SE	1.9	-0.8	1.8	1.6	4.0	3.5	0.5	3.3	2.8	4.9
UK	2.7	1.5	1.0	1.3	2.1	3.2	1.1	1.6	2.3	3.0
EU-25	**2.1**	**0.8**	**0.9**	**0.9**	**1.9**	**2.9**	**1.4**	**1.7**	**1.3**	**2.5**
EU-15	**1.6**	**0.5**	**0.6**	**0.7**	**1.6**	**2.4**	**0.8**	**1.4**	**0.9**	**2.3**
US	1.6	0.5	3.0	3.2	3.3	1.9	1.9	2.5	2.6	3.9
JP	2.5	0.8	1.1	1.7	2.5	2.0	1.4	1.6	1.4	2.9

Source: Commission Services.

Labour productivity growth in the EU (in terms of real GDP per occupied person) is expected to be limited to 1.3% in 2005, down from the growth rate in 2004, but to pick up again to 1.5% in 2006. Growth in productivity is expected to be particularly low in Germany in 2005 (0.1%), partly reflecting the impact of the "mini-jobs" development in that country, while much stronger productivity growth is expected in many of the new Member States.

3. Labour market situation in 2004 in the enlarged EU

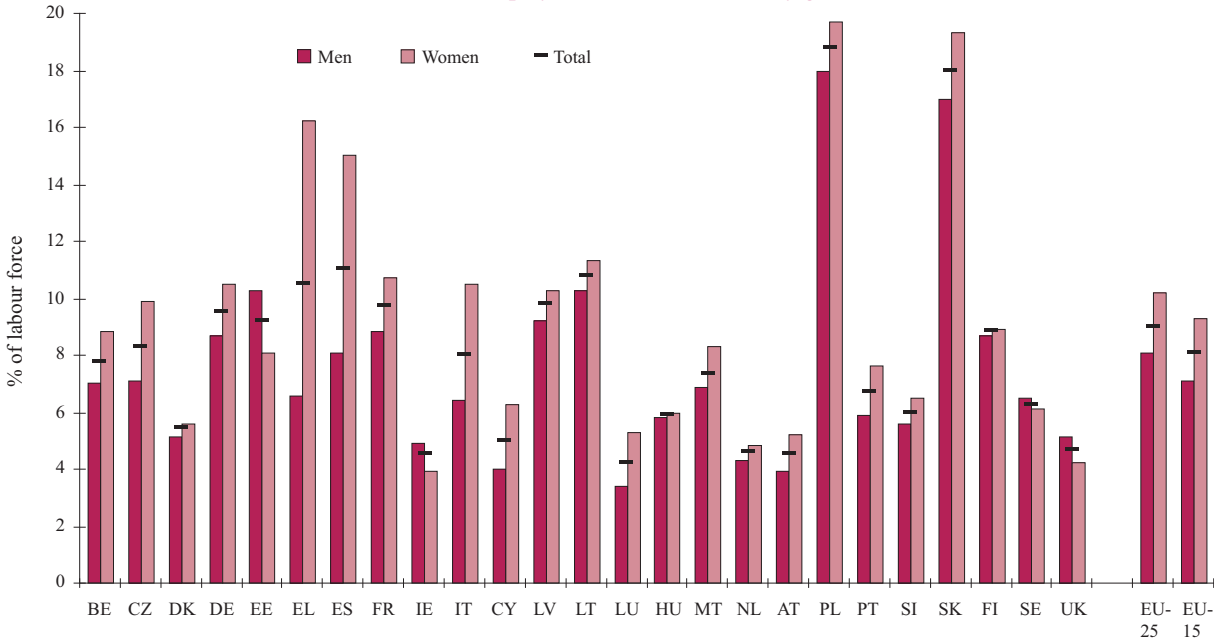
3.1. Unemployment

At 9.0% the overall unemployment rate for the EU-25 remained unchanged in 2004 compared to the previous year, but is now some 4 percentage points higher than the rates in the US and Japan. At the level of the individual Member States, compared to 2003 rates rose in around half but fell in the others. The largest rises occurred in Greece, the Netherlands and Sweden, with increases in excess of 0.7 percentage points. By contrast, rates fell substantially in Estonia and Lithuania, by around 1 and 2 percentage points respectively. Among the large Member States, in Germany rates rose by 0.5 percentage points while in Italy, Poland and Spain there were falls of the same order.

Although unemployment rates have declined in Poland in recent years they remain comparatively high, at 18.8% in 2004. Similarly the rate in Slovakia, at 18.0%, was double the EU average. Among the other Member States unemployment rates in 2004 were above 10% in Greece, Lithuania and Spain, while among the large Member States rates were above the EU average in France and Germany. This compares with annual rates of as low as 4 to 5% in Austria, Cyprus, Ireland, Luxembourg, the Netherlands and the UK (Chart 8).

Within the EU, the disparity in the average unemployment rate between the genders, at 2.1 percentage points in 2004, was more or less unchanged from 2003 (when it was 2.2 percentage points), with women continuing to be more susceptible to unemployment than men. The actual unemployment rates in 2004 were 8.1% for men and 10.2% for women, essentially unchanged from 2003 except for a very marginal rise for men. Unemployment rates are higher for women than for men in practically all Member States, the only exceptions in 2004 being Estonia, Ireland, Sweden and the UK. The largest disparities between unemployment rates for men and women remain in Greece and

Chart 8 – Unemployment rates in the EU by gender, 2004



Source: Eurostat, harmonised series on unemployment.

Spain, where the differences are around 10 and 7 percentage points respectively, and with the disparity in Greece widening compared to 2003.

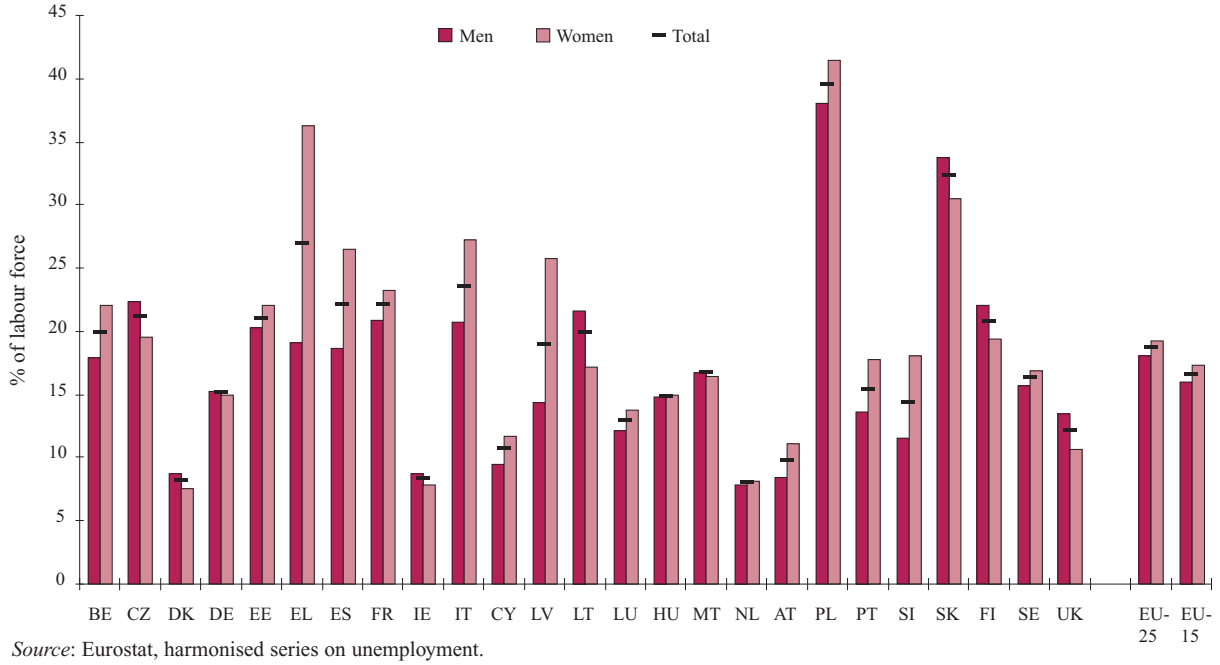
At 18.7% the youth unemployment rate (amongst people aged between 15 and 24) in the EU remained more or less unchanged compared to 2003 and is still around twice as high as the overall unemployment rate (Chart 9). In 2004 the rate was over 20% in the Czech Republic, Estonia, Greece, France, Italy, Spain and Finland, and remained especially high in Slovakia and Poland at around 32% and 40% respectively. By contrast, rates were as low as around 8% in Denmark, Ireland and the Netherlands. In terms of changes in the youth unemployment rate between 2003 and 2004, rates rose strongly (by between 2 and 3 percentage points) in the Czech Republic and Sweden, but fell by similar margins in Estonia and Malta, and even more markedly in Lithuania. Among the large Member States, the most marked changes were for Poland, where the youth unemployment rate fell by almost 2 percentage points, and France, where it climbed by close to 1 percentage point.

Long-term unemployment (i.e. unemployment for a duration of 12 months or more) affected some 4.1% of the EU labour force in 2004, marginally up from the previous year. This was a continuation of the pattern observed in the previous two years, with long-term unemployment on a gradually increasing trend since the low of 3.8% in 2001, following the strong falls in the late 1990s. Most Member States recorded either only marginal increases or no change in long-term unemployment rates in 2004, although the rise was more substantial in the Czech Republic, Germany and the Netherlands, at around 0.5 percentage points, and in Portugal, where there was a rise of close to 1 percentage point. Some Member States bucked this trend, most notably Lithuania, Poland and Spain, where rates fell by around 0.5 percentage points, and in particular Italy where the rate fell by close to 1 percentage point.

Within the EU the long-term unemployment rate remains highest in Poland and Slovakia, where around 10% and 12% respectively of the labour force, or almost three times the EU average, are affected (Chart 10). It also remains relatively high in Germany, Greece and Lithuania, all with rates around 5% or just over. For the majority of Member States, long-term unemployment rates are higher for women than for men, the EU averages being 4.7% and 3.6% respectively. The largest gender differences are found in Greece, Italy and Spain, with Greece displaying a disparity of just over 6 percentage points and the other two around 3 percentage points each.

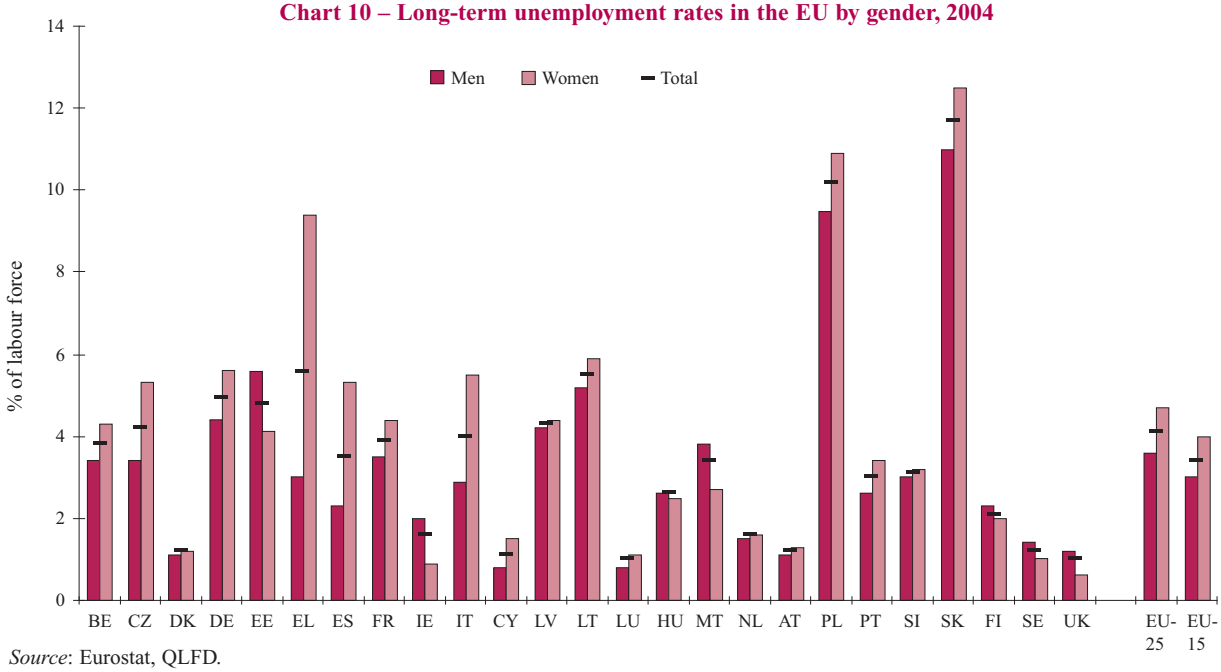
Looking at longer-term developments, just under half the Member States have seen little change in their long-term unemployment rates since 2000

Chart 9 – Youth unemployment rates in the EU by gender, 2004



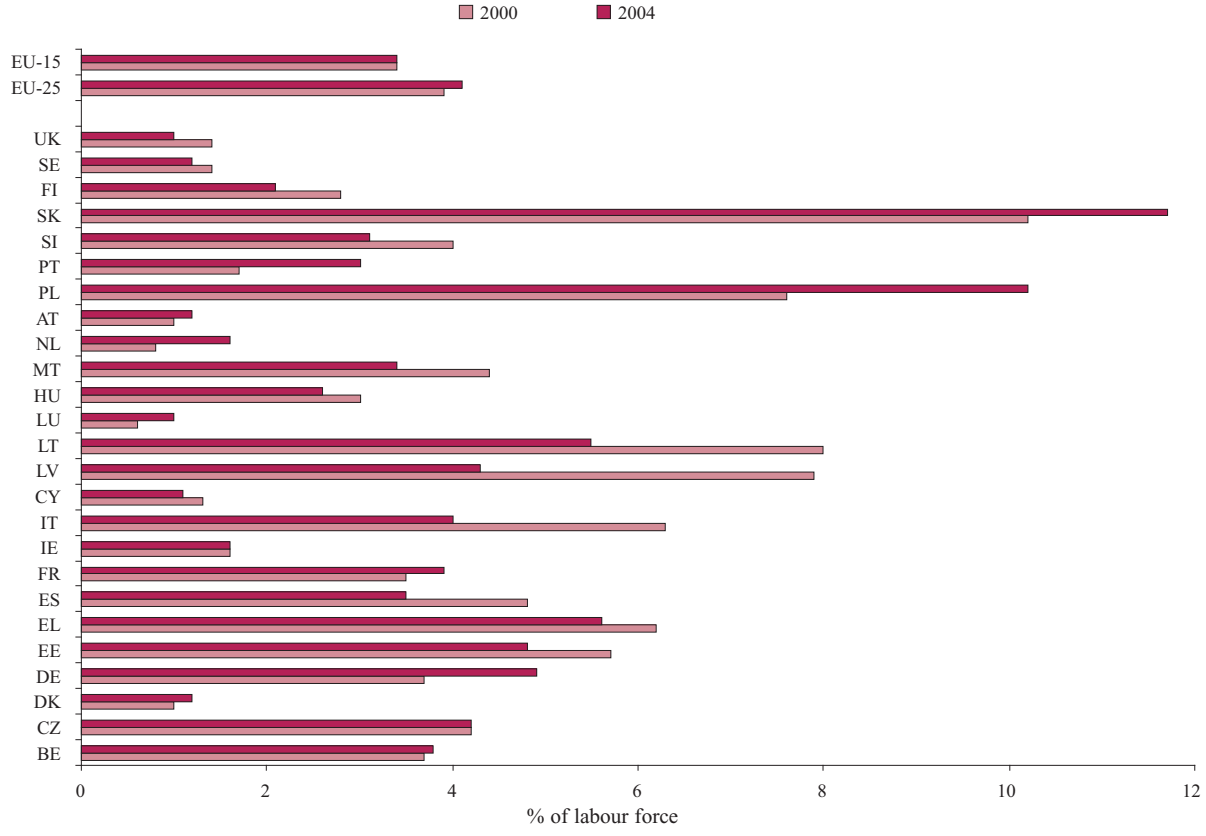
Source: Eurostat, harmonised series on unemployment.

Chart 10 – Long-term unemployment rates in the EU by gender, 2004



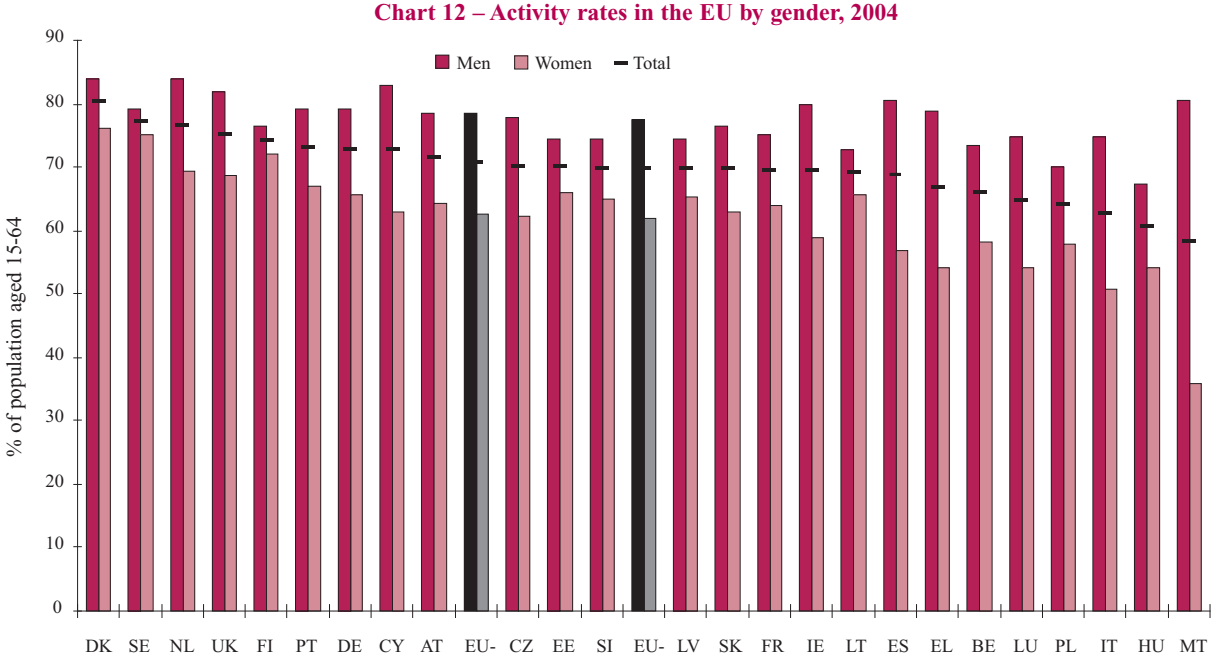
Source: Eurostat, QLFD.
Note: Data for CY refer to 2003; 2004 data for DE provisional (based on spring LFS results).

Chart 11 – Change in long-term unemployment rates between 2000 and 2004



Source: Eurostat, QLFD.
Note: Data for CY refer to 2000 and 2003; 2004 data for DE provisional (based on spring LFS results).

Chart 12 – Activity rates in the EU by gender, 2004



Source: Eurostat, QLFD.

(Chart 11). In particular, in several Member States (Austria, Denmark, Ireland, Cyprus, Luxembourg, Sweden and the UK) rates have stabilised at around the 1% level in recent years. In others rates have declined substantially from relatively high levels in 2000, most noticeably in Estonia, Latvia, Lithuania, Italy and Spain. However, developments in several other Member States have been less positive, in particular in Poland, where the long-term unemployment rate has risen by close to 3 percentage points compared to 2000.

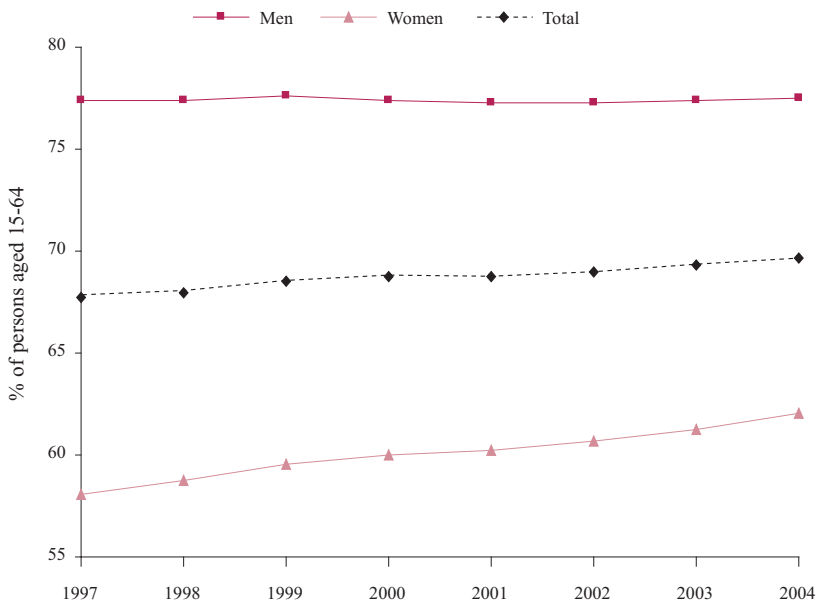
3.2. Activity rates

The overall activity (or participation) rate (i.e. the labour force (both employed and unemployed) aged 15 to 64 as a share of the total population of the same age group) for the EU continued to rise in 2004, increasing by 0.4 percentage points on the previous year to 69.7%. Within the enlarged EU, the activity rates for the individual Member States ranged from a low of just over 58% in Malta, with Hungary, Italy, Luxembourg and Poland also substantially (5 percentage points or more) below the EU average, to a high, in Denmark, of just over 80%, although the Netherlands, Sweden and the UK also had rates in excess of 75% (Chart 12). Compared to 2003, the strongest increases in activity rates occurred in Belgium, Greece, Italy and Spain, all with rises of 1 percentage point or just over, and Slovenia, where rates rose by almost 3 percentage points. Activity rates declined noticeably (in excess of 0.5 percentage points) only in Austria and Lithuania.

At EU level, the difference between the activity rates for men (77.5%) and women (62.0%) stood at 15.5 percentage points in 2004, noticeably down on the previous year's level of 16.3 percentage points. This reflects an underlying increase in female participation between 2003 and 2004 of 0.8 percentage points compared to a marginal increase of only 0.1 percentage points for men. It also reflects the general trend over recent years in which male activity rates have remained more or less static around 77.5% while those for women have continued to increase, rising by around 4 percentage points since 1997 and driving the overall rise in activity rates over the period (Chart 13). The Member States that have seen the most substantial rises in female participation since 1997 (an increase of more than 7 percentage points) are Greece, Ireland, Italy, Luxembourg, the Netherlands and Spain (Chart 14). Despite these developments, the gender gaps in activity rates remain substantial in most of these Member States. In particular, Greece, Ireland, Italy, Luxembourg and Spain, as well as Cyprus, all have disparities between the activity rates for men and women of 20 to 25 percentage points, while in Malta the gap remains as high as 44 percentage points.

The overall fall in the disparity between male and female participation rates in 2004 at EU level was reflected across the majority of Member States, except, most notably, Cyprus and Malta where the gap widened by around 1 percentage point compared to 2003. By contrast, in eight Member States the gap closed by around 1 percentage point, and in Italy by just over 2 percentage points. The strongest increases in female participation between 2003 and 2004 occurred in Greece, Italy and Spain, with rises of around 2 percentage points, and in Slovenia with 3 percentage points. By contrast female participation declined by around 1 percentage point each in Lithuania and Malta. However, while female activity rates rose in the majority of Member States, developments in male participation rates were again rather more mixed, with around half the Member States experiencing falls, most notably in Austria, Estonia, Lithuania and Luxembourg.

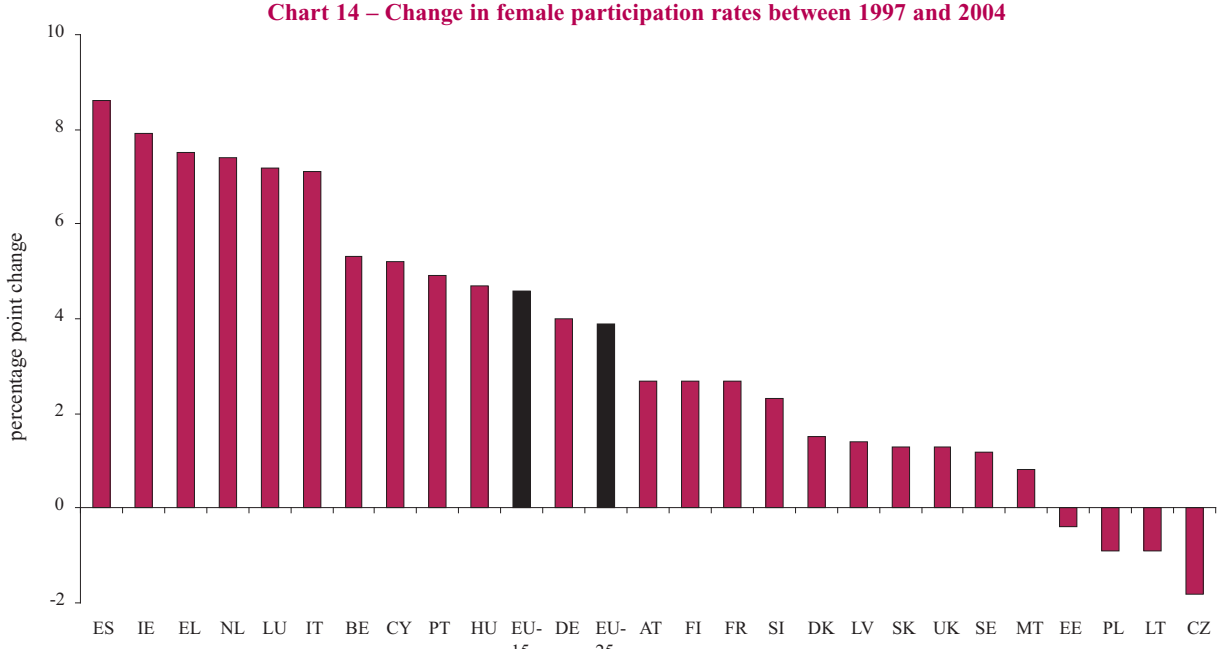
Chart 13 – Trends in EU activity rates by gender, 1997-2004



Source: Eurostat, QLFD.

Reflecting the comparatively high proportion of young people (those aged 15 to 24) in full-time education, the average EU activity rate for that age group, at just over 45%, is substantially lower than the overall activity rate, although the disparities between male and female participation rates (6.9 percentage points) are narrower for this group. After the increases of the late 1990s, and in contrast to the general continuing increase in overall activity

Chart 14 – Change in female participation rates between 1997 and 2004

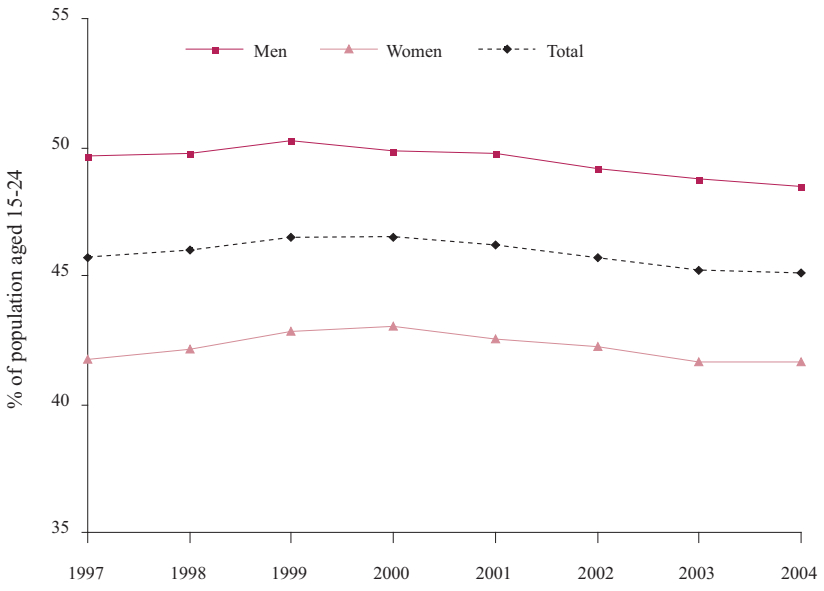


Source: Eurostat, QLFD.
Note: Data for CZ, EE, LV, LT and SK refer to 1998-2004, and for CY and MT to 2000-2004.

rates, the average youth activity rate has been falling over recent years (since 2000). This trend continued between 2003 and 2004 as the rate declined further to 45.1%, although the decline was marginal and much lower than in 2002 and 2003 (Chart 15). The decline in youth activity since 2000 has been observed across the majority of Member States, with only six (Austria, Belgium, Cyprus, France, Slovenia and Spain) seeing rates rise or remaining stable (Chart 16). In the Czech Republic, Hungary and Lithuania the decline in youth participation over this timeframe has been particularly strong, with the activity rate falling by the order of 10 percentage points in these countries.

Youth participation rates vary quite widely between Member States, from a low of just over 26% in Luxembourg and Lithuania to as high as around 72% in the Netherlands (Chart 17). For almost all Member States, the activity rates for youth are well below the average activity rates for the working age population as a whole, the only exceptions being Malta and the Netherlands. For Belgium, Cyprus, the Czech Republic, Estonia, France, Hungary, Latvia, Lithuania, Luxembourg, Slovakia and Sweden, the gaps between the activity rates for youth and those for the working age population as a whole are all 30 percentage points or more.

Chart 15 –Trends in EU youth activity rates by gender, 1997-2004



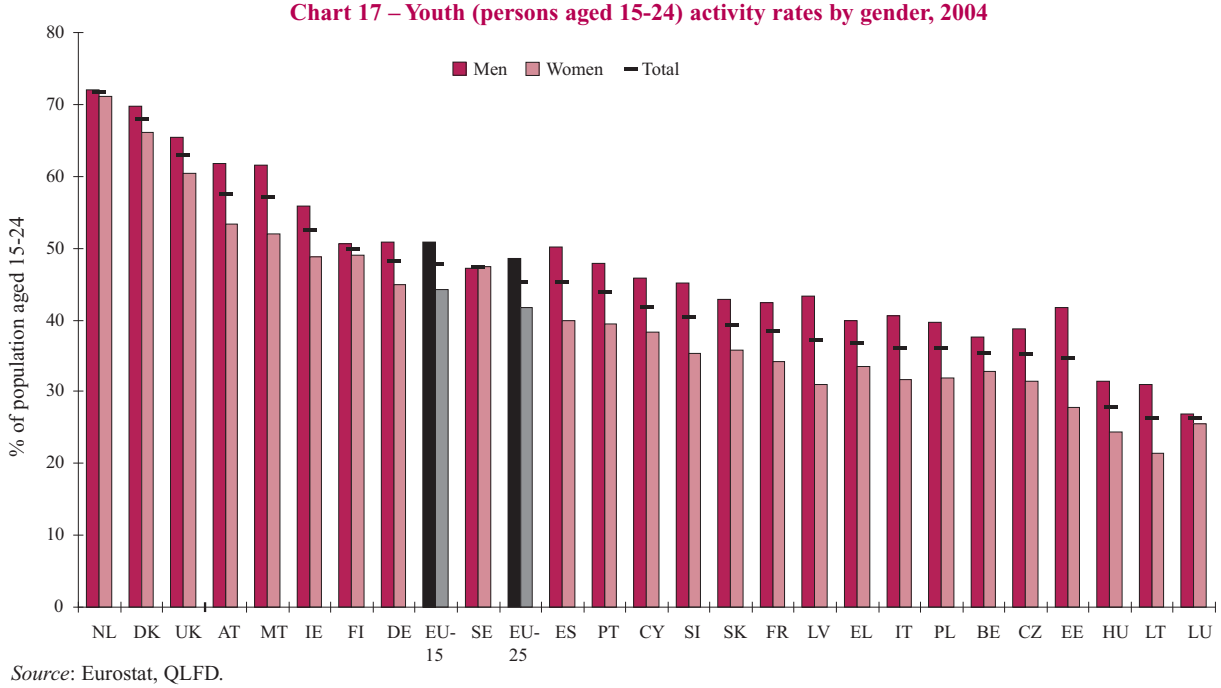
Source: Eurostat, QLFD.

Chart 16 – Change in youth activity rates in the EU between 2000 and 2004

Source: Eurostat, QLFD.

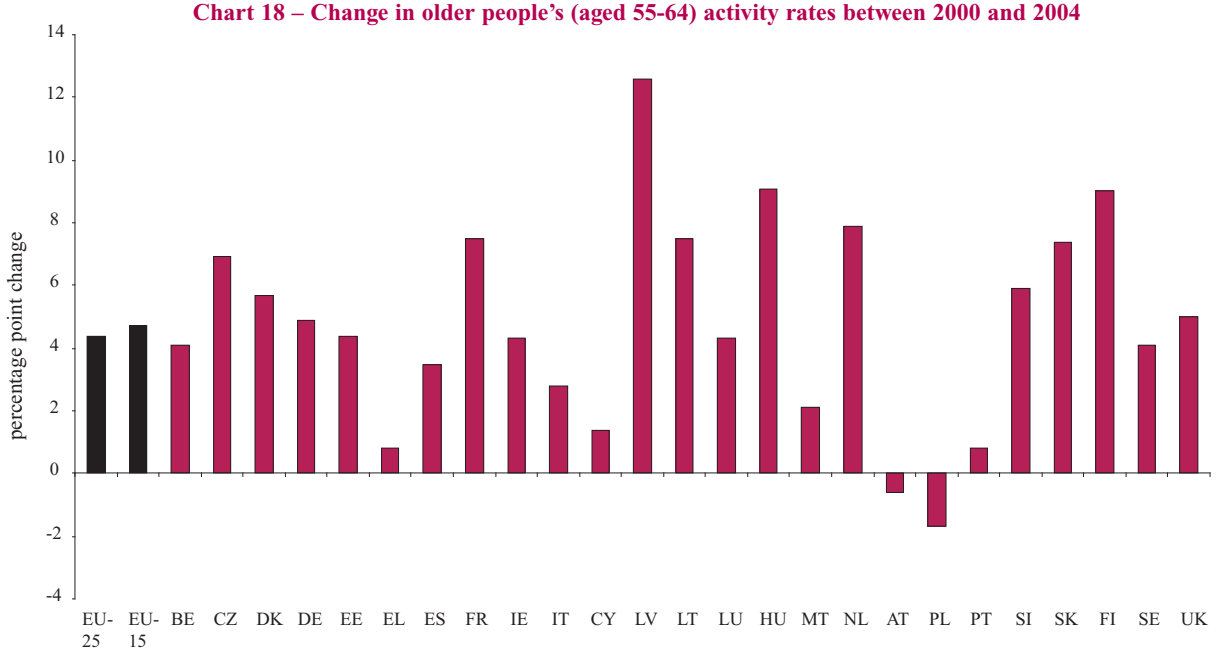
In 2004, the activity rate for older people (aged 55 to 64) averaged 43.9% for the EU as a whole, up 0.8 percentage points on the previous year and suggesting a slight slowdown compared to the rapid rise in participation of older people observed in 2002 and 2003. Unlike 2003, in 2004 several Member States (Austria, Estonia, Greece, Malta, Poland and Portugal) actually recorded falls in older people's activity rates compared to the previous year, although rates continued to increase for most Member States and particularly strongly in Belgium, Germany, Hungary, Latvia, Lithuania, Slovenia and Slovakia.

Chart 17 – Youth (persons aged 15-24) activity rates by gender, 2004



Source: Eurostat, QLFD.

Chart 18 – Change in older people's (aged 55-64) activity rates between 2000 and 2004



Source: Eurostat, QLFD.

As in the case of youth, activity rates for older people are much lower than those for the working age population as a whole, but in contrast to youth they are generally on the rise. Since 2000, all Member States except Austria and Poland have reported increases in labour force participation by older people, most notably Finland, France, Hungary, Lithuania, the Netherlands and Slovakia, all with increases in activity rates for older people in excess of 7 percentage points, and especially Latvia with a rise of almost 13 percentage points (Chart 18).

Despite the recent broad increases in participation by older people in most Member States, activity rates for the 55-64 age group continue to vary markedly across countries. In 2004 activity rates for this age group were below one third in Austria, Belgium, Hungary, Italy, Luxembourg, Malta, Poland, Slovenia and Slovakia, but over 60% in Denmark and in excess of 70% in Sweden (Chart 19). Of the 25 Member States, only 10 have activity rates for older people above 50%.

In all Member States the activity rates for older women are below those for older men, averaging 34% for women compared to 55% for men at EU level. The activity rates for older women are generally low – in eleven Member States, for example, they are below 30% – and are below 15% in Malta and Slovakia. The low participation rate for older women results in large gender disparities in participation rates for older people, averaging 21 percentage points for the EU as a whole but climbing to over 30 percentage points in Greece, Ireland, Slovakia and Spain and more than 40 percentage points in Cyprus and Malta. Only in Finland and Sweden are the activity rates for older men and women close, with gender gaps of around 1 and 6 percentage points respectively, while Estonia and France are the only other Member States with gaps below 10 percentage points (though in France the activity rates for older men and women are both comparatively low to begin with).

Chapter 5 of this report provides a more detailed assessment of the structure and trends in the levels of participation in the labour force. It takes a detailed look at the situation and developments concerning the "inactive" population in Europe and provides an analysis of the size and structure of that population, including a detailed analysis of the current situation and trends.

3.3. Employment rates and the Lisbon and Stockholm targets

Between 2003 and 2004, the average employment rate for the EU (defined as the share of employed persons aged 15 to 64 in the total population of the same age group) rose by 0.4 of a percentage point to 63.3%. Although lower than the annual increases observed over the late 1990s, it is similar to the increase in 2000 and 2001, and a clear improvement on 2002 and 2003 when employment rates hardly rose at all. The rise in the overall rate was again driven by the continued increase in the employment rate for women, which rose 0.7 per-

Chart 19 – Older people's (aged 55-64) activity rates by gender, 2004

Source: Eurostat, QLFD.

centage points on average to 55.7%, while the rate for men remained more or less static at 70.9%. For older people (aged 55 to 64) the employment rate rose by 0.8 of a percentage point to 41.0%. While still a significant increase, this was lower than in the previous two years, when rates for older people rose by 1.2 (2002) and 1.5 (2003) percentage points, and could indicate a slowdown in the rapid rise in employment for older people experienced since 2000.

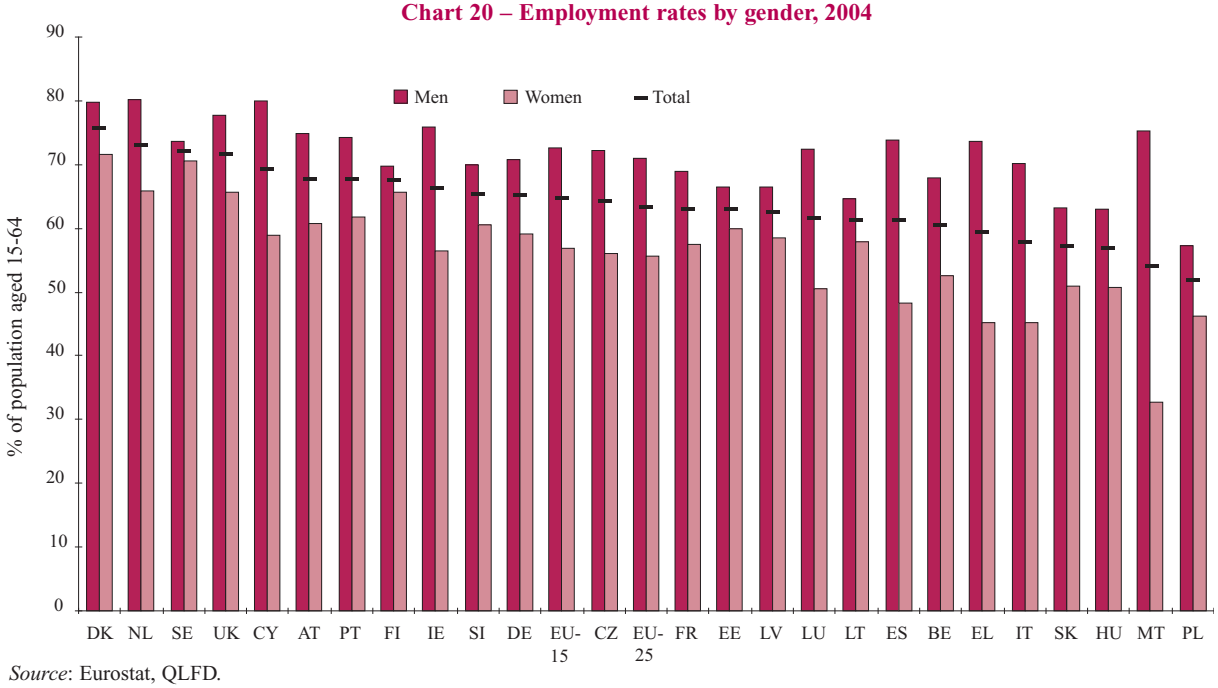
3.3.1. Employment rate developments at Member State level in 2004

In 2004, employment rates within the enlarged EU ranged from as low as around 52% in Poland to close to 76% in Denmark (Chart 20). Despite the overall improvement in the employment rate at EU level, it declined, compared to 2003, in several Member States, most notably in Austria, the Czech Republic, Luxembourg, the Netherlands, Slovakia and Sweden. By contrast, employment rates increased by around 1.5 percentage points in Italy and Spain, and by almost 3 percentage points in Slovenia. It is also worth noting that employment rates remained stable in Germany and rose slightly in Poland in 2004, indicating signs of a positive turnaround in their labour markets following several years of decline, while, on the other hand, rate increases essentially ground to a standstill in France and the UK.

Due to the strong rise in the female employment rate while the rate for males remained unchanged, the gender gap in employment rates in the EU narrowed further between 2003 and 2004, falling by 0.6 of a percentage point to 15.2 percentage points. Despite the general reduction in the disparity between male and female employment rates at EU level, large gender differences of around 25 percentage points or more still remain in Greece, Italy and Spain, while in Malta the gap is still around 42 percentage points. While the average employment rates in the EU for men and women were 70.9% and 55.7% respectively in 2004, it is interesting to note that male employment rates were 70% or above in sixteen Member States, while female rates were 70% or above in only two (Denmark and Sweden). There remains scope, therefore, in many Member States for increasing female employment rates further.

Notable disparities persist within the EU between the employment rates of different age groups within the working age population. Employment rates are much lower for the youth (15-24) and older persons (55-64) age groups than for the prime working age (25-54) group (Table 4). For youth, the average employment rate for the EU was just under 37% in 2004, ranging from below 25% in Hungary, Lithuania, Luxembourg and Poland to over 60% in Denmark and the Netherlands. In recent years most Member States have witnessed falls in youth employment rates, this trend being most pro-

Chart 20 – Employment rates by gender, 2004



Source: Eurostat, QLFD.

Table 4 – Employment rates by age group, 2004

	Youth (15-24)	Prime working age (25-54)	Older people (55-64)
BE	27.8	77.3	30.0
CZ	27.8	81.4	42.7
DK	62.3	83.7	60.3
DE	41.9	78.1	41.8
EE	27.2	78.8	52.4
EL	26.8	73.5	39.4
ES	35.2	72.7	41.3
FR	30.4	79.6	37.3
IE	47.7	76.8	49.5
IT	27.6	72.2	30.5
CY	37.3	82.7	50.1
LV	30.5	77.9	47.9
LT	20.3	79.4	47.1
LU	21.4	78.7	30.8
HU	23.6	73.6	31.1
MT	47.7	61.8	30.9
NL	65.9	82.5	45.2
AT	51.9	82.6	28.8
PL	21.7	68.2	26.2
PT	37.1	81.1	50.3
SI	33.8	83.8	29.0
SK	26.3	74.7	26.8
FI	39.4	81.0	50.9
SE	39.2	82.9	69.1
UK	55.4	80.8	56.2
EU-15	**40.0**	**77.6**	**42.5**
EU-25	**36.8**	**76.8**	**41.0**

Source: Eurostat, QLFD.

nounced in the Czech Republic, Hungary and Luxembourg where rates have dropped by the order of 10 percentage points since 2000, reflecting, for the most part, similar falls in the level of youth labour market participation. For older people, the employment rate for the EU averaged 41.0% in 2004, while at individual Member State level rates ranged from 26% in Poland to 69% in Sweden. In contrast to the employment rates for youth, those for older people have risen substantially in the EU since 2000 and this trend continued with rates improving in a large majority of Member States between 2003 and 2004.

3.3.2. Progress in relation to the Lisbon and Stockholm targets

Given the developments outlined above, the overall, female and older people's employment rates remain some 7, 4 and 9 percentage points below the respective Lisbon and Stockholm employment targets for 2010 (Box 1). It should also be noted that the 2004 female employment rate, and in particular the 2004 overall employment rate, remain far away from the intermediate employment targets (for 2005).

Regarding the position of individual Member States with respect to the collective EU targets for 2010 (Table 5):

Table 5 – Employment rates in EU Member States in 2004 and progress towards the Lisbon and Stockholm targets for 2010

	Total employment rate				Female employment rate				Older people's employment rate			
	2004	Change 2003-2004	Change 2000-2004	Gap below 2010 target	2004	Change 2003-2004	Change 2000-2004	Gap below 2010 target	2004	Change 2003-2004	Change 2000-2004	Gap below 2010 target
BE	60.3	0.7	-0.2	9.7	52.6	0.8	1.1	7.4	30.0	1.9	3.7	20.0
CZ	64.2	-0.5	-0.8	5.8	56.0	-0.3	-0.9	4.0	42.7	0.4	6.4	7.3
DK	75.7	0.6	-0.6	>	71.6	1.1	0.0	>	60.3	0.1	4.6	>
DE	65.0	0.0	-0.6	5.0	59.2	0.3	1.1	0.8	41.8	1.9	4.2	8.2
EE	63.0	0.1	2.6	7.0	60.0	1.0	3.1	>	52.4	0.1	6.1	>
EL	59.4	0.7	2.9	10.6	45.2	0.9	3.5	14.8	39.4	-1.9	0.4	10.6
ES	61.1	1.3	4.8	8.9	48.3	2.0	7.0	11.7	41.3	0.6	4.3	8.7
FR	63.1	-0.1	1.0	6.9	57.4	0.2	2.2	2.6	37.3	0.5	7.4	12.7
IE	66.3	0.8	1.1	3.7	56.5	0.8	2.6	3.5	49.5	0.5	4.2	0.5
IT	57.6	1.5	3.9	12.4	45.2	2.5	5.6	14.8	30.5	0.2	2.8	19.5
CY	69.1	-0.1	3.4	0.9	59.0	-1.4	5.5	1.0	50.1	-0.3	0.7	>
LV	62.3	0.5	4.8	7.7	58.5	0.6	4.7	1.5	47.9	3.8	11.9	2.1
LT	61.2	0.1	2.1	8.8	57.8	-0.6	0.1	2.2	47.1	2.4	6.7	2.9
LU	61.6	-1.1	-1.1	8.4	50.6	-1.4	0.5	9.4	30.8	0.8	4.1	19.2
HU	56.8	-0.2	0.5	13.2	50.7	-0.2	1.0	9.3	31.1	2.2	8.9	18.9
MT	54.1	-0.1	-0.1	15.9	32.8	-0.8	-0.3	27.2	30.9	-1.6	2.4	19.1
NL	73.1	-0.5	0.2	>	65.8	-0.2	2.3	>	45.2	0.9	7.0	4.8
AT	67.8	-1.2	-0.7	2.2	60.7	-1.0	1.1	>	28.8	-1.3	0.0	21.2
PL	51.7	0.5	-3.3	18.3	46.2	0.2	-2.7	13.8	26.2	-0.7	-2.2	23.8
PT	67.8	-0.3	-0.6	2.2	61.7	0.3	1.2	>	50.3	-1.3	-0.4	>
SI	65.3	2.7	2.5	4.7	60.5	2.9	2.1	>	29.0	5.5	6.3	21.0
SK	57.0	-0.7	0.2	13.0	50.9	-1.3	-0.6	9.1	26.8	2.2	5.5	23.2
FI	67.6	-0.1	0.4	2.4	65.6	-0.1	1.4	>	50.9	1.3	9.3	>
SE	72.1	-0.8	-0.9	>	70.5	-1.0	-0.4	>	69.1	0.5	4.2	>
UK	71.6	0.1	0.4	>	65.6	0.3	0.9	>	56.2	0.8	5.5	>
EU-15	64.7	0.4	1.3	5.3	56.8	0.8	2.7	3.2	42.5	0.8	4.7	7.5
EU-25	63.3	0.4	0.9	6.7	55.7	0.7	2.1	4.3	41.0	0.8	4.4	9.0
2010 target			**70%**				**More than 60%**				**50%**	

Source: Eurostat, QLFD.

Note: The column "Gap below 2010 target" is for illustrative purposes only, since the 2010 target is a collective target for the EU and not individual Member States. The symbol ">" indicates that the respective target has already been exceeded by the Member States concerned.

- Only four (Denmark, the Netherlands, Sweden and the UK) already meet the 70% overall employment rate target, while seven others (Austria, Cyprus, Finland, Germany, Ireland, Portugal and Slovenia) are presently within 5 percentage points (Chart 21). However, the gap remains over 10 percentage points in six countries, including the large Member States of Italy and Poland which are currently around 12 and 18 percentage points respectively below the EU target. Since the launch of the Lisbon Strategy the greatest improvements in the overall employment rate have taken place in Italy, Latvia and Spain where rates have risen by around 4 to 5 percentage points. However, rates have also declined in several Member States, most notably in Poland where the rate has fallen by over 3 percentage points since 2000.

- Nine Member States already meet the 2010 employment rate target for women, and seven others are within 5 percentage points (Chart 22). Among the remaining Member States the gap remains above 10 percentage points in Greece, Italy, Poland and Spain and as high as 27 percentage points in Malta. Since 2000 the largest increases in the female employment rate have been achieved in Cyprus, Italy and Spain, where rates have all risen by more than 5 percentage points.

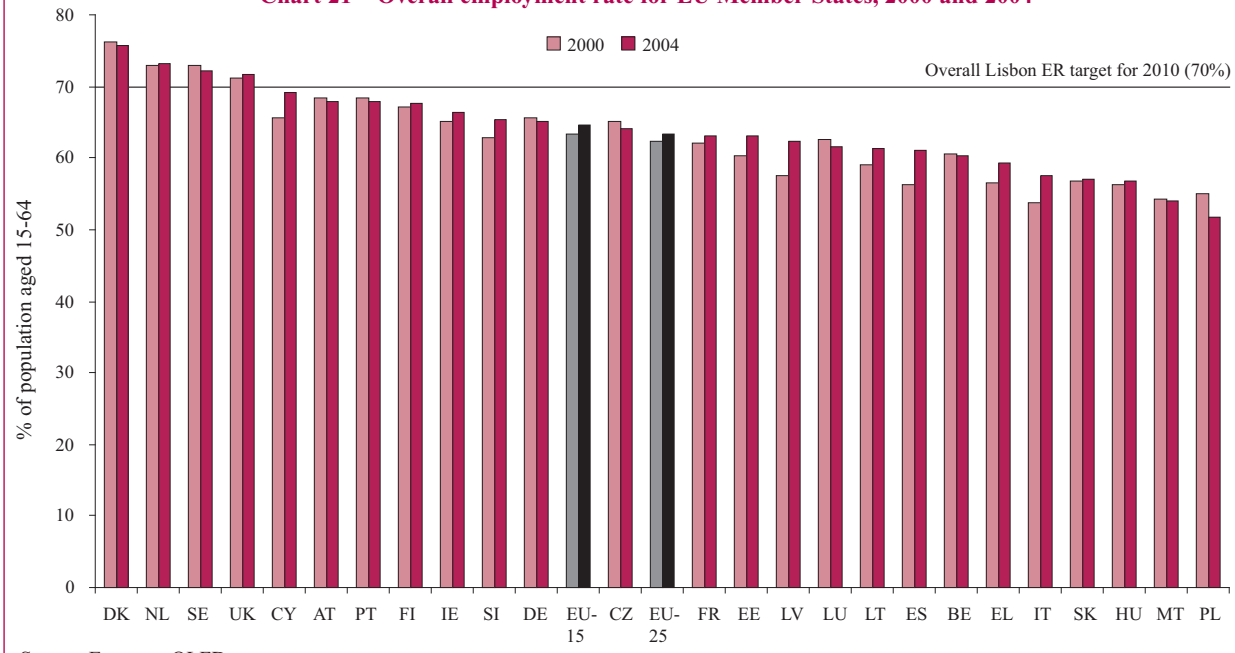
- Seven Member States already meet the employment rate target for older people, but only four others are within 5 percentage points of it

Box 1 – Lisbon and Stockholm employment rate targets

The Lisbon European Council of 2000 set a strategic goal, over the decade 2000-2010, for the EU "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". It specifically stated that the overall aim of employment and economic policies should be to raise the employment rate to as close as possible to 70% by 2010 and to increase the employment rate for women to more than 60% by the same year, not least in order to reinforce the sustainability of social protection systems.

In addition to the 2010 Lisbon targets, the Stockholm European Council of 2001 set intermediate targets for employment rates in the EU in 2005 of 67% overall and 57% for women. It also set a new target of raising the average EU employment rate for older men and women (aged 55 to 64) to 50% by 2010.

Chart 21 – Overall employment rate for EU Member States, 2000 and 2004

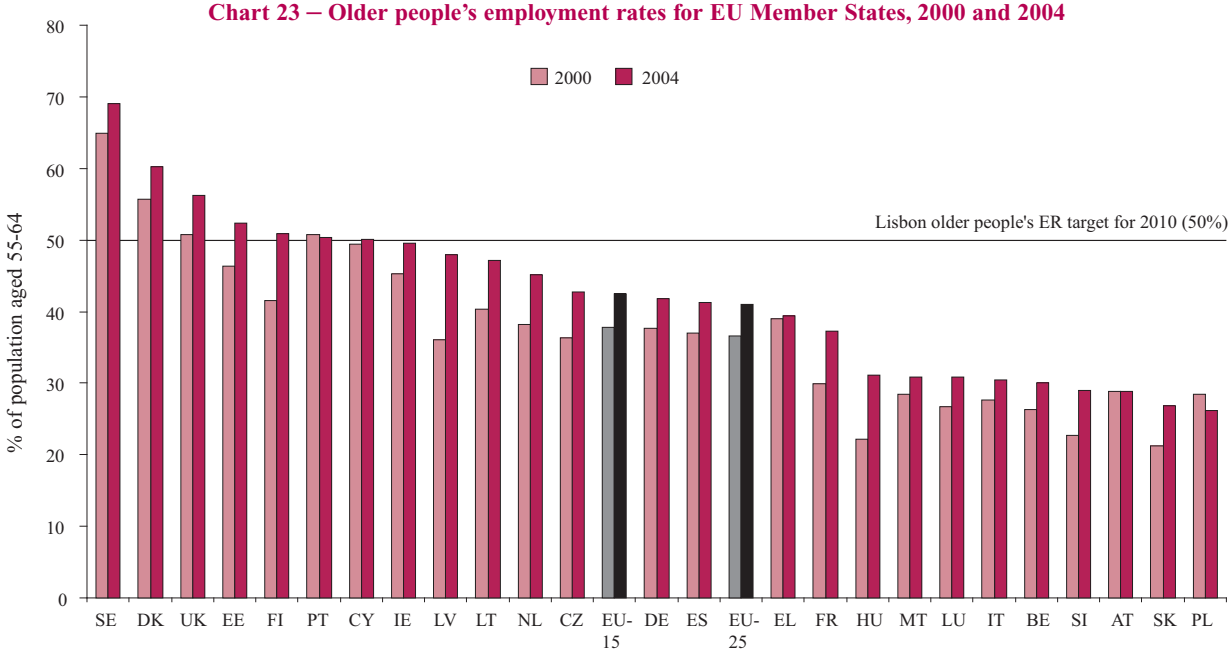


Source: Eurostat, QLFD.

Chart 22 – Female employment rates for EU Member States, 2000 and 2004

Source: Eurostat, QLFD.

Chart 23 – Older people's employment rates for EU Member States, 2000 and 2004



Source: Eurostat, QLFD.

(Chart 23). Indeed, substantial gaps remain for many Member States, being of the order of 20 percentage points or more in nine cases (Austria, Belgium, Hungary, Italy, Luxembourg, Malta, Poland, Slovenia and Slovakia). Nevertheless, substantial progress has been made towards the target in several Member States since 2000. In particular, eleven have achieved increases of over 5 percentage points, with especially strong rises in Finland, Hungary and Latvia. Only Austria, Poland and Portugal have not experienced rises in rates since 2000, with only the last two seeing rates actually decline.

Box 2 – Relaunching of the Lisbon Strategy and the new integrated guidelines

In March 2005, five years after the launch of the Lisbon Strategy, the European Council reviewed the progress to date and, in view of the mixed results, concluded that urgent action was called for. On the basis of the European Commission's Communication "Working together for growth and jobs – A new start for the Lisbon Strategy"[2] it decided to relaunch the Lisbon Strategy without delay and refocus priorities on growth and employment. Following this decision, in April 2005 the European Commission adopted a new 3-year "Integrated Guidelines Package"[3] for the period 2005 to 2008, designed to spur growth and jobs in Europe. Recommending concrete priority actions, it lays out a comprehensive strategy of macroeconomic, microeconomic and employment policies to redress Europe's weak growth performance and insufficient job creation. The new integrated guidelines bring simpler, more focused EU economic governance by reducing the number of guidelines and by concentrating on core measures to create growth and jobs.

On the basis of the guidelines, Member States will draw up 3-year national reform programmes and will report each autumn on the reform programmes in a single national Lisbon report. The Commission will analyse and summarise these reports in an EU annual progress report in January each year. On the basis of the progress report, the Commission will propose amendments to the integrated guidelines, if necessary. The new integrated guidelines underline that Member States and the EU should take every opportunity to involve regional and local governments, social partners and civil society in the implementation of the guidelines. They should give details of the progress made in this area in the Lisbon reporting framework.

In addition to guidelines on macroeconomic and microeconomic policies for growth and jobs - which cover such issues as securing economic stability, safeguarding economic sustainability, promoting economic efficiency, making Europe a more attractive place to invest and work, and spurring knowledge and innovation for growth - a key component of the integrated guidelines are the new employment guidelines for more and better jobs.

New employment guidelines for more and better jobs

The Commission's proposal on the guidelines for the Member States' employment policies reflects the renewed focus on jobs under the relaunched Lisbon Strategy. The new employment guidelines, which were adopted by the Council in July 2005 and are to run from 2005 to 2008, continue to reflect the EU's overall goal of achieving full employment, quality and productivity at work, and social and territorial cohesion. They specifically mention, for the first time, the need to modernise social protection systems.

The proposal's three broad headings for action reflect the key recommendations of the Employment Taskforce[4] set up in 2003 under the chairmanship of Wim Kok:

- *Attract and retain more people in employment, increase labour supply and modernise social protection systems;*
- *Improve adaptability of workers and enterprises;*
- *Increase investment in human capital through better education and skills.*

The new set of eight Employment Guidelines advocate a "lifecycle approach to work" that tackles the problems faced by all age groups. They address the need to:

- Implement employment policies aiming at achieving full employment, improving quality and productivity at work, and strengthening social and territorial cohesion;
- Promote a lifecycle approach to work;
- Ensure inclusive labour markets, enhance work attractiveness, and make work pay for job-seekers, including disadvantaged people, and the inactive;
- Improve matching of labour market needs;
- Promote flexibility combined with employment security and reduce labour market segmentation, having due regard to the role of social partners;
- Ensure employment-friendly labour cost developments and wage-setting mechanisms;
- Expand and improve investment in human capital;
- Adapt education and training systems in response to new skill requirements.

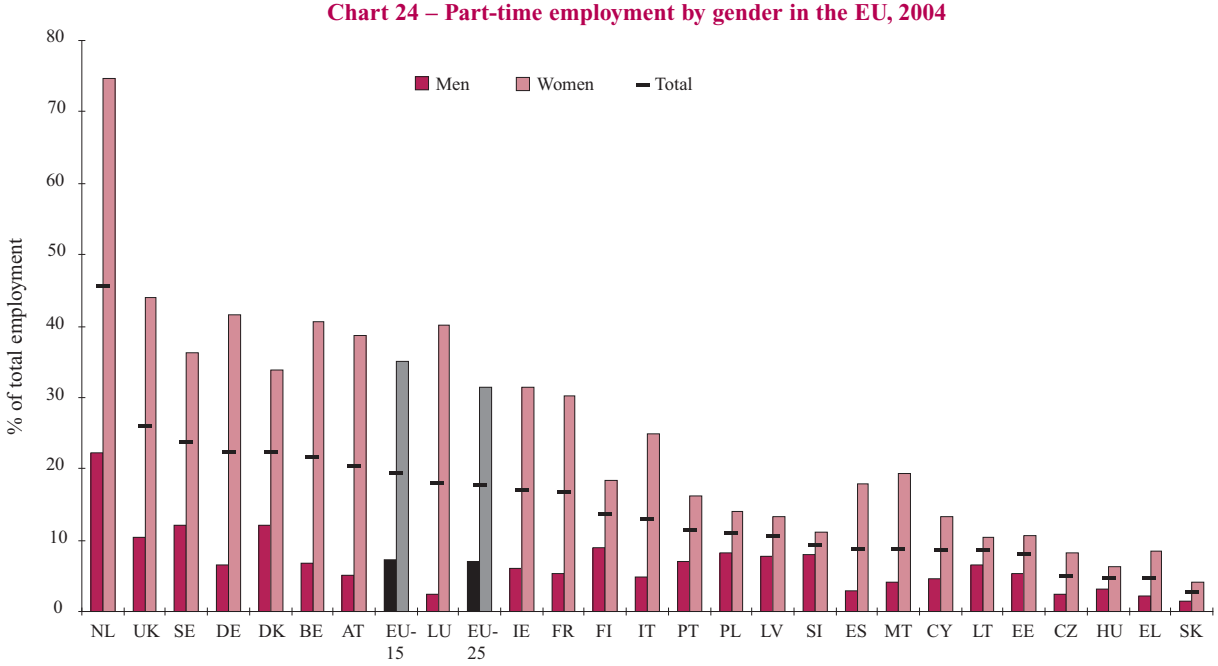
To raise the average employment rate in the EU to 70% by the end of 2010 seems increasingly challenging. Taking into account the latest demographic projections published by Eurostat, it is estimated that employment of the working age population would need to increase by around 23 million in order to attain this target. Similarly, to meet the employment rate targets for women and older workers, increases in employment of around 7.5 million in each of these population subgroups would be necessary. In response to the mixed results achieved so far since the launch of the Lisbon Strategy and the increasing challenge posed by the 2010 targets, the European Council recently agreed to relaunch the strategy without delay and refocus priorities on economic growth and employment (Box 2).

2 Communication to the Spring European Council: *Working together for growth and jobs: A new start for the Lisbon Strategy, COM (2005)* 24.

3 *Integrated guidelines for growth and jobs (2005-2008), COM (2005) 141.*

4 *Jobs, Jobs, Jobs – Creating more employment in Europe*, report of the Employment Taskforce chaired by Wim Kok, November 2003.

Chart 24 – Part-time employment by gender in the EU, 2004



Source: Eurostat, QLFD.

As part of this response, in 2005 a proposal for a set of new integrated guidelines was adopted by the Commission and later by the Council with the aim of spurring growth and job creation.

3.4. Recent employment trends according to type of employment

3.4.1. Part-time employment

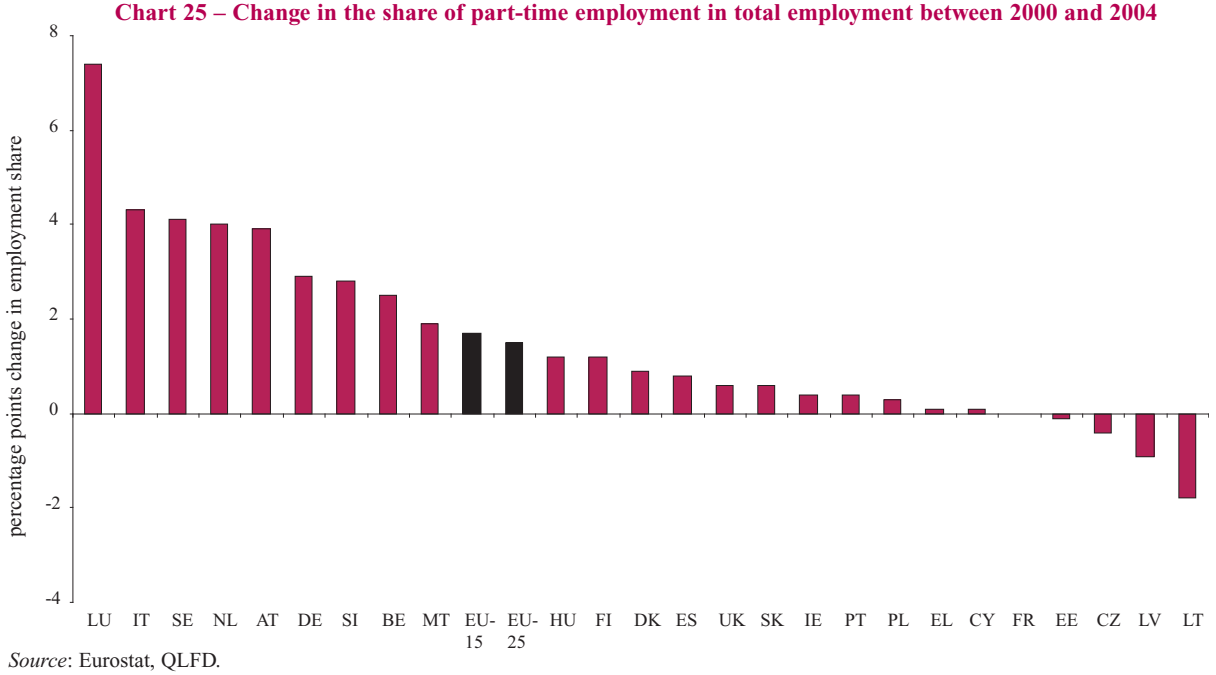
In 2004, the share of people in part-time employment in the EU relative to total employment amounted to just under 18%. The increase of 0.7 of a percentage point compared to the year before was much higher than in other recent years, and marks a continuation in the rising trend in the prevalence of this type of employment. Particularly strong rises in part-time employment occurred in Luxembourg and Slovenia, although in most of the new Member States the shares of part-time employment actually either declined or remained relatively stable.

Within the EU, the Netherlands clearly stands out as the Member State with the highest incidence of part-time employment, where it accounts for almost 46% of total employment (Chart 24). This is essentially due to the fact that three-quarters of female employment in that country is part-time. Indeed, part-time working remains predominantly a feature of female employment, with almost one-third of women in employment in the EU having a part-time job compared to only 7% for men. However, in the new Member States (other than Cyprus and Malta), the gender difference in part-time working is much less marked, although it is also the case that within these Member States the overall share of part-time employment remains relatively low. Indeed, the proportion working part-time is below 5% in the Czech Republic, Hungary and Slovakia (and is also the case in Greece), and among the new Member States the highest share is that in Poland at only around 11%. This compares with shares in excess of 20% in Austria, Belgium, Denmark, Germany, Sweden and the UK, the Member States where, apart from the Netherlands, part-time employment is most common.

Looking at slightly longer-term developments, the vast majority of Member States have witnessed increases in the share of part-time employment since 2000, the only exceptions being the Czech Republic, Estonia, Latvia and Lithuania, where shares have fallen, and France, where the share has remained unchanged (Chart 25). Austria, the Netherlands and Sweden are among the Member States reporting the greatest increases since 2000, with shares rising by around 4 percentage points, while in Luxembourg the share has risen by more than 7 percentage points.

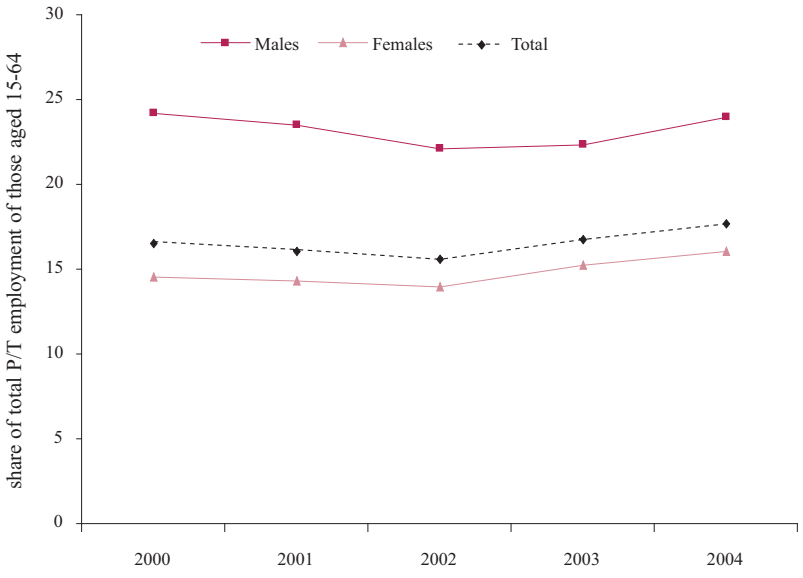
While the share of part-time employment has risen in recent years, there are indications that the proportion in such employment involuntarily is also increasing (i.e. a rising share declare that they work part-time because they are unable to find full-time work). At EU level the share of involuntary part-

Chart 25 – Change in the share of part-time employment in total employment between 2000 and 2004



Source: Eurostat, QLFD.
Note: Break in series for AT and IT in 2004.

Chart 26 – Involuntary part-time employment (as a % of total part-time employment for the working age population) by gender in the EU-25, 2004



Source: Eurostat, LFS spring results.

time employment (which accounted for around one sixth of people in part-time employment in 2004) has been rising since 2002, reflecting in particular strong increases in involuntary part-time employment in the Czech Republic, France and Germany. While, in general, males are more likely to be in part-time employment involuntarily than females, recent rises in the share of involuntary part-time employment have been observed for both sexes (Chart 26).

3.4.2. Fixed-term employment

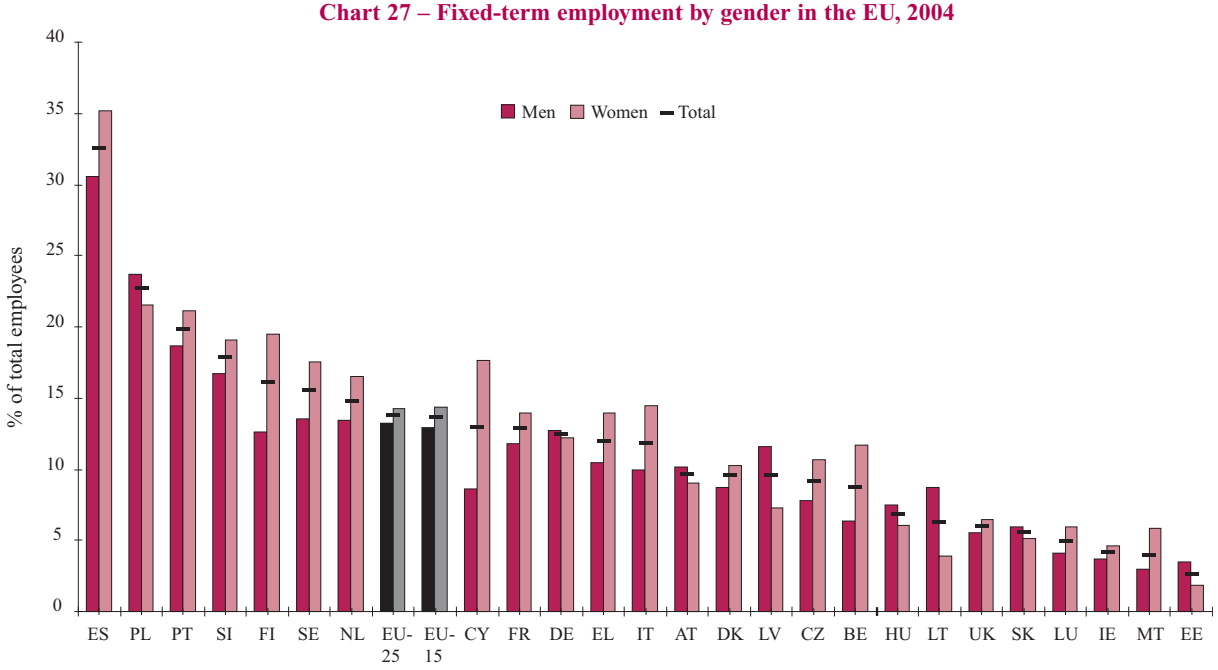
In 2004, the share of total employees within the EU on contracts of fixed duration was 13.7%, ranging from 32.5% in Spain to below 5% in Estonia, Ireland, Luxembourg and Malta (Chart 27). In general, fixed-term employment does not display the same large gender differences as part-time employment, with the average share for the EU being 14.3% for women compared to 13.2% for men. Nevertheless the difference is substantial in some Member States such as Belgium, Italy and Spain, where the share of fixed-term employment for women is around 5 percentage points higher than that for men, and Finland and Cyprus where the gap is around 7 and 9 percentage points respectively. By contrast, in many of the new Member States from central and eastern Europe, as well as Austria and Germany, larger shares of men were employed on a fixed-term basis than women in 2004.

2004 saw a noticeable rise in the share of employees on fixed-term contracts. After remaining static at around

13.0% for the previous three years the share increased by 0.7 of a percentage point in 2004. This was mainly driven by developments in Greece, Italy, Luxembourg, Poland and Spain, and also Slovenia where the share rose by close to 4 percentage points.

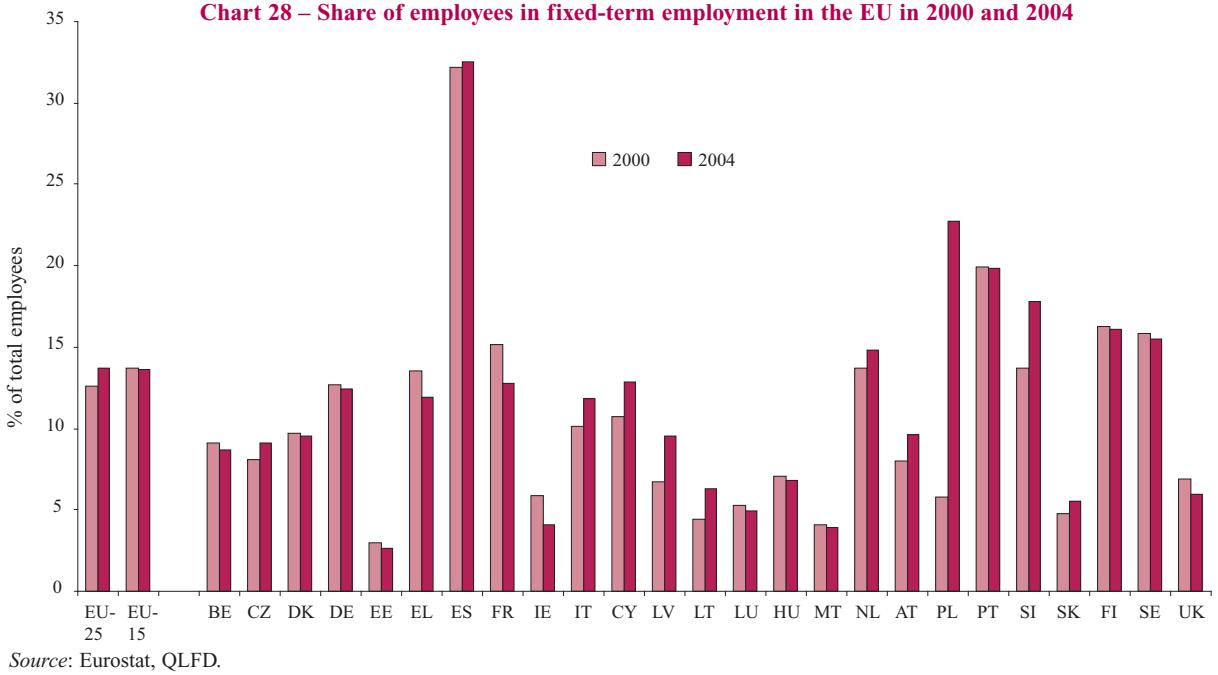
Taking a slightly longer perspective, the share of fixed-term employment has increased by only around 1 percentage point since 2000, although developments have been more pronounced in certain Member States. In particular, in Poland the share of employees on fixed-term contracts has risen sharply from around 6% to 23% over this period, a much larger change than in any other Member State. While increases in the share of fixed-term employment since 2000 have mainly occurred in the new Member States

Chart 27 – Fixed-term employment by gender in the EU, 2004



Source: Eurostat, QLFD.

Chart 28 – Share of employees in fixed-term employment in the EU in 2000 and 2004



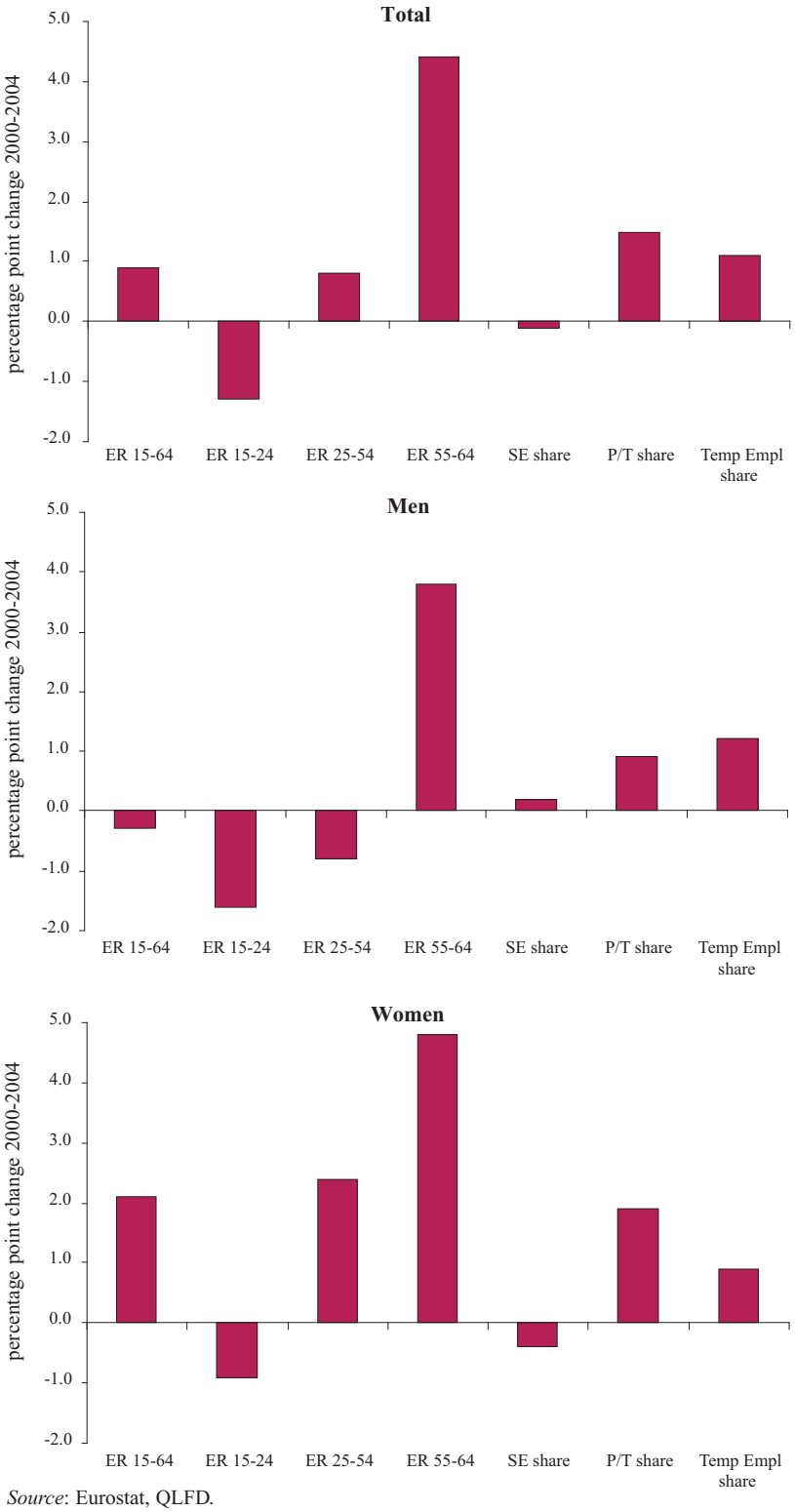
Source: Eurostat, QLFD.
Note: Break in series for AT and IT in 2004.

(with some exceptions), shares have also risen appreciably in some of the old Member States, for instance the Netherlands (Chart 28).

3.5. Detailed employment trends between 2000 and 2004 in the EU and the larger Member States

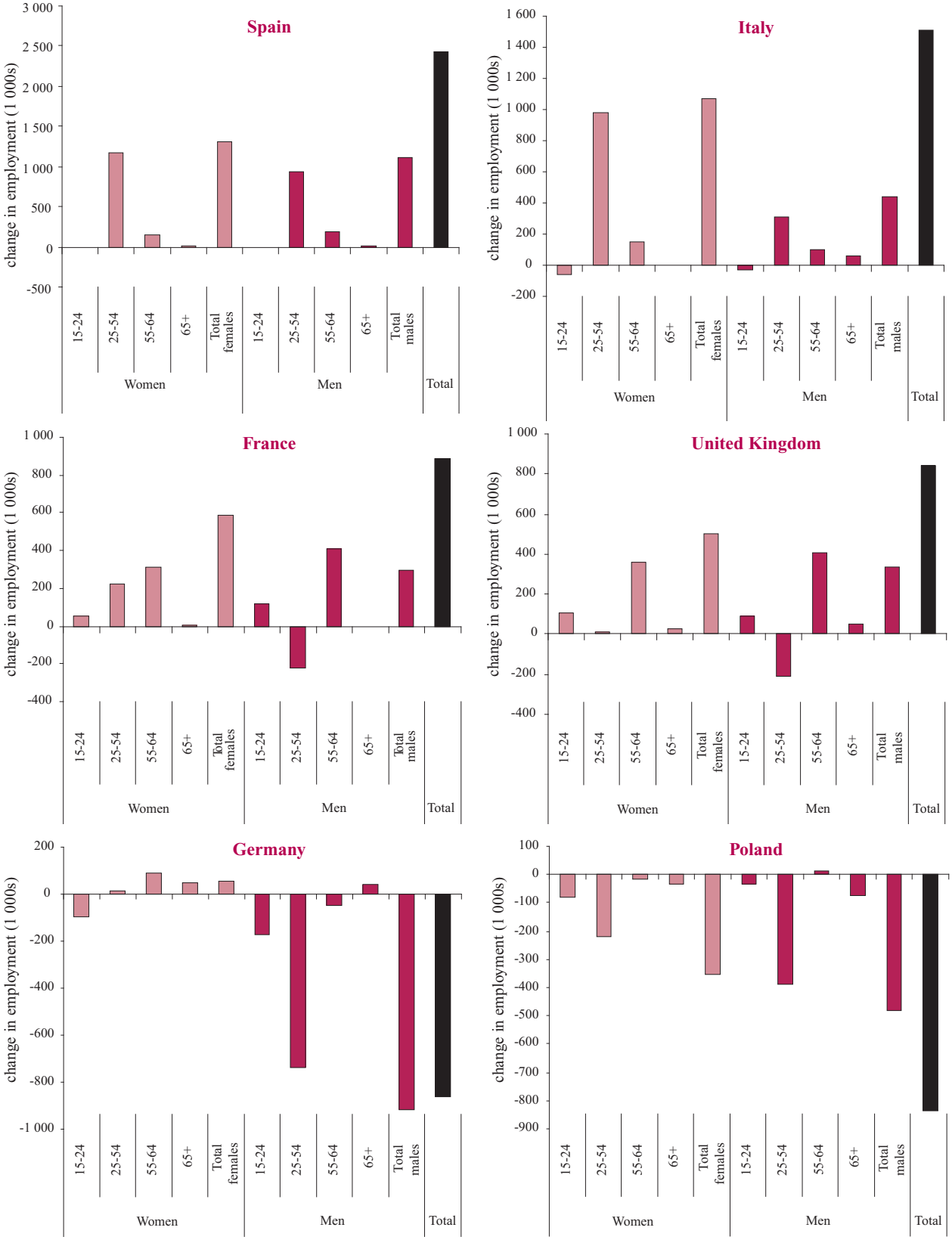
The key employment trends in the EU between 2000 and 2004 (Chart 29) can be summarised as follows. In terms of employment rates, the overall figure for the working age population has risen by only 0.9 of a percentage point over this period, consisting of a 2.1 percentage points rise for women as opposed to a decline of 0.3 percentage points for men. Underlying this overall trend there have been significant differences in developments for different age groups. For youth the employment rate has fallen by 1.3 percentage points, the decline affecting young men more than young women. By contrast, the overall rate for those of prime working age has risen by 0.8 percentage points, driven by a 2.4 percentage points rise for women, against a fall of 0.8 percentage points for men. Rates for older people aged 55 to 64 of both sexes have risen markedly since 2000, leading to an overall increase of 4.4 percentage points for this age group. In terms of different types of employment, the share of self-employment in total employment has remained essentially unchanged since 2000. By contrast, shares of part-time employment and fixed-term employment have both risen, by 1.5 percentage points and 1.1 percentage points respectively, the former mainly driven by employment developments for women and the latter by those for men.

Chart 29 – Changes in employment rates, in shares of self-employment and part-time employment in total employment, and in shares of employees in fixed-duration employment between 2000 and 2004



Source: Eurostat, QLFD.

Chart 30 – Change in employment in the large EU Member States between 2000 and 2004, by sex and age group



Source: Eurostat, LFS, spring results.
Note: Break in series for IT in 2004.

A particular feature of employment growth post-2000 is that older people aged 55 to 64 account for the majority of the more than 5 million increase in total employment (by main employment, resident concept[5]) between 2000 and 2004. For this age group employment rose by 3.2 million, compared to 2.7 million for those of prime working age and a fall of 0.7 million for youth.

The Member States which have been the main drivers for the increase in the overall level of employment within the EU between 2000 and 2004 are Italy and Spain, where employment rose by 1.5 million and 2.4 million respectively (by main employment, resident concept), although France and the UK have also seen employment increases in the order of 0.8 to 0.9 million over this period. This contrasts with falls in employment of 0.8 to 0.9 million each in Germany and Poland over the same period.

Examination of the characteristics of the change in employment within these individual Member States reveals very different patterns in terms of employment developments across gender and different age groups (Chart 30). In Italy and Spain the rise in employment has been driven almost entirely by increased employment of people in the prime working age group. In Spain the increase in employment has been quite evenly spread between men and women, but in Italy it has been the rise in employment of females of prime working age that has dominated the overall rise in employment. In France and the UK employment expansion has mainly come about through growth in employment of the 55-64 age group, with increases in this age group larger for men than for women, although overall (i.e. across all age groups combined) women have seen the largest rise in employment. In both these Member States, employment of men in the prime working age group declined while that for women rose, this being especially the case in France. In Germany and Poland, the two large Member States where overall employment has contracted since 2000, it is men of prime working age that account for most of the fall in employment. Furthermore, the 55-64 age group has been the least affected by the overall decline in employment, with little change in employment in this age group in Poland for both sexes, while in Germany employment has increased for older women but declined slightly for older men. For youth, employment has declined in both these Member States, with the decline stronger for young men in Germany, but for young women in Poland.

4. Sectoral employment structure and trends

4.1. Sectoral employment structure in the EU in 2004

At EU level, the overall sectoral employment structure[6] in 2004 consisted of a dominant services sector (accounting for 67.1% of total employment), a still sizeable industry sector (27.9% of employment) and a relatively small share of employment in the agricultural sector (5%). However, at the level of individual Member States there are substantial variations in the relative shares of employment in these broad sectors (Table 6 and Chart 31). For example, in Poland and Slovenia the services sector accounts for less than 55% of total main employment, compared to over 75% in Luxembourg, the Netherlands, Sweden and the UK. Industry's share of employment varies from around 20% in Luxembourg and the Netherlands to just below 40% in the Czech Republic and Slovakia. Agriculture's share in 2004 ranged from as low as 1.3% in the UK to close to 18% in Poland.

4.2. Sectoral employment trends in 2004

Between 2003 and 2004 employment growth in the EU was again driven by the continued expansion of employment in the services sector (Chart 32). Over 2004 the rate of growth in this sector remained stable at just above 1%, an increase on the rates in the previous year. By contrast, employment in both agriculture and industry continued to contract in 2004, although the recent trend suggests that the contraction in industry may be coming to an end. Employment growth in agriculture remained around the -1% level over the course of 2004, while in industry growth shifted from around -1% in the first quarter to zero (i.e. no change) in the last quarter of 2004.

Focusing on sectoral employment developments in the four largest

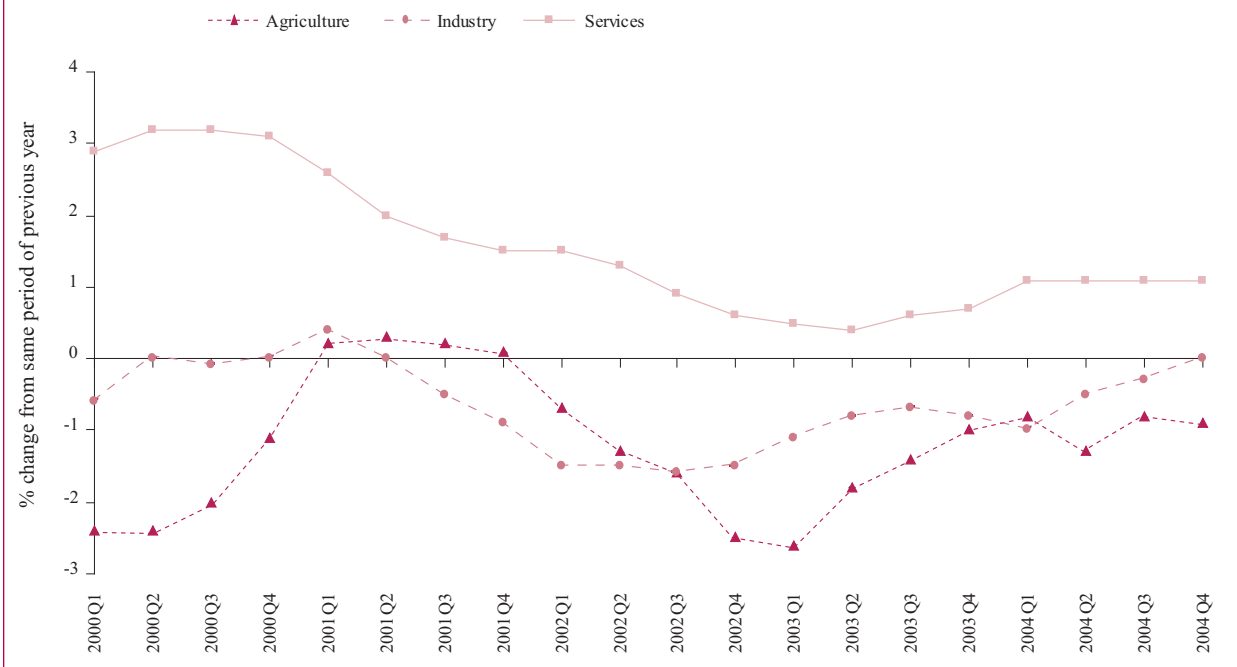
5 All persons employed who are resident in the country (also known as "national concept").

6 By main employment and resident concept.

Chart 31 – Comparative employment structure (by main employment) of the EU Member States by main sector, 2004

Source: Eurostat, LFS, spring results.
Note: Data for NL refer to 2003.

Chart 32 – Employment growth in the EU by main sector, 2000-2004



Source: Eurostat, QLFD.

Table 6 – Employment structure in 2004 (% of total employment 15+, by main employment, resident concept)

Sector (NACE rev1 description)	EU-25	EU-15	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK
Agriculture, fishing and forestry	5.0	3.8	2.2	4.4	3.3	2.4	5.5	12.6	5.5	4.0	6.4	4.2	5.1	13.3	16.3	2.1	5.3	(2.3)	3.0	5.0	17.6	12.1	9.8	5.1	5.0	2.5	1.3
Mining and quarying	0.4	0.2	0.1	1.3	(0.2)	0.3	(1.6)	0.3	0.3	0.1	0.4	0.2	:	:	:	:	0.4	:	(0.1)	(0.2)	1.6	0.2	(0.6)	0.7	0.2	0.1	0.3
Manufacturing	18.8	18.2	17.4	27.2	15.9	23.1	24.2	13.2	17.0	17.0	15.3	21.8	10.7	16.2	17.8	9.7	23.0	20.2	13.5	18.4	20.3	19.6	28.9	26.9	18.8	15.9	13.5
Electricity, gas and water supply	0.9	0.7	0.8	1.6	(0.6)	0.8	2.2	0.9	0.6	0.9	0.7	0.6	1.2	2.0	1.8	(0.5)	1.5	(2.3)	0.4	0.7	1.6	0.6	(1.0)	2.0	0.8	0.7	0.6
Construction	7.8	7.9	6.5	9.1	7.0	7.0	7.1	8.1	12.5	6.8	11.2	8.2	11.4	8.9	8.4	9.5	8.0	6.7	5.9	7.3	5.4	10.8	5.8	9.6	6.3	5.7	7.8
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	14.7	14.7	13.7	13.4	15.4	13.9	13.4	17.3	15.7	13.5	14.2	15.4	17.8	15.1	15.7	11.3	13.9	15.1	15.9	15.9	14.5	15.3	12.8	12.0	12.4	12.5	15.5
Hotels and restaurants	4.1	4.3	3.1	3.8	2.2	3.4	2.9	6.5	6.7	3.3	5.9	4.6	9.1	2.1	2.2	3.3	3.8	7.9	4.0	6.0	1.7	5.1	4.0	3.8	3.1	3.0	4.4
Transport, storage and communication	6.2	6.1	7.3	7.7	7.0	5.6	8.8	6.3	6.0	6.4	6.2	5.6	5.6	10.2	6.3	6.8	7.6	8.0	6.1	6.5	6.0	4.1	6.0	6.5	7.1	6.2	6.8
Financial intermediation	3.0	3.2	3.5	2.0	2.9	3.6	(1.4)	2.6	2.2	2.7	4.5	2.8	4.6	1.6	(1.0)	10.2	2.0	3.0	3.5	3.8	2.0	2.0	2.3	2.1	2.1	2.1	4.2
Real estate, renting and business activities	9.3	9.9	9.0	6.1	8.8	9.2	6.9	6.5	8.8	10.1	8.4	10.2	6.8	3.9	4.0	8.6	7.1	5.9	13.1	9.4	5.7	5.6	6.2	5.6	11.3	13.1	11.3
Public administration and defence, compulsory social security	7.2	7.3	10.4	6.6	5.8	7.9	7.1	8.2	6.2	9.2	4.9	6.5	7.0	6.8	5.0	12.4	7.5	9.2	7.2	6.7	6.6	6.4	6.0	7.2	4.9	5.9	6.9
Education	7.2	7.1	9.2	6.0	7.9	5.7	8.1	7.3	5.7	7.2	6.4	7.4	6.4	8.3	9.7	6.4	8.6	8.4	7.1	5.8	7.8	6.1	7.0	7.4	7.0	11.2	9.2
Health and social work	9.7	10.3	12.1	6.7	17.9	11.3	5.7	5.1	5.7	11.8	9.6	6.6	4.4	5.2	7.4	8.6	7.0	7.1	15.4	8.6	5.8	6.0	5.2	7.1	15.1	16.0	12.0
Other community, social and personal service activities	4.6	4.8	3.9	3.9	5.0	5.3	4.7	3.6	4.0	4.2	5.1	4.6	5.0	5.7	3.6	3.5	4.3	3.6	4.8	5.2	3.1	3.0	4.3	3.7	5.7	5.2	5.6
Private households with employed persons	1.1	1.2	0.4	0.1	(0.2)	0.4	:	1.5	3.2	2.6	0.4	1.1	4.2	(0.4)	:	2.0	:	:	:	(0.2)	(0.1)	3.0	:	0.3	0.3	:	0.6
Extra-territorial organisations and bodies	0.1	0.1	0.3	:	:	0.1	:	:	:	(0.1)	0.5	0.1	0.6	:	:	4.9	:	:	:	(0.2)	:	:	:	:	:	:	0.0
Total Agriculture, fishing and forestry	**5.0**	**3.8**	**2.2**	**4.4**	**3.3**	**2.4**	**5.5**	**12.6**	**5.5**	**4.0**	**6.4**	**4.2**	**5.1**	**13.3**	**16.3**	**2.1**	**5.3**	**(2.3)**	**3.0**	**5.0**	**17.6**	**12.1**	**9.8**	**5.1**	**5.0**	**2.5**	**1.3**
Total Industry	**27.9**	**27.1**	**24.9**	**39.3**	**23.7**	**31.3**	**35.1**	**22.5**	**30.4**	**24.8**	**27.6**	**30.8**	**23.4**	**27.3**	**28.3**	**19.9**	**32.9**	**29.4**	**19.9**	**26.6**	**29.0**	**31.2**	**36.3**	**39.2**	**26.1**	**22.4**	**22.3**
Total Services	**67.1**	**69.1**	**72.8**	**56.3**	**73.0**	**66.4**	**59.5**	**64.9**	**64.1**	**71.2**	**66.0**	**65.0**	**71.5**	**59.4**	**55.4**	**78.0**	**61.8**	**68.3**	**77.0**	**68.3**	**53.4**	**56.7**	**53.9**	**55.7**	**68.9**	**75.1**	**76.5**

Source: Eurostat, LFS, spring results.
Note: Data for NL refer to 2003. Data in parentheses ( ) are not reliable due to the small sample size.

Member States (Chart 33), which have a strong influence on the overall EU aggregate, all experienced positive employment growth throughout 2004 in the services sector. However, while employment growth in services accelerated over 2004 in France and Germany (following a period of contraction in this sector in 2003 in both Member States) and remained broadly stable in the UK, it decelerated sharply in Italy over the course of the year. In industry, employment developments were rather mixed. In Germany employment in industry continued to contract, with negative growth of around -2% for all quarters, while in France the contraction generally accelerated over 2004 before easing off slightly in the last quarter. By contrast, in the UK the rate of decline in industry was lower than in previous years and the underlying trend shows a slightly improving employment situation in this sector. In Italy the improvement in employment in industry over 2004 was even stronger, with a turnaround from negative employment growth at the start of the year to growth of almost 2% in the last quarter. Employment developments in agriculture were also mixed, although in France employment in this sector continued to contract strongly over 2004, with negative employment growth of -2.0 to -2.5% in all four quarters.

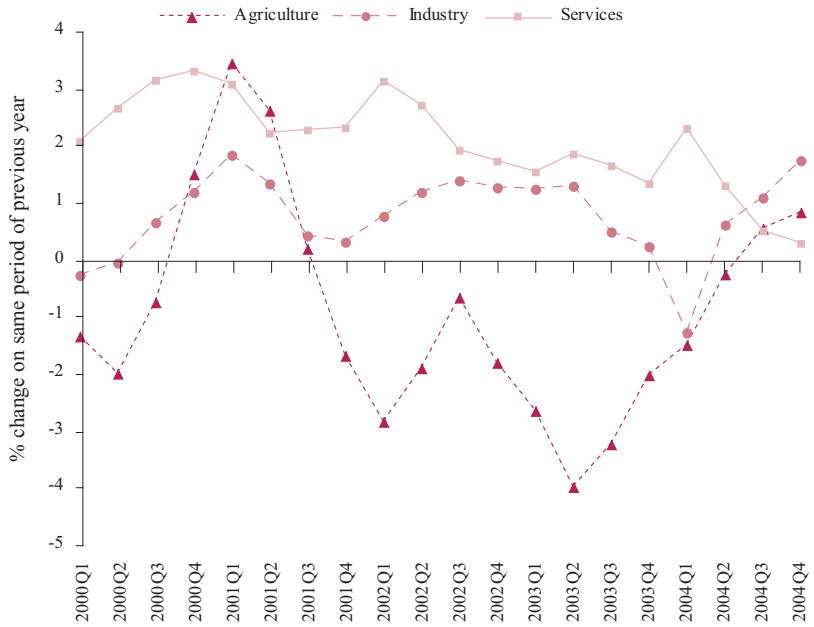
Chart 33 – Sectoral employment growth in the four largest Member States, 2000-2004

4.3. Sectoral employment trends in the EU since 2000

Since 2000 total employment in the EU has increased by more than 5 million. This has been due to strong net employment creation of over 8 mil-

Chart 33 (cont.)

Italy



United Kingdom

Source: Eurostat, national accounts.

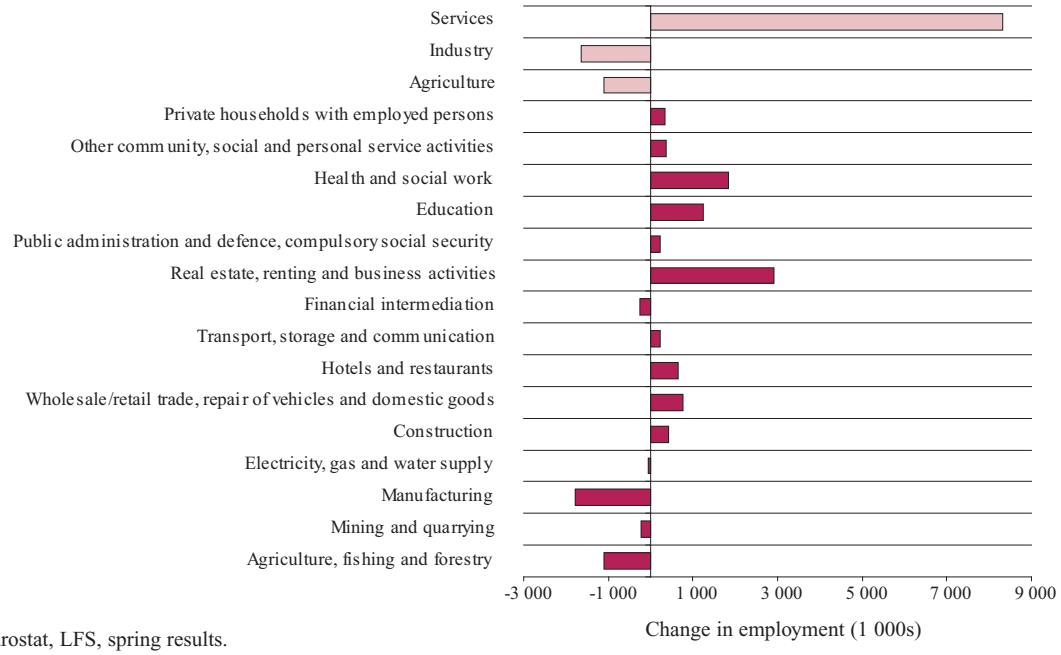
lion in the services sector[7] (Chart 34), which has more than made up for the employment contraction in industry (down 1.7 million) and agriculture (down 1.1 million).

Within industry, employment has contracted particularly strongly in manufacturing, where it has fallen by 1.8 million (or about 5% on 2000 levels), and only the construction sector has generated any increase in employment. For services the picture is one of expanding employment in all sub-sectors apart from "Financial intermediation". Within services, employment creation has been especially strong in "Real estate, renting and business activities" (up 2.9 million), "Health and social work" (up 1.9 million) and "Education" (up 1.2 million), the last two normally accounting for a relatively high share of public sector employment in many Member States.

At country level, Italy and Spain are among the Member States that have witnessed a strong improvement in their labour market situation between 2000 and 2004. The strong overall employment growth in these countries shows a broadly similar sectoral pattern, the main exceptions between the two being in the "Electricity, gas and water supply" and "Public administration and defence, compulsory social security" sectors (Chart 35) where employment declined in Italy but rose in Spain. At broad sectoral level, both Member States experienced declines in employment in agriculture but increases in both industry and especially services. Within industry, employment growth was particularly strong in "Construction", and well above the EU average for this sector. For services, employment growth was well above average in almost all

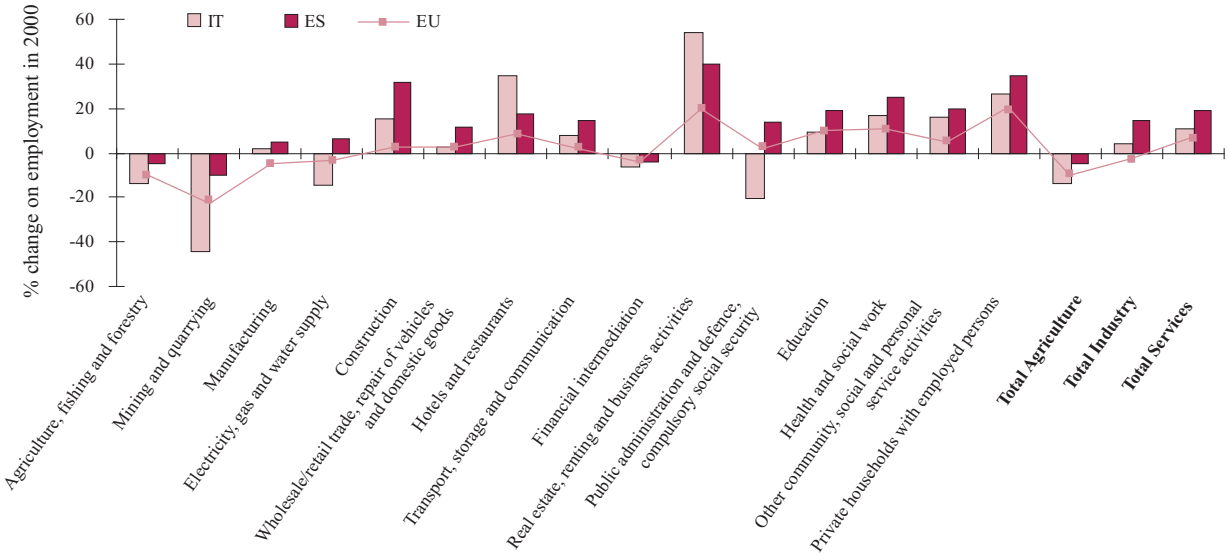
7 By resident concept.

Chart 34 – Changes in sectoral employment in the EU between 2000 and 2004



Source: Eurostat, LFS, spring results.
Note: Break in series for AT and IT in 2004.

Chart 35 – Sectoral employment growth for Italy and Spain 2000-2004 compared to the EU average

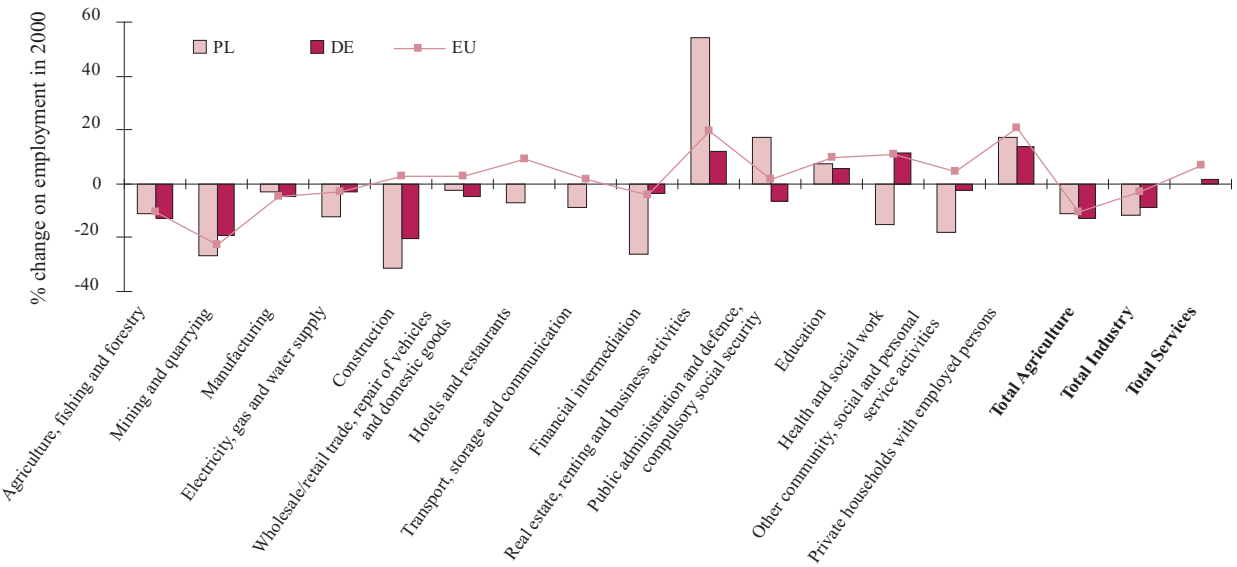


Source: Eurostat, LFS, spring results.
Note: Break in series for AT and IT in 2004.

sub-sectors in Spain, and for the most part in Italy as well where only "Public administration and defence, compulsory social security" was well below the EU average (declining by around 20%) while growth in the "Wholesale/retail trade, repair of vehicles and domestic goods", "Financial intermediation" and "Education" sectors was close to the EU average.

These sectoral employment trends in Italy and Spain between 2000 and 2004 contrast markedly with developments in Germany and Poland, Member States which have experienced a

Chart 36 – Sectoral employment growth for Germany and Poland 2000-2004 compared to the EU average

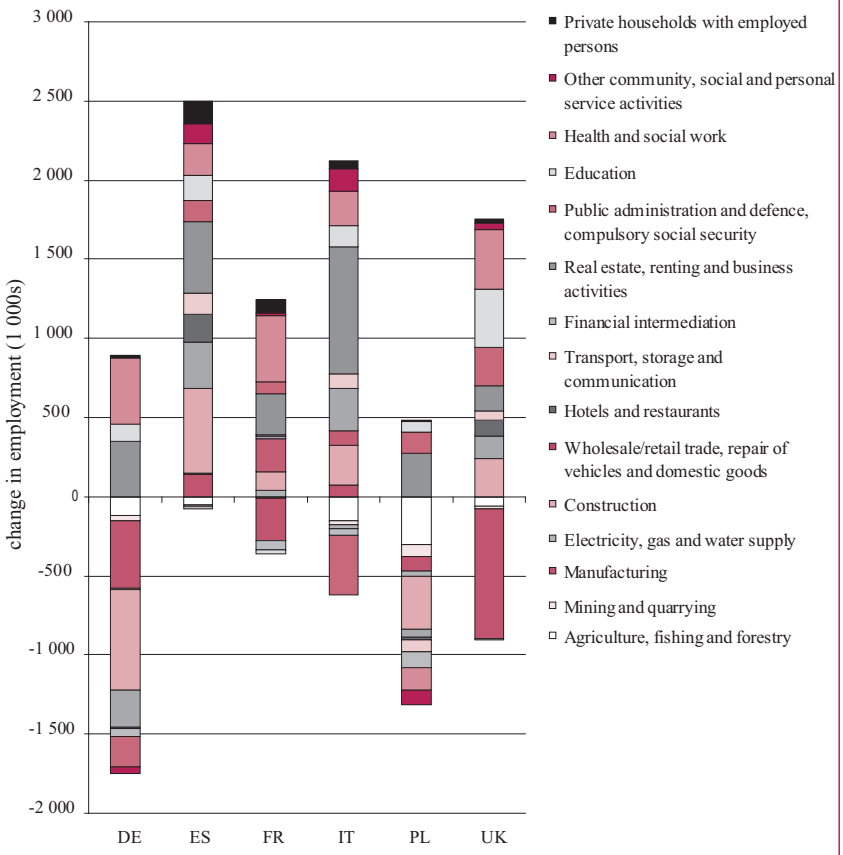


Source: Eurostat, LFS, spring results.
Note: Break in series for AT and IT in 2004.

worsening labour market situation over this period. Developments in both have been characterised by strong negative employment growth in agriculture and industry, combined with weak or non-existent employment creation in the services sector (Chart 36). Employment growth has been below the EU average in almost all sectors, the main exceptions being "Real estate, renting and business activities" and "Public administration and defence, compulsory social security" in Poland and "Health and social work" in Germany. Importantly, these two countries have not experienced the same broad expansion in employment across the services sector that has characterised developments in Italy and Spain.

Examination of sectoral employment developments in the large Member States in terms of employment levels (Chart 37) shows marked variation across countries in terms of the sectoral contribution to changes in overall

Chart 37 – Change in employment in the large EU Member States between 2000 and 2004, by sector



Source: Eurostat, LFS, spring results.
Note: Break in series for IT in 2004.

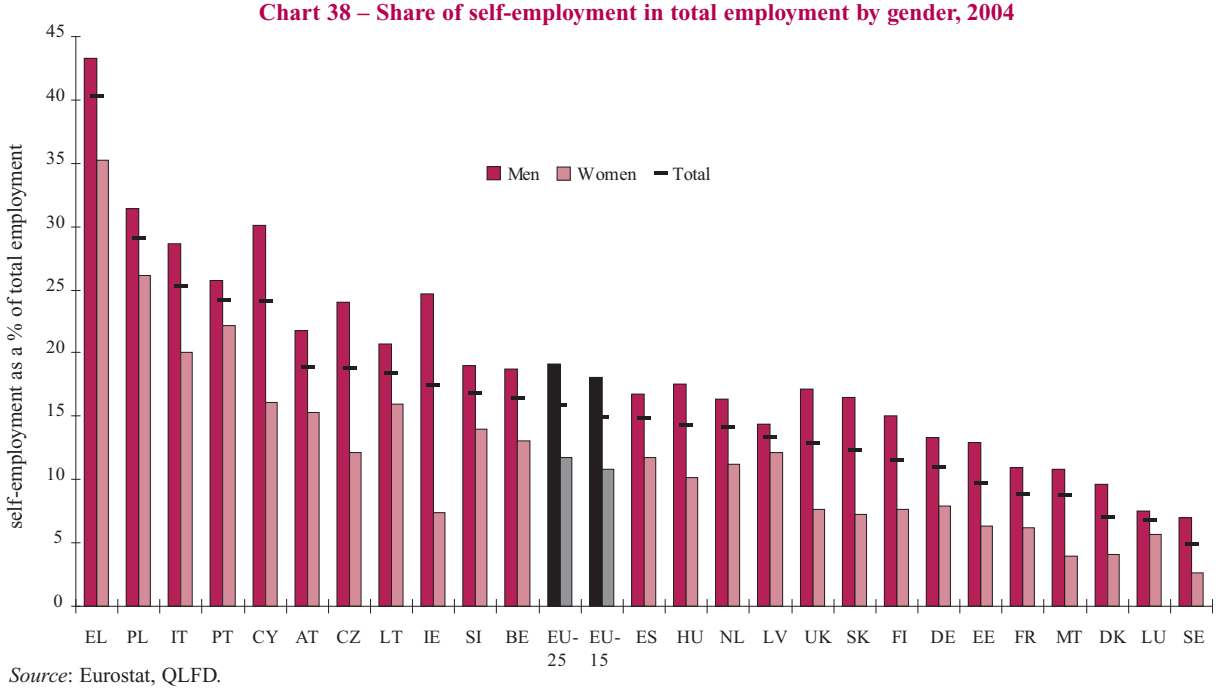
employment between 2000 and 2004. For example, in Spain the "Construction" and "Real estate, renting and business activities" sectors were main contributors to the expansion in employment, followed by "Wholesale and retail trade, repair of vehicles and domestic goods". The first two were also key drivers of employment increases in Italy together with "Hotels and restaurants", although for Italy, in contrast to Spain, the contribution of "Real estate, renting and business activities" was more significant than that of "Construction". In France and the UK, where the overall increase in employment was lower than in Italy and Spain, there was much less employment creation in the "Real estate, renting and business activities" sector and significant contraction in "Manufacturing". However, both Member States registered large increases in employment in "Health and social work", and in the case of the UK also in "Education" and "Public administration and defence, compulsory social security". Indeed, in the UK these three sectors, traditionally areas with a high share of public sector employment, accounted for the majority of the expansion in employment in this period and helped offset the sharp decline of employment in manufacturing. In Germany, increases in employment in "Real estate, renting and business activities" and "Health and social work" could not make up for the marked declines in "Construction" and "Manufacturing", with employment also falling in most other sectors. In Poland employment expanded only in the "Real estate, renting and business activities", "Public administration and defence, compulsory social security" and "Education" sectors, with almost all the others witnessing employment losses, these being especially strong in "Agriculture" and "Construction".

5. Self-employment in Europe

5.1. Trends in self-employment in Europe and the structure of the self-employed population in 2004

For the EU as a whole some 29 million people were self-employed (i.e. working in their own business, professional practice or farm for the purpose of earning a profit) in 2004, compared to around 161 million employees. This puts self-employment's share of total employment at around 16% in 2004 (compared to a much lower share of around 7.5% in the US in 2003[8]), up slightly (by 0.2 percentage points) on the year before. However, at EU level the share has remained more or less stable around 16% since the late 1990s, and has remained essentially unchanged compared to 2000. However, even though the share of total employment has remained quite stable in the EU, in terms of overall employ-

Chart 38 – Share of self-employment in total employment by gender, 2004



Source: Eurostat, QLFD.

8 OECD Labour Market Statistics.

ment levels the number of self-employed has been increasing.

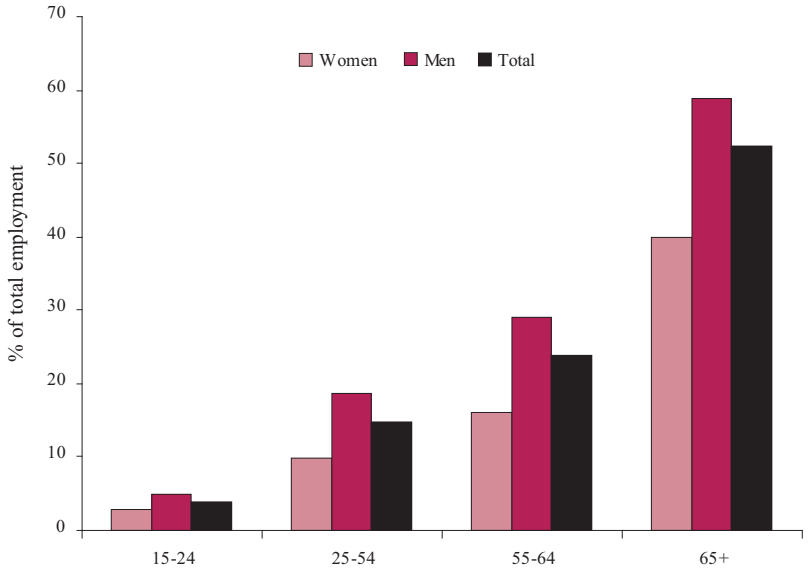
The prevalence of self-employment varies markedly between Member States (Chart 38). For example, the number of self-employed as a share of total employment is particularly high in many southern Member States including Greece, where the share is around 40%, and in Cyprus, Italy and Portugal where it is of the order of 25%. Of the remaining Member States only Poland has a share above 20%, at around 29%, although such a high share is quite atypical for central and northern European Member States and reflects the still high share of self-employment in agriculture in that country. Indeed, the share is below 15% for the majority of the abovementioned group, and is even below 5% in Sweden.

In all Member States there are higher proportions of men than women in self-employment, the gender gap being as high as around 14 and 17 percentage points in Cyprus and Ireland respectively. At EU level the gender gap in the share of self-employment is 7.3 percentage points, the average share being 19.1% for men and 11.8% for women in 2004.

Examination of the structure of self-employment by age and gender at EU level (Chart 39) shows that the incidence of self-employment is higher in the older age groups, with the majority of workers aged over 65 in self-employment, while the share for youth is only around 4%. Furthermore, there are lower shares of women than men in self-employment for all age groups, and this disparity increases with age. For youth, male and female shares of self-employed are very similar, but for the 55 to 64 years and 65+ age groups the disparity is around 13 and 19 percentage points respectively.

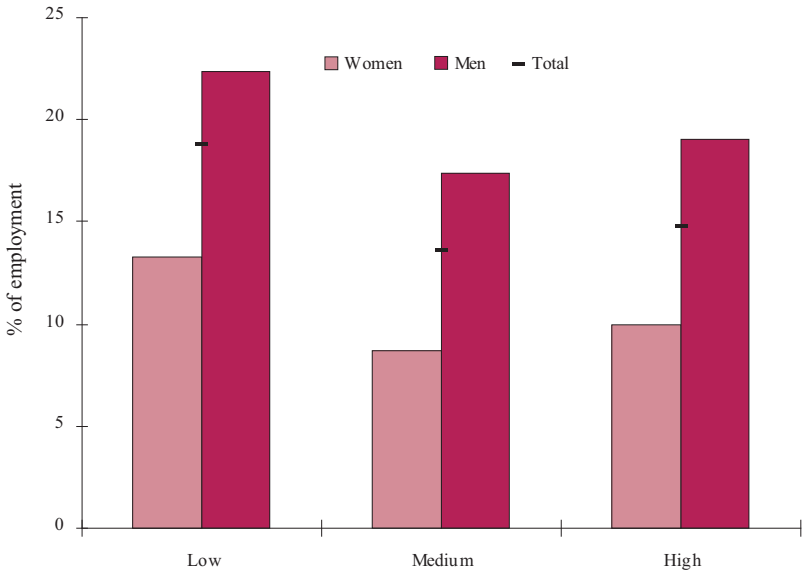
Within the EU, on average the biggest share of self-employment is found among low-skilled workers, 19% of whom are self-employed, followed by the high-skilled at just under 15% (Chart 40). Medium-skilled workers are the least likely to be self-employed, with a share of around 13.5%. This general pattern in the distribution of self-employment shares by skill level is common to men and women alike.

Chart 39 – Employment shares of self-employment in the EU-25 by age group and gender, 2004



Source: Eurostat, LFS, spring results.

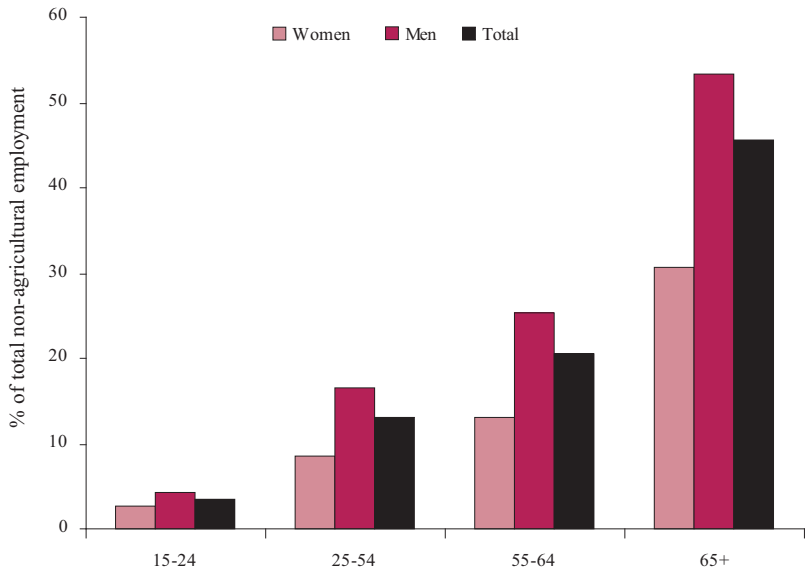
Chart 40 – Shares of self-employment in employment in the EU-25 by skill level and gender, 2004



Source: Eurostat, LFS, spring results.

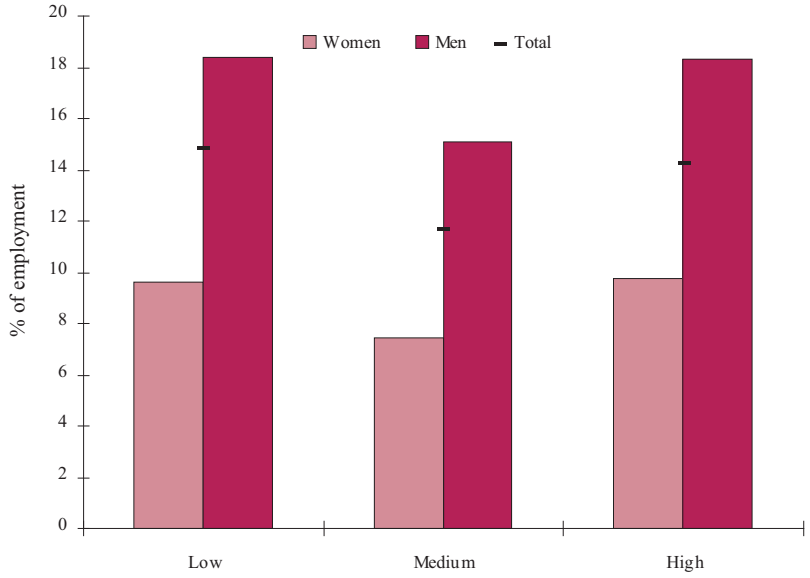
The foregoing results refer to the self-employed population as a whole. It is also of interest to examine only non-agricultural self-employment, i.e. excluding the self-employed in the agriculture and fishing sectors (NACE[9] economic activities A and B). Excluding agricultural employment, the self-employed population in the EU totalled 24 million in 2004, equivalent to a share of around 13% of total non-agricultural employment (compared to only 6.9% in the US in 2003[10]).

Chart 41 – Shares of non-agricultural self-employment in total non-agricultural employment in the EU by age and gender, 2004



Source: Eurostat, LFS, spring results.

Chart 42 – Shares of non-agricultural self-employment in non-agricultural employment in the EU by skill level and gender, 2004



Source: Eurostat, LFS, spring results.

The age and gender structure of non-agricultural self-employment at EU level shows the same pattern as for the self-employed population as a whole (Chart 41). Again, the incidence of self-employment is higher among older age groups and comparatively rare among young people, with lower shares of women in non-agricultural self-employment for all age groups and with this disparity increasing with age. The only major difference relative to the self-employed population as a whole is with regard to the older populations aged 55 to 64 and 65+, where the shares of self-employment in non-agricultural employment are noticeably lower, reflecting the high amount of self-employment in agriculture for these age groups.

Concerning the shares of self-employment in non-agricultural employment according to different skill categories (Chart 42), the shares of the low-skilled and high-skilled in self-employment are very similar at 14 to 15%, while around 12% of medium-skilled workers are self-employed. This indicates that the share of low-skilled workers in self-employment in non-agricultural sectors is lower than in the self-employed population as a whole, and more evenly balanced with the share of high-skilled workers.

5.2. Structure of the self-employed population compared to employees

The structure of the population in self-employment shows marked differences with respect to the population of employees (Chart 43). Of the total population in self-employment, the

9 The statistical classification of economic activities (NACE Rev. 1).

10 OECD Labour Market Statistics.

Chart 43 – Composition of self-employed and employee populations in the EU in 2004 by gender, age group and skill level

Source: Eurostat, LFS, spring results.
Note: Skill level categories refer to low (ISCED 0-2: lower secondary), medium (ISCED 3-4: upper secondary), high (ISCED 5-6: tertiary). "Non-agricultural self-employed population" excludes employment in the agriculture and fishing sectors (NACE economic activities A & B).

vast majority are men (71%), while only 29% are women, and this difference between the genders is much more marked than for employees. The age distribution of the self-employed population also shows some differences compared to that for employees. For example, for both men and women, youth account for much lower shares of the self-employed than of employees (around 3% versus 12%), while the older age groups (55-64 and 65+) account for greater shares of the self-employed population than of employees. Broadly, this means that the self-employed population has an over-representation of older people and an under-representation of young people compared to the population of employees and, hence, an older age distribution overall.

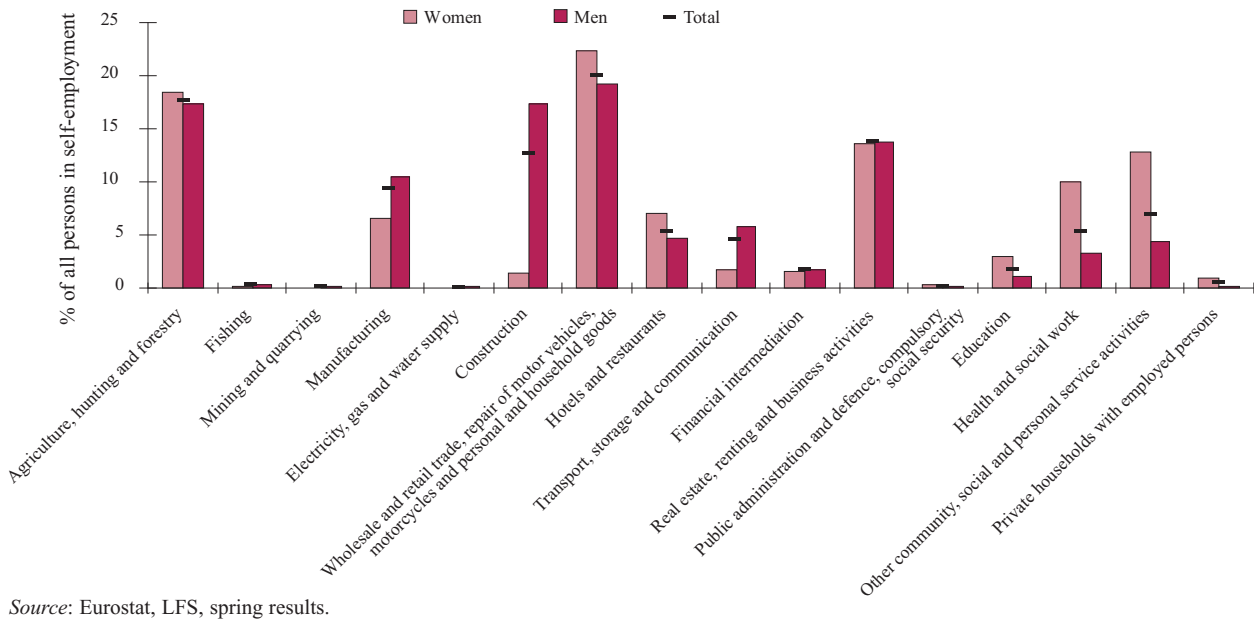
There are also some differences with regards to the skills composition of the two groups. In terms of skill levels, 31% of self-employed are low-skilled, 45% medium-skilled and 24% high-skilled. Compared to employees the proportion of high-skilled workers is essentially the same, but there is a higher share of low-skilled and a lower share of medium-skilled workers among the self-employed. This indicates that the skill level of the self-employed population is on average lower than that of the population of employees. Focusing on self-employment excluding the agricultural sector, the structure of the non-agricultural self-employed population is essentially the same as that for the overall self-employed population in terms of gender and age breakdowns (although with a slightly younger age distribution) but shows a higher overall skill level, with the low-skilled representing 27% of this population and the high-skilled 28%. Indeed, the share of high-skilled workers is greater than in the population of employees, but the share of low-skilled also remains higher.

5.3. Sectoral structure of self-employment

Some sectors are more disposed to self-employment than others. Within the EU, on average the largest share of self-employed people work in the "Wholesale and retail trade and repair" sector, which accounted for 20% of all self-employment in 2004 (Chart 44). This is closely followed by "Agriculture, hunting and forestry", with a share of just below 18%, and by "Real estate, renting and business activities" and "Construction" with around 14% and 13% respectively. Among these sectors, there is a marked gender difference only in the "Construction" sector, which clearly accounts for a much larger share of male self-employment than female (17.3% versus 1.4% respectively). Higher shares of male self-employment are also observed in "Manufacturing" and "Transport, storage and communication", while by contrast far higher shares of female self-employment are found in the "Health and social work" and "Other community, social and personal service activities" sectors.

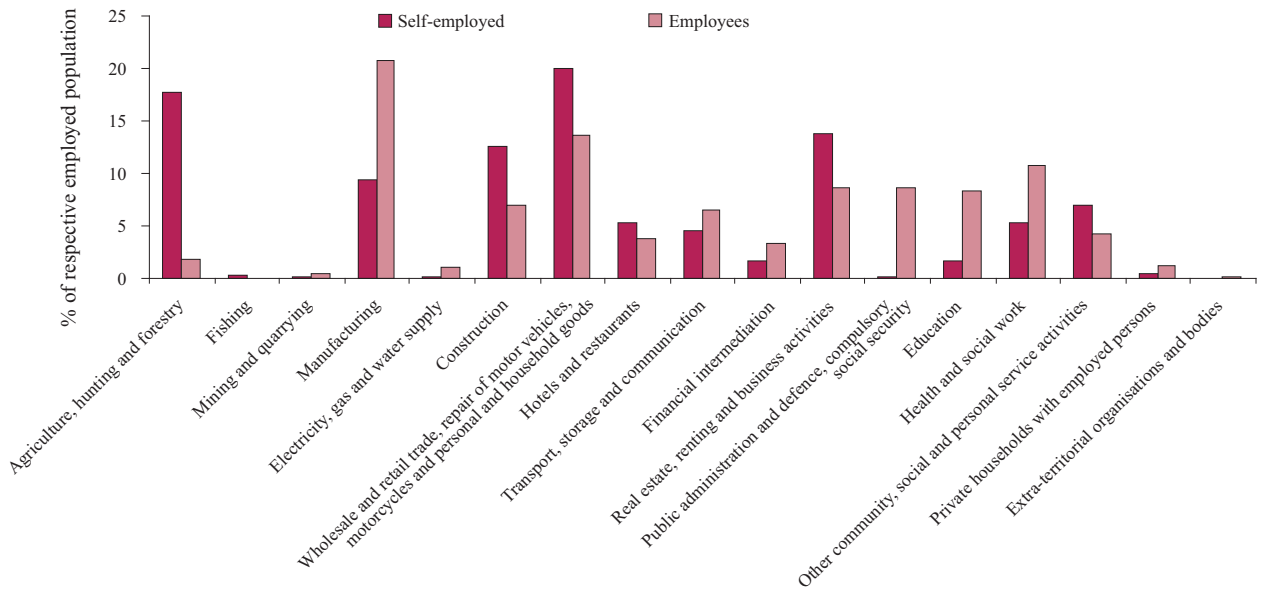
Comparison of the sectoral employment structure of the self-employed with that of employees (Chart 45) indi-

Chart 44 – Sectoral structure of self-employment in the EU by gender, 2004



Source: Eurostat, LFS, spring results.

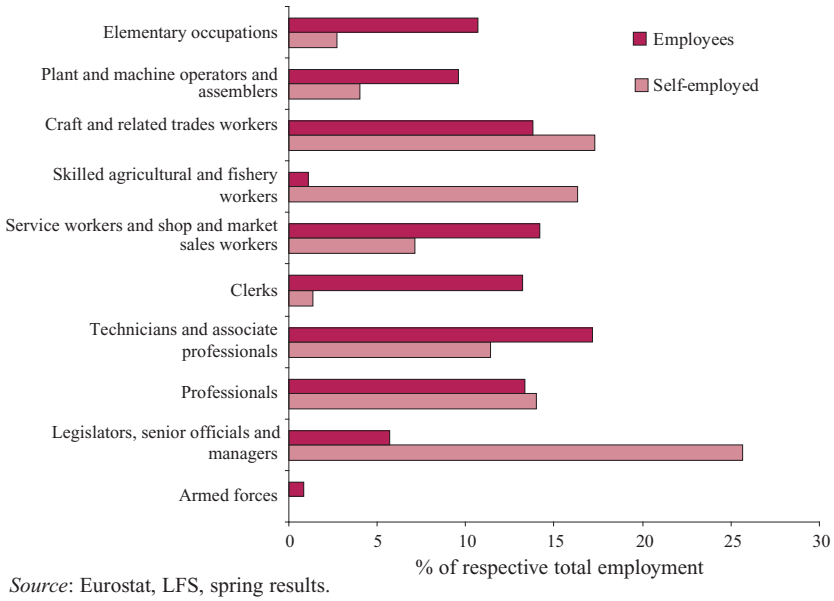
Chart 45 – Comparison of sectoral employment structures of the self-employed and employees in the EU, 2004



Source: Eurostat, LFS, spring results.

cates substantially higher shares of self-employed in the "Agriculture, hunting and forestry", "Wholesale and retail trade and repair", "Construction" and "Real estate renting and business activities" sectors. By contrast, substantially lower shares of self-employed work in the "Manufacturing" sector and, within services, in the "Education" and "Health and social work" sectors as well as, obviously, in the "Public administration and defence" sector where self-employment is essentially non-existent. It is clearly with regard to the agriculture and manufacturing sectors that the differences in employment shares are most pronounced.

Chart 46 – Comparison of occupational employment structures of self-employed and employees in the EU, 2004



Source: Eurostat, LFS, spring results.
Note: Occupations refer to ISCO major groupings.

5.4. Occupational structure of self-employment

In terms of occupations, around a quarter of self-employed people work in the occupational grouping[11] "Legislators, senior officials and managers". For the self-employed this group, which includes managers of small enterprises as well as legislators, senior officials and corporate managers, accounts for the highest share of employment, but in contrast accounts for only 6% of employees. High proportions of the self-employed are also found in the occupational groups "Skilled agricultural and fishery workers" and "Craft and related trades workers", each of which account for around one sixth of the population in self-employment (Chart 46). Among the high-skilled

11 International Standard Classification of Occupations (ISCO-88 (com)) classification of major occupational groups.

occupations, the shares of self-employed are similar to those of employees in the "Professionals" grouping but somewhat lower in the "Technicians and associate professionals" grouping. The greatest disparities in employment shares between self-employed and employees are for the occupational groups "Legislators, senior officials and managers", "Skilled agricultural and fishery workers" and "Clerks".

6. A more detailed review of recent labour market trends for the older and younger elements of the working age population

6.1. Older people of working age

Against a background of demographic ageing in the EU (driven by low birth rates and increasing life expectancy) and the need to increase labour market participation to reduce the mounting pressure on social protection systems, the EU has set itself two important objectives with regard to the employment of older people. First, the Stockholm European Council of 2001 agreed a target that at least 50% of older persons aged 55 to 64 should be in employment by 2010. Second, the Barcelona European Council of 2002 concluded that efforts should be stepped up to increase opportunities for older people to remain in the labour market, setting an objective of a five-year delay by the end of the decade in the average age at which people withdraw from the labour force.

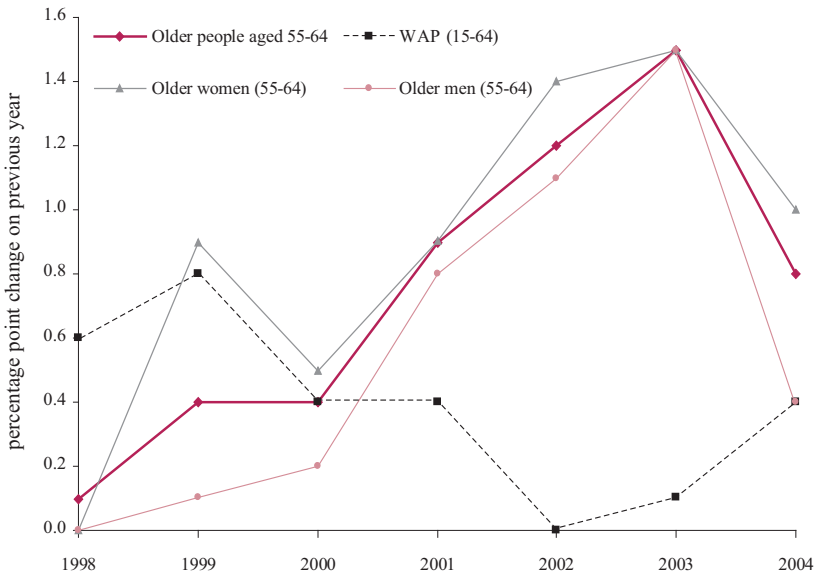
On the whole, there is a lack of incentives for employers to retain or hire older people of working age and for older workers to remain in the labour force. This is despite the fact that companies can benefit from the acquired skills of older workers, although they run the risk of becoming increasingly obsolete when access to training is limited. High separation costs deter employers from employing older people in the first place. Early retirement schemes, social security benefits and disability benefits have often been, and still are being, used by employees and employers alike as exit routes from the workplace. However, the fact that some Member States have achieved higher employment rates for older people suggests that something can be done to overcome the lack of incentives limiting the participation and employment of older people.

For example, to equip them to remain longer in active employment, attention must be paid to developing the competences of older people of working age. Currently, participation in lifelong learning decreases with age. The study "*Achieving the Lisbon goal: The Contribution of VET*"[12], found evidence that although a range of training initiatives do exist, most countries have not yet effectively included the needs of older workers as part of their lifelong learning strategies, although the study does point to positive developments in Belgium, Denmark, Finland and Sweden. Regarding the latter, between 1997 and 2002 some 800,000 adults in Sweden, including older working-age people, benefited from the Swedish Adult Education Initiative, which established targets to provide free full-time upper secondary education, mainly for the unemployed. Similarly, the Noste Programme launched in 2003 in Finland, which provides mostly employed 30-59 year-olds lacking upper secondary education with opportunities to complete initial vocational qualifications and improve their information society skills free of charge, is showing some success in raising the level of education among employed people in this age group.

6.1.1. Trends in older people's employment rates

Concerning the Stockholm objective, as detailed in the earlier section on recent developments in employment rates in the EU, there are still big differences between individual Member

Chart 47 – Change in employment rate of older people (aged 55-64) and working age population (aged 15-64)



Source: Eurostat, QLFD.

12 *Achieving the Lisbon goal: The Contribution of VET* (Leney, T. et al, November 2004). Study commissioned by DG Education and Culture for the Maastricht ministerial and conference on enhanced European cooperation in vocational education and training on 14-15 December 2004. (see http://europa.eu.int/comm/education/policies/2010/studies/maastricht_en.pdf)

States in employment rates for older people aged 55 to 64, which ranged from 26% in Poland to 69% in Sweden in 2004. Furthermore, while several Member States already meet the 2010 employment rate target, substantial gaps remain for many countries. Nevertheless, recent developments have been encouraging, with many Member States making substantial progress towards the target over recent years. This has allowed the employment rate for older people in the EU to increase from 36.6% in 2000 to 41.0% in 2004. Some Member States, such as the Netherlands, Sweden and the UK, are clearly doing better or have made more progress than others, suggesting that policies can make a difference (Box 3).

At EU level, employment rates for older people in the working age population increased rather modestly between 1997 and 2000 but rose strongly over the subsequent three years before returning to a slightly more moderate increase in 2004 (Chart 47). Whereas before 2000 the employment rate increases for older people aged 55 to 64 were below those for the working age population as a whole, after 2000 the situation was reversed, with rate increases for the older age group well above those for the working age population. Apart from 1999 and 2004 (when rates for older women rose substantially more than for older men) there were no large differences between annual employment rate increases according to gender, and during the years of greatest expansion (2001-2003) the increases for older men were general-

Box 3 – Recent approaches to employment of older people in the Netherlands, Sweden and the UK[13]

Various approaches have recently been taken in the Netherlands, Sweden and the UK to improve the labour market participation and employment levels of the older members of the working age population.

In the UK and the Netherlands, the flow of older workers into disability allowances has been stemmed though stricter controls, and current recipients of benefits have also been re-assessed. In the Netherlands, legislation has also been introduced which requires employers to pay the employee's wage for the first two years of disability. These measures discourage employers and employees from abusing the system for the purpose of early retirement. Other disincentives to early retirement include the obligation for workers over 57.5 years of age to continue to look for work and the deduction of severance payments from unemployment benefits. Sweden has also introduced changes to the pension scheme to encourage people to stay in work longer or to exit more gradually.

Employability of older people is particularly problematic for those with lower levels of education, since employability at later stages of working life is still to a large degree determined by investments in human capital earlier in life. This suggests that the issue of early school leavers must be addressed, and human capital investment and mobility during people's careers must be enhanced. This approach is taken by Sweden, which has a very high activity rate among older workers. For people who already belong to the older element of the working age population or who will enter this category in the next few years, training, mobility and wage-subsidy schemes may help to increase employment rates. Job mobility schemes can be an effective solution to the changing productivity of older workers, in particular when the physical demands of the job become too arduous.

Active labour market policies can also make a difference for older inactive or unemployed people, particularly job counselling, job search monitoring, sanctions (for those who do not search for jobs), and placement subsidies for regular jobs. For the older unemployed, training seems to have positive effects on their job chances. Schemes such as "New Deal 50+" and "Pathways to work" in the UK provide tailored support back into employment for unemployed older workers and people on incapacity benefits respectively.

Prejudice against older workers may also play a role. Awareness-raising is necessary to reduce discrimination against older workers and has been used quite extensively and with some success in the UK. A "National Guidance Campaign" for employers was launched to argue the case for employers to hire or keep on older workers plus an "Age Positive" campaign to promote good practice on age diversity in the workplace. In Sweden a great deal of work has been done on changing attitudes and negative perceptions towards older workers.

In light of the above, the following types of policies may help to increase employment rates for older people:

- Policies increasing the incentives for employers to employ older people, and for older people to continue to participate in the labour market, including reforms of pension and early retirement schemes;
- Policies improving the employability of older people either by reducing the labour costs for older workers or by enhancing their productivity;
- Policies aimed at changing attitudes and stereotypes about older workers and mobilising them for participation in the labour market;
- Active labour market policies focused on the needs of older people.

13 Extracts from the Synthesis Report *Attracting more people to the labour market*, July 2005 (produced in the framework of the mutual learning programme of the European Employment Strategy, see www.mutual-learning-employment.net).

ly similar to those for older women. The marked increase in employment rates post-2000 suggests that policies to improve the participation of older people, and especially reforms of pension systems and early retirement schemes, may be taking effect in the labour market.

This improvement in the employment rate of older workers since 2000 has, for the most part, been a general feature across individual Member States (Chart 48). Since 2000, almost all have witnessed substantial increases in the employment rates for older people aged 55 to 64, with particularly strong rises in Finland, France, Hungary, Latvia and the Netherlands, all with increases of 7 percentage points or more. Only Austria, Cyprus and Greece have not witnessed substantial rises in employment rates since 2000, while only Poland and Portugal have seen rates actually decline.

In order to reach the Stockholm employment rate target for older people, it is estimated that employment of people in the 55-64 age group would need to increase by around 7.5 million between 2004 and 2010, or about 1.3 million per year. Over the period 2000 to 2004, employment in this age group increased by an average of around 800,000 per year. Therefore, despite the recent improvement in older people's employment rates, efforts need to be stepped up if the 2010 target is to be met.

6.1.2. Recent trends in the exit age

Concerning the second objective set by the European Council – to increase the average exit age by five years by the end of the decade – developments over the period 2001 to 2003 indicate that there has been a gradual increase in the average age at which older people exit from the labour force[14] (i.e. transit from active to inactive life purely in labour market terms) in the EU (Table 7). By 2003 the exit age had risen to 61.0 years compared to 59.9 years in 2001, with the vast

Table 7 – Average exit age from the labour force 2001-2003

	2001	2002	2003
EU-25	**59.9**	**60.4**	**61.0**
EU-15	**60.3**	**60.8**	**61.4**
BE	56.8	58.5	58.7
CZ	58.9	60.2	60.0
DK	61.6	60.9	62.1
DE	60.6	60.7	61.6
EE	61.1	61.6	60.8
EL	59.4	61.8	63.2
ES	60.4	61.5	61.4
FR	58.1	58.8	59.6
IE	62.8	62.4	64.4
IT	59.8	59.9	61.0
CY	62.3	61.4	62.7
LV	62.4	:	60.3
LT	58.9	:	63.3
LU	56.8	59.3	:
HU	57.6	59.2	61.6
MT	57.6	58.2	58.8
NL	60.9	62.2	60.4
AT	59.2	59.3	58.8
PL	56.6	56.9	58.0
PT	61.9	63.0	62.1
SI	:	56.6	56.2
SK	57.5	57.5	57.8
FI	61.4	60.5	60.3
SE	61.7	63.2	63.1
UK	62.0	62.3	63.0

Source: Eurostat, LFS, spring results.
Note: Break in series for LV and LT in 2003.

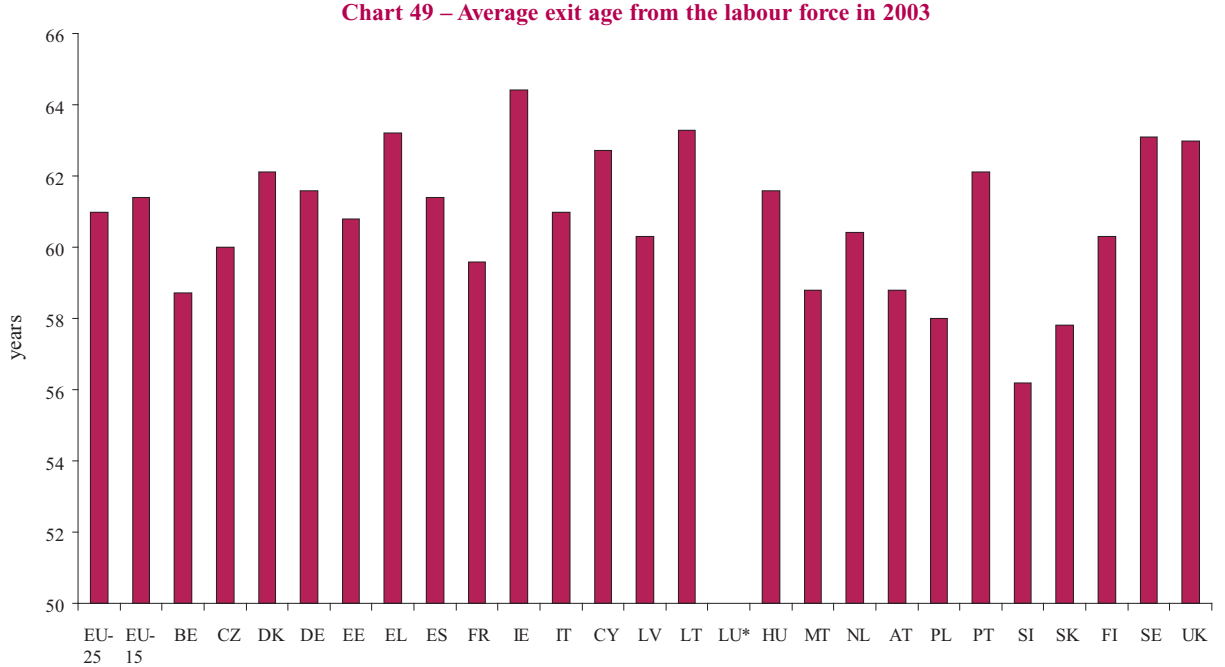
14 Exit age figures are derived from a model using activity rates by individual year LFS data to calculate the probabilities that individuals in each same age cohort will stay active in period t compared to period t-1. For a full description of the model see the annex to EiE 2003, Chapter 5. The results from the model do not refer to the effective retirement age but rather provide an estimate for the average exit age from the labour force for active persons aged 50 to 70, regardless of whether they are receiving a pension or not.

majority of Member States recording increases in the exit age over this period, most notably Belgium, Greece and Hungary. Nevertheless, wide variations remain across Member States, with exit ages ranging from as low as 56.2 years in Slovenia to a high of 64.4 years in Ireland in 2003 (Chart 49). Furthermore, it is still the case that no Member State has an average exit age above the Barcelona target, equivalent to an EU average of around 65 years, and that for the EU as a whole the 55-64 age group accounts for around one third of the total eco-

Chart 48 – Changes in employment rates of older people aged 55-64 between 2000 and 2004 across EU Member States

Source: Eurostat, QLFD.

Chart 49 – Average exit age from the labour force in 2003



Source: Eurostat, LFS, spring results.
Note: No data for LU for 2003.

nomically inactive population (see Chapter 5 for further discussion of this point). Strong efforts are therefore still needed to encourage older people not to withdraw from the labour force at relatively early ages and to increase opportunities for them to remain economically active. As shown in Employment in Europe 2003, this means continued efforts to address such issues as health and safety at work, flexible forms of employment and continuing training for older workers, as well as reforms of pension and early retirement schemes.

6.1.3. Sectoral employment structure for older workers

The sectoral employment structure for older workers shows some significant differences with respect to other age groups (Chart 50). At EU level, employment in agriculture accounts for around 7.5% of total employment of people aged 55 to 64, around double the share for the young and prime working age groups. Older workers are also over represented with regard to the other age groups in the education sector, which accounts for close to 10% of employment of older persons. By contrast, relatively low shares of older workers are employed in the "Wholesale and retail trade and repair" and "Hotels and restaurants" sectors compared to the share of youth employment in these sectors. Indeed, the sectoral employment structure for older workers is markedly different from that of the younger age group, but apart from "Agriculture", "Education" and to a certain extent "Manufacturing", is rather similar to that of the prime working age group.

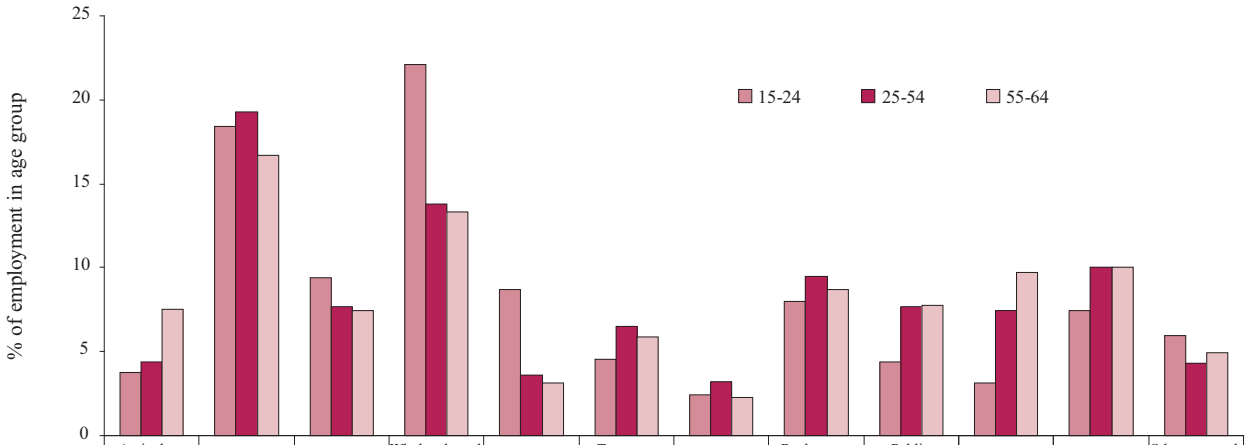
As mentioned earlier, people in the 55-64 age group accounted for around 3.2 million of the total increase in employment between 2000 and 2004 (by main employment, resident concept). The sectoral distribution of this increase in employment of older workers was quite broad with employment for this age group increasing in all main economic sectors (services and industry) except agriculture (Chart 51). The strongest rise in employment for this age group was in the "Health and social work" sector with an increase of around 0.6 million, followed by the "Real estate, renting and business activities" and "Education" sectors with around 0.5 million each and "Wholesale and retail trade, and repair" with around 0.4 million. In fact, employment levels increased for older people of working age in all service sectors. It is interesting to note that this was also the case in the "Manufacturing" and "Construction" sectors of industry, in both of which employment of people in the 55-64 age group increased by around 0.2 million.

6.2. Youth

6.2.1. Trends in employment rates for youth

Looking at labour market trends for the youth element of the working age population, as shown in last year's Employment in Europe report the vast

Chart 50 – Sectoral employment structure in the EU in 2004 by age group (% of employment in each age group)



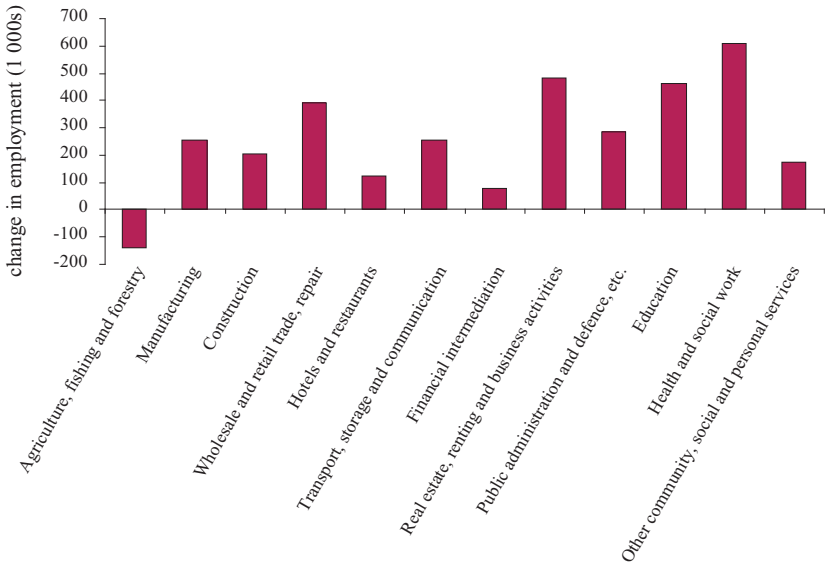
	Agriculture, fishing and forestry	Manufacturing	Construction	Wholesale and retail trade, repair	Hotels and restaurants	Transport, storage and communication	Financial intermediation	Real estate, renting and business activities	Public administration, defence, etc.	Education	Health and social work	Other personal, community and social services
15-24	3.8	18.4	9.4	22.1	8.7	4.5	2.4	8.0	4.4	3.1	7.5	5.9
25-54	4.4	19.3	7.7	13.8	3.6	6.5	3.2	9.5	7.7	7.5	10.1	4.3
55-64	7.5	16.7	7.5	13.4	3.1	5.9	2.3	8.7	7.7	9.7	10.0	5.0

Source: Eurostat, LFS, spring results.

majority of Member States have experienced a deterioration over recent years in the labour market situation of young people[15] (although this trend must also be seen in the context of efforts to increase participation rates in education, in line with the EU objective to have at least 85% of 22-year olds having completed upper secondary education by 2010). This deterioration has been particularly severe in the Czech Republic, Hungary and Luxembourg, where employment rates for the 15-24 age group have declined by the order of 10 percentage points since 2000 (but also where participation rates in education have risen). Nevertheless a few countries, including the large Member States of France, Italy and Spain, have bucked this general trend, with employment rates rising for this section of the working age population (Chart 52).

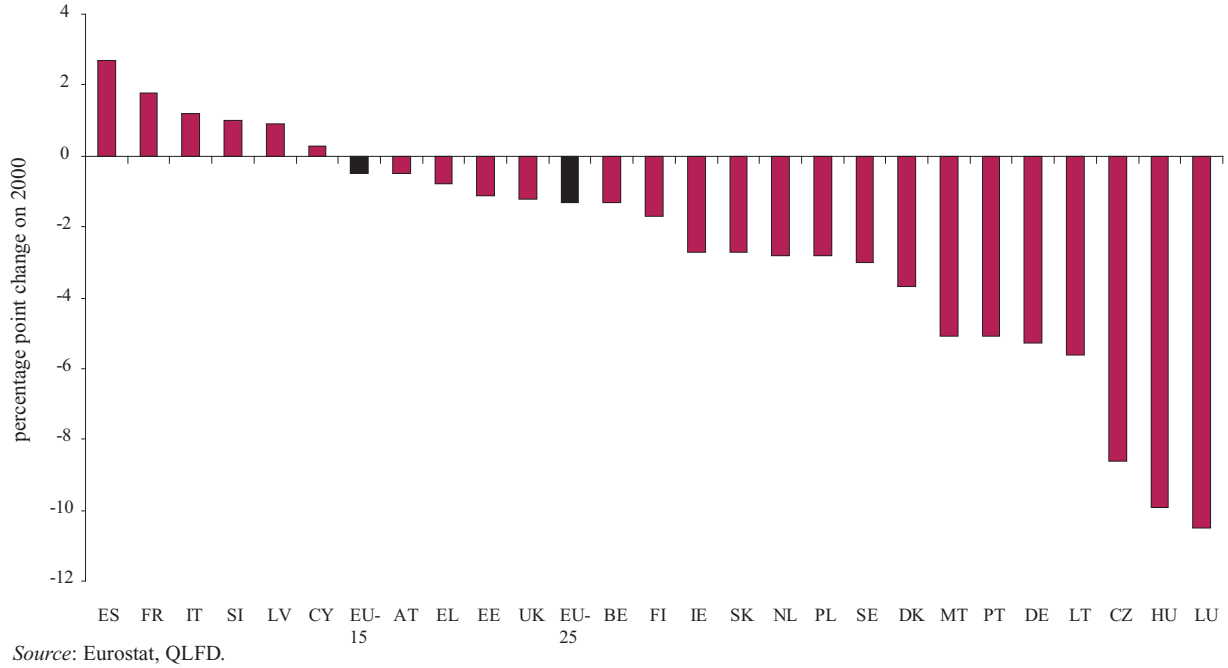
As in the case of older workers, there remain large variations at the level of individual Member States, with employment rates for young people ranging from 20% in Lithuania to 66% in the Netherlands in 2004. The Netherlands together with Denmark stand out as having very high employment rates for youth, with Austria, Ireland, Malta and the UK also having rates well above the EU average. However, even these "good performers" in terms of youth employment rates have all seen rates decline over recent years.

Chart 51 – Change in employment levels between 2000 and 2004 for older people aged 55-64 by sector



Source: Eurostat, LFS, spring results.

Chart 52 – Changes in employment rates of young people (aged 15-24) between 2000 and 2004 across EU Member States

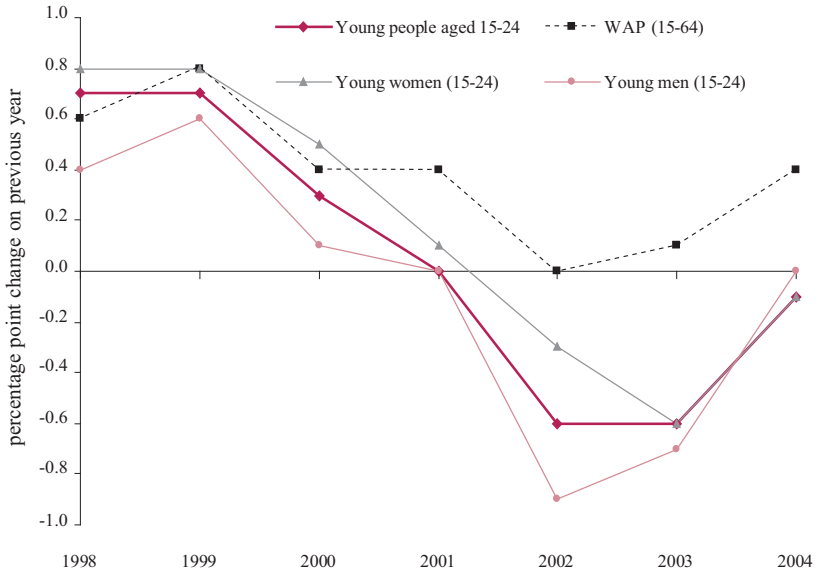


Source: Eurostat, QLFD.

15 See *Employment in Europe 2004*, Chapter 1, for a detailed assessment of developments in individual Member States.

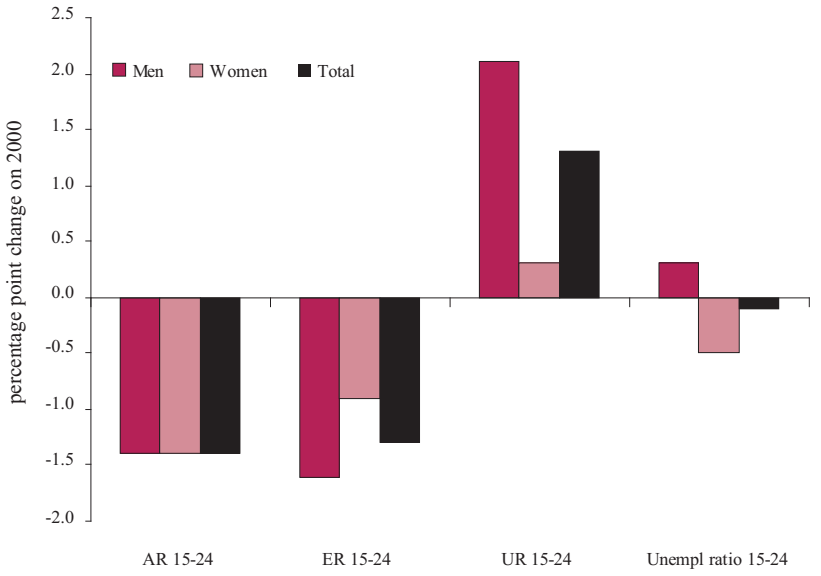
At EU level, the increases in the employment rate for young people over the late 1990s and up to 2000 have given way to declines from 2002 onwards, with broadly similar trends for both sexes although more severe for young men than young women (Chart 53). It is also worth noting that, apart from 1998, the year-on-year increases in the employment rate have always been below the increase for the working age population as a whole, with a marked divergence in employment rate developments from 2001 onwards. Nevertheless, the falls in the employment rate in 2002 and 2003 were followed by a much more moderate decline in 2004.

Chart 53 – Change in employment rate of young people (aged 15-24) and working age population (aged 15-64)



Source: Eurostat, QLFD.

Chart 54 – Developments in the labour market situation of young people (aged 15-24) in the EU between 2000 and 2004



Source: Eurostat, QLFD.

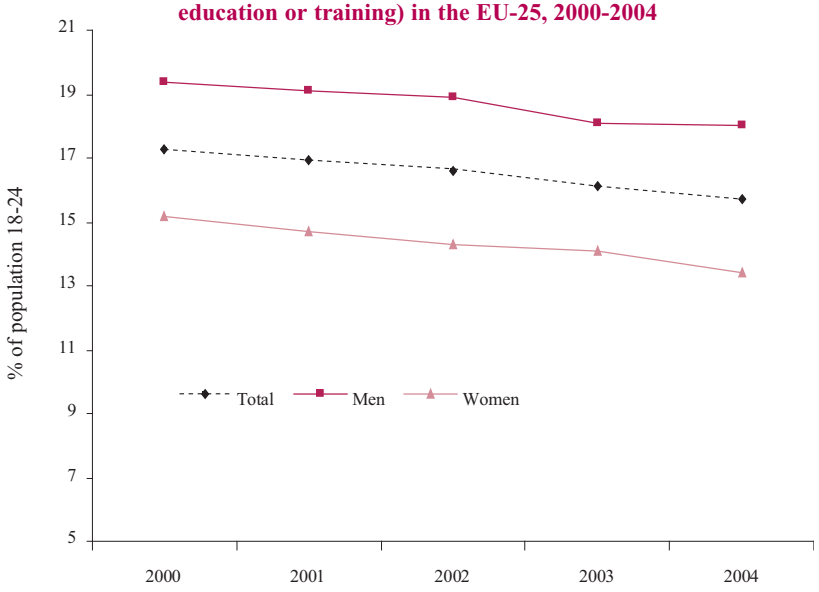
6.2.2. Trends in youth participation in the labour market

This evolution in employment rates reflects the general trend in youth labour market activity in Europe. After a trend of gradual rises over the late 1990s, from 2000 onwards labour market participation by young people has been falling. At EU level the youth activity rate declined by 1.4 percentage points between 2000 and 2004 (from 46.5% to 45.1%), with the decline in participation being the same for young women and young men (Chart 54). In line with this decrease in participation, the employment rate fell by a similar amount, while the unemployment rate rose from 17.4% to 18.7%. Since the employment rate fell more for men than women, this was reflected in a stronger rise in the unemployment rate for young males of around 2 percentage points, while for young females the rise in unemployment was much more subdued at 0.3 percentage points. However, the ratio of youth unemployed to the total youth population changed very little overall, and in fact declined marginally, indicating that for the youth population as a whole the development in unemployment was much less significant. In conclusion, recent developments for youth as a whole (i.e. at EU level) have been driven mainly by the trend for young people to participate less in the labour market, as opposed to their being economically active and becoming unemployed.

Falling youth participation in the labour market may to a large extent be

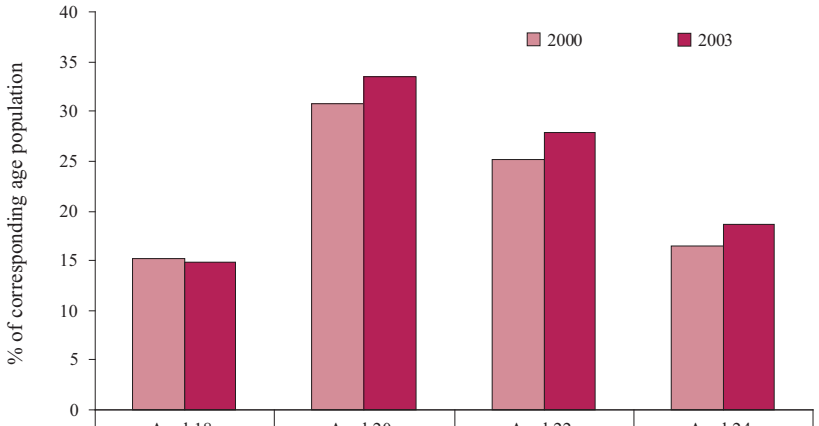
the flip side of increasing participation in education, and could in that sense be considered a positive development, contributing towards greater employability when they eventually join the labour market. In this regard, declining participation rates for youth seem to coincide with recent trends for young people to remain longer in education and training. For the EU as a whole, the share of early school leavers (i.e. the percentage of the population aged 18 to 24 with at most lower secondary education and not in further education or training) has declined from 17.3% in 2000 to 15.7% in 2004 (Chart 55), while the share of students in the 15-24 age group has risen from 56.3% in 2000 to 59.0% in 2003 (Table 8). In addition, there has been a clear increase in the shares of young people participating in tertiary education (ISCED levels 5 and 6) since 2000 (Chart 56). These developments indicate that the declines in youth employment are at least partly linked to the tendency for young people to stay in education longer rather than participate in the labour market at an early age and are in line with aims to ensure that youth receive an education which prepares them well for the world of work. This would suggest that raising employment among youth may require greater efforts to increase the availability of more flexible forms of employment, such as part-time work, which would allow young people to better combine work responsibilities with education.

Chart 55 – Trends in the share of early school leavers (% of the population aged 18-24 with at most lower secondary education and not in further education or training) in the EU-25, 2000-2004



Source: Eurostat, Structural Indicators.
Note: Break in series in 2003.

Chart 56 – Students in the EU-25 at ISCED levels 5-6 by age (as % of corresponding age population)



	Aged 18	Aged 20	Aged 22	Aged 24
2000	15.2	30.8	25.2	16.5
2003	14.9	33.5	27.9	18.7

Source: Eurostat, Education Statistics.

6.2.3. Improving the labour market integration of young people

International comparisons suggest there is scope to increase participation and employment rates for youth in the EU. Youth employment as a whole is generally low in Europe (in 2004 the employment rate for youth was around 54% in the US[16] and 40% in Japan, compared to only 37% in the EU) and most Member States have not insignificant shares of youth who are neither in the labour force nor in education (generally varying across Member States in the region of 3% to 6% of the youth population). This suggests that greater efforts are needed to integrate young people into the labour market and to support them as they pursue

16 Data for the US and Japan from the OECD, *Economic Outlook 2005*. For the USA "youth" refers to the 16-24 age group.

Table 8 – Students (all ISCED levels) aged 15-24 years (as a percentage of the population of the same age) in EU Member States 1998-2003

	1998	1999	2000	2001	2002	2003
EU-25	**:**	**55.3**	**56.3**	**57.7**	**58.8**	**59.0**
EU-15	**:**	**56.5**	**57.2**	**57.4**	**58.4**	**58.1**
BE	:	65.5	65.3	65.3	65.9	67.6
CZ	44.7	44.2	47.9	52.0	55.1	56.2
DK	56.9	57.0	58.4	61.9	61.0	62.8
DE	61.7	62.4	62.8	63.0	63.2	63.5
EE	54.4	57.4	60.7	62.1	63.0	62.5
EL	51.3	51.2	53.6	52.3	57.6	58.1
ES	55.7	55.0	56.3	55.8	54.9	54.0
FR	61.8	61.9	61.8	61.1	60.2	60.3
IE	54.6	54.2	54.3	54.6	54.7	55.2
IT	46.4	46.3	46.9	48.1	50.9	53.0
CY	:	37.8	37.0	37.5	39.2	42.1
LV	50.0	53.3	55.4	59.3	62.1	62.9
LT	50.9	55.6	60.1	64.1	66.0	68.0
LU	:	41.2	40.8	43.1	43.2	43.6
HU	46.4	48.2	50.1	51.6	54.0	56.5
MT	:	36.4	37.1	37.1	37.8	40.4
NL	61.4	62.8	62.7	63.1	62.4	62.4
AT	49.9	51.3	50.9	51.3	50.4	50.4
PL	57.6	59.8	61.6	64.3	66.1	67.3
PT	50.7	50.2	52.5	52.4	51.5	50.7
SI	53.6	56.3	59.3	62.7	65.2	66.9
SK	:	:	:	46.0	47.2	49.4
FI	63.9	66.4	67.5	68.3	68.3	69.4
SE	61.5	63.9	64.5	64.7	65.2	66.1
UK	47.8	52.7	53.0	53.5	57.2	55.2

Source: Eurostat, Education Statistics.
Note: For CY & LU, most tertiary students study abroad and are not included; Data for DE, IT, PL, SI are without ISCED 6; For BE data exclude independent private institutions.

"non-linear" careers alternating between employment, study, unemployment and retraining or skills updating. With this in mind the European Council recently adopted a *European Youth Pact* (Box 4) to enable young people to benefit from a set of policies and measures fully integrated into the revised Lisbon Strategy, which should lead to better integration of youth into the labour market in the years ahead. This pact provides a framework for formulating policy responses combining both employment and education objectives, notably for building new employment pathways and developing action plans with job assistance, guidance and training.

6.3. Comparison of labour market developments for older workers and youth

Comparing the changes in employment rates since the start of the economic slowdown in 2000 with those during the period of economic expansion of the late 1990s, there seems to have been a change in the characteristics of labour market developments post-2000 (Chart 57). During the period 1997 to 2000, employment rates rose across all age groups and for both men and women. The rise in youth employment rates was greater than for older workers and similar to that for prime age workers. Post-2000, which was marked by a period of economic slowdown, the increase in the overall employment rate slowed considerably and was accompanied by marked variations in employment rate developments across age groups and sexes. Between 2000 and 2004 employment rates for women continued to rise

Box 4 - The European Youth Pact

A return to sustained and sustainable growth requires greater demographic dynamism, improved social and vocational integration and fuller utilisation of the human potential embodied by European youth. To this end, the March 2005 European Council concluded that young people should benefit from a set of policies and measures fully integrated into the revised Lisbon Strategy, and adopted the European Youth Pact which focuses in particular on employment and social advancement.

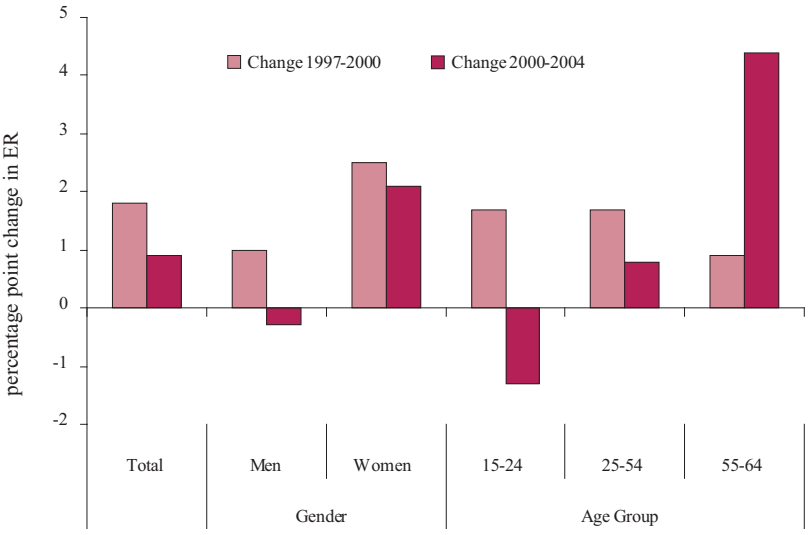
The Youth Pact aims to improve the education, training, mobility, vocational integration and social inclusion of young Europeans, while making it easier to reconcile working life and family life. It should ensure the overall consistency of initiatives in these areas and provide the starting point for strong, ongoing mobilisation on behalf of young people.

In this context, the European Council has called on the Union and Member States to draw upon a number of lines of action. Within the specific area of employment, integration and social advancement these are the following:

- Specifically monitoring policies for the sustained integration of young people into the labour market, in the context of the mutual learning programme on employment;
- Endeavouring to increase employment of young people;
- Giving priority under national social inclusion policy to improving the situation of the most vulnerable young people, particularly those in poverty, and to initiatives to prevent educational failure;
- Inviting employers and business to display social responsibility in the area of vocational integration of young people;
- Encouraging young people to develop entrepreneurship and promoting the emergence of young entrepreneurs.

In addition to these, other lines of action cover such issues as preventing early school leaving, improving the quality of education and matching initial training more closely to labour market demands.

Chart 57 – Change in employment rates by gender and age group over the two periods 1997-2000 and 2000-2004



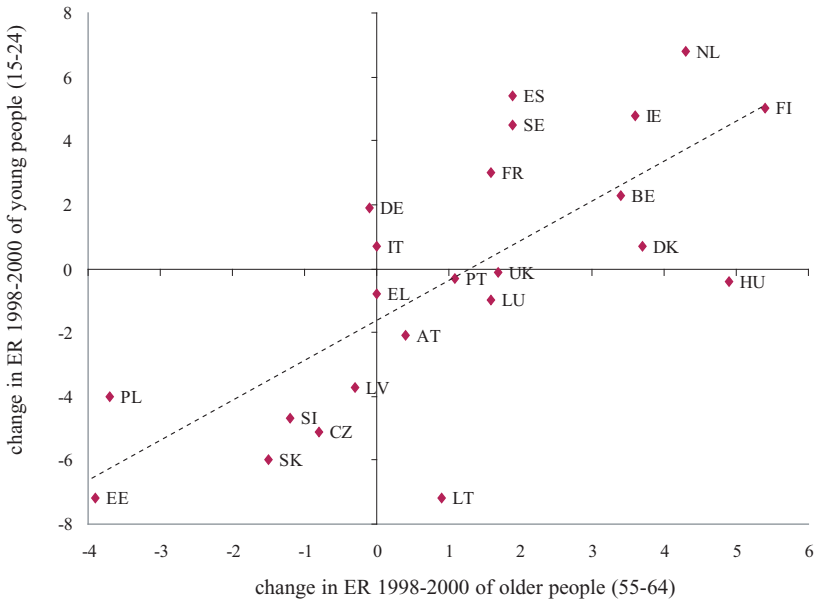
Source: Eurostat, QLFD.

almost as strongly as before the slowdown, while rates for men declined slightly. There was also wide variation across age groups, with employment rates for older persons aged 55 to 64 rising sharply while those for prime age workers rose less strongly and those for youth fell.

Clearly, therefore, labour market developments post-2000 have been quite varied for different sections of the working age population. With this in mind, it is sometimes said that improving the employability of certain groups will only reduce the job entry chances of other groups, although this reasoning is essentially based on the rather dubious assumption that the volume of total employment is fixed. Looking further into this issue and focusing on changes specifically for the youth and older persons' age groups, during the period of strong economic expansion of the late 1990s there seemed to be in general strong complementarity in employment creation for both young and older people of working age, with a broad trend of parallel movements in employment rates for both age groups across the majority of Member States as well as for the EU as a whole (Chart 58). However, this parallel movement seems to have broken down after 2000, during the period of economic

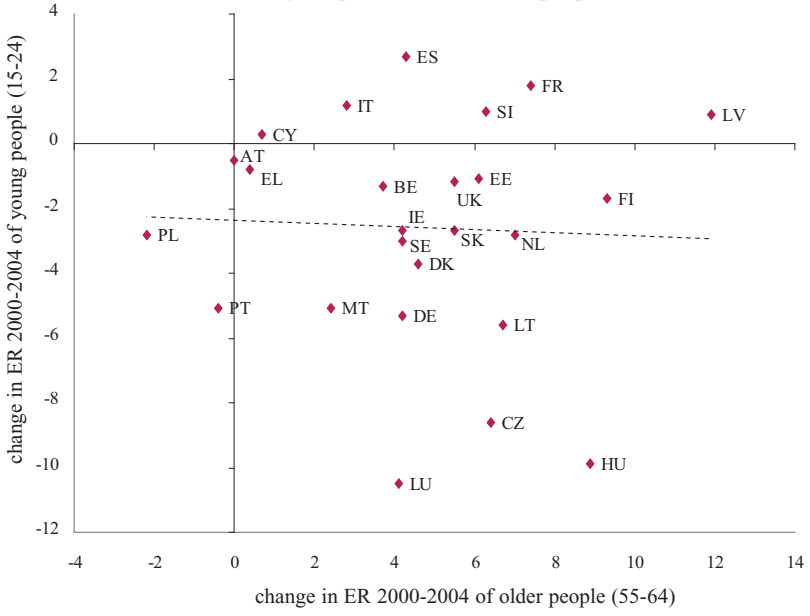
slowdown, with the result that there is now no clear relationship across Member States between the changes in the employment rates for older people and those for youth (Chart 59). For example, Finland, Ireland, the Netherlands and Sweden are among the Member States which showed very strong increases in employment rates for both young and older persons during the late 1990s, but post-2000 these Member States have seen a clear decoupling of the movements in rates, with those for younger people falling while those for older people continue to rise strongly, while by contrast, France and Spain have maintained strong parallel improvements in employment rates of both younger and older people beyond 2000.

Chart 58 – Changes in employment rates in EU Member States between 1998 and 2000 for young (15-24) and older people (55-64)



Source: Eurostat, QLFD.
Note: Individual data for the New Member States start to be available from 1998, except for CY and MT.

Chart 59 – Change in employment rates in EU Member States between 2000 and 2004 for young (15-24) and older people (55-64)



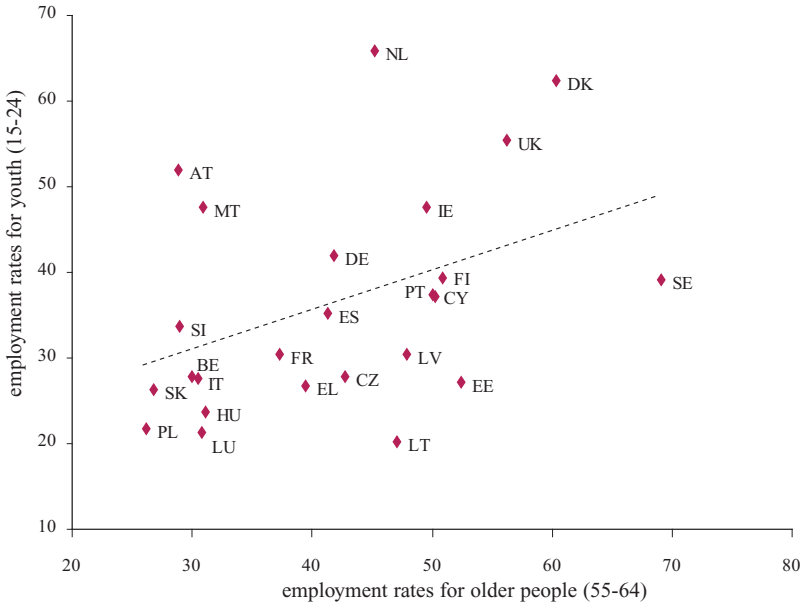
Source: Eurostat, QLFD.

The developments post-2000 do not, however, necessarily imply any clear general substitution effect between older and younger workers. There is no clear negative relationship across Member States between the changes in older people's employment rates and those for the youth age group. Furthermore, in those countries where the employment rates of older workers fell significantly in the period 1998-2000, there was no corresponding rise in the employment rate of young workers, and this was also the case for Poland and Portugal post-2000. Also, certain Member States such as Italy, Latvia and Slovenia recorded increases in older people's employment rates only for the period 2000-2004, but youth employment rates also rose over this period. The case for a generally more complementary rather than substitution relationship between older and younger workers is supported by the fact that in general Member States with higher employment rates for older people aged 55 to 64 also tend to be among those with higher rates for youth (Chart 60), i.e. there is no evidence of an inverse relationship. In particular, Denmark and the UK have high employment rates for older persons combined with high, and very similar, rates for youth as well. Finally, as shown earlier, post-2000 trends are linked at least in part to young

people remaining longer in full-time education and participating less in the labour market at early ages. This trend responds to some extent to the increasing demand for higher skill levels in work and so may have longer term labour market benefits.

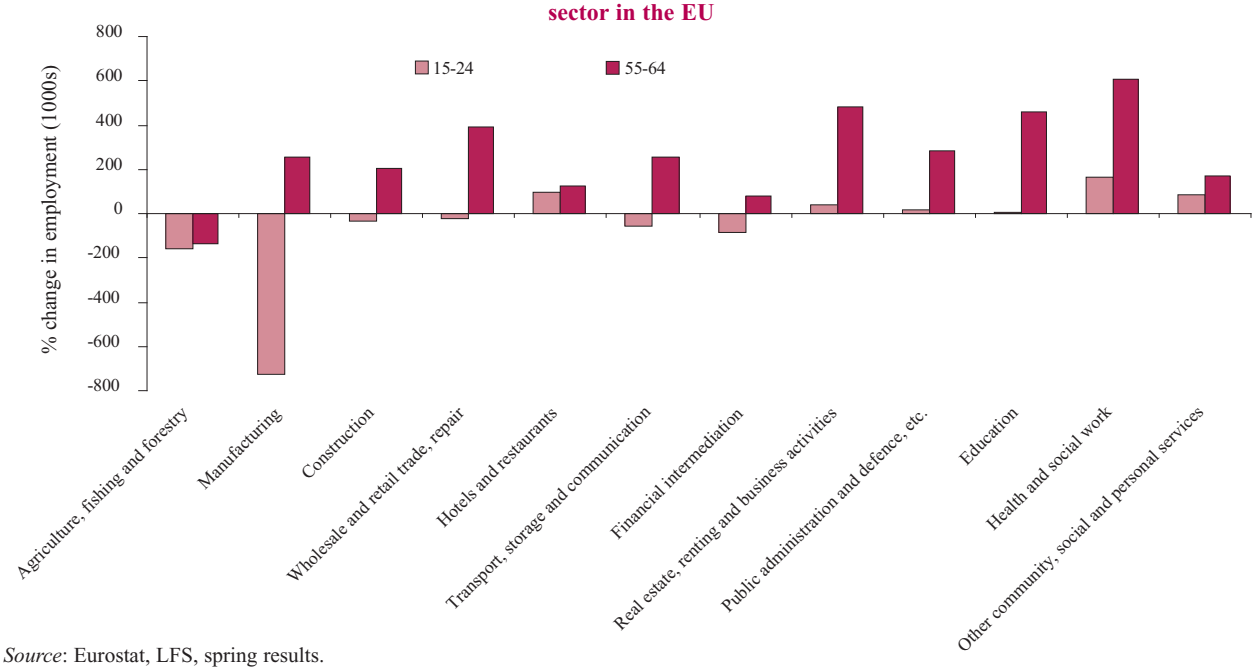
On the other hand, examination of sectoral employment developments for the young and older working age groups between 2000 and 2004 seems to indicate there could be an element of substitution between old and young people at sectoral level, since employment changes for these age groups moved in opposite directions in several sectors. However, it must also be highlighted that although comparison of sectoral developments for the two age groups indicates different directions of employment change (increasing for older workers and declining for youth) in services sectors such as "Wholesale and retail trade, and repair", "Transport, storage and communication" and "Financial intermediation" the falls in youth employment in these sectors are relatively limited (Chart 61) and, apart from the first, are not sectors that traditionally account for a high share of youth employment. It is also clear that, at EU level, the greatest factor in the decline in youth employment in recent years has been the marked fall in youth employment in manufacturing (which goes a long way to explaining

Chart 60 – Employment rates for youth (15-24) versus older persons (aged 55-64) across EU Member States in 2004



Source: Eurostat, QLFD.

Chart 61 – Comparison of changes in employment of young (15-24) and older people (55-64) between 2000 and 2004 by sector in the EU



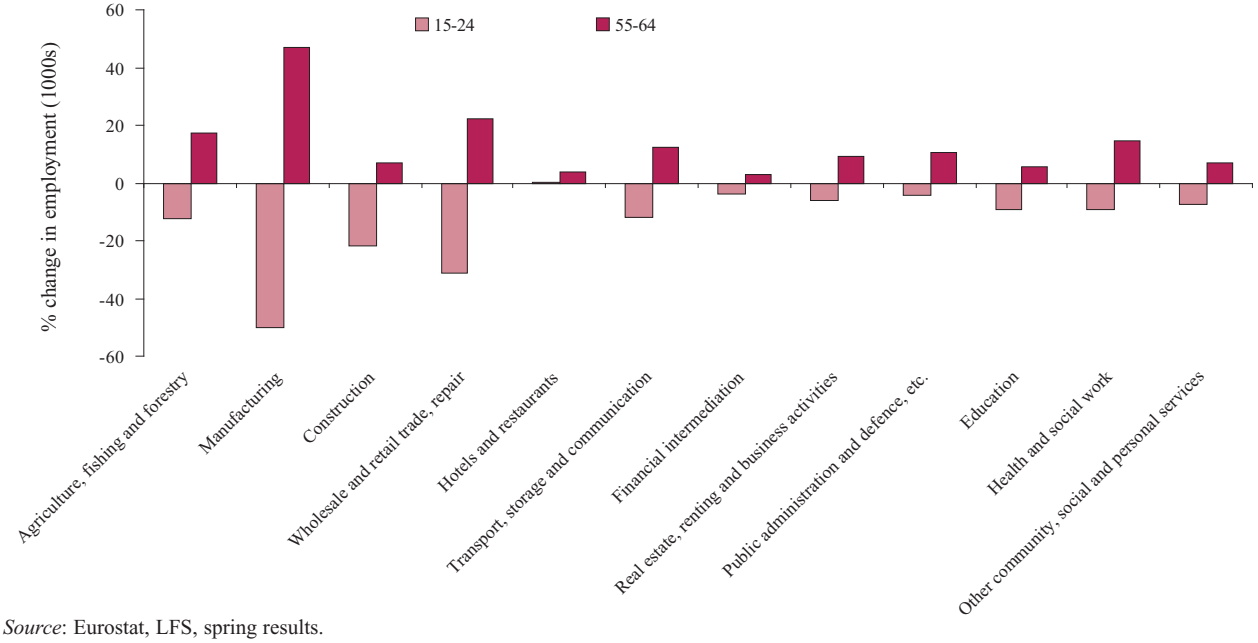
Source: Eurostat, LFS, spring results.

why young men have been affected more than young women) and to a lesser extent agriculture. Indeed, the fall in employment in manufacturing for the youth age group has been around 0.7 million since 2000. This development suggests that, at least at overall EU level, the recent evolution in employment for youth may to some extent be more a reflection of the ongoing general decline in manufacturing in Europe rather than a result of any major substitution effect between older and younger workers, especially as employment for the older age group in this sector rose by only 0.25 million and given that employment for those of prime working age (25-54) also declined by some 1.3 million.

At Member State level, sectoral employment changes suggest there may be a stronger case for evidence of a substitution effect between employment of older and younger workers for some Member States. For example, there appears to be some support for the presence of such an effect in the Czech Republic (Chart 62) and Hungary, where sectoral employment changes for the older and younger sections of the working age population have clearly moved in opposite directions in virtually all sectors. However, it is also the case that for these two Member States there has been a very pronounced reduction in labour market participation by young people (down around 10 percentage points since 2000 in both cases) which has been mirrored to a large extent by substantial increases in the proportion of students in this age group. Indeed, the percentage of students aged 15 to 24 years in the total population of the same age rose from 47.9% in 2000 to 56.2% in 2004 in the Czech Republic and from 50.1% to 56.5% in Hungary over the same period. This highlights that a key issue in assessing the presence of a substitution effect is whether the fall in activity rates for youth is due to increased and longer participation by young people in education out of a clear desire or need to do so, or as a result of lack of job opportunities specifically linked to higher employment of older people in the labour market. Such an assessment is beyond the scope of this chapter.

In conclusion, based on the above rudimentary examination of recent developments for the young and older elements of the working age population, there appears to be no clear overall evidence of an employment substitution effect between these age groups, at least at EU level. In any case, given that overall employment growth in the EU has been rather limited since 2000 due in part to labour hoarding during the slowdown, even if keeping older workers in employment longer or encouraging them back into the labour market would have had an impact on employment opportunities for youth during the period of slowdown, considering the general aim to raise total employment levels towards full employment and the more positive economic outlook, there is no clear reason not to expect a return in coming years to the same general pattern of parallel developments in older people's and youth employment rates as was observed over the late 1990s.

Chart 62 – Comparison of changes in employment of young (15-24) and older people (55-64) between 2000 and 2004 by sector in the Czech Republic



Source: Eurostat, LFS, spring results.

7. Conclusions

Overall, this chapter shows that despite the pick-up in economic activity both in the EU and worldwide, employment growth in the EU was again weak in 2004 and has now been low for three years in a row. As a result, progress towards the Lisbon and Stockholm employment objectives has continued to be limited, although at country level employment performance in 2004 was generally positive, with negative employment growth in only a few Member States. The services sector continued to drive employment expansion, in contrast to agriculture and industry where employment continued to contract in 2004.

Over recent years, there has been an increase in the shares of more flexible types of employment, such as part-time and fixed-term employment. Employment of older people has increased markedly and accounts for the majority of the increase in total employment since 2000 compared to other age groups, suggesting that policies to improve the participation of older workers and reforms of pension systems and early retirement schemes may be taking effect in the labour market. Yet deep concerns remain about the employment situation of youth, which has deteriorated over recent years, although this trend seems to coincide with young people staying longer in education and training. This points to the need to step up efforts aimed at enabling young people to better combine education and employment, in the overall context of improving youth integration into the labour market.

Box 5 - Overview of the labour market situation in the Acceding and Candidate Countries

After successfully expanding from 15 to 25 members in May 2004, the European Union is now preparing for the next enlargement. Following the signing of the Accession Treaty on 25 April 2005, Bulgaria and Romania are now "Acceding Countries" likely to become full EU Members in 2007, while Croatia and Turkey are "Candidate Countries", in the process of negotiations for EU membership. It is appropriate, therefore, to examine the labour market situation in these four countries and compare how they stand relative to the EU as a whole.

The labour market situation in 2004 compared to the EU

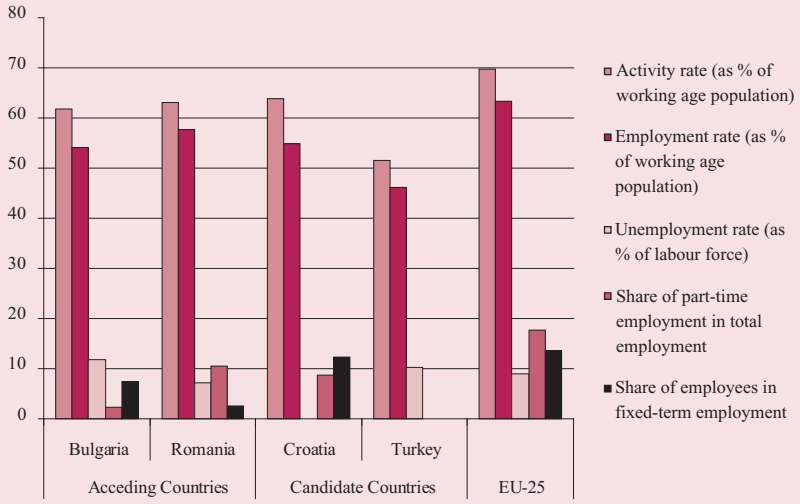
For all four countries the activity rates and employment rates in 2004 were considerably below the average for the EU (Chart 63). While in Bulgaria, Romania and Croatia employment rates were 6 to 9 percentage points lower than in the EU in 2004, the gap with regard to Turkey was significantly wider at 17 percentage points, largely due to the exceptionally low employment rate for women of only 24.3% (Chart 64).

Unemployment rates are generally on a par with the EU average, although lower in Romania and slightly higher in Bulgaria and Turkey. Part-time employment is less common in these countries than for the EU as a whole, and is especially low in Bulgaria where only 2.4% of those in employment are working part-time. Similarly, shares of employees employed on fixed-term contracts are, apart from Croatia, generally much lower than in the EU.

Recent labour market trends

Over recent years the employment rate has risen by almost 4 percentage points in Bulgaria, from 50.4% in 2000 to 54.2% in 2004, driven by a fall in unemployment from around 16% to 12% and a slight improvement in the overall activity rate (Chart 65). Employment rates rose particularly strongly among the older persons' age group (55-64) where labour market participation has risen sharply, especially for older women, although rates for young and prime working age people have also risen. By contrast, employment rates in Romania and Turkey have fallen by around 5 and 3 percentage points respectively since 2000, although in Romania (within the

Chart 63 – Labour market indicators in the Acceding and Candidate Countries, 2004



Source: Eurostat, QLFD and harmonised series on unemployment.
Note: No UR data for HR, no P/T or fixed-term empl share data for TR.

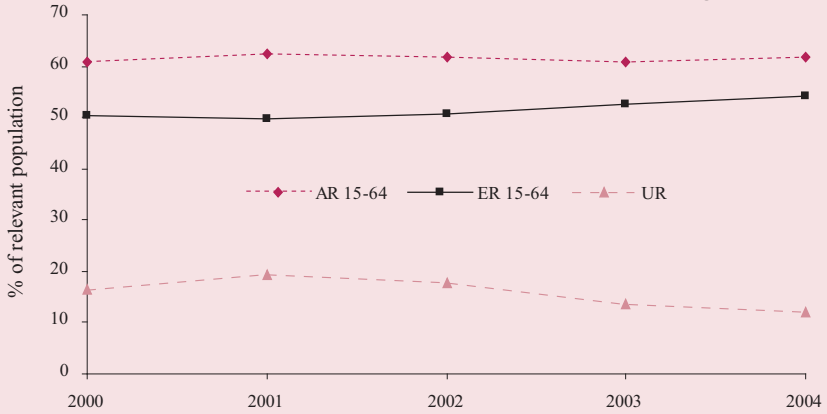
Chart 64 – Employment rates in Acceding and Candidate Countries by gender, 2004

Source: Eurostat, QLFD.

Box 5 (cont.) - Overview of the labour market situation in the Acceding and Candidate Countries

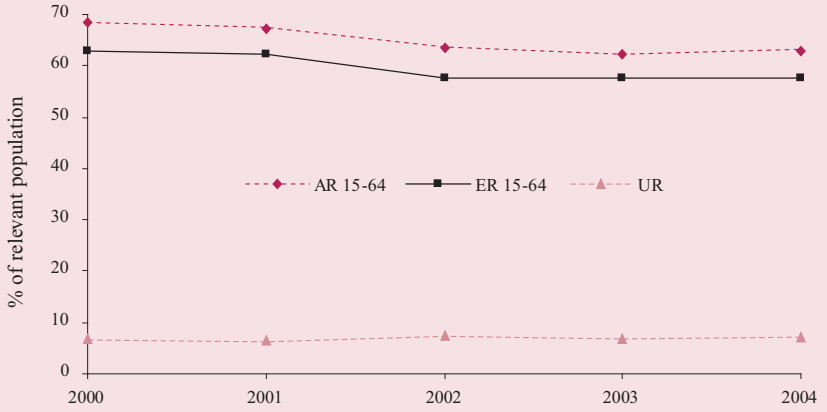
Chart 65 – Trends in activity rates, employment rates and unemployment rates in Bulgaria, Romania and Turkey, 2000-2004

Trends in AR, ER and UR in Bulgaria, 2000-2004



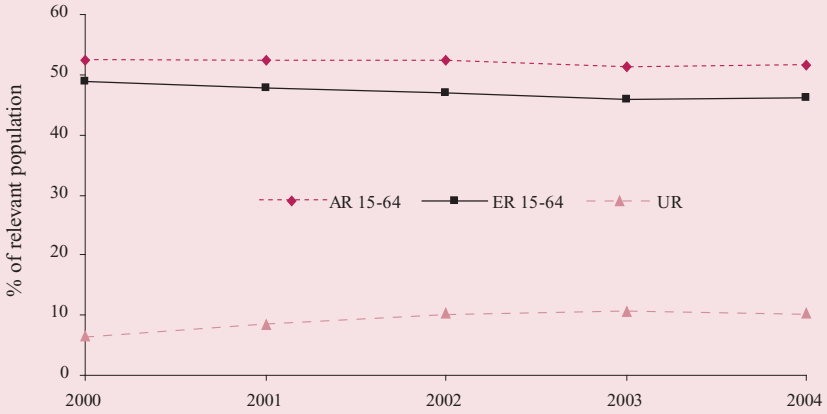
Bulgaria	ER changes 2000-2004
Total ER 15-64	3.8
Male ER 15-64	3.2
Female ER 15-64	4.3
ER 15-24	1.8
ER 25-54	2.7
ER 55-64	11.7

Trends in AR, ER and UR in Romania, 2000-2004



Romania	ER changes 2000-2004
Total ER 15-64	-5.3
Male ER 15-64	-5.2
Female ER 15-64	-5.4
ER 15-24	-5.2
ER 25-54	-4.6
ER 55-64	-12.6

Trends in AR, ER and UR in Turkey, 2000-2004



Turkey	ER changes 2000-2004
Total ER 15-64	-2.7
Male ER 15-64	-4.0
Female ER 15-64	-1.5
ER 15-24	-5.4
ER 25-54	-2.4
ER 55-64	-3.1

Source: Eurostat, QLFD and harmonised series on unemployment.
Note: Break in series for RO in 2002 (new employment and unemployment definitions).

Box 5 (cont.) - Overview of the labour market situation in the Acceding and Candidate Countries

limitations of the data available)[17] this reflects a similar fall in the activity rate and little change in the unemployment rate, while in Turkey the overall activity rate changed little and the main impact has been a rise in unemployment of close to 4 percentage points. Unlike Bulgaria, in Romania labour market participation and, hence, employment rates for the 55-64 age group have fallen markedly since 2000. (Comparable data for Croatia are available only from 2003 onwards, so it is not possible to comment on developments in that country since 2000.)

Sectoral employment structure in the Acceding Countries

Focusing on the Acceding Countries, data on the sectoral employment structure (by main employment, resident concept) in 2004 (Table 9) reveal that in both countries there are higher shares of people who are mainly employed in agriculture than for the EU as a whole, especially in Romania where around one third of all main employment is accounted for by this sector. In fact, the employment structure (by main employment) for Romania broadly consists of one third of total employment in each of the main sectors, with employment in services much less developed than in the EU. While Bulgaria also has a low share of people with employment in services as their main employment in comparison to the EU as a whole, its sectoral employment structure is broadly similar to that of certain existing Member States such as Portugal and Slovenia, while, in contrast, Romania has a structure quite unlike that of any EU Member State.

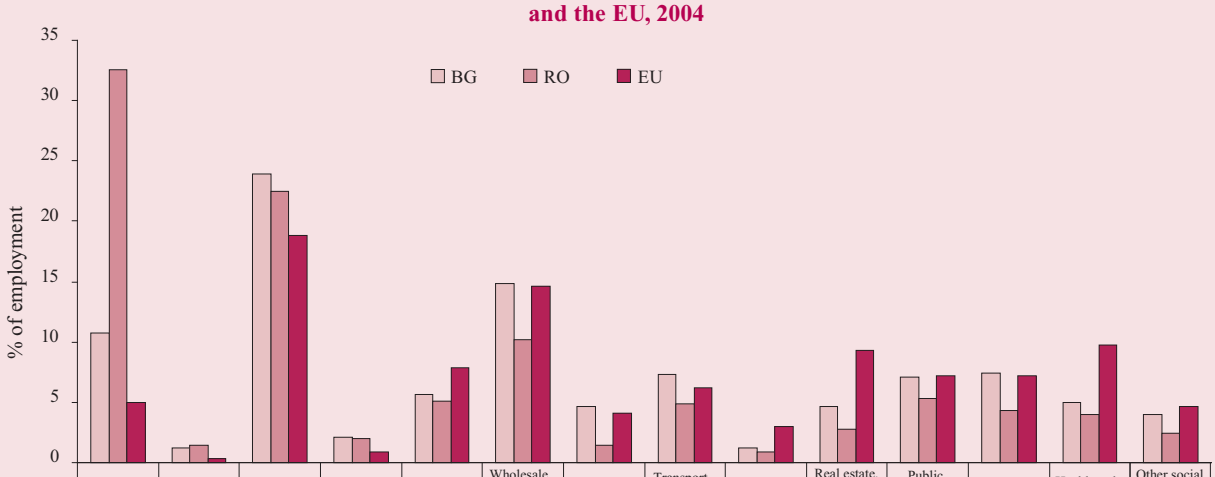
At a more detailed sectoral level, within industry both Bulgaria and Romania have higher shares of employment (by main employment) than the EU in the manufacturing, utilities and mining sectors but considerably less in construction (Chart 66). Within services, Bulgaria has broadly similar shares to the EU in many sectors, the main exceptions being "Real estate, renting and business activities", "Financial intermediation" and "Health and social work" which account for much lower shares of employment than in the EU. By contrast, in Romania all services sectors account for much lower employment shares compared to the EU, in line with the relatively low overall level of employment in services in that country. This indicates that Romania faces a much greater challenge to restructure its economy if it is to adjust to a sectoral employment structure more typical for the EU.

Table 9 – Employment structure (% of employment) by main employment in Bulgaria, Romania and the EU, 2004

	BG	RO	EU
Total Agriculture	10.7	32.6	5.0
Total Industry	32.9	31.1	27.9
Total Services	56.3	36.4	67.1

Source: Eurostat, LFS, spring results.

Chart 66 – Comparison of sectoral employment structure (by main employment) of Bulgaria, Romania and the EU, 2004



	Agriculture, fishing and forestry	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade, repair	Hotels and restaurants	Transport, storage and communication	Financial intermediation	Real estate, renting and business activities	Public administration and defence, etc.	Education	Health and social work	Other social, community and personal services
BG	10.7	1.2	23.9	2.1	5.7	14.9	4.7	7.3	1.2	4.7	7.1	7.4	5.0	4.0
RO	32.6	1.5	22.5	2.0	5.1	10.1	1.5	4.8	0.9	2.7	5.3	4.3	4.0	2.4
EU	5.0	0.4	18.8	0.9	7.8	14.7	4.1	6.2	3.0	9.3	7.2	7.2	9.7	4.6

Source: Eurostat, LFS, spring results.

17 There was an important break in data series in Romania in 2002 related to revised employment and unemployment definitions

Chapter 2

Taking stock of the European Employment Strategy (EES): the evidence behind improved performances of EU labour markets

1. Introduction

1.1. The European Employment Strategy (EES)

The European Employment Strategy (EES) was launched in November 1997 at a special European Council in Luxembourg. Since the late 1970s, labour market developments in Europe, characterised by both persistently high unemployment and correspondingly low employment creation, were widely felt to be unsatisfactory. As a result, the launch of the EES was intended to send a strong signal that the EU considered employment to be a top priority. The Lisbon European Council (March 2000) gave further impetus to the EES by linking it to the broader economic and social agenda for the EU.

The basic role of the EES – *the promotion of more and better jobs* – was set out in the Employment Guidelines approved by the Council in 2003 for the period 2003-2005[1]. These employment guidelines set three overarching objectives: i) full employment; ii) quality and productivity at work; and iii) strengthening social cohesion and inclusion. They comprise ten specific guidelines plus guidance on improving the governance of employment policies.

The main aim of this chapter is the evaluation of the EES, focusing on each of the three overarching objectives[2]. As regards the labour market, although the analysis in this chapter and elsewhere strongly suggest that structural improvements have occurred in recent years, the situation (in a number of Member States) is far from satisfactory. Employment rates in many Member States and in the EU as a whole remain significantly below targets and overall progress has been slow in recent years, while both actual and structural unemployment rates remain high, at 9.0 percent and 8.5 percent, respectively, in 2004.

In a Communication to the Spring European Council[3], the European Commission called for the renewal of the Lisbon Strategy, to refocus it on growth and jobs. In a subsequent Communication[4], the European Commission set out the first integrated guidelines for growth and jobs[5] for the period 2005-2008, which are presented in one comprehensive document with two parts, taking account of the interrelations and synergies between micro/macroeconomic and employment policies. The adoption of this revitalised strategy is also considered to be a necessary condition[6] – although not wholly sufficient – for securing the environmental sustainability of growth and for modernising and advancing Europe's social model.

1 In this chapter all references to employment guidelines refer to the 2003 set: OJ L197/13, Council Decision of 22 July 2003 on guidelines for employment policies of Member States. The employment guidelines should be fully reviewed only every three years (i.e. the next round is scheduled for 2005), while in the intervening years their updating should remain strictly limited.
On 12 April 2005, the Commission published its recommendation for *Integrated Guidelines for Growth and Jobs* for the period 2005-2008, COM(2005) 141 final, which for the first time, and in order to improve governance, put together in a single document both the Commission Recommendation on the Broad Policy Guidelines and the proposal for a Council Decision on the Employment Guidelines.
The new set of integrated guidelines was approved at the European Council of June 2005, leading to the Council Decisions of 12 July 2005 on guidelines for employment policies of Member States (OJ L205/21), and on the broad guidelines for economic policies of the Member States and the Community (OJ L205/28).

2 This is part of a second review of the European Employment Strategy. A first review took place in 2002, leading to Communication COM(2002) 416 final of 17/7/2002, entitled *Taking stock of five years of the EES*. This Communication was accompanied by a technical document containing the main findings of an evaluation programme initially drafted by the Commission and then endorsed by the Employment Committee. The evaluation programme included: i) *national impact evaluation studies*; and ii) *an aggregate assessment of employment performances at the EU level*.

3 Communication to the Spring European Council *Working together for growth and jobs – a new start for the Lisbon Strategy*, Communication from President Barroso in agreement with Vice-President Verheugen, COM(2005) 24.

4 Communication of the European Commission *Integrated Guidelines for Growth and Jobs*, Communication from the President Barroso, in agreement with Vice-President Verheugen and Commissioners Almunia and Špidla, COM(2005) 141.

5 Including both the Broad Economic Policy Guidelines and the Employment Guidelines.

6 *Achieving higher growth potential and more jobs will provide an essential contribution to sustainable development and cohesion,* COM(2005) 141.

1.2. Labour markets in a rapidly changing environment

The 1990s witnessed a series of far-reaching changes in Europe, with a potentially large impact on labour markets, principally: i) the single market programme; ii) the introduction of the single currency; iii) the accession of three new Member States; iv) German reunification; v) deep transformations in a number of Central and Eastern European countries.

All this turbulence makes it difficult to isolate the impact on labour markets of the launch of the EES in 1997. Moreover, the EES is also part of a wide range of policies for strengthening economic governance in the EU in general and in the euro area in particular. Since the second half of the 1990s[7], several rounds of the "guidelines package" have recommended a policy-mix judged more favourable to sustainable economic growth, better labour market outcomes, social cohesion and inclusion, as well as environmental sustainability. These instruments involve the coordination of three major policy strands: microeconomic, macroeconomic and employment.

2. General macroeconomic developments

2.1. Retrospective

The Lisbon European Council of 23 and 24 March 2000 agreed on a new strategic goal for the EU in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy. At that time, the EU was experiencing its best spell of economic performance since the mid-1970s in terms of economic growth, employment creation, low inflation, and fiscal consolidation. There was a clear sense of optimism following the successful introduction of the single currency, progress achieved with the single market project, and the opportunities arising from the (then) imminent enlargement of the EU. However, the Council, having realised that the situation in some areas was far from satisfactory, agreed on a number of policy measures leading in some cases to the setting of quantified targets that subsequently turned out to be rather challenging. The need for action was identified in a number of areas: employment creation – *the creation of more and better jobs* – with the setting of ambitious employment rate targets in order to move EU economies towards full employment; the modernisation of social protection[8]; and the promotion of social inclusion in order to reduce the incidence of poverty.

In order to assess the progress made towards meeting these quantified targets, and in particular those for the employment rate (table 10), it is important to point out that at the time of the Lisbon Council a realistic average economic growth rate was assumed to be around 3%[9]. In reality, actual GDP growth was considerably lower (table 11).

Table 10 – Employment rate[a)] targets for the EU

	2005	2010
Overall employment rate (aged 15 to 64)	67.0	70.0
Employment rate for women (aged 15 to 64)	57.0	60.0
Employment rate for older workers (aged 55 to 64)	---	50.0

Note: a) The ratio between employment and working age population.

Table 11 – Average annual percentage changes in the period 2001-2004 (except for the unemployment rate which are period averages)

	GDP	Employment	Unemployment rate
EU-15	1.5	0.8	7.7
EU-10 [a]	3.4	-0.5	---
EU-25	1.6	0.6	8.8

Source: DG ECFIN, Ameco and Eurostat.
Note: a) CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK.

7 Since 1996 for the Broad Economic Policy Guidelines, and since 1998 for the Employment Guidelines.

8 According to the presidency conclusions, the major aims for the modernisation of social protection systems were: i) to adapt them in order to ensure that work pays; ii) to secure their long-term sustainability in the face of population ageing; iii) to promote social inclusion and gender equality; and iv) to provide quality health services.

9 The presidency conclusions of the Lisbon European Council of March 2000 state the following: "*If the measures set out below are implemented against a sound macro-economic background, an average economic growth rate of around 3% should be a realistic prospect for the coming years.*"

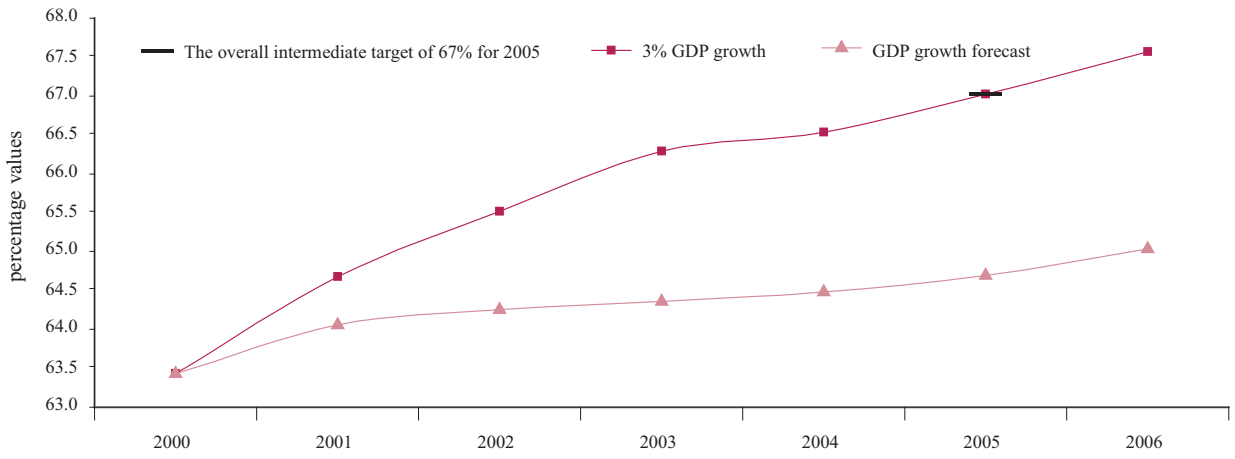
In the period 2001-2004, the average annual GDP growth rate for the EU-15 turned out to be around half of what had been initially anticipated. Obviously, given the strong relationship between economic growth and labour market performance, this had a negative impact on employment creation.

Moreover, the weakness of domestic demand in some EU Member States, especially in Germany since 2000, is worrying not only in itself, but also because of the potential knock-on effects in the rest of Europe (further explored in Chapter 3 of this report), which represents a major downward risk to the current economic recovery in Europe in general, and job creation in particular. Given the low levels of economic confidence, firms might not want to expand in the present circumstances (early on in the upswing), fearing a possible "double-dip" economic downturn. However, given the sustained improvement in price-competitiveness and the introduction of substantial reforms in the labour market, Germany is now in a better position to take full advantage of the next economic upswing than in recent years, especially as regards employment creation.

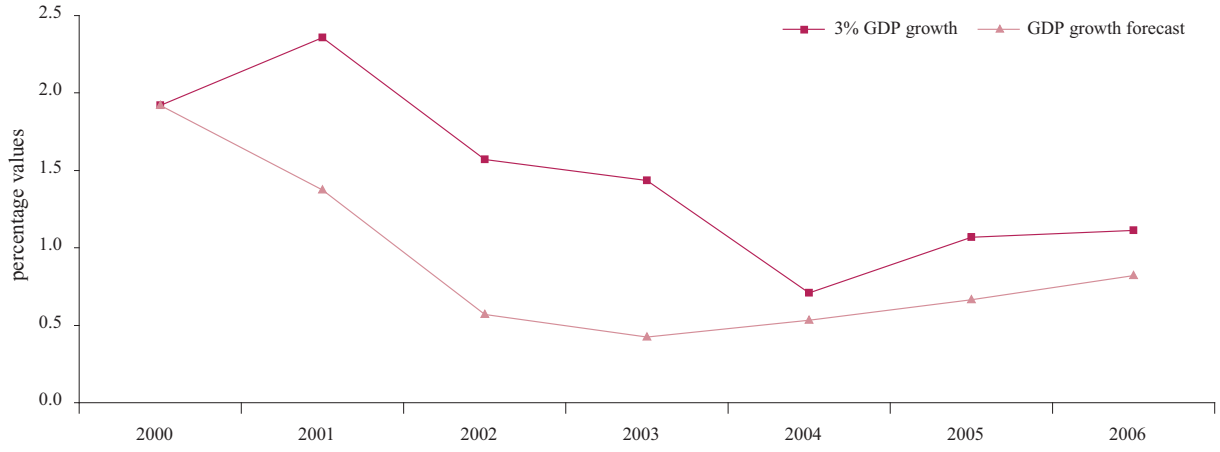
A major aim of this chapter is to evaluate the relative importance of a num-

Chart 67 – The jobs cost of weak growth

Estimate of the impact on the total employment rate of GDP growth below 3% in the EU-15, assuming the implicit employment elasticity of the Commission's Spring 2005 forecast



Employment growth rates



Source: DG ECFIN, Ameco.

ber of factors contributing to labour market development. They include: the economic cycle, the relatively poor progress in raising productivity/growth, and factors of a more "structural" nature some of which can be directly linked to the functioning of labour markets, such as the efficiency of job matching, active labour market policies, etc.

Since 1997 (the start of the EES) and then 2000 (the setting of the first employment rate targets in the Lisbon Council), the lack of progress in raising long-term growth and also the economic slowdown have clearly played a major role in labour market developments. In order to assess the impact of low growth (due either to cyclical change or to low productivity growth) it would be helpful to answer the following question: how many additional jobs could have been created had average economic growth remained close to 3% as envisaged at the outset of the Lisbon agenda?

A comprehensive (and potentially more satisfactory) answer to this question is beyond the scope of this chapter. However, a rough, but also conservative estimate of the cost in terms of jobs for the EU-15 of economic growth below the 3% threshold can be provided up to 2006, the latest year for which the Commission has published an economic forecast (Spring 2005). This estimate basically applies the (implicit) employment/growth elasticity assumed in the Spring 2005 forecast to a hypothetical GDP growth rate of 3%. Given the responsiveness of employment to cyclical economic change, it can be argued that this represents a conservative (or lower) estimate of the actual employment loss associated with low growth.

According to these calculations, economic growth below 3% during the period 2001-2004 cost, in cumulative terms, over 5 million jobs in the EU-15, which represents a decline in the average annual employment growth rate from a hypothetical value of 1.5% to the projected value in the Spring 2005 economic forecast of just 0.7%. This exercise also suggests that an average economic growth of 3% during the period 2001-2004 would have yielded a total employment rate of about 67.5% in 2006 (67% in 2005), thus closer to meeting the 70% target by 2010[10] (chart 67).

2.2. Prospects

In the second half of 2004, economic activity in the EU, although remaining positive, slowed down unexpectedly[11]. This reflects in part the increase in the price of oil and the strength of the euro. During 2004, the main driver of growth in the EU shifted from the external sector in the first half of the year, to domestic demand in the second half. According to the Commission's Spring 2005 economic forecast, GDP growth in the EU as a whole is expected to decline from 2.4% in 2004 to 2.0% in 2005 (which basically reflects the lower carry-over into 2005) and to increase in 2006 to 2.3% (i.e. closer to the potential growth rate) as the effects of high oil prices and euro exchange rate appreciation gradually work their way through and eventually taper off (table 12). The continuation of the economic recovery over the period of the forecast is driven by the acceleration in domestic demand.

In line with the lower than expected reaction of labour markets to cyclical fluctuations in the recent economic slowdown of 2001-2003[12], together with the usual lagged response of labour markets, employment creation is only expected to pick-up gradually from 0.9 million jobs in 2004 (for the EU-25) to about 1.5 million in 2006. According to the Spring 2005 *Economic Forecasts*, the overall employment rate is (implicitly) projected to rise from 64.4% in 2003 to 65.0% in 2006. The unemployment rate is forecast to remain relatively stable

Table 12 – Average annual percentage changes in the period 2005-2006 (except for the unemployment rate which are period averages)

	GDP	Employment	Unemployment rate
EU-15	2.0	0.7	7.9
EU-10 [a]	4.4	0.7	---
EU-25	2.2	0.7	8.9

Source: DG ECFIN, Ameco.
Note: a) CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK.

10 The intermediate target for the total employment rate in 2005 is 67%.

11 At the time of writing, the Commission's Autumn 2005 economic forecast had not yet been published.

12 In the EU-15, during the 1992-1993 recession the unemployment rate rose by about 3 percentage points (pp) to above 10%, while employment declined by approximately 3 pp. This contrasts with labour market outcomes in the 2001-2003 period, where the average unemployment rate increased by only 1 pp, peaking at 9% in the first quarter of 2004, while employment levels actually increased by about 2 pp in cumulative terms.

throughout the period 2005-2006 at close to 9%, before edging downwards in 2006.

3. Taking stock of the three overarching objectives of the EES

3.1. Progress made towards the employment rate targets/full employment

The period of economic slowdown between 2001 and 2003 had a markedly negative impact on labour market outcomes in general, halting (or holding back) progress towards the employment rate (ER) targets. In order to restore a satisfactory situation that would allow the ER targets to be reached, an economic recovery is essential – but will not suffice by itself. *Europe's underlying economic potential depends on its ability to boost employment and productivity growth simultaneously. This will rely on further structural reforms not just in the labour market but also in the services, product and financial markets*[13].

As explained in Chapter 1, in 2004, the total employment rate increased by 0.4 percentage points, reaching 63.3% in the EU-25 (table 14), after having stagnated at around 63% in the cyclical downturn of 2001-2003. The employment rate for women continued its gradual rise, approaching 56% of the female working age population in 2004, largely on account of the increased labour market participation of younger age cohorts. The employment rate of older workers (table 15) has increased significantly in recent years reaching 41.0% in 2004. This remarkable rise partly reflects the delayed impact of past reforms of pension and early retirement schemes in a number of Member States.

In the 2001-2003 period[14], the growth rate for older workers in employment significantly outpaced that of total employment in the EU-25, increasing by an annual average of 5.5% compared with 0.3%[15]. A simple breakdown of employment

Table 13 – Employment rate
Contribution to changes by gender and age groups

	EU-25	EU-15	EU-25	EU-15
	2003		2001	
Employment rate	62.9	64.4	62.8	64.1
	2003-2001		2001-1997	
change in pp ≃ (1)+(4)	0.1	0.3	2.2	3.4
due to the employment rate effect				
TOTAL (1) ≃ (2)+(3)	0.3	0.4	1.9	3.1
Young age (15-24)	-0.2	-0.2	0.3	0.7
Prime age (25-54)	0.1	0.1	1.3	2.1
Older age (55-64)	0.5	0.5	0.3	0.4
MALE (2)	-0.2	-0.1	0.4	1.1
Young age (15-24)	-0.2	-0.1	0.1	0.3
Prime age (25-54)	-0.2	-0.2	0.3	0.6
Older age (55-64)	0.2	0.2	0.1	0.1
FEMALE (3)	0.5	0.6	1.5	2.0
Young age (15-24)	-0.1	0.0	0.2	0.3
Prime age (25-54)	0.3	0.4	1.1	1.4
Older age (55-64)	0.2	0.3	0.2	0.3
due to the population composition effect				
TOTAL (4)	-0.2	-0.2	0.3	0.2
Young age (15-24)	0.0	0.0	-0.3	-0.3
Prime age (25-54)	-0.3	-0.3	0.5	0.5
Older age (55-64)	0.2	0.2	0.0	0.0

Source: DG EMPL calculations based on EUROSTAT LFS.

13 Communication from the Commission to the Council, *Joint Employment Report 2004/2005*, SEC(2005) 64.
14 At the time of writing, a complete data breakdown for 2004 was not yet available.
15 In the same period, female employment increased on an annual average by 0.9%.

rate[16] changes by gender and age group is shown in table 13[17].

From an accounting perspective, table 13 highlights in a succinct way a number of significant facts:

- The rise in the female employment rate has been the dominant factor driving up the total employment rate;
- The positive contribution of older workers to the total employment rate has also been highly significant, specially given that the older age working population represents only about 17% of the total working age population;
- The contribution of young and prime-age workers to the total change in the employment rate declined substantially in the 2001-2003 period in comparison to the 1997-2001 period due to the cyclical downturn;
- The total demographic composition effect has been relatively small in absolute value, having turned negative in the 2001-2003 period.

Table 14 – Total employment rate by gender in the EU-25 (persons aged 15 to 64)

	1998	2001	2003	2004
Total	61.2	62.8	62.9	63.3
Women	51.8	54.3	55.0	55.7
Men	70.6	71.3	70.8	70.9

Source: Eurostat.

Table 15 – Employment rate by gender for older workers in the EU-25 (persons aged 55 to 64)

	1998	2001	2003	2004
Total	35.8	37.5	40.2	41.0
Women	25.5	27.8	30.7	31.7
Men	46.6	47.7	50.3	50.7

Source: Eurostat.

Table 16 – Total employment rates (as percentages)

Pace of progress since 1997 / Rates in 2004	Low	Close to average	High
> 70		DK, NL, SE, UK	
65-70	AT	CY, DE, FI, PT, SI	IE
< 65	CZ, EE, LT, MT, PL, SK	BE, EL, FR, HU, LU, LV	ES, IT

Source: Eurostat and DG EMPL calculations.
Note: Pace of progress is defined as the percentage point change in the employment rate between 1997 and 2004. "Low": employment rate increase below the EU-25 average minus half of the (unweighted) standard deviation. "Close to average": employment rate increase within a band of one standard deviation centred on the EU-25 average. "High": employment rate increase above the EU-25 average plus half of the (unweighted) standard deviation.

In tables 16, 17 and 18, Member States are classified according to their employment rate in 2004 and the pace of progress since 1997. This gives a rough ranking for employment rate performance across the EU Member States. The bottom left-hand cell is the least favourable classification (i.e. low employment rate and low progress towards a target). In contrast, countries in the bottom right-hand cell are in a better situation because they have made rapid progress in recent years, though they still have a relatively low employment rate.

In 2004, only four Member States among the twenty five had already reached the total employment rate target of 70% (DK, NL, SE and the UK), while AT, CY, FI and PT were close to that value (i.e. within 3 percentage points). A number of Member States with initial low employment rates had also caught up (most notably ES and

16 The ratio of employment to population.

17 Applying a simple shift share analysis, the total employment rate change between periods one and zero can be decomposed approximately as: $ER^1 - ER^0 = \sum_i ER_i^1 p_i^1 - \sum_i ER_i^0 p_i^0 \approx \sum_i p_i^0 (ER_i^1 - ER_i^0) + \sum_i ER_i^0 (p_i^1 - p_i^0)$. Where ER_i^j is the employment rate in period j of the age/gender group i; p_i^j is the fraction of the age/gender group i in the total working age population in period j. The first term $\sum_i p_i^0 (ER_i^1 - ER_i^0)$ is the (pure) employment rate effect, while the second term $\sum_i ER_i^0 (p_i^1 - p_i^0)$ is the population composition effect.

Table 17 – Employment rates for women (as percentages)

Rates in 2004 \ Pace of progress since 1997	Low	Close to average	High
> 60	AT, DK, EE, SI, UK	FI, PT, SE	NL
55-60	CZ, LT	CY, DE, FR, LV	IE
< 55	MT, PL, SK	BE, EL, HU, LU	ES, IT

Source: Eurostat and DG EMPL calculations.
Note: See table 16 for legend.

Table 18 – Employment rates for older workers aged 55-64 (as percentages)

Rates in 2004 \ Pace of progress since 1997	Low	Close to average	High
> 50	CY, EE, PT	SE	DK, FI, UK
40-50		CZ, ES	IE, LV, NL, LT
< 40	AT, DE, EL, PL	IT, LU, MT, SI, SK	BE, FR, HU

Source: Eurostat and DG EMPL calculations.
Note: See table 16 for legend.

IT). In recent years, due to the cyclical downturn, the employment rate has either stagnated or declined in most Member States. Following a severe economic and labour market crisis, the total employment rate in Poland, for example, was 51.7% in 2004, down from 58.9% in 1997.

Nine Member States (AT, DK, EE, SI, UK, FI, PT, SE, and NL) already exceed the 2010 Lisbon target for the female employment rate and seven others (CY, CZ, DE, FR, IE, LT, and LV) are close to or above the 57% mid-term target for 2005. The EU average is reduced significantly by the low rates in a number of Member States, notably EL, ES, IT and PL, although there are signs of improvement in ES and IT.

As regards older workers, the Stockholm target of 50% for 2010 has been reached in just seven Member States (CY, EE, PT, SE, DK, FI, and UK) and is within reach in another three (IE, LV and LT). In order to bridge the existing gap of 9 percentage points (between the average employment rate and the target for 2010), reliance on favourable cohort effects will not be sufficient, suggesting that a stronger policy effort is required.

3.2. The structural improvement in labour markets

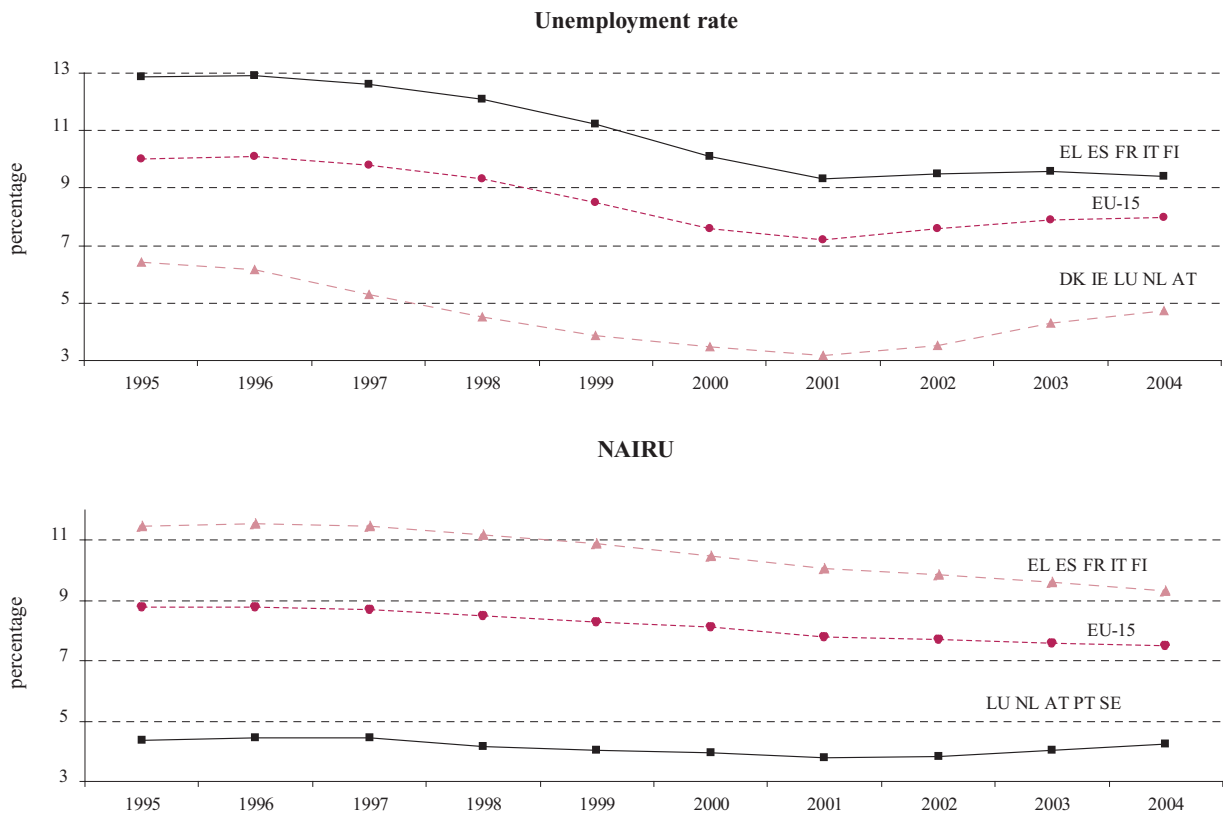
Economic analyses carried out both by the European Commission[18] in particular and by the academic community in general strongly suggest that structural improvements have occurred in the functioning of labour markets over the economic cycle. These improvements are reflected in a number of features, notably: i) lower structural rates of unemployment on average, despite the marked deterioration in some new Member States; ii) lower long-term unemployment rates and shorter average spells in unemployment; iii) increased efficiency in matching between the unemployed and unfilled vacancies; iv) wage formation processes that take better account of prevailing conditions in the economy and competitiveness constraints, thus raising the employment content of growth; v) the econometric finding that a positive significant break in the aggregate labour demand function occurred in many EU Member States (but not in all) around 1997; vi) econometric evidence suggesting that the labour force and, to a lesser extent, employment have become more responsive during cyclical upturns; vii) statistical evidence indicating that the development of certain types of labour contracts, namely part-time and temporary work, are positively correlated with employment creation and rises in employment rates, especially for some usually under-represented groups; although as regards temporary work there is some evidence of market segmentation; and viii) expenditure on active labour market policies and on training has been increased and better targeted to the needs of the labour market, with positive results for, among other things, the transition between economic statuses and job matching.

On the negative side, it should be noted that, according to the available indicators to date, no significant progress has been achieved in lowering tax wedges on labour costs or the unemployment and low-wage traps. However, according to a number of empirical studies[19], an increase in the

18 See recent issues of the European Economy Review and of the Employment in Europe publications (http://europa.eu.int/comm/economy_finance/publications/the_eu_economy_review_en.htm and http://europa.eu.int/comm/employment_social/news/index_en.html, respectively).

19 EIE 2004, chapter 2.

Chart 68 – The unemployment rate and the Nairu in the EU-15



Source: DG ECFIN, Ameco.
Note: For each variable, a country is classified in the "highest" group if its average for the 2004-1997 period is above the overall average for the group plus 2/3 of the unweighted standard deviation; a country is classified in the "lowest" group if its average for the 2004-1997 period is below the overall average for the group minus 2/3 of the unweighted standard deviation. Countries not classified in either of these two groups are not explicitly mentioned.

tax wedge has a limited impact on the labour cost faced by firms and thereby on short-term aggregate employment demand[20], although the impact on some particular groups such as low-skilled workers and second-wage earners tends to be more significant. Furthermore, a majority of empirical studies (but not all) suggest that the tax wedge leaves equilibrium unemployment unaffected in the long-term[21]. As regards the different components of the tax wedge (employers' and employees' social security contributions and the income tax rate), their short-run effects on real labour costs differ but not substantially. Moreover, the temporary effects of these various components tend to disappear in the long term.

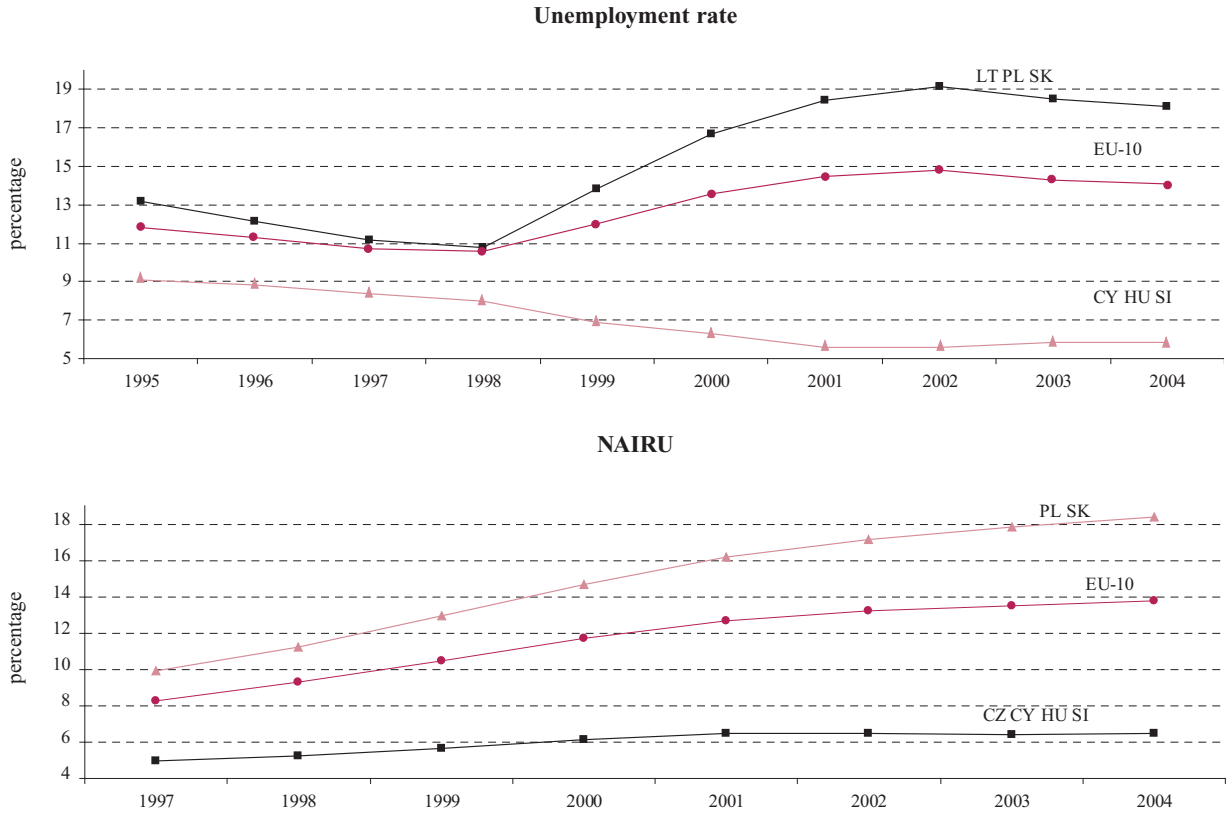
As regards strengthening social cohesion and inclusion, some estimates presented in section 3.4 and Annex II of this chapter suggest that the unemployment rate gaps for some under-represented groups, such as women, the long-term unemployed and unemployed youth, compared with the aggregate unemployment rate, have on average narrowed significantly in the EU-15 since the launch of the EES in 1997.

The following points cover some structural features in the functioning of European labour markets.

20 Recent estimates suggest that a 1 percent increase in the tax wedge leads to a contemporaneous increase in real labour costs of 0.1 percent. Arpaia and Carone (2004), "Do labour taxes (and their composition) affect wages in the short and the long run?", *ECFIN, Economic Papers*, No 216.

21 Layard and Nickell (1999), "Labour Market Institutions and Economic Performance", Handbook of Labour Economics, vol. 3, 3029-3084.

Chart 69 – The unemployment rate and the Nairu in the EU-10[a]



Source: DG ECFIN, Ameco.
Note: a) CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK.
See note in chart 68.

3.2.1. The structural unemployment rate (Nairu/Nawru)[22]

In Europe, labour markets are characterised by a wide diversity of institutions[23] and performance – even more so following the accession of ten new Member States in May 2004. For the EU-15, although the unemployment rate has increased since 2001 because of the economic slowdown (chart 68), the Commission's estimates of the Nairu[24] suggest that a small, although significant, reduction in structural unemployment has occurred since the second half of the 1990s. To a large extent such an improvement reflects the decline of over 2 percentage points in the average level of structural unemployment amongst the EU-15 Member States with the highest (structural) unemployment rates, notably EL, ES, FR, IT, and FI, together with a 3 percentage points reduc-

22 The non-accelerating inflation/wage rate of unemployment. The Nairu concept captures the theoretical prediction that over the long term real demand and unemployment generally tend towards the level consistent with stable inflation.

23 Under the heading of labour market institutions, economic theory understands a number of factors influencing (macroeconomic) labour market performance such as: (a) the unemployment benefit system, involving the level of benefits, the duration of entitlement, the coverage of the system, and the strictness with which it is operated; (b) active labour market policies; (c) systems of wage determination, involving the level of coordination, degree of collective bargaining coverage, union density, and the existence of extension laws; (d) employment protection legislation; (e) labour taxes; and (f) barriers to labour mobility. *Employment in Europe 2004*, chapter 2, provided a lengthy discussion of the impact of various labour market institutions on labour market performance. For a recent paper on this topic see: Nickell, Nunziata and Ochel (2005), "Unemployment in the OECD since the 1960s, What do we know?", *The Economic Journal*, 115 (January).

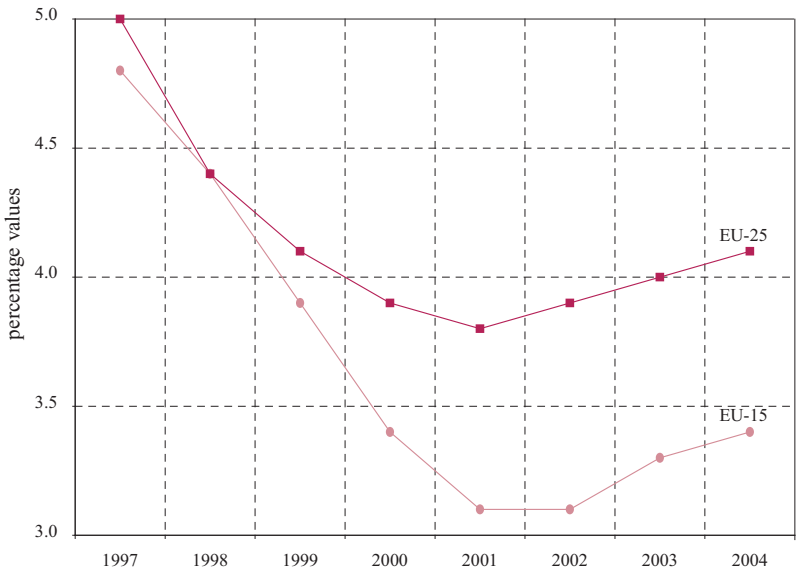
24 The Commission (DG ECFIN) uses a Kalman filter methodology (i.e. an *unobservable components method*) to obtain estimates for the Nairu. The basic idea is to break down the observed unemployment rate into trend and cyclical components. The trend component, after smoothing, is then taken as the Nairu.

tion in the UK. Among the larger EU-15 economies, Germany is the only one where the structural unemployment rate has increased by about 1 percentage point since 1995.

Throughout the period 1997-2004, the structural unemployment rate (the Nairu) fell uninterruptedly in the EU-15, although at a slower pace in 2001-2004 than in 1997-2001 (-0.1 and -0.2 percentage points, per year, respectively). This reflects to a large extent a deceleration in the rate of progress in a number of Member States, namely DK, ES, FR, IE, IT, FI and the UK, together with an increase in structural unemployment in NL and SE.

In the new Member States, labour market performance has on average deteriorated significantly since 1997 compared to older EU Member States. This reflects the cumulative effect of a number of factors: the continuing economic restructuring of some transition economies (especially Poland); an adverse policy-mix characterised by an overly strict monetary policy, partly compensating for the lack of fiscal consolidation[25]; and the general economic slowdown in the EU-15. As a consequence of all of these factors, the Commission estimates that in the new Member States the structural unemployment rate (the Nairu) rose by about 5.5 percentage points on average between 1997 and 2004, reaching nearly 14% in 2004. This deterioration is largely the result of a significant increase of approximately 8.5 percentage points in the structural unemployment rate in the three new Member States with the highest structural unemployment rates, namely LT, PL and SK[26].

Chart 70 – The long-term unemployment rate



Source: Eurostat, Structural Indicators.

3.2.2. Lower long-term unemployment rates and shorter average spells in unemployment

In recent years, despite the economic slowdown, the long-term unemployment rate[27] has decreased significantly (chart 70), especially in the EU-15. This decline basically reflects a reduction in the average duration of unemployment spells. Using Eurostat macrodata for a breakdown of total unemployment by duration, and a simple methodology presented in Layard et al.[28], the average duration of unemployment spells has been calculated for sixteen EU Member States[29]. The results suggest that the average duration of unemployment fell by about 10% between 1997 and 2003[30], and by close to or over 30% in a number of Member States (BE, ES, IE, HU, NL, SE and UK). Moreover, the country data suggest the existence of a significant positive correlation between the unemploy-

25 Darnaut and Kutos (2005), "Poland's policy mix: fiscal or monetary leadership?", *ECFIN Country Focus, v.2, No 1.*

26 In Poland, by far the largest of these three new Member States, the structural unemployment rate is estimated to have increased from 9.6% in 1997 to 18.7% in 2004.

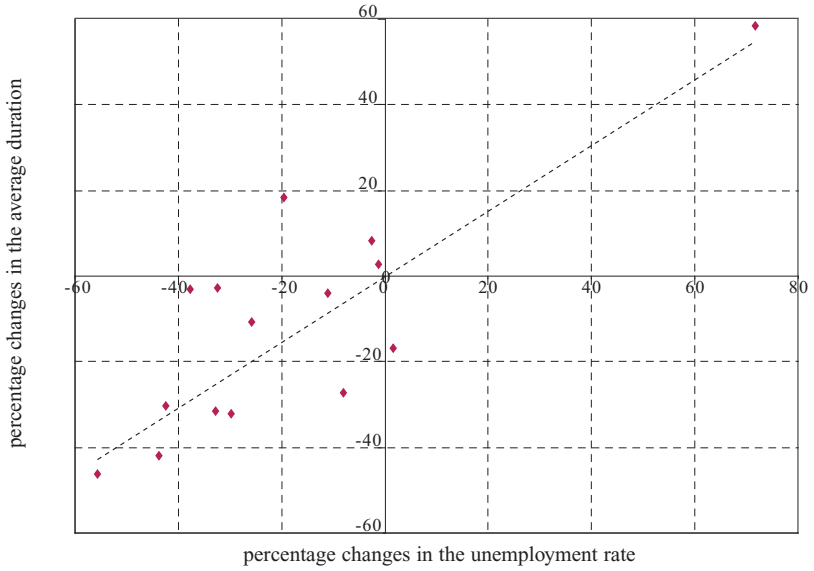
27 The long-term unemployment rate refers to those unemployed for 12 months or more as a percentage of the total active population.

28 R. Layard, S. Nickell and R. Jackman, (1991), "Unemployment, Macroeconomic Performance and the Labour Market".

29 BE, CZ, DK, DE, ES, FR, IT, HU, NL, AT, PT, FI, SE, UK, IE, EL.

30 The following equation is used to estimate the average duration of unemployment: $d = \frac{u}{i(1-u)}$, where d is the average duration of unemployment, u is the unemployment rate, and i is the inflow rate into unemployment. The above equation is only valid over the long term (i.e. in a steady state), because it requires that the number of separations equals the number of hires. This equation is basically an accounting relation (i.e. it is not a behavioural equation). The inflow rate into unemployment (i) is calculated as: $i = \frac{u_1 + 0.5\,u_{12}}{N}$, where u_1 is unemployment with a duration inferior to 1 month, u_{12} is unemployment with a duration between 1 and 2 months, and N is total employment. Data are used at an annual frequency.

Chart 71 – Correlation between percentage changes in the unemployment rate and in the average duration of unemployment between 1997 and 2003



Source: Eurostat and DG EMPL calculations.
Note: The countries for which data were available are: BE, CZ, DK, DE, EL, ES, FR, IE, IT, HU, NL, AT, PT, FI, SE, and UK.

ment rate and the average duration of unemployment (chart 71)[31].

An interesting finding is that countries registering the largest reductions in unemployment rates during the period 1997-2003 are usually also those that have had the largest reductions in the average duration of unemployment, or, in equivalent terms, have seen the largest increase in the hiring rate (i.e. the probability of an unemployed person finding a job).

3.2.3. Some signs of improved efficiency in matching (or pairing) between the unemployed and unfilled vacancies

The equilibrium level of unemployment is affected by variables that influence the ease with which the unemployed can be matched with available job vacancies. Shifts in the Beveridge Curve (i.e. the loci of unemployment and vacancy rates) are usually a sign of changes in the equilibrium level of unemployment[32]. Any change that improves/worsens the matching process will shift the Beveridge Curve to the left/right and reduce/increase the equilibrium level of unemployment[33].

In what follows, two types of Beveridge Curve are calculated for a number of EU Member States (chart 72)[34]. The first uses vacancy data from the OECD *Macroeconomic Indicators* database. The second uses a labour shortage index as a proxy for vacancies[35]. Visual inspection of the charts roughly confirms the main conclusions reached by other studies relying both on graphical and on econometric analysis (e.g. Nickell et al.[36]).

As pointed out in Nickell et al. (2003), the Beveridge Curve shifted to the right in nearly all countries from the early 1960s to the mid-1980s, indicating an increase in the equilibrium level of unemployment. After the mid-1980s, EU Member States can be roughly divided into two groups: (i) those for which the Beveridge Curve did not shift significantly; and (ii) those for which the Beveridge Curve has moved leftwards. The following countries belong to the former group: Belgium, Germany, France, Austria, Portugal, Finland and Sweden, and the following countries to the latter group: Denmark, Spain, Ireland, the Netherlands, Hungary and the United Kingdom.

31 According to this methodology, the average duration of unemployment is the inverse of the outflow rate (i.e. the ratio between hires and total unemployment).

32 In the steady state, the Beveridge curve is based on the existence of a matching function: $M = \varepsilon\, m(cU, V)$, where M is the number of matches/hires from unemployment, U is unemployment, V is vacancies, ε is the matching efficiency, and c is the search effectiveness of the unemployed. It is normally assumed that the matching function has constant returns to scale. Where s is the separation rate out of employment, sN is thus the flow into unemployment. Then in the steady state, one has $sN=M$, and hence $s = \varepsilon\, m(c\frac{U}{N}, \frac{V}{N})$, which is the (implicit) Beveridge Curve.

33 Economic theory also suggests that for a given downward sloping steady-state Beveridge Curve, actual unemployment/vacancy points cycle anticlockwise around the steady state relationship. If the steady-state Beveridge Curve shifts, the anticlockwise loops described by unemployment/vacancy points during the economic cycle should also move with the underlying curve.

34 Chart 72 is incomplete due to lack of data. Note that on the left side the Beveridge Curve is plotted using the vacancy rate and on the right side using the labour shortage index. Job vacancy data from Eurostat are not used, because they are available only from 2001.

35 *Source*: DG ECFIN, namely the question in the European Industrial Survey about factors (labour) limiting production.

36 S. Nickell et al. (2003) "The Beveridge Curve, Unemployment, and Wages in the OECD from the 1960s to the 1990s".

Chart 72 – Beveridge Curve

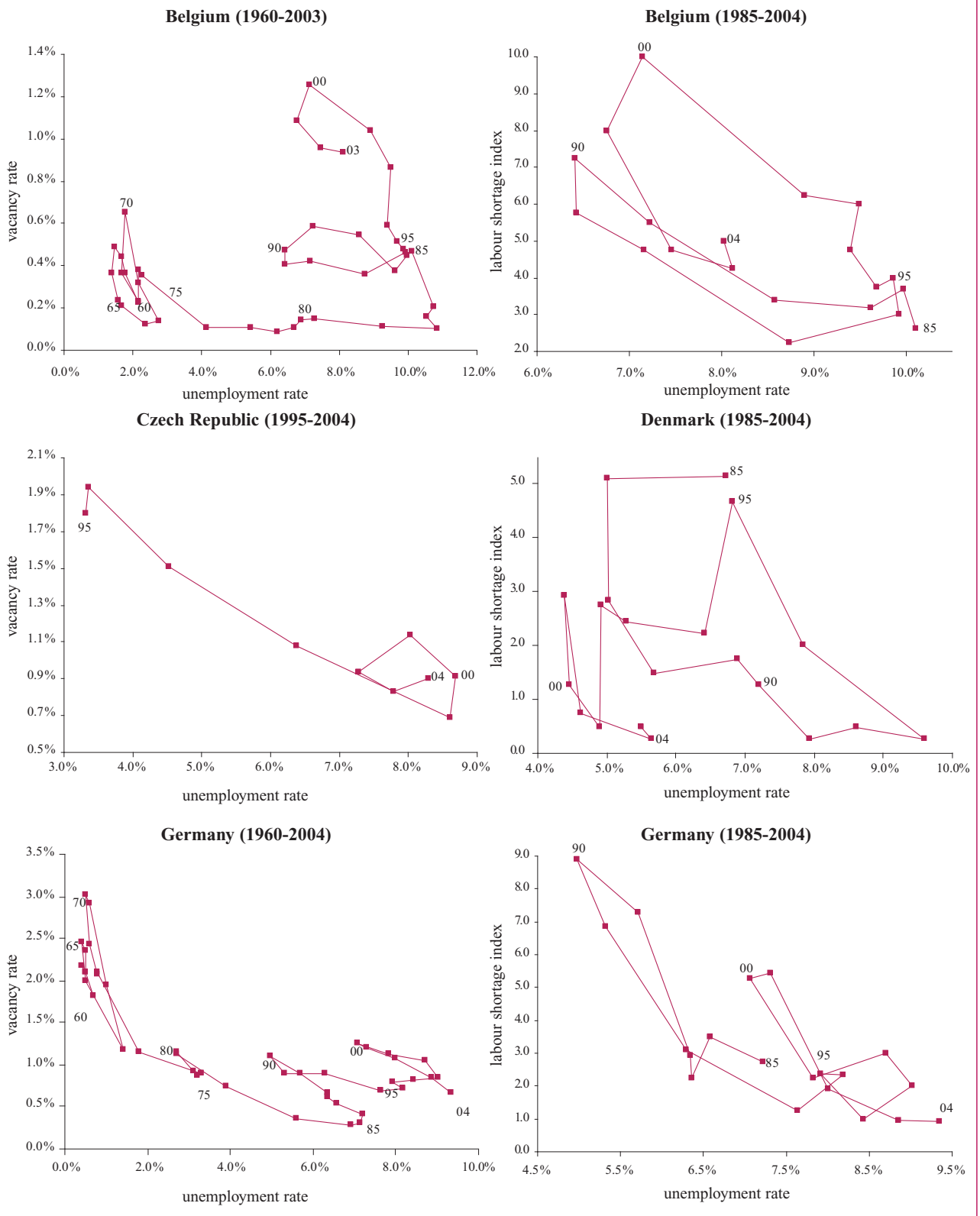
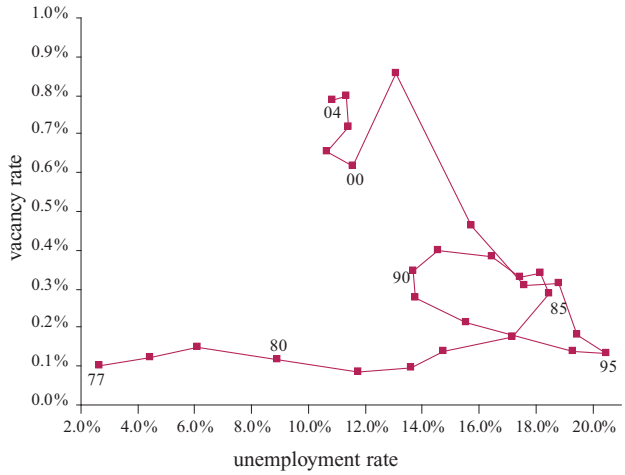
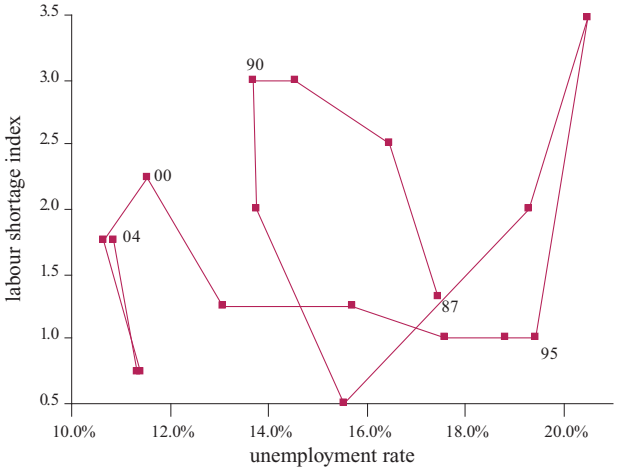


Chart 72 (cont.) – Beveridge Curve

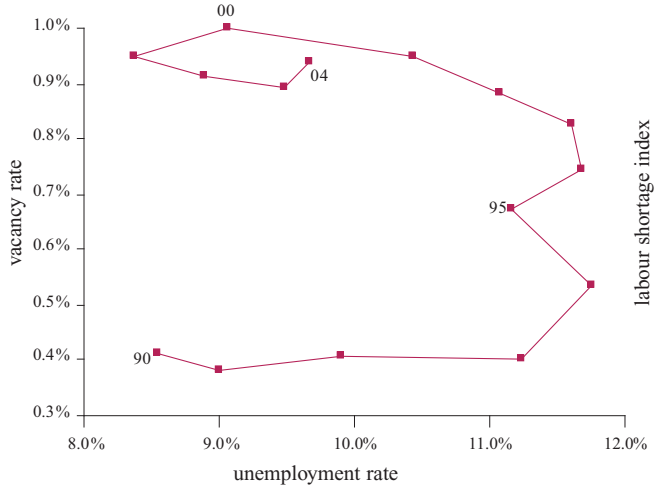
Spain (1977-2004)



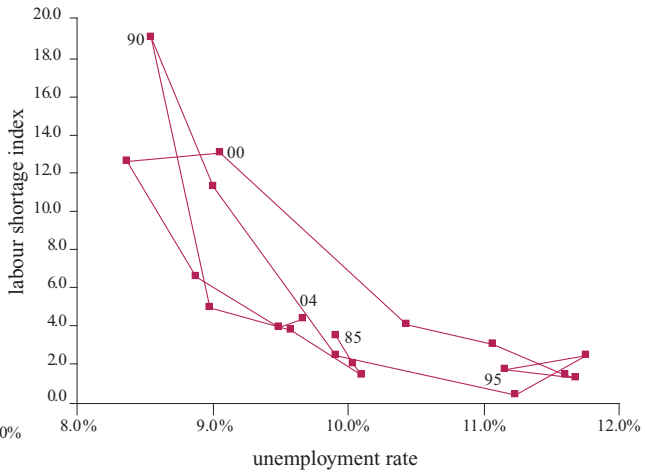
Spain (1987-2004)



France (1990-2004)



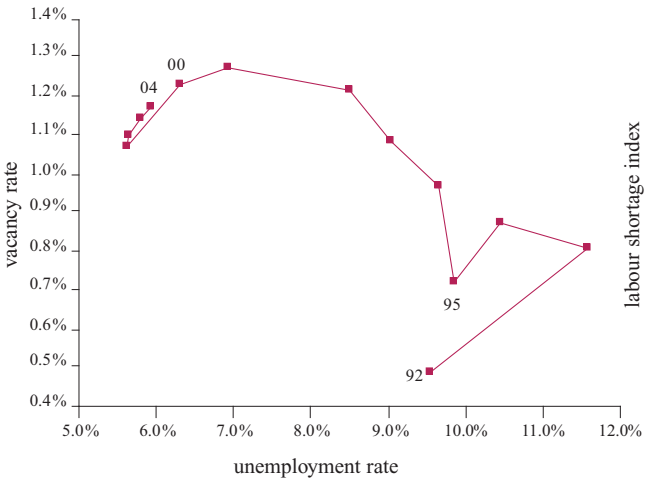
France (1985-2004)



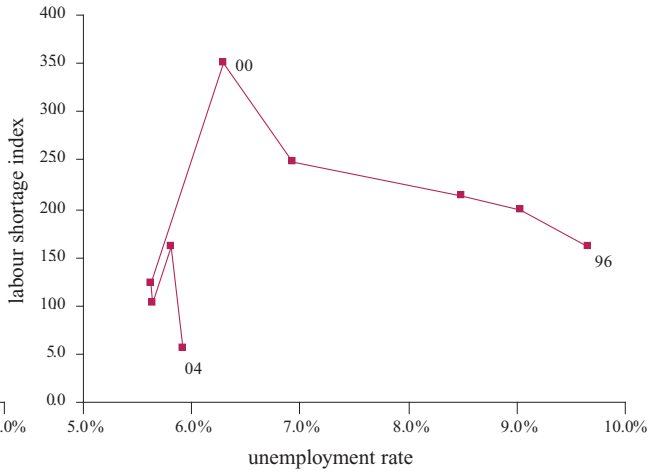
Ireland (1985-2004)

Chart 72 (cont.) – Beveridge Curve

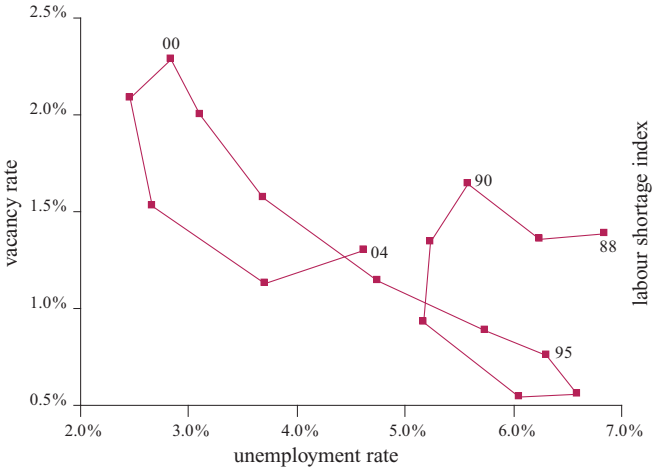
Hungary (1992-2004)



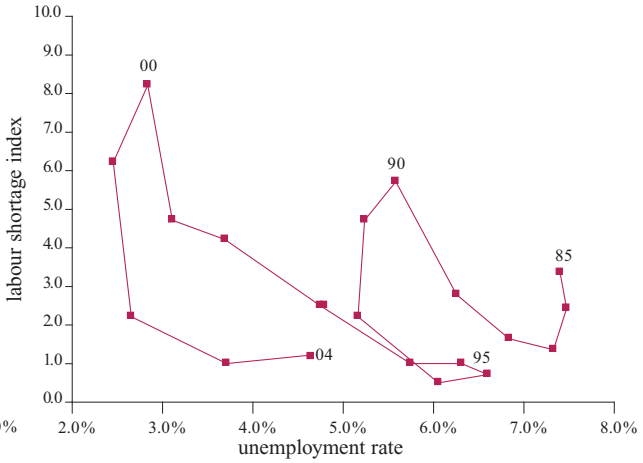
Hungary (1996-2004)



The Netherlands (1988-2004)



The Netherlands (1985-2004)



Austria (1965-2004)

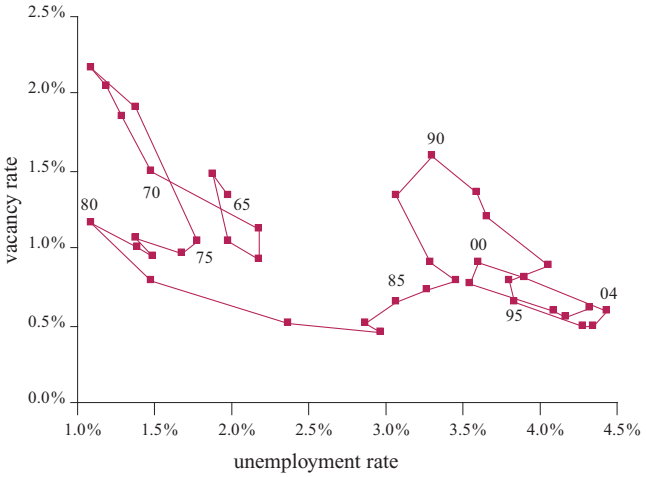
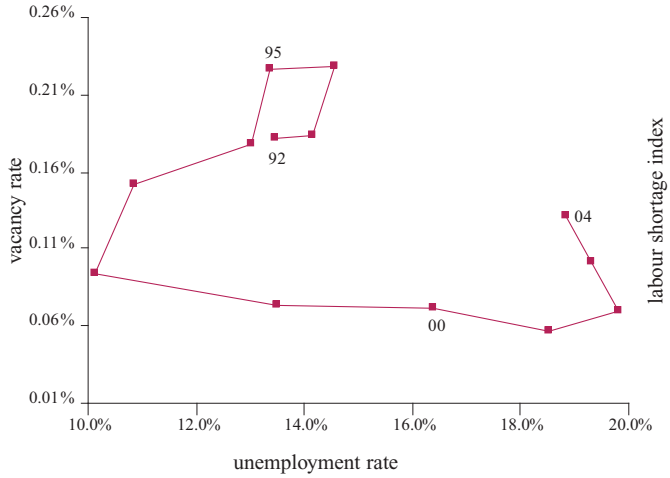
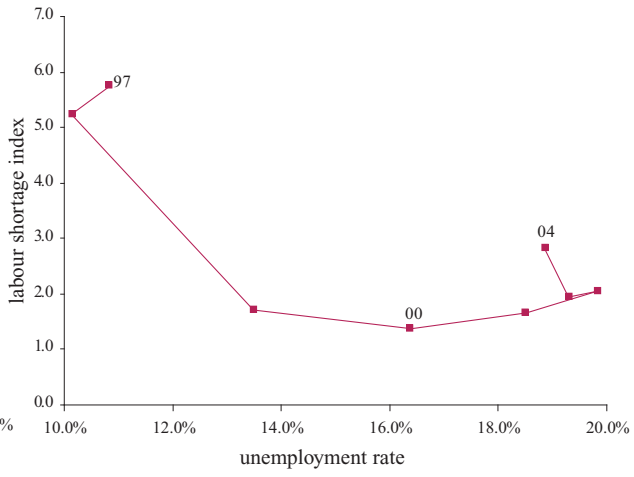


Chart 72 (cont.) – Beveridge Curve

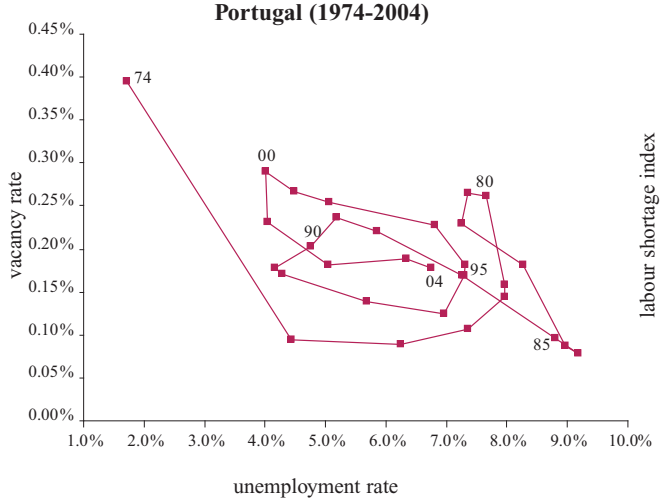
Poland (1992-2004)



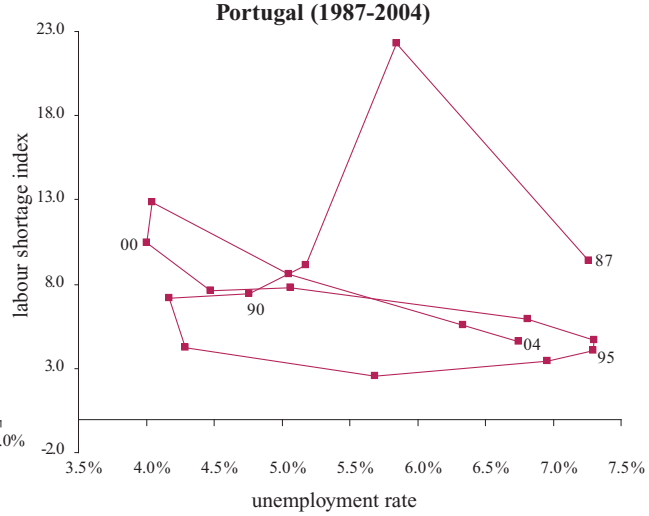
Poland (1997-2004)



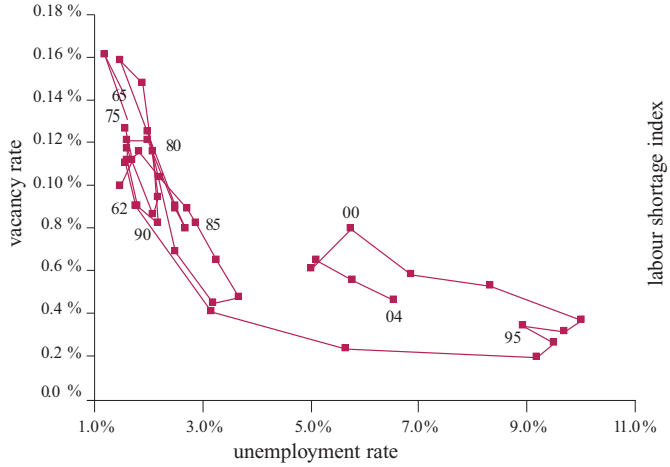
Portugal (1974-2004)



Portugal (1987-2004)



Sweden (1962-2004)



Sweden (1990-2004)

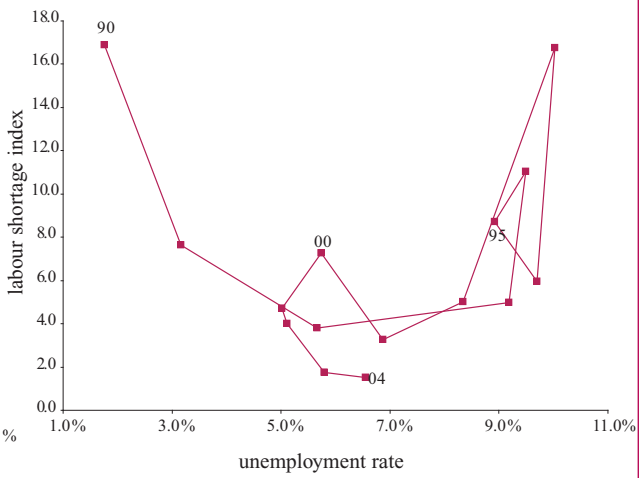
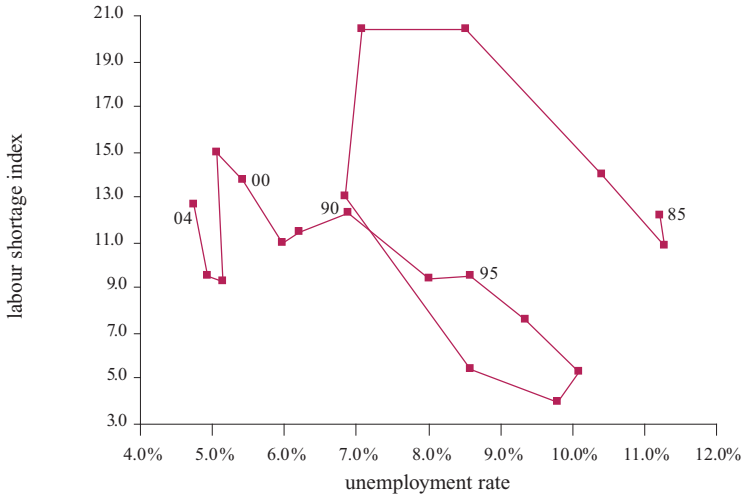


Chart 72 (cont.) – Beveridge Curve

United Kingdom (1985-2004)



Source: Eurostat, OECD and DG ECFIN.

Nickell et al. (2003) estimate an aggregate Beveridge Curve for 15 OECD countries, using pooled data and including some non-European countries, which permits an econometric evaluation of the impact of a number of variables on the efficiency of job matching. Controlling for the inflow rate into unemployment (i.e. the separation rate out of employment), the authors find that the following variables/institutions had the effect of shifting the Beveridge Curve to the right in a statistically significant way: (i) the level of owner-occupied residential housing; and (ii) the duration of unemployment benefits. In addition, the relative strictness of employment protection legislation is found to shift the Beveridge Curve to the left[37].

Finding (i) is considered intuitive, while (ii) is less so. A higher percentage of owner-occupied housing (as the alternative to renting) could contribute to lower geographical mobility, shifting the Beveridge Curve rightwards. In addition, other things being equal, where unemployment benefits are paid for a long period, this could be expected to contribute towards a lower search effort by the unemployed, thereby leading to a lower job matching rate (i.e. a rightwards shift of the Beveridge Curve). However, it can also be argued that a relatively long duration of unemployment benefit – at least until a certain threshold duration is reached – could also improve the quality of matches, in particular by not "forcing" the unemployed to accept undesirable jobs or outright bad matches.

The finding that stricter employment protection legislation actually raises the efficiency of job matching (i.e. a leftward shift of the Beveridge Curve) might result from firms being more cautious about the quality of proposed job matches[38] since the cost of a poor match would be higher in such situations. Conversely, Blanchard and Wolfers[39] (2000) argue that higher employment protection magnifies the effect of adverse macroeconomic shocks on unemployment.

3.2.4. A more job-friendly macroeconomic environment

A number of indicators suggest that the overall macroeconomic environment in the EU has become more conducive to job creation in recent years. On the one hand, there is evidence of increased moderation in wage-setting behaviour, and on the other, figures show that the profitability of capital has improved significantly since the mid-1990s.

3.2.4.1. Wage moderation

In line with some publications of the European Commission[40], a simple indicator can be calculated to identify potential shifts in the aggregate wage-setting curve in the EU-15. This indicator follows the work of Blanchard[41] (1997, 1998) and is called a "real wage gap/pressure indi-

37 Recall that a shift to the left/right tends respectively to lower/increase the equilibrium level of unemployment.

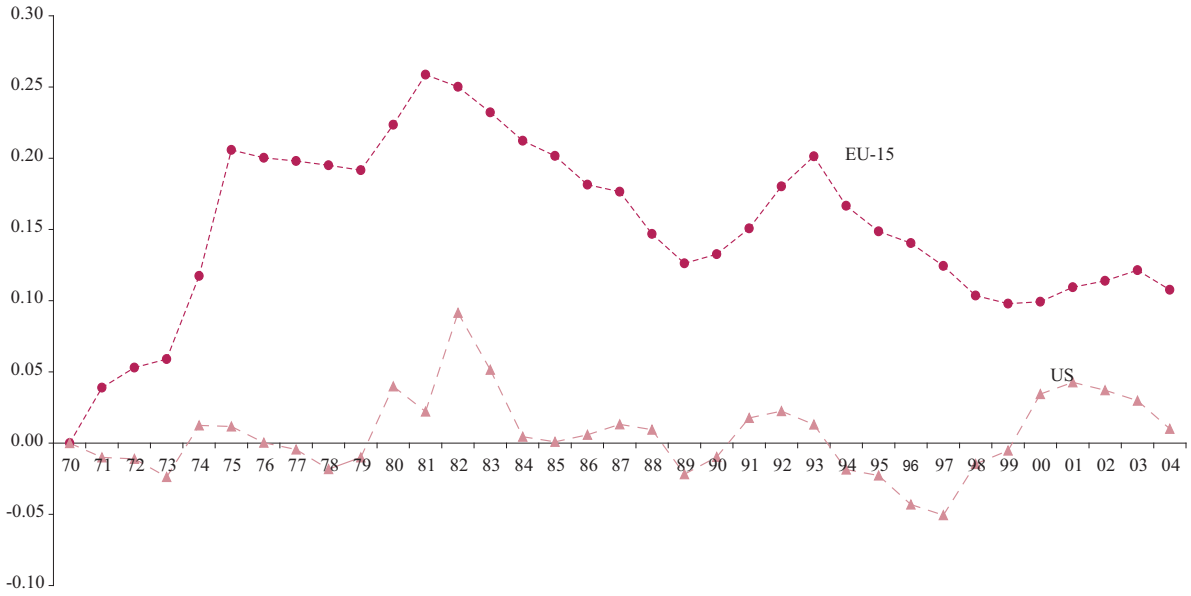
38 Economic theory considers that the net effect of employment protection legislation on job matching/level of labour demand is ambiguous as barriers to the layoff of workers are expected to hinder both job creation and job destruction (Bentolila and Bertola, (1990) "Firing costs and labour demand: how bad eurosclerosis?" *Review of Economic Studies*, vol. 57, pp. 381-420). In addition, employment protection legislation may strengthen the bargaining power of "insiders" (i.e. those who are employed), allowing them to extract higher wages to the detriment of "outsiders" (i.e. those who are without jobs).

39 Blanchard and Wolfers (2000) "The Role of Shocks and Institutions in the Rise of European Unemployment: the Aggregate Evidence", *Economic Journal* vol. 78(2), pp. 182-187.

40 "The EU economy: 2003 review", chapter 4, and "EMU after 5 years", chapter 3.

41 Blanchard (1997), "The medium run", *Brookings Papers on Economic Activity*, 2: 1997, pp. 89-158. Blanchard (1998), "Revisiting European unemployment: Unemployment, capital accumulation and factor prices", *NBER* Working Paper Series No 6566.

Chart 73 – Real wage gap/pressure indicator (1970=0)



Source: DG ECFIN, Ameco and own calculations.

cator"[42]. An increase in its value basically means that real wages are growing faster than (total factor) productivity[43]. A significant (positive) cumulative deviation in relation to a base year[44] can then be interpreted as excessive wage pressure in the labour market.

Chart 73 plots the wage gap/pressure indicator calculated for the EU-15 and the US. The values for the EU-15 show a large increase during the 1970s, with a peak of more than 25 percent in 1981-1982. Thereafter, wage pressure gradually decreased with the exception of the period 1991-1994, which featured both high nominal and real wage growth (charts 74 and 75). The decline in the second half of the 1990s basically reflects a period of wage moderation. At present, however, the wage pressure indicator for the EU-15 is still above its level at the beginning of the 1970s[45].

Given the low growth of (total factor) productivity in the 1990s[46], the partial correction of the wage pressure gap since 1993 largely reflects a period of wage moderation.

Wage moderation was common across EU Member States during the second half of the 1990s. For the purpose of characterising wage inflation during this period, the EU Member States are divided into three groups (charts 74 and 75). The first group

42 Formally, this wage indicator is derived from a simple wage setting equation, linking the real product wage in efficiency units (w/e) to the unemployment rate (u) and a shift parameter (Z) that stands for other/omitted labour market conditions/variables affecting wage setting. This relationship can be written as: $log(\frac{w}{e}) = Z - b*u$, where b is the elasticity of real efficiency wages with respect to the unemployment rate. A real wage gap indicator can then be built from $Z = log(\frac{w}{e}) + b*u$, setting b equal to 1 and after normalisation of the series to zero in 1970.

43 After correcting for slack in the labour market using the unemployment rate.

44 The base year usually chosen is 1970, because it precedes the first oil shock and the ensuing deterioration in the performance of labour markets.

45 Bruno and Sachs (1985), "The Economics of Worldwide Stagflation", Basil Blackwell, Oxford. These authors were the first to argue that the sustained increase in the unemployment rate from the mid-1970s to the mid-1980s was mostly due to the failure of social partners to adjust wages in time to the slowdown in productivity growth. Since the early 1980s, however, wages have been increasing below the underlying total factor productivity growth, leading to a fall in the income share of wages. However, despite this extended period of wage moderation, the labour market (both employment and unemployment rates) only started to improve after the second half of the 1990s. Blanchard (1998) puts forward the idea that this unusually long lag in the labour market recovery might be due essentially to two mechanisms that have depressed labour demand. First, the rise in the relative price of labour, leading to a reduction in labour demand and, creating a labour surplus at the level of the firm (i.e. labour hoarding). Given adjustment costs and legal/administrative constraints on dismissals, it took a considerable amount of time for firms to bring down employment levels to their desired values. The second explanation, complementary to the first, states that factor price movements induced firms to progressively introduce technologies that substituted capital for labour.

46 See point 3.3 on "quality and productivity at work".

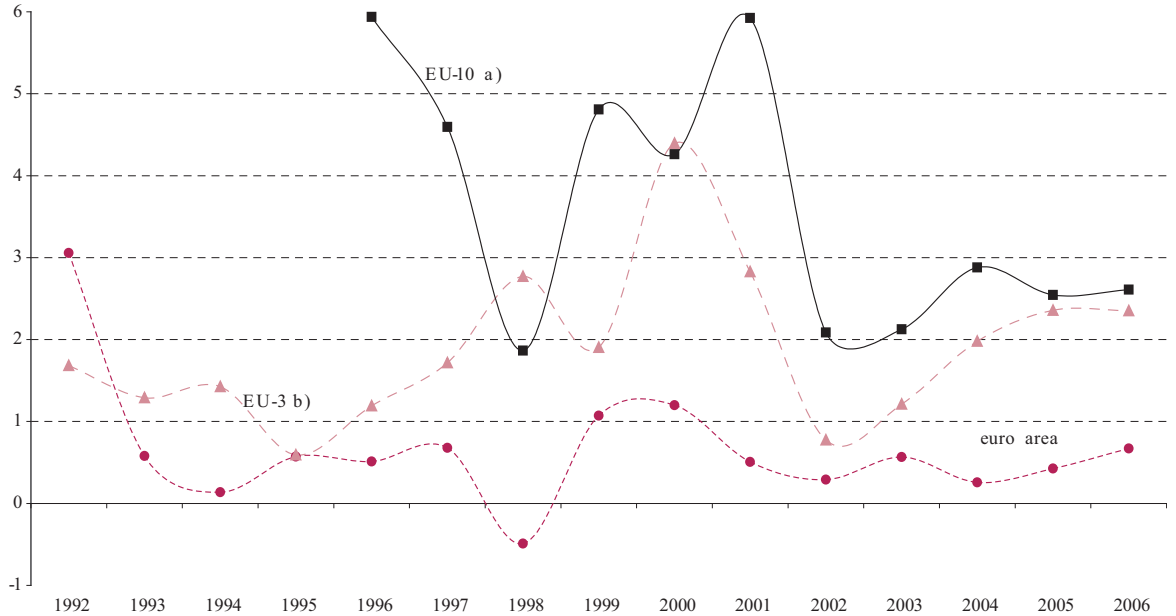
includes the 12 euro area Member States, the second comprises Denmark, Sweden and the UK (EU-3), and the third consists of the 10 new Member States (EU-10).

In the euro area, in the run-up to European Monetary Union (EMU) and in line with a strong price disinflation trend, wage growth decelerated significantly from 7.7% in 1992 to close to 2.5% per year from the second half of the 1990s. In addition, the dispersion of wage growth in the euro area, as meas-

Chart 74 – Nominal compensation per employee; total economy (national currency, pps weighted)

Source: DG ECFIN, Ameco.
Note: a) CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK. b) DK, SE, UK.

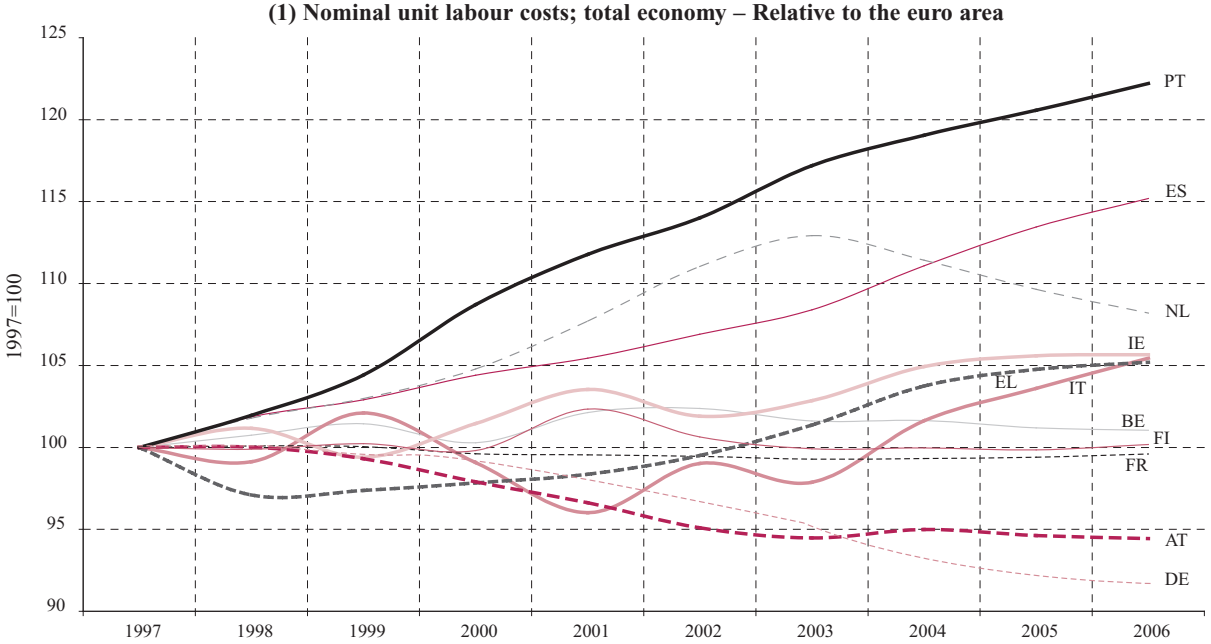
Chart 75 – Real compensation per employee; deflator GDP; total economy (national currency, pps weighted)



Source: DG ECFIN, Ameco.
Note: a) CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK. b) DK, SE, UK.

Chart 76 – Intra euro area real effective exchange rates (nominal unit labour costs relative to competitors, 1987=100)

(1) Nominal unit labour costs; total economy – Relative to the euro area



Source: DG ECFIN, Ameco.
Note: 1) Ratio of compensation per employee to real GDP per person employed.

ured by the coefficient of variation[47], declined significantly after 1997. In the "old" EU Member Countries not participating in monetary union (EU-3), wage growth also declined markedly during the 1990s from about 9.5% in 1990 to below 4.5% per year from 1995. In the 10 new Member States, and in line with the ongoing progress towards nominal convergence, average wage inflation declined from above 20% in the mid-1990s to about 5.5% in the 2003-2004 period.

Therefore, wage growth decelerated across the EU during the second half of the 1990s both on account of the disciplinary mechanism that monetary union provided and because of the sustained progress of the 10 new Member States towards nominal convergence.

In a perfect competition setting, for the cases of both a profit-maximising and a cost-minimising firm, there should be a negative relationship between labour demand/employment and real labour costs (i.e. values deflated using GDP prices), all the rest being constant. A number of empirical studies[48] suggest that part of the employment growth registered in the second half of the 1990s, particularly in the euro area, can be attributed to very favourable developments in real labour costs (chart 75).

However, the fairly benign picture in terms of wage/price growth in the euro area as a whole conceals relatively divergent trends at Member State level. In Germany and Austria, price-competitiveness with the rest of the euro area has improved. While it has remained relatively stable in Belgium, France and Finland, it has however deteriorated in a number of euro area Member States, from moderately (Greece, Ireland, Italy and the Netherlands) to very significantly (Spain and Portugal) (chart 76)[49].

Since monetary union – a period which roughly coincides with the launch of the European Employment Strategy – wage developments and wage setting mechanisms have gained more importance in euro area Member States because domestic monetary and exchange rate policies are no longer available as adjustment instruments. Moreover, the continuing process of market integration is likely to raise the output and employment costs of price-competitiveness misalignments (Bertola and Boeri[50], 2002). Therefore,

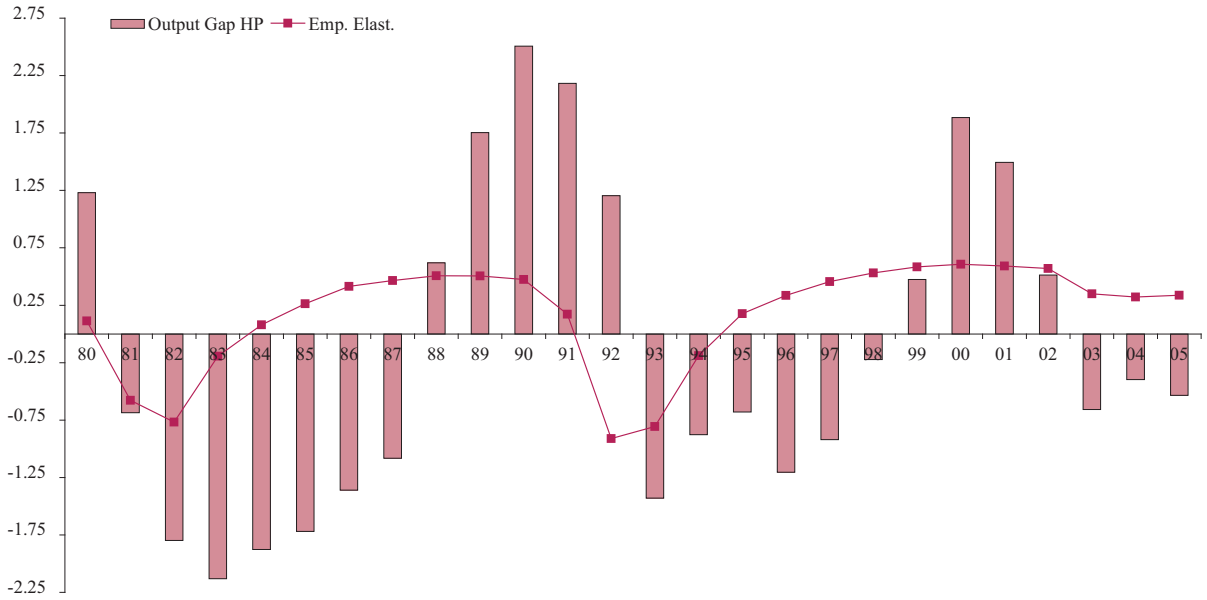
47 The ratio between the standard deviation and the average.

48 Mourre, G. (2004), "Did the Pattern of Aggregate Employment Growth Change in the Euro Area in the Late 1990s?", *ECB* Working Paper No 358.

49 "EMU after 5 years" (2004), European Commission, DG ECFIN.

50 Bertola, G. and T. Boeri (2002), "EMU labour markets two years on: Microeconomic tensions and institutional evolution", in Buti M. and A. Sapir (eds.), *EMU and economic policy in Europe: The challenge of early years*, pp. 249-280.

Chart 77 – Employment to GDP elasticity and the output gap in the EU-15



Source: DG ECFIN, Ameco and own calculations.

divergent trends at Member State level in wage developments adjusted for productivity are a cause for concern if not warranted by the fundamentals (e.g. exogenous shifts in demand, Balassa-Samuelson[51] effects, etc.). Persistent price-competitiveness misalignments might lead to situations of economic overheating or overcooling, requiring protracted periods of adjustment or even raising serious tensions inside the monetary union.

3.2.4.2. Turnaround in profitability

In this section, the argument that European labour markets are showing increasing resilience to economic fluctuations is discussed, while the next section presents strong evidence for the occurrence of a positive break in labour demand in many (but not all) EU Member States from 1997 onwards. Later on, econometric estimates are presented suggesting that the labour force and, to a lesser extent, employment have become more responsive during cyclical upturns, raising labour force participation and the employment content of growth.

The data reveal that in the economic slowdown of 2001-2003, the elasticity of employment to changes in GDP[52] was positive, compared to the negative values observed in previous recessions (chart 77). This apparent change in the elasticity of employment to GDP may, in part, be due to the nature of this last economic slowdown, which was rather prolonged but not very sharp[53]. However, it may also result from structural changes in the labour market. The next section presents some compelling evidence suggesting that a positive structural break did occur in labour demand in many EU Member States (but not in all) around 1997.

51 In a small open economy (i.e. unable to affect either interest rates or the prices of tradeable goods on world markets), the only (real) element of the exchange rate that can be made endogenous is the relative price between tradeable and non-tradeable goods. In a two-goods model (i.e. with a tradeable and a non-tradeable sector) of a small economy, the Balassa-Samuelson hypothesis states (among other propositions) that a rise in total factor productivity in the tradeable sector raises wages not only in this sector but, owing to intersectoral labour mobility, also in the non-tradeables sector, thus raising non-tradeable prices, which yields a real appreciation.

A large body of literature in the second half of the 1990s and earlier 2000s suggests that the generalised real appreciation across central and east European transition economies is at least partly due to the impact of productivity shocks via a Balassa-Samuelson type effect; Fischer (2002), "Real currency appreciation in accession countries: Balassa-Samuelson and investment demand", DP 19/02, *Deutsche Budesbank*.

52 The employment to GDP elasticity in chart 77 is a 3-year moving average centred on the current year. The potential output gap is calculated using the Hodrick-Prescott (HP) filter. The HP filter decomposes a time series into two components: a long term trend and a stationary cycle; it is a linear filter that requires previous specification of a parameter known as lambda (λ). This parameter tunes the smoothness of the trend, and depends on the periodicity of the data. For annual data, a value of 100 was used.

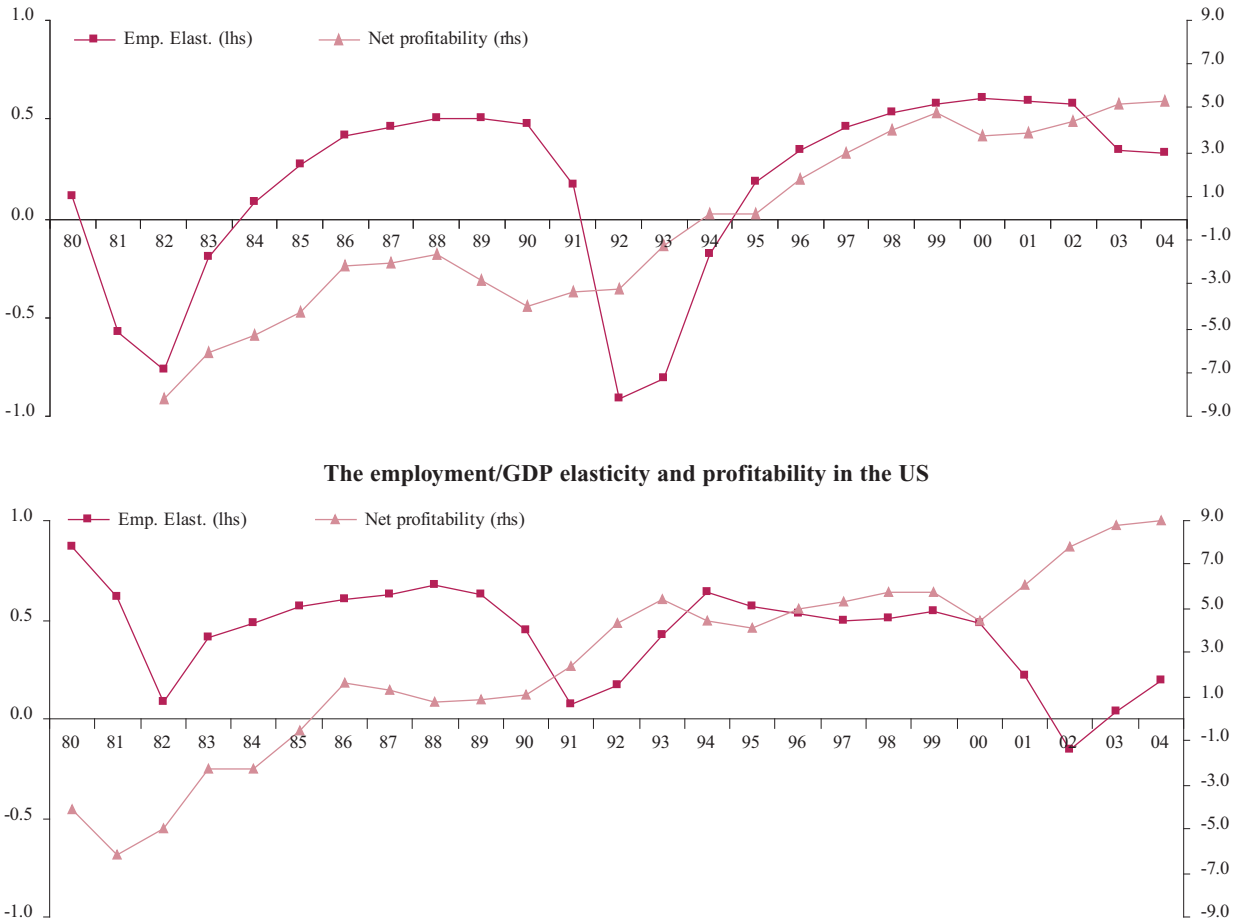
53 DG ECFIN (2005), *Labour Market and Wage Developments in 2004, with a Special Focus on the Risk of Jobless Growth*, European Economy Special Report N° 3/2005.

Since the mid-1990s, profitability[54] has turned around significantly in the EU area. While there are multiple (and inter-related) causes contributing to this favourable outcome, which broadly coincided with the run-up to EMU, wage moderation and the fall in risk premiums on interest rates across Europe are likely to have played a major role.

The comparison between the EU-15 and the US (chart 78) suggests that a positive (and adequate) level of profitability is likely to reduce the risk of large-scale labour losses during economic recessions or slowdowns.

The sustained increase in profitability during the 1990s, the general favouring of stability-oriented macroeconomic policies and the introduction of structural reforms in a number of areas such as competition policy and labour markets have all contributed to an improvement in the functioning of labour markets, which is beginning to bring benefits, particularly since 1997.

Chart 78 – Employment/GDP elasticity and profitability



Source: DG ECFIN, Ameco and own calculations.

54 The profitability of capital/investment is measured using DG ECFIN's Ameco database "net returns on the net capital stock" variable minus the unweighted average of short- and long-term interest rates. The "net returns on the net capital stock" variable is basically the ratio between a net operating surplus variable (approximately output minus the wage bill) and the net capital stock.

3.2.5. Evidence of a positive break in labour demand in many EU Member States (but not all) since 1997

Econometric estimates of labour demand based on aggregate time-series data (focusing on the euro area) show that traditional determinants, such as trend productivity, GDP growth and real labour costs, fail to explain a significant part of employment growth after 1997 (Mourre, 2004). The assumption of a break from 1997 onwards improves significantly the quality of (dynamic) forecasting and increases the stability of the estimated equations[55].

The finding of a significant break around 1997-1998 coincides with a cyclical upturn, the beginning of the EES and the "effective" start of EMU[56]. The timing of the structural break seems to confirm the IMF's[57] (1999) view that the positive effects of structural reforms are reinforced during economic upturns, which sometimes come considerably after their introduction. This suggests that the full impact of labour market reforms implemented under the EES, particularly in Germany, will only fully materialise once the current recovery out of the long economic slowdown of 2001-2003 is completed.

In addition, using macro-panel data, estimates suggest that a group of EU Member States[58] (representing close to one half of total EU-15 employment) have experienced a positive break in their aggregate labour demand since 1997. However, five EU Member States[59], including Germany, did not record any significant positive change in their aggregate labour demand equation in the late 1990s.

Therefore, econometric evidence, based mainly on time-series analysis but also on panel data, suggests that recent employment performance is related to structural improvements in the behaviour of aggregate employment in some EU Member States. The following factors are prime candidates to explain this positive break in aggregate labour demand: i) changes in the sectoral composition of employment; ii) developments in labour market institutions; and iii) the impact of active labour market policies.

Garibaldi and Mauro[60] (2002) find that in the first half of the 1990s, the strong growth of part-time employment, particularly in the service sector, was a major driving force behind the increase in the total number of jobs, despite some displacement of full-time jobs. However, the dynamism of part-time employment growth was basically present in the first half of the 1990s, so cannot explain the break in employment demand in the late 1990s. In contrast, the sectoral composition of employment growth in the late 1990s, when compared to the early 1990s/late 1980s, may have played a significant role in developments in aggregate employment growth (Marimon and Zilibotti[61], 1998). European economies benefited from favourable composition effects resulting from the high employment (and GDP) growth rates in most service sectors, which accounted for a higher proportion of total employment in the late 1990s than a decade earlier. Conversely, sectors with low or negative employment growth (such as agriculture and industry excluding construction) accounted for a lower proportion of total employment in the late 1990s than a decade earlier.

In line with a large body of literature on the impact of labour market institutions on labour market performance, Mourre (2004) presented some preliminary evidence linking (average macroeconomic) labour tax wedges[62] to the presence of a positive break in aggregate employment demand. Specifically, Member States with higher than expected employment in the late 1990s experienced a decline (IE, NL, and ES) or at least no upward movement in their labour tax wedge (BE and FR), while most of those that did not experience any significant positive break in their employment demand in the late 1990s saw an increase in their labour tax wedge. As regards the potential role of active labour market policies in fostering employment growth, Mourre (2004) finds that most active policies seem to be statistically insignificant in explaining employment developments.

A note of caution is warranted as regards the effectiveness of labour market institutions in general, and active labour market policies in particular. Findings based on macroeconomic data usually suffer from a num-

55 The inclusion of an equation break turns out to be significant whatever the measure of employment used: number of people employed, full-time equivalents or hours worked.

56 For prospective EMU Members, interest rates had nearly converged by 1997 and exchange rate stability had been virtually achieved.

57 IMF (1999), "Chronic unemployment in the Euro Area: Causes and Cures", *World Economic Outlook*, May.

58 BE, ES, FR, IE, IT LU, NL.

59 AT, DE, EL, FI, PT.

60 Garibaldi and Mauro (2002), "Employment growth. Accounting the facts", *Economic Policy*, April.

61 Marimon and Zilibotti (1998), "Actual versus virtual employment in Europe: Is Spain different?", *European Economic Review*, 42(1).

62 The difference between the after-tax disposable labour income received by wage earners and total labour costs faced by employers.

ber of drawbacks because the results and policy conclusions do not tend to be robust across the estimated models[63].

3.2.6. The effect of the cycle on labour market variables

Labour market variables display a strong cyclical pattern. A common way of evaluating this is by estimating *Okun*-type equations (Annex I)[64]. Using data for the EU-15[65], covering the period 1972-2003, a set of *Okun*-type equations is estimated using pooled data techniques. The evidence reported in table 19 (and further explored in Annex I) suggests that the cyclical response of labour market variables such as employment and unemployment varies according to the cyclical position of the economy. In addition, since the implementation of the EES in 1998 and over the years with positive output gaps, the results tentatively suggest a rise in the responsiveness of labour market participation and, to a lesser extent, employment[66].

From the estimation results in table 19, a number of important points emerge. Firstly, and as expected, labour market variables show a clear cyclical pattern that is correctly signed. Secondly, there is evidence of asymmetry in the response of some labour market variables over the business cycle. In particular, employment and labour force participation tend to undergo a stronger adjustment during downturns than in upturns. Thirdly, the econometric evidence suggests that labour force participation and, to a lesser extent, employment have become more responsive to the economic cycle since 1998, which reflects the favourable developments in the labour market registered during the cyclical upturn of 1998-2001.

Table 19 – Medium-run impact of a percentage point increase in the output gap on the deviation of labour market variables from their trends (as percentage) [67]

	Unemployment	Employment	Labour Force
1972-1997			
GDP above potential	-0.25	0.20	-0.08
GDP below potential	-0.25	0.48	0.21
1998-2003			
GDP above potential	-0.25	0.33	0.28
GDP below potential	-0.25	0.48	0.21

Source: DG ECFIN, Ameco; OECD, MEI; and IMF, IFS. Own calculations.

Since 1998, and during the cyclical upturn, labour force participation increased above what would have been expected given past statistical trends, suggesting that a structural improvement in the labour market has occurred. Although these results are highly suggestive and encouraging they cannot be taken as formal proof that implementation of the EES caused by itself the observed improvement in labour markets. Indeed, other factors, either policy-induced or not directly related to policy action, might also have been largely responsible for the observed improvement in labour market performance[68].

3.2.7. Making work pay through incentives to enhance work attractiveness

In the Employment Guidelines[69], Member States are asked to pay particular attention to the link between benefit systems and effective job search, and to introduce measures to eliminate inactivity traps, *while preserving an adequate level of social protection*. By 2010, Member States aim to achieve *a significant reduction in high marginal effective tax rates and, where appropriate, in the tax burden of low-paid workers*.

Tables 20 and 21 present data on four structural indicators calculated by Eurostat: a) the tax wedge on low

63 This type of analysis based on macroeconomic panel data is usually affected by a number of technical problems, notably i) small number of time-varying observations for labour market institutions; ii) high multicollinearity between explanatory variables; and iii) endogeneity of regressors in particular for active labour market policies. These problems do not permit a precise identification of estimates for individual institutions (i.e. within acceptable confidence intervals).

64 The original *Okun* law predicted a negative correlation between unemployment and output over the business cycle.

65 EU-15, excluding Luxembourg.

66 Although the latter is not statistically significant.

67 The medium run is defined as two years.

68 The former group includes: monetary union, budgetary consolidation and structural reforms in areas not directed related with labour market policy. The latter covers: economic shocks such as the protracted effects of German reunification, the impact of a period of relative wage moderation since the second half of the 1990s, and effects due to productivity trends.

69 Specifically, the eighth Employment Guideline for 2003-2005.

Table 20 – The tax wedge, the unemployment trap, the low-wage trap indicators and the implicit tax rate on labour

	1997	1998	1999	2000	2001	2002	2003
Tax wedge (a)							
EU-15	40.0	39.3	38.5	37.9	37.0	36.9	37.2
EU-25	40.1	39.4	38.6	38.1	37.2	37.1	37.4
US	29.2	29.1	29.2	29.0	27.4	27.3	27.1
Unemployment trap (b)							
EU-15	NA	NA	NA	NA	79.1	78.8	78.7
EU-25	NA	NA	NA	NA	78.8	78.5	78.3
US	NA	NA	NA	NA	70.6	70.6	70.3
Low wage trap (s/c) (c)							
EU-15	NA	NA	NA	NA	54.3	53.7	53.9
EU-25	NA	NA	NA	NA	53.8	53.1	53.1
US	NA	NA	NA	NA	32.2	31.8	31.1
Low wage trap (c2c) (d)							
EU-15	NA	NA	NA	NA	55.1	56.1	61.4
EU-25	NA	NA	NA	NA	55.6	56.5	61.5
US	NA	NA	NA	NA	58.5	55.2	53.0
Implicit tax rate on labour (e)							
EU-25	37.8	37.9	37.6	37.3	36.9	36.5	37.0

Source: Eurostat, Structural and Employment indicators, and DG TAXUD.
Note: (a) Tax wedge on labour costs, defined as income tax on gross wage earnings plus the employee's and employer's social security contributions expressed as a percentage of labour costs for a single person without children earning 67% of the average earnings of a full time average production worker (APW); (b) Unemployment trap, measuring the percentage of gross earnings which is taxed away through higher tax and social security contributions and the withdrawal of unemployment and other benefits when an unemployed person returns to employment. This structural indicator is available only for single persons without children earning 67% of the APW when in work; (c) Low wage trap for a single person without children, defined as the difference between the increase in gross earnings and the increase in net income, expressed as a percentage of the increase in gross earnings, when gross earnings increase from 33% to 67% of the APW; (d) Low wage trap for a single earner couple with two children in the age between 6 and 11 years, defined as the difference between the increase in gross earnings and the increase in net income, when gross earnings increase from 33% to 67% of the APW; (e) The implicit tax rate on labour is a macro indicator that approximates an average effective tax burden on total labour income in the economy.

wages; b) the unemployment trap for low paid workers; c) two low-wage trap indicators; d) an inactivity trap indicator calculated in a joint Commission/OECD project[70], and e) an implicit tax rate on total labour income calculated by DG TAXUD/ Eurostat[71].

A tax wedge indicator measures the gap between the net wage for the employee and the labour cost for the employer. This type of indicator is relevant for the demand for labour. For a given net wage/take-home pay, a higher tax wedge should be associated with lower labour demand. In previous research covering Europe and the US[72], it was found that a relatively large tax wedge reduces income inequality and increases unemployment, while the effect on participation is insignificant. In the EU, the tax wedge on low-paid workers has fallen on average by about 3 percentage points since 1997 (table 20). The EU countries with the largest declines are: FR, IE, IT, HU, FI and SE.

An unemployment trap indicator attempts to capture the financial incentive for an unemployed person to take up a job. In particular circumstances, an unemployed individual with low earning potential and/or receiving relatively generous unemployment benefits may face a situation where accepting an employment offer may lead to very low (or no) increase in disposable income, as the result of the combined effect of benefit withdrawal and higher taxes on in-work income. In the EU, the unemployment trap indicator remained on average relatively stable but at a high value during the period 2001-2003, hovering at just under 80%, which compares with about 70% in the US. In eight EU Member States, the unemployment trap is over 85%, namely in BE, DK, DE, LV, LU, NL, PT and SE. Although data are only available for three years (2001 to 2003), significant changes in this indicator have occurred in some countries: a decrease in FR, LT, HU, PL and SK and an increase in EL, for example.

70 Some care may be necessary when interpreting these indicators as they primarily focus on the situation of individuals without taking into account broader household circumstances (e.g. income from financial wealth, the labour market situation of other household members, etc.).

71 "The Structures of the Taxation System in the European Union" (2004), DG TAXUD and Eurostat.

72 Groot et al. "Is the American Model Miss World, Choosing between the Anglo-Saxon model and a European-style alternative", 2004, *CPB* No 40 Discussion Paper.

Table 21 – Inactivity trap indicator for 2001 showing the marginal effective tax rate of moving from social assistance to work at a wage level equivalent to 67% of the average production worker (APW) for the first worker, while the wage level for the second earner is indicated in each column.

	Single					Single parent, 2 children					1 earner couple				
% of APW	33%	50%	67%	100%	150%	33%	50%	67%	100%	150%	33%	50%	67%	100%	150%
BE	85	71	67	64	61	97	77	71	67	63	97	78	69	63	61
DK	96	96	83	72	69	84	92	87	76	72	34	59	73	70	67
DE	84	90	80	71	67	84	90	85	74	67	84	90	81	69	62
EL	16	16	16	18	22	16	16	16	16	20	16	16	16	18	22
ES	69	50	44	40	37	100	68	58	46	40	88	60	47	41	37
FR	81	83	71	60	52	69	75	81	69	55	76	83	86	65	54
IE	100	87	73	59	54	51	50	54	60	53	100	100	87	68	54
IT	10	16	20	27	31	-1	-1	-2	17	27	7	8	13	24	30
LU	89	92	76	63	58	86	94	82	59	54	79	90	98	73	59
NL	97	92	84	72	59	93	82	80	70	59	96	96	92	78	63
AT	100	88	75	64	57	100	99	84	69	61	100	100	86	71	62
PT	55	50	42	36	35	55	55	55	52	45	55	55	55	54	44
FI	100	86	78	67	61	70	65	66	65	60	100	97	91	78	69
SE	100	98	82	67	60	82	63	61	60	56	100	100	98	78	67
UK	80	78	70	58	49	81	45	56	65	57	88	84	82	66	55
CZ	83	70	59	49	43	100	94	80	67	57	100	92	79	64	53
HU	69	55	53	49	51	61	45	38	39	45	69	55	53	49	51
PL	92	72	63	53	47	100	86	84	68	57	100	94	78	63	54
SK	99	81	72	56	46	100	100	91	72	59	100	100	100	80	62
NO	83	85	71	60	56	78	73	69	68	60	93	91	76	63	56
SZ	100	100	81	63	53	100	100	92	69	56	100	100	95	71	57
US	21	29	29	29	33	30	33	43	45	40	18	25	32	31	31
JP	79	69	56	43	36	108	103	95	70	55	79	84	71	54	43

A low-wage trap indicator is usually used to look at the financial consequences of increasing working hours or moving up the wage ladder. This type of indicator is relevant for analysing circumstances where low-paid workers may be locked/trapped in benefit receipt, because they would suffer a significant reduction in their benefits if they were to take a job in the regular labour market. In Eurostat's *Structural Indicators*, this type of indicator is available for a single person without children and a single-earner couple with two children in the age between 6 to 11 years. The former indicator suggests that the marginal effective tax rate on labour supply remained relatively stable in the EU-15 and EU-25, while the latter indicator registered an average increase of 5 percentage points over a three-year period, reaching 61.5% in 2003. Therefore, one-earner couples with

Table 21 (cont.) – Inactivity trap indicator for 2001 showing the marginal effective tax rate of moving from social assistance to work at a wage level equivalent to 67% of the average production worker (APW) for the first worker, while the wage level for the second earner is indicated in each column.

	1 earner couple with 2 children					2 earners couple*					2 earners couple with 2 children*				
% of APW	33%	50%	67%	100%	150%	33%	50%	67%	100%	150%	33%	50%	67%	100%	150%
BE	97	72	65	60	59	46	45	49	51	52	46	45	48	51	52
DK	37	58	74	74	69	56	52	50	50	55	83	70	64	59	61
DE	84	90	77	69	62	42	45	47	48	49	52	51	51	51	51
EL	16	16	16	16	20	16	16	16	18	22	16	16	16	16	20
ES	106	77	64	49	42	18	16	19	23	25	15	12	15	20	23
FR	68	75	82	74	58	21	23	27	30	31	56	43	41	37	34
IE	100	95	87	72	57	12	15	18	22	24	34	29	29	29	29
IT	-5	-4	-7	12	26	28	33	32	35	37	37	44	43	44	43
LU	75	87	93	76	59	14	17	20	24	28	14	14	14	18	24
NL	96	94	90	78	63	35	33	36	39	38	38	35	38	40	39
AT	100	100	97	78	67	21	20	24	30	34	21	20	24	30	34
PT	55	55	55	57	56	42	33	30	28	27	87	73	57	46	39
FI	100	100	99	89	76	25	27	30	35	40	42	38	38	40	43
SE	100	100	100	84	71	27	27	29	32	36	37	37	37	36	40
UK	93	66	72	74	62	7	15	19	24	26	63	49	44	40	38
CZ	100	100	96	77	63	31	29	28	28	29	31	30	30	31	31
HU	61	45	38	39	45	21	23	27	32	40	21	23	27	32	40
PL	100	100	91	80	65	31	32	33	33	33	54	47	44	41	41
SK	100	100	100	96	72	32	28	27	26	27	81	61	51	46	40
NO	100	99	92	73	63	26	29	30	32	37	26	29	30	32	37
SZ	100	100	100	75	59	20	21	23	25	27	20	21	22	24	26
US	30	37	46	49	43	27	28	28	29	29	27	20	22	24	26
JP	79	84	86	71	56	15	16	16	17	18	36	28	24	25	23

Source: Joint European Commission-OECD project, using OECD Tax-Benefit models.
Note: * The wage level of the first earner is fixed at 67% of the APW, while the wage level of the second earner is indicated in each column.

two children have a lower financial incentive to take a job than a single person without children.

Besides unemployment and low-wage trap indicators, an inactivity trap indicator can also be calculated. This type of indicator can be interpreted as the marginal effective tax rate relevant for influencing the decision of inactive people to enter the labour force. Such an indicator covers those out of work and not eligible to receive unemployment benefits, but who are instead benefiting from income or social assistance programmes. Table 21 presents some values for the inactivity trap indicator calculated in a joint Euro-

Table 22 – Employment by type of contract and gender for individuals aged 15-64 (proportions of total employment as percentages)[77]

		1998			2001			2003			2004		
		ft	pt	nkwn	ft	pt	nkwn	ft	pt	nkwn	ft	pt	nkwn
EU-15	M+F	82.9	16.9	0.1	82.3	17.6	0.1	81.8	18.2	NA	80.9	19.0	0.1
	F	67.1	32.7	0.2	66.6	33.3	0.2	66.3	33.6	NA	65.0	34.9	0.1
	M	94.4	5.5	0.1	94.2	5.7	NA	93.8	6.2	NA	93.3	6.6	0.1
EU-25	M+F	NA	NA	NA	83.7	15.9	0.3	83.3	16.5	0.2	82.7	17.3	0.1
	F	NA	NA	NA	70.3	29.4	0.3	69.9	29.9	0.1	68.8	31.1	NA
	M	NA	NA	NA	94.1	5.6	0.3	93.7	6.0	0.3	93.6	6.3	NA

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: ft: full-time; pt: part-time; nkwn: not known.

pean Commission/OECD project[73] aimed at monitoring the direct influence of tax and benefit policies on household incomes.

The authors of this report[74] state that: *the likelihood of an inactivity trap for people receiving means-tested benefits* (i.e. under an assistance programme) *is highest for low-skilled workers with low earning potential, possibly leading to continued benefit dependency and progressive marginalisation in the labour market.* The authors conclude by saying that the inactivity trap is potentially more worrying than the unemployment trap.

The implicit tax rate (ITR) on employed labour is defined as all direct and indirect taxes, and employees' and employers' social contributions levied on employed labour income divided by the total compensation of employees[75]. The resulting ITR on labour income is a summary measure that approximates an average effective tax burden on labour income in the economy[76]. The evolution of the ITR in the EU shows little overall progress in reducing the effective tax burden on labour.

3.2.8. Part-time employment

One main feature over the past two decades in the EU-15 has been the growing share of part-time employment[78]. In 2004, part-time employment accounted for about 17.3% of total employment (for the age group

73 In the European Commission, this project is financed jointly by DGs ECFIN, EMPL and TAXUD and coordinated by EUROSTAT.

74 G. Carone, A. Salomäki, H. Immervoll and D. Paturot, (2003), "Indicators of unemployment and low-wage traps (marginal effective tax rates on labour)", *ECFIN Economic Papers* No 197, December.

75 The ITR is a macro indicator that takes into account the whole economy, whereas the tax-wedge (between labour costs to the employer and the corresponding net take-home pay of the employee) is a micro indicator of a specific private sector calculated for various household types and different representative wage levels.

Par-wise comparisons between the ITR macro indicator and the tax-wedge micro indicator for a single average production worker at average earnings (without children) indicate that tax-wedges are significantly higher than the implicit tax rates on labour income for some Member States. Nevertheless, the correlation between the macro and micro indicators is still moderately strong. Member States with a high tax-wedge for an average production worker generally also have relatively high tax rates on labour.

Heijmans and Acciari (2004), "Examination of the Macroeconomic Implicit Tax Rate on Labour derived by the European Commission", DG TAXUD, *Taxation Papers,* 4/2004.

76 The ITR on labour income is a macro indicator, thereby it can hide important variation in effective tax rates across different household types or at different wage levels. In some Member States, for example, recent tax reforms may have a more pronounced effect on low-paid, low-qualified workers or families with children.

77 DG EMPL estimates of annual averages are based on quarterly LFS data to allow for detailed breakdowns (by gender, age, education, sector, etc.). These breakdowns were estimated for the sections on *part-time employment* (3.2.8), on *fixed-term/temporary employment* (3.2.9), and on *inactivity* (3.2.10). These estimates can differ from Eurostat's official annual totals (reported in tables 37 and 38 and in Chapter 1), mainly because they cover the 15-64 age group (instead of the population of working age, i.e. 15 years and above) and due to rounding errors.

78 The distinction between full-time and part-time work is made on the basis of a spontaneous answer given by the respondent. It is impossible to establish a more exact distinction between part-time and full-time work due to variations in working hours between Member States and also between branches of industry. However, by checking the answer against the number of hours usually worked, it should be possible to detect and correct implausible answers, since part-time work should not exceed 35 hours, while full-time work will usually start at about 30 hours.

15-64) in the enlarged EU[79], with a large dispersion across Member States. Tables 22 to 26 describe in some detail the major characteristics of part-time employment. Using data from the EU labour force survey (LFS), the relevant facts that emerge are: i) the strong gender dimension of part-time work (nearly one in three women have a part-time job, table 23); ii) the above-average proportion of young people and older workers in part-time employment (about 25% for individuals aged 15-24 and 22% for those aged 55-64, table 23); iii) the proportion of part-time employment drops for individuals with tertiary education (table 24); iv) the proportion of part-time employment is highest in the service sector (table 25); and v) slightly below one fifth of part-time employment is involuntary, about one quarter is due to "family or personal responsibilities", while slightly below one third is voluntary (table 26). As regards the percentage of "not known"/"no answer" responses, it is negligible for the full-time/part-time question (table 22), but amounts to more than 20% in the replies to "level of education attained" (table 24).

According to some analyses[80], the cumulative rise in part-time employment observed since the early 1980s explains between one fifth and one third of the total increase in the employment rate over the same period.

Part-time working has contributed to increased flexibility in labour markets. On the labour demand side, this type of contract is particularly suited to cushion against economic fluctuations, as its administrative and legal rules (i.e. employment protection legislation) are usually less stringent than those for full-time employment. Moreover, from the standpoint of employers, some studies have found that the hourly wage rate received by part-time workers is lower (by about 10%) than for those in full-time employment (OECD[81], 1999). On the labour supply

Table 23 – Proportion of part-time working by gender and age groups (percentages)

		1998				2001			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	16.9	22.4	15.7	20.1	17.6	22.9	16.2	21.8
	F	32.7	29.9	31.8	41.3	33.3	30.9	32.3	42.0
	M	5.5	16.3	3.7	7.9	5.7	16.2	3.7	9.3
EU-25	M+F	NA	NA	NA	NA	15.9	21.3	14.4	21.3
	F	NA	NA	NA	NA	29.4	28.5	28.2	40.2
	M	NA	NA	NA	NA	5.6	15.3	3.6	9.7
		2003				2004			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	18.2	24.7	16.6	22.3	19.0	26.0	17.4	22.9
	F	33.6	32.6	32.6	41.5	34.9	34.6	33.9	42.1
	M	6.2	17.9	4.0	9.9	6.6	18.8	4.3	10.3
EU-25	M+F	16.5	23.1	14.8	21.5	17.3	24.5	15.5	22.0
	F	29.9	30.4	28.5	39.4	31.1	32.3	29.7	39.9
	M	6.0	16.9	3.8	10.0	6.3	18.0	4.1	10.3

Source: Eurostat, LFS (annual averages based on quarterly data).

79 17.7% for the total population (see Chapter 1).

80 Chapter 2 of *Employment in Europe 2004*.

81 OECD (1999) "Focus on part-time work". *Employment Outlook*, June.

side, part-time work is likely to increase the opportunities open to individuals, drawing people into the labour market who were previously unwilling or unable to work. By bringing additional individuals into the labour market, the development of part-time employment is likely to increase potential output in the EU.

However, this type of contract also has a number of potential drawbacks. Notably, it is associated with lower wages (and fringe benefits) than a full-time contract, lower chances for promotion, and lower investment in training.

In a recent study[82], the determinants of the part-time rate[83] are investigated using pooled macro-panel data for: i) the business cycle; ii) labour market institutions and policy; and iii) other structural factors of a sociological, demographic or economic nature. From this work, the following findings stand out:

Firstly, the part-time rate is negatively correlated with the output gap, meaning that in "good times" part-time work grows more slowly than total employment and, conversely, the part-time rate tends to increase when the economy operates below its potential. Furthermore, the counter-cyclical behaviour of the part-time rate is more accentuated in periods of weak activity than in periods of strong activity. This asymmetric behaviour of the part-time rate is a desirable feature that could enhance the counter-cyclical properties of part-time employment and reduce the fluctuations in (total) employment.

Secondly, some institutions and policies appear to have a significant impact on the part-time rate, with the relationships having the correct sign as expected by the economic theory. Employment protection legislation for regular jobs is found to be significantly and positively correlated with the

Table 24 – Proportion of part-time working by gender and education level for individuals aged 15-64 (percentages)

		1998					2001				
		total	0-2	3-4	5-6	nkwn	total	0-2	3-4	5-6	nkwn
EU-15	M+F	16.9	14.2	15.2	13.2	20.4	17.6	17.3	19.3	14.1	23.7
	F	32.7	29.5	29.1	21.7	39.3	33.3	34.8	36.3	24.9	44.5
	M	5.5	5.3	5.3	5.8	5.7	5.7	5.8	5.8	5.2	8.4
EU-25	M+F	NA	NA	NA	NA	NA	15.9	16.9	16.4	13.1	23.6
	F	NA	NA	NA	NA	NA	29.4	33.2	30.2	22.6	44.2
	M	NA	NA	NA	NA	NA	5.6	6.1	5.4	5.1	8.3
		2003					2004				
		total	0-2	3-4	5-6	nkwn	total	0-2	3-4	5-6	nkwn
EU-15	M+F	18.2	17.9	19.9	15.0	22.2	19.0	18.6	21.0	15.8	22.6
	F	33.6	35.6	36.8	25.5	41.6	34.9	37.2	38.5	26.5	41.9
	M	6.2	6.2	6.2	6.0	8.0	6.6	6.4	6.7	6.5	8.0
EU-25	M+F	16.5	17.6	17.0	13.8	22.2	17.3	18.4	18.0	14.6	22.6
	F	29.9	34.2	31.0	23.0	41.6	31.1	35.8	32.7	23.9	41.9
	M	6.0	6.6	5.8	5.6	8.0	6.3	6.8	6.2	6.1	NA

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: 0-2: Pre-primary, primary and lower secondary education – levels 0-2 (ISCED 1997); 3-4: Upper secondary and post-secondary non-tertiary education – levels 3-4 (ISCED 1997); 5-6: Tertiary education – levels 5-6 (ISCED 1997); nkwn: not known.

82 Buddelmeyer, Mourre and Ward, (2004), "The determinants of part-time work in EU countries: empirical investigations with macro-panel data", *DG ECFIN Economic Papers* No 213.

83 The ratio between part-time employment and total employment (defined as full-time plus part-time).

Table 25 – Part-time rate among individuals aged 15-64 by gender and economic sector (percentages)

		1998					2001				
		total	pri	man	con	ser_pa	total	pri	man	con	ser_pa
EU-15	M+F	16.9	13.6	6.9	5.0	23.0	17.6	14.2	7.2	5.0	23.4
	F	32.7	27.9	19.2	34.8	36.2	33.3	28.6	19.6	35.8	36.4
	M	5.5	6.6	2.2	2.3	8.3	5.7	7.0	2.4	2.1	8.5
EU-25	M+F	NA	NA	NA	NA	NA	15.9	14.8	6.4	4.7	21.4
	F	NA	NA	NA	NA	NA	29.4	25.4	16.1	31.9	32.7
	M	NA	NA	NA	NA	NA	5.6	8.8	2.4	2.2	8.2
		2003					2004				
		total	pri	man	con	ser_pa	total	pri	man	con	ser_pa
EU-15	M+F	18.2	13.3	7.6	5.2	24.1	19.0	14.2	7.9	5.4	25.1
	F	33.6	26.3	20.6	35.9	36.7	34.9	27.7	21.5	37.4	37.8
	M	6.2	7.0	2.6	2.4	9.2	6.6	7.7	2.7	2.5	9.8
EU-25	M+F	16.5	14.6	6.8	5.0	22.0	17.3	15.8	7.0	5.1	22.9
	F	29.9	25.2	17.1	32.3	33.1	31.1	26.8	17.8	33.9	34.3
	M	6.0	8.9	2.5	2.5	8.7	6.3	10.0	2.6	2.5	9.3

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: pri: primary sector (A to B of Nace); man: manufacturing sector (C to E of Nace); con: construction (F of NACE); ser_pa: services without public administration (G to K + M to Q of NACE).

part-time rate. This finding is consistent with the interpretation that in the presence of very stringent employment protection legislation for regular jobs, the development of part-time employment can be seen as a way of circumventing regulatory constraints and enhancing flexibility at the margin. Furthermore, it has been found that child benefits can represent a strong disincentive to part-time working, making it less attractive for individuals (notably women) to re-enter the labour market. The above-mentioned study (Buddelmeyer et al., 2004) also finds that temporary work is positively correlated with the part-time rate, suggesting: *the absence of substitution effects between part-time employment and temporary employment and that these two flexible schemes are complementary in circumventing the rigidity of European labour markets* (for regular employment).

Thirdly, some structural factors of a sociological, demographic or economic nature are also found to be important determinants of the part-time rate. In line with conventional wisdom, the share of the service sector in the economy and the proportion of youth in tertiary education are significantly and positively correlated with the part-time employment rate. The female participation rate and the fertility rate are also significantly and positively correlated with the part-time employment rate. This suggests that part-time work potentially creates an opportunity for women to reconcile childcare with market work.

3.2.9. Fixed-term/temporary employment

The percentage of employees with temporary contracts[84] has been increasing over the past two decades. In 2004, the number of temporary contracts corresponded, on average, to about 13.5% of total dependent

84 A job is regarded as temporary if it is understood by both employer and the employee that the termination of the job is determined by objective conditions such as reaching a certain date, completion of an assignment or return of another employee who has been temporary replaced. In the case of a work contract of limited duration the condition for its termination is generally mentioned in the contract.

Table 26 – Reasons for part-time employment among individuals aged 15-64 (percentages)

		invpt	wantpt	illdis	fam_per	ineduc	noreas	other
1998								
EU-15	M+F	18.4	58.1	2.3	NA	11.2	1.9	8.0
	F	16.2	64.9	1.8	NA	7.3	1.6	8.3
	M	28.0	29.2	4.9	NA	27.9	3.1	6.9
EU-25	M+F	NA	NA	NA	NA	NA	NA	NA
	F	NA	NA	NA	NA	NA	NA	NA
	M	NA	NA	NA	NA	NA	NA	NA
2001								
EU-15	M+F	15.3	30.9	2.9	26.5	10.9	2.7	10.8
	F	13.7	31.6	2.2	31.8	7.5	2.1	11.0
	M	22.2	27.8	5.5	3.5	26.1	5.0	9.9
EU-25	M+F	16.1	30.7	3.6	25.3	10.8	2.5	11.0
	F	14.3	31.5	2.6	30.7	7.5	2.1	11.2
	M	23.5	27.2	7.3	3.2	24.3	4.4	10.0
2003								
EU-15	M+F	15.7	30.0	2.9	26.5	10.2	3.0	11.6
	F	14.4	30.4	2.3	31.8	7.1	2.5	11.6
	M	21.2	28.7	5.6	4.1	23.5	5.5	11.5
EU-25	M+F	16.7	29.5	3.6	25.3	10.2	2.9	11.8
	F	15.2	30.0	2.7	30.8	7.1	2.4	11.8
	M	22.3	27.4	7.2	3.7	22.6	5.0	11.8
2004								
EU-15	M+F	16.9	27.3	3.1	28.0	10.0	4.3	10.4
	F	15.4	27.5	2.6	33.8	7.0	3.7	10.1
	M	23.2	26.9	5.4	4.0	22.6	6.4	11.5
EU-25	M+F	17.7	27.1	3.7	26.7	10.1	4.1	10.6
	F	16.1	27.3	2.9	32.7	7.0	3.6	10.4
	M	24.0	26.1	6.8	3.6	21.9	5.9	11.7

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: invpt: "could not find a full-time job"; wantpt: "did not want a full-time job"; illdis: "own illness or disability"; fam_per: "Family or personal responsabilities; ineduc: "in education or training"; noreas: "no reason given"; other: "other reasons".

Table 27 – Employees with temporary contracts by gender and age group (percentages)

		1998				2001			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	12.7	37.4	10.1	6.0	13.4	38.7	10.8	6.2
	F	13.6	36.1	11.2	6.1	14.6	38.2	12.1	6.6
	M	12.0	38.5	9.2	5.9	12.5	39.2	9.7	5.9
EU-25	M+F	NA	NA	NA	NA	12.8	36.6	10.3	6.8
	F	NA	NA	NA	NA	13.7	36.3	11.3	7.7
	M	NA	NA	NA	NA	12.1	36.9	9.5	6.3
		2003				2004			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	12.9	37.6	10.6	5.8	13.4	38.7	11.1	5.8
	F	14.0	37.1	12.0	6.0	14.3	37.6	12.5	6.2
	M	12.0	38.2	9.4	5.6	12.5	39.7	9.9	5.6
EU-25	M+F	12.9	37.1	10.7	6.3	13.5	38.5	11.3	6.3
	F	13.7	36.6	11.7	6.7	14.2	37.6	12.4	6.8
	M	12.2	37.4	9.7	6.1	12.9	39.3	10.4	6.0

Source: Eurostat, LFS (annual averages based on quarterly data).

employment in the enlarged EU, with a large variation among individual Member States. Tables 27 to 31 describe in some detail the major characteristics of fixed-term employment. Using data from the EU LFS, the relevant facts can be summarised as follows: i) fixed-term work has a moderate gender dimension (table 27); ii) temporary contracts are heavily concentrated among young people (close to 40% for individuals aged 15-24, table 27); iii) the proportion of employees with temporary contracts is highest for the lowest education level (table 28); iv) the proportion of fixed-term employment is higher in the primary and construction sectors and lower in manufacturing (table 29); v) a majority of individuals holding a temporary contract (about half) report that their status/situation is involuntary or unwanted (i.e. they would prefer a permanent labour contract, see table 30), although about one in five individuals did not answer this question; and vi) about two-thirds of all temporary contracts have a duration under one year (table 31), although according to a number of studies this does not prevent a high proportion of fixed-term contracts being rolled over on expiry.

The development of fixed-term employment, together with that of part-time work, has made a significant contribution to increasing the flexibility of labour markets in recent years. Temporary employment can be viewed as a buffer for cyclical fluctuations, especially in situations of increased uncertainty, allowing firms to adjust employment levels at a lower cost (e.g. lower firing costs). This is particularly so when, due to strong political or trade union opposition, the option of liberalising the strict regulations and laws governing permanent employment is not immediately available, leading instead to a strategy of "flexibility at the margin", represented by the deregulation of fixed-term employment. Temporary employment can also be seen as a mechanism that facilitates transitions into the labour market and employment, particularly in the European (continental) labour markets characterised by relatively low flows.

There are important differences in the perceptions of fixed-term versus part-time employment that should be highlighted. In fact, while only about one

Table 28 – Employees with temporary contracts among individuals aged 15-64 by gender and education level (percentages)

		1998					2001				
		total	0-2	3-4	5-6	nkwn	total	0-2	3-4	5-6	nkwn
EU-15	M+F	12.7	18.3	12.1	14.2	9.9	13.4	20.0	10.5	12.1	9.6
	F	13.6	18.4	14.2	16.9	10.5	14.6	20.0	11.8	14.9	10.4
	M	12.0	18.3	10.5	11.6	9.4	12.5	20.1	9.4	9.5	9.0
EU-25	M+F	NA	NA	NA	NA	NA	12.8	19.8	10.2	11.4	9.6
	F	NA	NA	NA	NA	NA	13.7	19.5	11.2	13.8	10.5
	M	NA	NA	NA	NA	NA	12.1	19.9	9.3	9.2	9.0
		2003					2004				
		total	0-2	3-4	5-6	nkwn	total	0-2	3-4	5-6	nkwn
EU-15	M+F	12.9	19.9	10.0	11.6	8.3	13.4	20.5	10.4	11.8	13.5
	F	14.0	20.3	11.1	14.0	9.1	14.3	20.5	11.6	14.1	13.3
	M	12.0	19.6	9.0	9.4	7.6	12.5	20.5	9.4	9.5	13.7
EU-25	M+F	12.9	19.9	10.5	11.3	8.3	13.5	20.6	11.2	11.6	13.5
	F	13.7	20.1	11.3	13.4	9.1	14.2	20.4	12.0	13.7	13.3
	M	12.2	19.8	9.8	9.3	7.7	12.9	20.8	10.5	9.5	13.7

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: 0-2: Pre-primary, primary and lower secondary education – levels 0-2 (ISCED 1997); 3-4: Upper secondary and post-secondary non-tertiary education – levels 3-4 (ISCED 1997); 5-6: Tertiary education – levels 5-6 (ISCED 1997); nkwn: not known.

in five individuals report that part-time working is involuntary (i.e. they would prefer to have a permanent job), nearly one in two individuals holding a fixed-term contract would prefer a permanent job instead. Moreover, the available evidence suggests that fixed-term posts are subject to high turnover, contradicting the "causality principle" under which fixed-term contracts are supposed to be used only for the temporary needs of firms[85]. In addition, hourly wages in fixed-term employment tend to be lower than in permanent jobs by a factor of approximately 10%.

Other risks commonly associated with temporary employment can be characterised as typical economic externalities. From a social perspective, investment in training is usually too low, which can be partly explained by the high labour turnover and the generally low prospect of moving to a permanent job, leading both the firm and the employee to under-invest in vocational training.

In an insider-outsider wage bargaining framework[86] (e.g. Bentolila and Dolado[87], 1994), the presence of a significant proportion of temporary workers may allow permanent workers to negotiate or extract higher wages, because the brunt of any quantity adjustment in labour demand will tend to fall on the fixed-term component of the labour force.

The high proportion of temporary employment in a number of EU Member States (chart 79) may have a detrimental impact on the welfare of temporary workers. In order to maintain an adequate level of overall flexibility, it would be preferable instead to develop part-time work, given the apparent preference of workers for this type of work organisation.

Given the high proportion of young people holding a temporary contract,

85 Ayuso i Casals (2004), "Fixed-term contracts in Spain: a mixed blessing?", *ECFIN Country Focus, v.1, No 1.*

86 Where wage formation is controlled by insider/permanent employees protected by high firing costs.

87 Bentolila and Dolado (1994), "Labour flexibility and wages: Lessons from Spain", *Economic Policy*, volume 18.

Table 29 – Employees with temporary contracts among individuals aged 15-64 by gender and economic sector (percentages)

		1998					2001				
		total	pri	man	con	ser_pa	total	pri	man	con	ser_pa
EU-15	M+F	12.7	30.4	9.8	18.8	12.9	13.4	34.0	10.1	19.7	13.6
	F	13.6	36.0	11.5	11.5	13.9	14.6	39.7	12.0	11.9	14.9
	M	12.0	28.1	9.2	19.5	11.7	12.5	31.6	9.4	20.4	11.9
EU-25	M+F	NA	NA	NA	NA	NA	12.8	29.3	9.6	19.1	13.0
	F	NA	NA	NA	NA	NA	13.7	34.1	11.2	10.9	14.1
	M	NA	NA	NA	NA	NA	12.1	27.3	8.9	19.9	11.6
		2003					2004				
		total	pri	man	con	ser_pa	total	pri	man	con	ser_pa
EU-15	M+F	12.9	31.7	9.2	19.9	13.2	13.4	34.0	9.7	20.5	13.6
	F	14.0	38.8	10.9	12.0	14.5	14.3	40.1	11.3	11.2	14.8
	M	12.0	28.9	8.6	20.7	11.6	12.5	31.5	9.1	21.4	12.1
EU-25	M+F	12.9	28.4	9.7	20.0	13.1	13.5	30.3	10.6	20.6	13.7
	F	13.7	33.9	11.2	11.6	14.1	14.2	35.6	12.2	10.7	14.6
	M	12.2	26.2	9.1	20.9	11.7	12.9	28.2	9.9	21.6	12.3

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: pri: primary sector (A to B of Nace); man: manufacturing sector (C to E of Nace); con: construction (F of NACE); ser_pa: services without public administration (G to K + M to Q of NACE).

together with the relatively low probability of moving into a permanent position, this situation might be negatively affecting fertility rates in a number of countries (e.g. Spain), due to couples having difficulties in establishing themselves as independent households (Toharia and Malo[88], 2000).

Summing up, the development of fixed-term employment involves considerably more risks (both for the worker and society) than part-time work. The available evidence suggests that excessive reliance on fixed-term contracts can produce a segmented labour market (between temporary and permanent workers), making it more difficult to make the transition from a fixed-term to a permanent job. In this respect, it should be mentioned that on average in the EU-15, the probability of moving from temporary to permanent employment is relatively low. *Employment in Europe* 2004[89] estimated that even after a period of six years, the probability of moving from a temporary to a permanent job was only slightly above 50%, with a 20% probability of becoming unemployed or leaving the labour force.

3.2.10. Inactivity

The Employment Guidelines[90] (EG) focus to a large extent on inactivity[91], calling on Member States to:

88 Toharia and Malo (2000), "The Spanish experiment. Pros and cons of flexibility at the margin", in Esping-Anderson and Regini (eds.), *Why deregulate labour markets?*, Oxford University Press.

89 Chapter 4.

90 Specifically, the first, fifth and eight Employment Guidelines for 2003-2005.

91 The Labour Force Survey defines inactive persons as the population of working age (15 years and above) excluding persons in employment and unemployed persons. A person is considered as having employment if he or she did any work for pay or profit during the reference week, even for as little as one hour. In accordance with the International Labour Organisation guidelines, unemployed persons comprise persons who, during the reference week, were: (a) without work; (b) currently available for work; and (c) actively seeking work.

Table 30 – Reasons for temporary employment among individuals aged 15-64 (percentages)

		1998					2001				
		invtmp	wanttmp	ineduc	stage	noreas	invtmp	wanttmp	ineduc	stage	noreas
EU-15	M+F	39.4	9.0	19.7	4.6	27.4	35.1	6.2	18.1	7.2	33.4
	F	37.6	11.2	18.1	4.1	29.0	33.9	7.4	16.8	6.9	35.1
	M	41.0	7.0	21.1	4.9	25.9	36.2	5.2	19.5	7.4	31.7
EU-25	M+F	NA	NA	NA	NA	NA	36.9	6.8	18.1	7.5	30.7
	F	NA	NA	NA	NA	NA	35.5	7.8	17.0	7.2	32.5
	M	NA	NA	NA	NA	NA	38.3	5.8	19.1	7.7	29.1
		2003					2004				
		invtmp	wanttmp	ineduc	stage	noreas	invtmp	wanttmp	ineduc	stage	noreas
EU-15	M+F	44.3	9.2	17.5	6.7	22.3	47.0	9.1	17.3	6.3	20.3
	F	45.0	10.3	15.9	6.4	22.3	48.6	9.9	15.3	6.0	20.1
	M	43.6	8.1	19.0	7.0	22.2	45.5	8.3	19.1	6.5	20.5
EU-25	M+F	45.3	9.7	16.1	7.2	21.6	48.4	9.1	15.5	6.8	20.2
	F	46.0	10.5	15.0	6.8	21.7	49.5	10.0	14.1	6.6	19.9
	M	44.7	9.0	17.2	7.6	21.5	47.3	8.4	16.8	7.0	20.5

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: invtmp: "could not find a permanent job"; wanttmp: "did not want a permanent job"; ineduc: "in education or training"; stage: "probationary period"; noreas: "no reason given".

- *Develop and implement active and preventive measures for the unemployed and the inactive to prevent inflow into long-term unemployment, and to promote the sustainable integration into employment of unemployed and inactive people;*

- *Promote active ageing, notably by fostering working conditions conducive to job retention;*

- *Eliminate incentives for early exiting from the labour market, notably by reforming early retirement schemes and ensuring that it pays to remain active in the labour market, and encouraging employers to employ older workers;*

- *Reform financial incentives with a view to making work attractive […]. […] where appropriate, reform tax and benefit systems and their interaction with a view to eliminating unemployment, poverty and inactivity traps, and encouraging the participation of women, low-skilled workers, older workers, people with disabilities and those furthest from the labour market in employment.*

Moreover, a target has been set for the EU as a whole aiming for the effective average exit age from the labour force to rise by five years by 2010 (estimated at 59.9 years in 2001).

Given the importance of this subject in the EES, combined with the UK Presidency's objective of addressing "inactivity issues", the fifth chapter of this report extensively covers this topic. Therefore, this section presents only some general facts in order to broadly characterise inactivity and ensure a balanced coverage of all the main relevant issues pertaining to the EES.

Inactivity has a strong life-cycle pattern, reflecting the changing dominance of different activities during a typical life (i.e. from education in youth, to labour market participation in prime age, to retirement in old age). Between 2001 and 2004, the proportion of inactive older people (aged 55-64) in the total population of the same age group declined by about 4 percentage points (table 32). This reflects a concomitant rise in the employment rate for older workers (table 15).

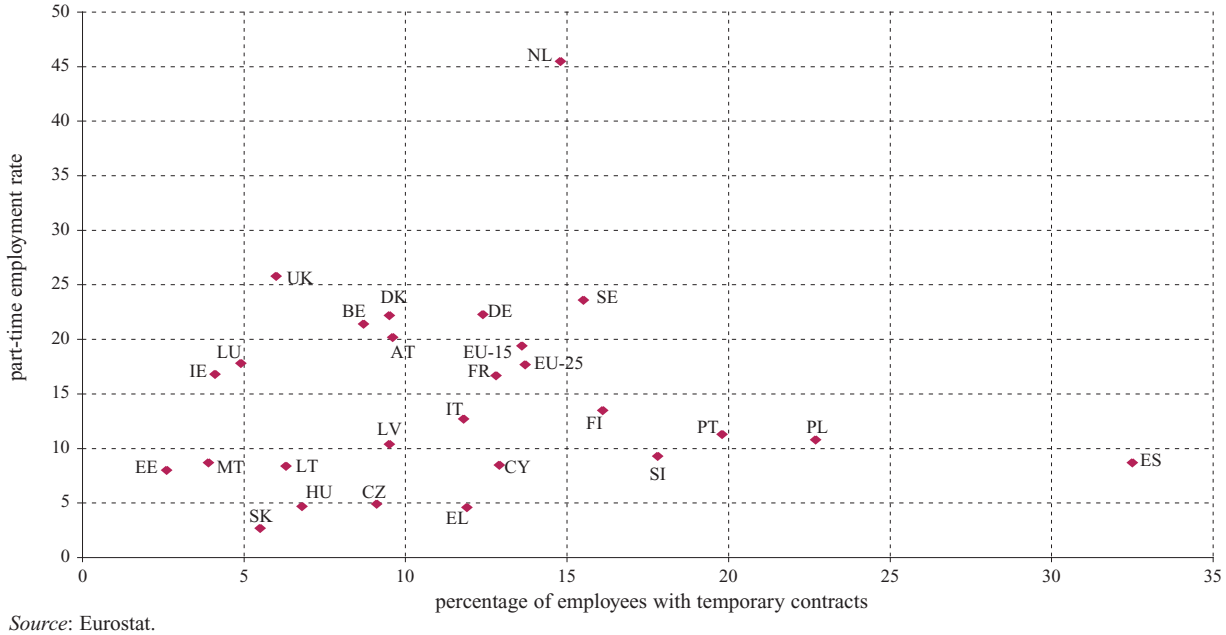
There is a strong negative correlation between inactivity and education attainment levels (table 33).

Table 31 – Distribution of the duration of temporary employment (in months) among individuals aged 15-64 (percentages)

		1998					2001				
		0-6M	7-12M	13-24M	25-36M	GT_36M	0-6M	7-12M	13-24M	25-36M	GT_36M
EU-15	M+F	36.2	27.9	11.3	12.6	12.0	35.9	26.4	11.6	13.3	12.8
	F	34.6	31.1	11.6	12.6	10.2	35.7	29.0	11.8	13.0	10.4
	M	37.7	25.1	11.1	12.6	13.6	36.1	23.8	11.4	13.6	15.1
EU-25	M+F	NA	NA	NA	NA	NA	37.6	27.4	11.2	12.1	11.7
	F	NA	NA	NA	NA	NA	36.7	30.1	11.5	12.1	9.7
	M	NA	NA	NA	NA	NA	38.5	24.7	10.9	12.2	13.6
		2003					2004				
		0-6M	7-12M	13-24M	25-36M	GT_36M	0-6M	7-12M	13-24M	25-36M	GT_36M
EU-15	M+F	37.2	25.6	10.6	13.7	13.0	38.1	26.5	10.4	12.8	12.2
	F	37.0	27.8	10.9	13.3	11.0	37.8	29.5	10.5	12.4	9.8
	M	37.4	23.2	10.2	14.1	15.1	38.3	23.4	10.4	13.2	14.7
EU-25	M+F	38.8	26.0	10.7	12.3	12.1	38.8	27.6	10.4	11.5	11.7
	F	37.8	28.3	11.1	12.3	10.6	37.8	30.5	10.5	11.5	9.8
	M	39.8	23.7	10.4	12.4	13.7	39.8	24.7	10.3	11.6	13.6

Source: Eurostat, LFS (annual averages based on quarterly data).

Chart 79 – Ratios of part time workers to total employment and of fixed-term employment to total employees in 2004 (percentages)



Source: Eurostat.

Table 32 – Ratio of inactive persons to the total population by gender and age groups (percentages)

		1998				2001			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	31.8	53.4	17.0	60.0	31.0	52.8	16.4	59.0
	F	41.7	57.1	27.6	71.2	40.0	56.4	26.0	69.2
	M	22.0	49.8	6.5	48.3	22.0	49.3	6.8	48.4
EU-25	M+F	NA	NA	NA	NA	31.4	54.4	16.0	60.2
	F	NA	NA	NA	NA	39.9	58.0	25.0	70.5
	M	NA	NA	NA	NA	22.8	50.9	7.0	49.4
		2003				**2004**			
		15-64	15-24	25-49	55-64	15-64	15-24	25-49	55-64
EU-15	M+F	30.0	53.0	15.7	55.7	29.6	52.8	15.4	54.7
	F	38.4	56.4	24.6	65.9	37.7	56.2	24.0	64.7
	M	21.5	49.6	6.8	45.0	21.5	49.5	6.9	44.3
EU-25	M+F	30.7	55.2	15.5	57.1	30.5	55.4	15.2	56.2
	F	38.8	58.8	23.8	67.3	38.3	58.9	23.3	66.2
	M	22.6	51.7	7.1	46.3	22.6	51.9	7.1	45.7

Source: Eurostat, LFS (annual averages based on quarterly data).

According to the Labour Force Survey, individuals quote the following reasons, among others, for being inactive (table 34): i) education or training; ii) retirement; iii) family or personal responsibilities; and iv) own illness or disability. Additionally, between 10 and 15 percent of respondents did not answer the question.

According to the data, almost 15 percent of inactive persons say that they would be willing to work (table 35), which, together with an inactivity rate of about 30% (table 32), suggests the existence of a large pool of discouraged potential workers. Nevertheless, a positive answer to this question does not necessarily mean that a person was taking steps to find work or would accept a job were one to be offered.

3.2.11. The role of active labour market policies (ALMPs)

The Employment Guidelines[92] call for Member States to *develop and implement active and preventive measures to prevent inflow into long-term unemployment, and to promote the sustainable integration into employment of unemployed and inactive people*.

Compliance with these guidelines is likely to require the strengthening of active labour market policies[93] in many EU Member States. Using Eurostat data (Labour Market Policy database), table 36 presents a breakdown of government expenditure on labour market policies as a percentage of GDP for the period 1998 to 2003.

In the EU-15, the average government expenditure on ALMPs amounted to 0.7 percent of GDP in 2003[94]. There is a wide dispersion in active labour market spending across Member States[95] and also large differences in

92 Specifically, the first Employment Guideline for 2003-2005.

93 The general purpose of policies grouped under the heading of active labour market policies (ALMPs) is to provide assistance to the unemployed, which will improve their chances of obtaining work. By contrast, passive measures essentially refer to income support measures such as unemployment benefits.

94 Latest year for which there are data.

95 An unweighted standard deviation of $^1/_2$.

Table 33 – Distribution of inactive persons aged 15-64 by gender and education level (percentages)

		1998				2001			
		0-2	3-4	5-6	nkwn	0-2	3-4	5-6	nkwn
EU-15	M+F	42.0	17.9	4.2	35.9	54.1	32.4	7.9	5.6
	F	43.2	17.2	4.1	35.4	55.1	31.5	7.5	5.8
	M	39.7	19.2	4.3	36.8	52.2	33.9	8.6	5.3
EU-25	M+F	NA	NA	NA	NA	53.3	34.8	7.2	4.7
	F	NA	NA	NA	NA	53.9	34.2	7.0	4.9
	M	NA	NA	NA	NA	52.2	35.9	7.5	4.3
		2003				2004			
		0-2	3-4	5-6	nkwn	0-2	3-4	5-6	nkwn
EU-15	M+F	52.7	33.1	8.5	5.6	52.1	34.2	8.9	4.8
	F	53.8	32.3	8.1	5.8	52.8	33.6	8.5	5.1
	M	50.9	34.6	9.2	5.3	51.0	35.2	9.5	4.3
EU-25	M+F	51.7	36.0	7.7	4.6	50.9	37.1	8.1	3.9
	F	52.2	35.5	7.5	4.8	51.0	36.8	8.0	4.2
	M	50.9	36.9	8.0	4.2	50.6	37.6	8.4	3.4

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: 0-2: Pre-primary, primary and lower secondary education – levels 0-2 (ISCED 1997); 3-4: Upper secondary and post-secondary non-tertiary education – levels 3-4 (ISCED 1997); 5-6: Tertiary education – levels 5-6 (ISCED 1997); nkwn: not known.

the proportion of total spending on active labour market policies[96].

Using pooled macro-panel data, *Employment in Europe* 2004[97] carried out an econometric analysis of the determinants of employment rate variations across Europe. OECD data on expenditure on various ALMPs were used, among many other regressors[98]. The findings of that analysis suggest that an increase in the intensity of spending on ALMPs (defined as the percentage of GDP allocated to active policies divided by the unemployment rate) accounts for 10% to 20% of the total increase in the employment rate observed between 1997 and 2002. Using OECD's expenditure breakdown for ALMPs, the results of that analysis suggest that the expenditure category with the most significant and positive impact on the employment rate is spending on public employment services and administration (i.e. job search assistance).

The evidence from cross-country analyses is that ALMPs significantly reduce unemployment (Scarpetta[99], 1996; Nickell[100], 1997; Elmeskov et al.[101], 1998). This finding is backed up

96 From less than 15% to more than 50%.

97 Chapter 2.

98 In the regressions, data from the OECD Social Expenditure database were used because they provide a longer series than Eurostat sources. OECD's and Eurostat's data are not directly comparable due to the use of different categories for the breakdown of total spending on ALMPs. OECD's Social Expenditure database breaks down total expenditure on ALMPs into the following categories: i) labour market training; ii) youth measures; iii) subsidised employment; iv) employment measures for the disabled; and v) employment services and administration.

99 Scarpetta S. (1996), "Assessing the role of labour market policies and institutional settings on unemployment: a cross country study", OECD *Economic Studies*, vol. 26, pp. 43-98.

100 Nickell, S (1997), "Unemployment and labour market rigidities: Europe versus North America", *Journal of Economic Perspectives*, vol. 11(3), pp. 55-74.

101 Elmeskov J., Martin J, and Scarpetta S (1998), "Key lessons for labour market reforms: evidence from OECD countries' experiences", *Swedish Economic Policy Review*, vol. 5(2), pp. 205-252.

Table 34 – Reasons for inactivity among persons aged 15-64 (percentages)

		layoff	illdis	fam_per	ineduc	retired	thknowk	noreas	other
1998									
EU-15	M+F	NA	8.3	23.2	28.5	16.8	1.4	11.9	9.9
	F	NA	6.2	34.2	22.2	12.3	1.6	12.0	11.5
	M	NA	12.2	2.2	40.6	25.3	1.1	11.9	6.7
EU-25	M+F	NA	NA	NA	NA	NA	NA	NA	NA
	F	NA	NA	NA	NA	NA	NA	NA	NA
	M	NA	NA	NA	NA	NA	NA	NA	NA
2001									
		layoff	illdis	fam_per	ineduc	retired	thknowk	noreas	other
EU-15	M+F	NA	9.5	19.9	28.2	17.2	3.6	12.2	9.4
	F	NA	7.2	29.7	22.3	12.9	3.9	12.4	11.7
	M	NA	13.8	1.7	39.0	25.2	3.1	11.8	5.3
EU-25	M+F	NA	11.1	18.6	29.8	18.2	3.6	10.3	8.4
	F	NA	8.5	28.1	23.8	14.9	3.7	10.6	10.3
	M	NA	15.7	1.6	40.3	24.2	3.4	9.7	5.1
2003									
		layoff	illdis	fam_per	ineduc	retired	thknowk	noreas	other
EU-15	M+F	NA	9.3	18.9	23.1	19.5	3.7	16.7	8.7
	F	NA	7.1	28.5	18.3	14.7	3.9	16.5	10.9
	M	NA	13.1	1.7	31.9	28.3	3.3	17.0	4.7
EU-25	M+F	NA	10.9	17.7	26.0	20.0	3.7	13.9	7.8
	F	NA	8.4	27.0	20.9	16.4	3.8	13.9	9.6
	M	NA	15.2	1.5	34.9	26.2	3.5	13.9	4.7
2004									
		layoff	illdis	fam_per	ineduc	retired	thknowk	noreas	other
EU-15	M+F	0.3	9.8	15.7	22.7	18.5	4.5	15.8	12.6
	F	0.2	7.7	23.7	18.2	14.1	4.7	15.5	16.0
	M	0.4	13.5	1.5	30.9	26.5	4.0	16.5	6.7
EU-25	M+F	0.3	11.4	15.1	25.8	19.1	4.4	12.8	11.2
	F	0.2	9.0	23.1	20.9	15.8	4.5	12.6	13.9
	M	0.4	15.6	1.3	34.4	24.8	4.1	13.1	6.4

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: layoff: "awaiting recall to work (on lay-off); illdis: "own illness or disability"; fam_per: "familiar or personal responsibilities"; ineduc: "in education or training"; retired: "retired"; thknowk: "think no work is available"; noreas: "no reason given"; other:" other reasons".

by numerous micro panel studies[102], which show that certain active labour market policies are effective. In particular, public employment services and administration tend to have consistently positive outcomes, but other types of measure such as employment subsidies and labour market training must be well designed if they are to have a significant impact. As regards training, the results are generally poor other than making the unemployed job-ready, though it works better for women (Walsh et al., 2005)[103].

Some studies[104] suggest that (certain) ALMPs can reduce the potential trade-off between efficiency and equity, which, translated into the overarching objectives of the EES, basically means solving the possible dilemma between labour market participation and social cohesion. Following this through, Groot et al. (2004) find that spending on ALMPs, especially in certain types of measures, can simultaneously raise the rate of participation, lower the rate of unemployment and reduce income inequality. This result contrasts with the estimated

Table 35 – Willingness to work of inactive persons aged 15-64 (percentages)

		1998		2001		2003		2004	
		a	b	a	b	a	b	a	b
EU-15	M+F	11.5	11.2	10.0	9.7	10.8	10.4	13.8	13.2
	F	11.6	11.4	10.1	9.8	10.8	10.5	13.8	13.4
	M	11.4	11.0	9.9	9.4	10.8	10.2	13.6	12.9
EU-25	M+F	NA	NA	11.1	10.5	11.9	11.5	14.2	13.7
	F	NA	NA	11.1	10.5	11.8	11.5	14.2	13.8
	M	NA	NA	11.3	10.5	12.1	11.5	14.2	13.5

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: a) Fraction of those willing to work over total respondents.
b) Fraction of those willing to work over total respondents and non-respondents.

Table 36 – Government expenditure on active labour market policies in the EU-15 as percentage of GDP (unless otherwise stated)

	1998	1999	2000	2001	2002	2003
(1) Training	---	0.33	---	0.28	0.29	0.28
(2) Job rotation and job sharing	---	0.01	0.01	0.01	0.00	0.00
(3) Employment incentives	---	0.13	0.13	0.14	0.14	0.14
(4) Integration of the disabled	0.10	0.11	0.11	0.11	0.11	0.11
(5) Direct job creation	---	0.21	0.18	0.17	0.16	0.14
(6) Start-up incentives	0.02	0.02	---	0.03	0.02	0.03
(1) to (6): "Active measures"	---	0.80	---	0.73	0.73	0.70
(8) Out-of-work income	---	1.34	---	1.16	1.26	1.34
(9) Early retirement	---	0.11	0.09	0.09	0.09	0.09
(8) to (9): "Passive measures"	---	1.44	---	1.26	1.35	1.43
(2) to (9): Total measures	---	2.24	---	1.98	2.08	2.13
% of "Active measures" in total	---	35.8	---	36.7	35.0	32.8

Source: Eurostat, Labour Market Policy database, August 2005.

102 Martin J (2000), "What works among active labour market policies? Evidence from OECD countries", *OECD Economic Studies*, nº30, pp. 79-112.

103 Walsh K. and Parsons D. (2005), "Active policies and measures: impact on integration and reintegration in the labour market and social life", *Third Research Report on Vocational Education and Training in Europe,* Thessaloniki, CEDEFOP.

104 Koning and Vollaard (2000), Martin (2000), OECD (2001) and Groot et al. (2004).

effects of other polices, notably the replacement rate, duration of unemployment benefit and the employment protection legislation, which all seem to lead to a trade-off between participation and income distribution[105]. Although this analysis cannot be taken as conclusive evidence, these results nevertheless suggest that EU Member States can improve participation while maintaining income cohesion by spending/investing in ALMPs of the right sort. As an example, the high level of ALMPs spending in some countries (e.g. in Scandinavia) might be partly to offset their rather generous unemployment benefit systems and to push unemployed individuals back to work (Nickell et al.[106], 2005).

3.3. Quality and productivity at work

Improving quality and productivity at work is one of the three overarching objectives of the Employment Guidelines for the period 2003-2005, in addition to full employment and social cohesion and inclusion. Quality is a complex concept with many interacting facets, such as the working environment, equal opportunities, the reconciliation of working and personal life, lifelong learning, health and safety, contractual security and job satisfaction. Bringing the concept of quality of work into operation has posed difficulties. Nonetheless, in 2001 the Council agreed to assess progress using a set of quality indicators founded on the ten dimensions of quality in work identified by the Commission[107] and a progress report was prepared in 2003[108].

There is a positive link, with potentially wide-ranging synergies, between quality and productivity at work. In particular, improvements in work organisation and in working conditions, as well as in the quality and efficiency of investment in human capital and training, are essential for any improvements in productivity.

For an extensive discussion of the quality of work indicators, see COM(2003) 728 final. In this chapter, the analysis uses data for both the EU-15 and the EU-25 separately, reflecting the difficulties in collecting data covering a sufficiently long time span for the new Member States. However, it is interesting to note that the analysis remains broadly unchanged (in qualitative terms) whether considering either the EU-15 or the EU-25.

3.3.1. Human capital investment and lifelong learning

In recent years, some progress has been made in raising the EU average level of participation in lifelong learning[109]. Since 1997, the ratio of the adult working-age population (25 to 64 age group) participation in lifelong learning increased from 5.7% to 10.6% in 2004 in the EU-15 (table 37). In the EU-25 (table 38), this indicator has also improved in recent years (though less markedly), increasing from 7.9% in 2000 to 9.9% in 2004. However, after correcting for some statistical breaks, the lifelong learning ratio is estimated to have increased by less than 1 percentage point since 2000. At this pace of progress, the overall target of 12.5% for 2010 in the EU as a whole is unlikely to be reached[110].

Although the level of participation in lifelong learning has increased in recent years in many EU Member States, the social return of these active labour market programmes, especially for some disadvantaged groups such as youth and low-skilled workers, remains largely to be evaluated. Moreover, a number of empirical studies have questioned the effectiveness of these programmes[111].

105 In addition, liberalisation of these policies usually meets strong political and social resistance due to their anticipated impact on income distribution.

106 Nickell S, Nunziata L, and Ochel W. (2005), "Unemployment in the OECD since 1960s. What do we know?", *The Economic Journal*, 115, pp. 1-27.

107 The Employment Committee agreed a list of indicators on quality in work under the ten dimensions. These indicators were approved by the Council and communicated to the Laeken European Council in December 2001: "Indicators of Quality in Work, Report by the Employment Committee to the Council, 14263/01, 23.11.2001. The ten dimensions of quality are: i) *intrinsic job quality*; ii) *skills, lifelong learning and career development*; iii) *gender equality*; iv) *health and safety at work*; v) *flexibility and security*; vi) *inclusion and access to the labour market*; vii) *work organisation and work-life balance*; viii) *social dialogue and worker involvement*; ix) *diversity and non-discrimination*; and x) *overall work performance*.

108 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, *Improving quality in work: a review of recent progress*, COM(2003) 728 final.

109 A note of caution is necessary. Definitions of lifelong learning vary across Member States. Although they generally include only structured learning (i.e. courses), their contents can vary from a more "leisure" type to studying for a professional qualification.

110 Across the EU, this target has already been achieved in 6 countries (DK, NL, SI, FI, SE and UK).

111 Heckman et al. (1999), "The Economics and Econometrics of Active Labor Market Programs", *Handbook of Labor Economics*, vol. 3a.
Goux and Maurin (2000), "Returns to Firm Provided Training: Evidence from French Worker-Firm Matched Data", *Labour Economics*, vol. 7(1), pp. 1-20.

Table 37 – Selected indicators for the EU-15

	1997	1998	1999	2000	2001	2002	2003	2004
Lifelong learning – total (a)	5.7	NA	8.2	8.4	8.3	8.5	9.9	10.6
Lifelong learning – women	5.6	NA	8.5	8.9	8.9	9.1	10.7	11.4
Lifelong learning – men	5.9	NA	7.8	7.9	7.7	7.8	9.1	9.8
Youth education attainment – total (b)	69.6	NA	72.4	73.5	73.3	73.8	73.7	73.8
Youth education attainment – women	71.9	NA	75.0	76.5	76.3	76.8	76.3	77.0
Youth education attainment – men	67.2	NA	69.6	70.5	70.3	70.7	71.0	70.7
Gender pay gap (non adjusted) (c)	16.0	16.0	15.0	16.0	16.0	16.0	16.0	NA
Total employment rate (d)	60.6	61.4	62.6	63.4	64.0	64.2	64.3	64.7
Employment rate – women	50.8	51.6	53.0	54.1	55.0	55.6	56.0	56.8
Employment rate – men	70.6	71.2	72.1	72.8	73.1	72.8	72.7	72.7
Employment rate (15 to 24 years)	37.2	38.2	39.6	40.5	40.9	40.6	39.9	40.0
Employment rate (25 to 54 years)	73.9	74.6	75.7	76.5	77.0	77.1	77.1	77.6
Employment rate (55 to 64 years)	36.4	36.6	37.1	37.8	38.8	40.2	41.7	42.5
Part-time work (e)	16.7	17.3	17.5	17.7	17.9	18.1	18.5	19.4
Fixed-time work (f)	12.4	13.0	13.4	13.7	13.5	13.1	13.1	13.6
Total unemployment rate (g)	9.8	9.3	8.5	7.6	7.2	7.6	8.0	8.1
Unemployment rate – women	11.8	11.2	10.3	9.3	8.7	8.9	9.2	9.3
Unemployment rate – men	8.4	7.8	7.1	6.4	6.1	6.6	7.0	7.1
Total long-term unemployment rate (h)	4.8	4.4	3.9	3.4	3.1	3.1	3.3	3.4
Long-term unemployment rate – women	5.9	5.4	4.8	4.2	3.8	3.7	3.9	4.0
Long-term unemployment rate – men	4.0	3.6	3.2	2.8	2.5	2.6	2.8	3.0
Youth unemployment rate (i)	20.6	19.0	17.1	15.3	15.1	15.6	16.3	16.6
Serious accidents at work – total (j)	100.0	100.0	100.0	98.0	94.0	86.0	NA	NA
Serious accidents at work – women	99.0	100.0	101.0	103.0	100.0	96.0	NA	NA
Serious accidents at work – men	100.0	100.0	100.0	98.0	93.0	88.0	NA	NA
Total early school-leavers (k)	20.6	NA	20.5	19.4	18.9	18.6	18.3	17.8
Early school-leavers – women	18.7	NA	18.5	17.1	16.6	16.2	16.1	15.3
Early school-leavers – men	22.7	NA	22.6	21.7	21.3	21.1	20.4	20.4
At risk of poverty rate before social transfers – total (l)	25.0	24.0	24.0	23.0	24.0	NA	NA	NA
At risk of poverty rate after social transfers – total	16.0	15.0	15.0	15.0	16.0	NA	NA	NA

Source: Eurostat, Structural and Employment indicators.

Note: (a) Adult participation in education and training, percentage of the population aged 25-64 participating in education and training over the four weeks prior to the survey; (b) Percentage of the total population aged 20 to 24 having completed at least upper secondary education; (c) Difference between men's and women's average gross hourly earnings as a percentage of men's gross hourly earnings; (d) Employed persons aged 15-64 as a percentage of the total population of the same age group; (e) Part-time workers as percentage of total employment; (f) Percentage of employees with temporary contracts; (g) Unemployed persons as a percentage of the total active population; (h) Long-term unemployed (12 months and more) as a percentage of the active population; (i) Unemployed population aged 15 to 24 as a percentage of the total population of the same age group; (j) Index of the number of serious accidents at work per 100 000 persons in employment (1998=100); (k) Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training; (l) Percentage of persons with an equivalised disposable income, before social transfers, below the risk-of-poverty threshold, set at 60% of the median equivalised disposable income (after social transfers). For EU aggregates, this indicator is computed as a population weighted average of available national data.

Table 38 – Selected indicators for the EU-25

	1997	1998	1999	2000	2001	2002	2003	2004
Lifelong learning – total (a)	NA	NA	NA	7.9	7.8	7.9	9.2	9.9
Lifelong learning – women	NA	NA	NA	8.4	8.4	8.5	9.9	10.7
Lifelong learning – men	NA	NA	NA	7.4	7.2	7.2	8.4	9.0
Youth education attainment – total (b)	NA	NA	74.8	76.4	76.5	76.5	76.5	76.7
Youth education attainment – women	NA	NA	77.3	79.2	79.0	79.5	79.1	79.6
Youth education attainment – men	NA	NA	72.2	73.5	73.4	73.6	74.0	73.8
Gender pay gap (non adjusted) (c)	16.0	17.0	16.0	16.0	16.0	16.0	15.0	NA
Total employment rate (d)	60.6	61.2	62.0	62.4	62.8	62.8	62.9	63.3
Employment rate – women	51.1	51.8	52.9	53.6	54.3	54.7	55.0	55.7
Employment rate – men	70.2	70.6	71.0	71.2	71.3	71.0	70.8	70.9
Employment rate (15 to 24 years)	36.4	37.1	37.8	38.1	38.1	37.5	36.9	36.8
Employment rate (25 to 54 years)	74.3	74.9	75.6	76.0	76.3	76.3	76.4	76.8
Employment rate (55 to 64 years)	35.7	35.8	36.2	36.6	37.5	38.7	40.2	41.0
Part-time work (e)	16.0	15.9	16.1	16.2	16.3	16.6	17.0	17.7
Fixed-time work (f)	11.7	11.8	12.3	12.6	12.9	12.9	13	13.7
Total unemployment rate (g)	NA	9.5	9.1	8.6	8.4	8.7	9.0	9.0
Unemployment rate – women	NA	11.3	10.8	10.2	9.9	10.0	10.2	10.2
Unemployment rate – men	NA	8.0	7.7	7.3	7.3	7.7	8.0	8.1
Total long-term unemployment rate (h)	5.0	4.5	4.1	3.9	3.8	3.9	4.0	4.1
Long-term unemployment rate – women	6.1	5.5	5.0	4.8	4.6	4.6	4.7	4.7
Long-term unemployment rate – men	4.1	3.6	3.4	3.3	3.2	3.3	3.5	3.6
Youth unemployment rate (i)	NA	19.4	18.4	17.4	17.6	18.1	18.6	18.7
Serious accidents at work – total (j)	NA	100.0	100.0	99.0	95.0	88.0	NA	NA
Serious accidents at work – women	NA	100.0	101.0	104.0	101.0	97.0	NA	NA
Serious accidents at work – men	NA	100.0	100.0	98.0	94.0	89.0	NA	NA
Total early school-leavers (k)	NA	NA	NA	17.3	16.9	16.6	16.1	15.7
Early school-leavers – women	NA	NA	NA	15.2	14.7	14.3	14.1	13.3
Early school-leavers – men	NA	NA	NA	19.4	19.1	18.9	18.1	18.1
At risk of poverty rate before social transfers – total (l)	NA	NA	NA	NA	24.0	NA	NA	NA
At risk of poverty rate after social transfers – total	NA	NA	NA	NA	15.0	NA	NA	NA

Source: Eurostat, Structural and Employment indicators.
Note: See table 37 for legend.

Table 39 – Employment rates among individuals aged 15-64 by highest level of education attained (percentages)

		1998			2001		
		M+F	F	M	M+F	F	M
EU-15	Total	61.4	51.6	71.2	64.1	55.0	73.2
	0-2	48.1	34.4	62.4	49.3	37.5	62.0
	3-4	64.9	55.9	73.6	70.3	63.3	77.1
	5-6	78.7	73.1	84.3	82.9	78.5	86.9
EU-25	Total	61.2	51.9	70.6	62.9	54.3	71.4
	0-2	NA	NA	NA	46.7	35.8	58.5
	3-4	NA	NA	NA	68.8	61.9	75.5
	5-6	NA	NA	NA	83.0	78.7	87.0
		2003			2004		
		M+F	F	M	M+F	F	M
EU-15	Total	64.4	56.1	72.8	64.8	57.0	72.7
	0-2	49.5	38.1	61.6	49.2	38.0	60.8
	3-4	70.2	63.8	76.4	70.1	63.8	76.3
	5-6	82.5	78.7	86.1	82.5	78.9	86.0
EU-25	Total	63.0	55.1	70.9	63.3	55.8	70.9
	0-2	46.6	36.2	57.8	46.2	36.0	57.0
	3-4	68.4	61.9	74.7	68.3	61.8	74.6
	5-6	82.5	78.8	86.1	82.5	78.9	86.0

Source: Eurostat, LFS (annual averages based on quarterly data).
Note: 0-2: Pre-primary, primary and lower secondary education – levels 0-2 (ISCED 1997).
3-4:Upper secondary and post-secondary non-tertiary education – levels 3-4 (ISCED 1997).
5-6: Tertiary education – levels 5-6 (ISCED 1997).

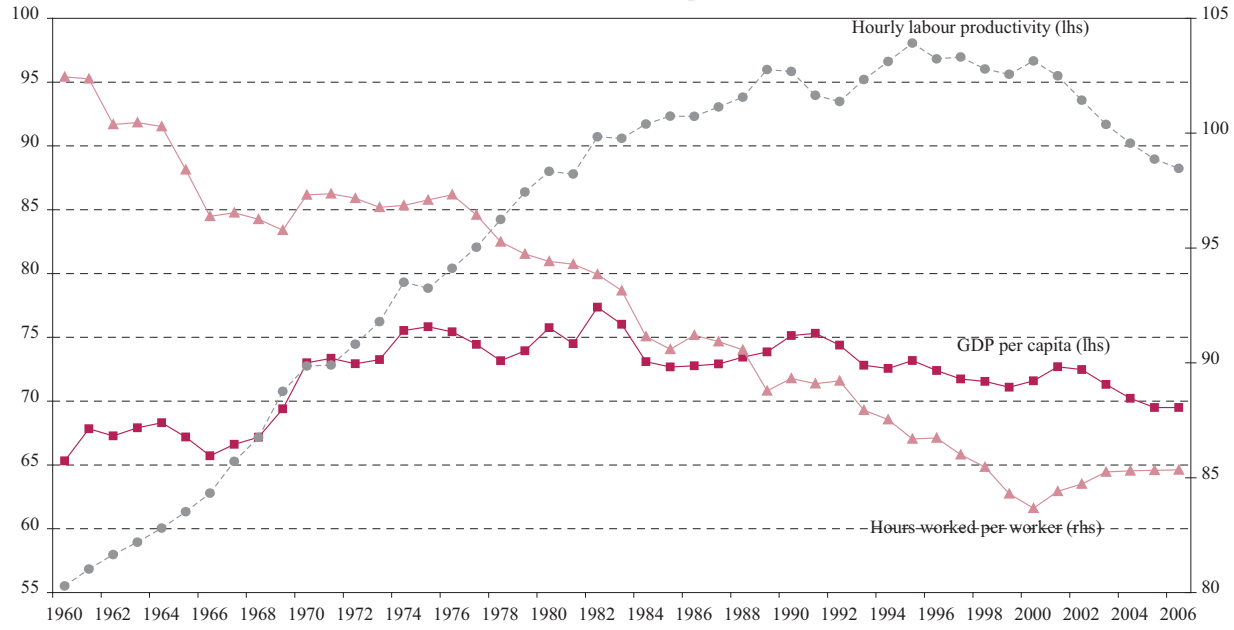
The youth education attainment level (measured as the percentage of the total population aged 20 to 24 having completed at least upper secondary education) has continued to rise in the EU. This indicator increased by a full 4 percentage points in the EU-15 between 1997 and 2004, reaching 73.8%[112]. The EU enlargement of May 2004 has increased by about 3 percentage points the average level of youth education attainment, reflecting the overall favourable position in the new Member States. The above-average performance of new Member States as regards youth education attainment levels contrasts with their below-average performance in other EES targets, notably those related to employment rates. Among the 25 EU Member States, nine had already attained in 2004 the youth education attainment target of 85%[113] for 2010, including five new Member States. However, a number of Member States remain in a particularly unfavourable position[114]. Where gender mainstreaming is concerned, the existence of a positive gap favourable to women across Member States should be noted. Overall, the gender gap favourable to women reached over 5 percentage points in 2004 in the EU-25 (table 38).

Despite the general increase in education attainment levels across the EU, earnings data suggest that the degree of inequality[115] has increased between the 1990s and the early 2000s in a number of EU Member States, particularly in DE, ES, FR, IT, and PL (see Chapter 4).

The importance of raising the education level of the (working-age) population in general and of the youth population in particular, aiming to equip all individuals with the skills required for a modern workforce in a knowledge-based society, should not be underestimated. Furthermore, the quality of the labour supply and the willingness of individuals to participate in the labour market are highly correlated with education attainment levels (table 30). In this respect, any ongoing rise in education levels is likely to contribute towards reaching the employment rate targets set for 2010.

112 However, and particularly for some Member States, breaks in series affect comparability.
113 CZ, IE, LT, AT, PL, SI, SK, FI, and SE.
114 MT, PT, ES and IT.
115 As measured by the ratio between decile 9 to decile 1 of the earnings distribution.

Chart 80 – Relative indices EU-15 compared to the US (US=100)



Source: Ameco, GGDC-OECD, and DG EMPL calculations.

3.3.2. Productivity developments

This section looks at aggregate productivity developments in the EU and the United States, suggesting some major reasons for the different trends observed in recent years[116]. It also projects developments up to 2006 based on the Commission's Spring 2005 forecast[117].

3.3.2.1. A long-term perspective

The process of real convergence between the EU and the US in terms of per capita GDP (measured at purchasing power standard (PPS) prices) petered out around the early 1970s, following the rapid progress achieved after the Second World War. In terms of per capita GDP at PPS, the EU-15 has made no significant progress since the 1970s in closing the gap, which hovers at around 30 percentage points (chart 80). This gap can be largely explained by lower total labour input (both a lower employment rate and fewer hours worked per worker) and lower productivity per hour. A breakdown suggests that roughly two-thirds of the differential is due to the underutilisation of labour, while the other third is related to lower hourly labour productivity.

However, the lack of progress in relative GDP per capita over the past thirty years or so does not mean that the EU has a substantially lower welfare level than the US and has been unable to catch up. The GDP per capita gap mainly reflects the reduction in the average number of hours worked per worker in the EU-15, and only to a lesser extent the lag in terms of hourly productivity. Labour productivity, measured as GDP per hour worked, has increased much faster in the EU-15 than in the United States. EU-15 hourly productivity, which stood at about 65% of the US level in the mid-1960s, now stands at roughly 90% (chart 81).

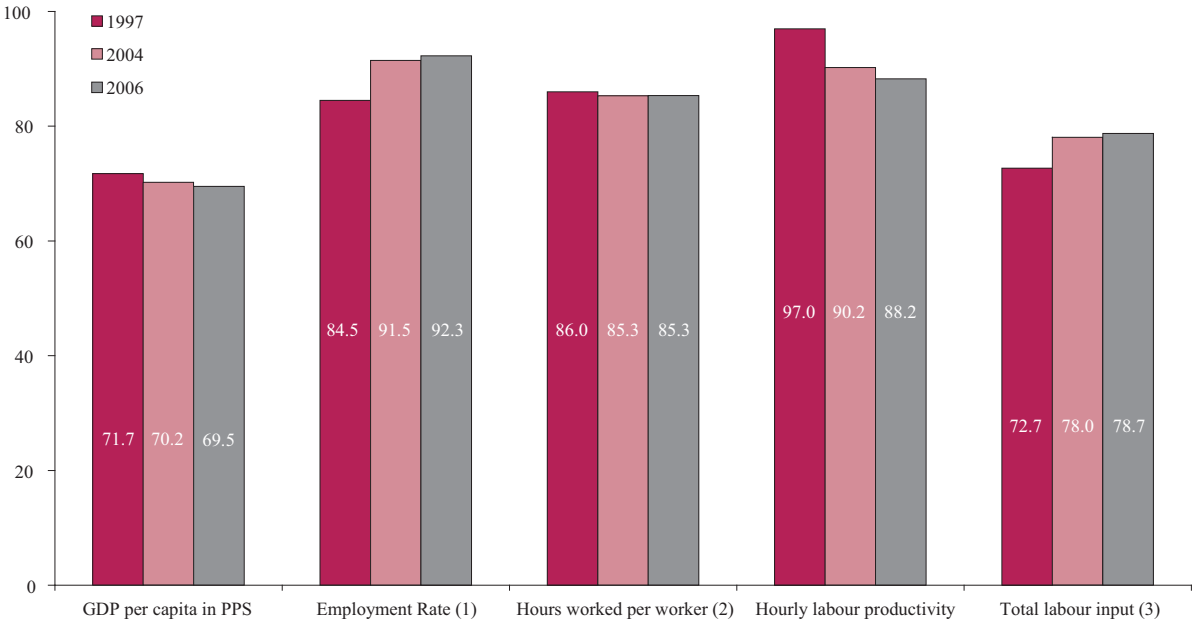
When compared with the US, the largest Member States of the EU-15 have tended to show a greater willingness to trade off income for leisure[118]. Had relative hours worked per worker remained the same, the EU would, other things being equal, now have a per capita income level closer to that

116 In the short- to medium-term, productivity and employment display significant co-movements, reflecting cyclical conditions in the economy. It is only over the longer term that these two variables can be seen as independent, according to both theoretical considerations and empirical evidence (see the "European Economy: 2004 Review", European Commission).

117 Data for annual working hours per worker is taken from the Groningen Growth and Development Centre (GGDC) database. It is also assumed that over the period 2005-2006 the average annual hours worked per worker will stabilise at their 2004 values.

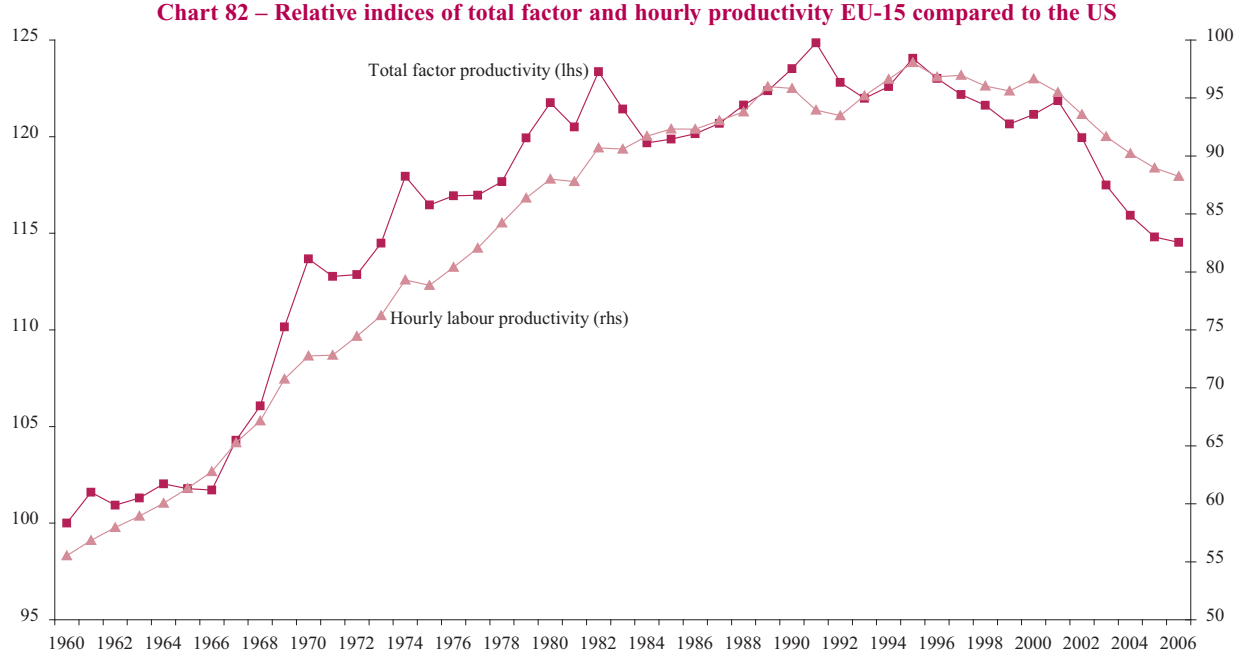
118 As an example, and according to the GGDC database, between 1980 and 2004 the average annual number of hours worked per person employed fell by more than 10% in DE, FR, ES, and the NL, and by close to 8% in IT and the UK. In the US over the same period, the average annual number of hours worked per person employed fell only by almost 2%.

Chart 81 – Relative indices EU-15 compared to the US (US=100)



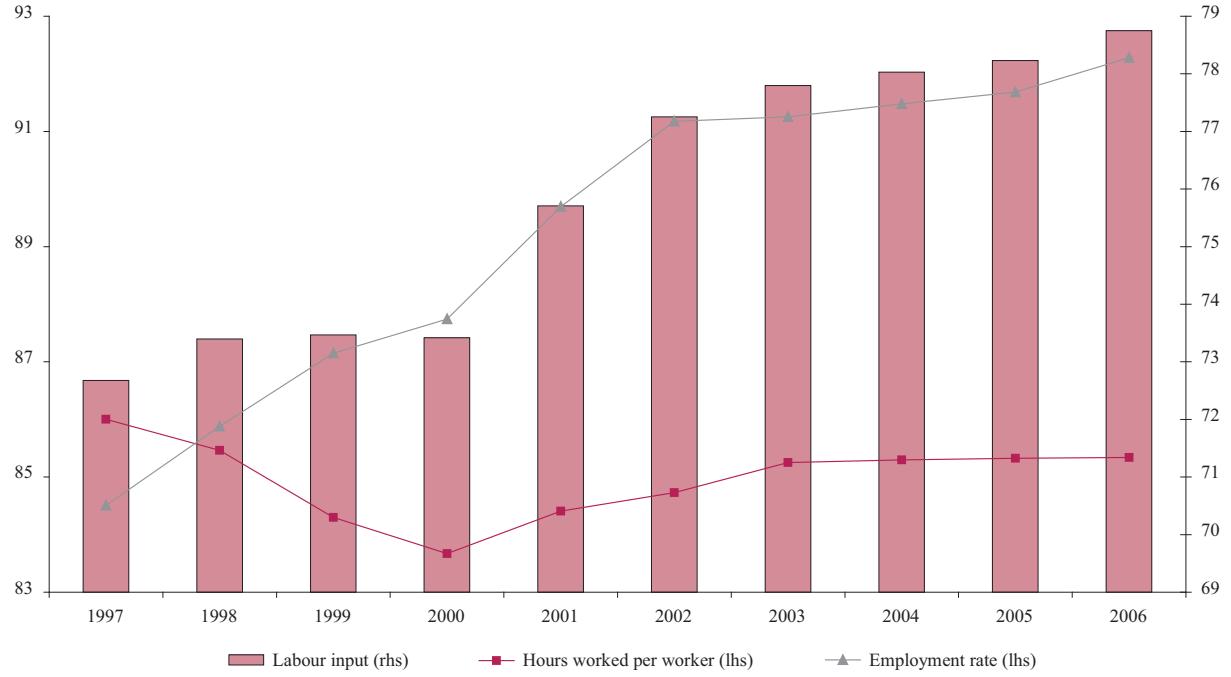
Source: Ameco, GGDC-OECD, and DG EMPL calculations.
Note: (1) Calculated as: Employment rate = 100 * GDP per capita / Labour productivity per person employed. (2) Calculated as: Hours worked per worker = 100 * Labour productivity per person employed / Hourly labour productivity. (3) Calculated as: Total labour supply = Employment Rate * Hours worked per worker.

Chart 82 – Relative indices of total factor and hourly productivity EU-15 compared to the US



Source: Ameco, GGDC-OECD, and EMPL calculations.
Note: Total factor productivity: EU/US (1960=100).

Chart 83 – Determinants of total labour input, EU-15 compared to the US (US=100)



Source: Ameco, GGDC-OECD, and DG EMPL calculations.

of the US. This assumes, of course, that neither the higher unemployment rate in the EU nor the higher capital to labour ratio played a major role in raising the measured (hourly) labour productivity[119]. The close link between relative hourly labour productivity and relative total factor productivity (chart 82) does not call for rejecting this assumption.

Two major competing causes are usually put forward to explain the decline in the average number of hours worked per worker. Firstly, the preferences of workers and, secondly, the effects of increasing tax distortions faced by workers (Prescott[120], 2003). In the EU, there is evidence linking labour taxation to labour supply. Mourre (2004) relates labour tax wedges to the presence of a positive break in aggregate employment demand after 1997. Econometric estimates (Nickell et al., 2003) find a significant role for taxes in explaining the decline in hours worked. More specifically, the evolution of tax rates may explain about a third of the decrease in hours worked in the EU.

3.3.2.2. A medium-term perspective

In recent years, some progress has been achieved in raising total labour input in the EU compared to the US. Between 1997 and 2004, total labour input rose overall by 6 percentage points in the EU-15 relative to the US (see chart 81). This improvement results from an increase in the employment rate in the EU-15 relative to the US (chart 83), which more than offset the continuous reduction (although at a reduced pace) in the number of hours worked per worker. The decline in average annual hours worked per worker in the EU-15 relative to the US seems to have levelled off after 2000.

The rise in the employment rate in the EU means that nearly 13 million jobs were created between 1997 and 2004 (a cumulative increase of about 8.5%). However, nearly all net job creation took place in the first part of that period, between 1997 and 2001. Subsequently, employment creation in the EU-15, although remaining posi-

119 Blanchard (2004), "The Economic Future of Europe", *Journal of Economic Perspectives*, v°18, No 4. The author argues that two types of causes might have "artificially" raised the measured level of (hourly) labour productivity in the EU versus the US: i) relatively high unemployment that disproportionately affects low-skilled workers, together with a higher ratio of the minimum wage to the average wage (i.e. wage compression), excluding more low-skilled workers from the labour force; and ii) due to higher labour costs in the EU, firms have adopted more capital-intensive technologies, increasing measured productivity.

120 Prescott (2003), "Why do Americans Work so much more than Europeans?", *Federal Reserve Bank of Minneapolis*.

tive, was much slower principally because of the lack of sufficient economic growth.

With respect to productivity, *it is worrying to see that since 1995 the European Union's relative position vis-à-vis the United States has deteriorated significantly*[121]. After having peaked in the mid-1990s at around 97% of the US level, EU-15 labour productivity per hour is projected to decline to around 88% of the US level by 2006, which is close to its relative level in the late 1970s/early 1980s. The decline in EU labour productivity growth rates since the mid-1990s can be attributed to lower investment per employee and to a slowdown in total factor productivity growth. The former can be partially explained by a higher rate of job creation, involving a high proportion of low-productivity jobs. The latter has been associated with the following factors: (i) low investment in R&D[122]; (ii) the difficulty in the EU of reorienting outlays towards those sectors with high productivity growth prospects; (iii) the lower productivity performance and size of information and communications technology (ICT) industries (including office equipment and semiconductors) and the lower productivity performance in ICT using services (such as the wholesale and retail trade and financial services); and (iv) the difficulty in producing and absorbing new, more knowledge-based technologies.

Recent research suggests that at the most one third of the productivity slowdown is due to the increased employment of low-skilled people and seems to confirm that the slowdown in productivity is mostly due to a slowdown in total factor productivity[123].

In an OECD paper on ICT and economic growth[124], encompassing a survey of the relevant literature, there is ample evidence suggesting that the use of ICT does have a significant impact on the productivity of firms, *but primarily, or only, when accompanied by other [organisational] changes and investments*. This statement is in line with the results of other empirical studies suggesting that ICT primarily affects firms where skills have been improved and/or organisational changes have been introduced. Therefore, in order to reap the full benefits of ICT, firms have to carry out complementary actions such as training their staff or introducing organisational changes. *These complementary investments are often much more costly than the initial outlays in ICT investment goods*[125]. The evidence suggests that for ICT to be developed and used effectively, and network externalities to materialise[126], the skills and competences of workers have to be raised through a variety of means, such as formal education, vocational training and lifelong learning (see the Special Focus on ICT, organisational change and productivity at the end of this chapter).

3.4. Strengthening social cohesion and inclusion

A social market economy should endeavour to have an adequate level of social protection delivered by a well-designed welfare system so as to minimise efficiency costs. Therefore, an optimum welfare system should aim, among other things, to reduce poverty, to minimise the impact of income uncertainty/volatility, to facilitate structural change and to stabilise aggregate demand, all at a minimum cost in terms of economic efficiency. A well-designed welfare/social protection system should thus not only be effective in *combating and preventing poverty but also contribute to increasing labour supply, through developing people's capacity to work and a judicious use of the "make work pay" principle*[127].

121 "Commission Staff Working Document in support of the report from the Commission to the Spring European Council, 22-23 March 2005, on the Lisbon Strategy of economic, social and environmental renewal", SEC(2005) 160.

122 In 2003, the EU spent on average 1.9% of GDP on R&D (although ranging from 0.3% to 4.3% of GDP across Member States), barely up from the level at the time of the launch of the Lisbon strategy. This compares with a collective EU target for investment in R&D of 3% of GDP. Moreover, only around 55% of research spending in the EU is financed by industry. In 2003, expenditure on R&D amounted to 2.6% and 3.2% of GDP in the US and Japan, respectively.

123 Denis et al. (2004), "An analysis of EU and US production developments (a total economy and industry level perspective)", *DG ECFIN, Economic Papers* No 208.
Denis et al. (2005), "The Lisbon Strategy and the EU's structural productivity problem", *DG ECFIN, Economic Papers* No 221.
Duchêne and Hassan (2005), "Key Figures 2005 on Science, Technology and Innovation -Towards a European Knowledge Area", European Commission.

124 OECD (2003), "ICT and Economic Growth, evidence from OECD countries, industries and firms".

125 Brynjofsson and Hitt, (2000), "Beyond Computation: Information Technology, Organizational Transformation and Business Performance", *Journal of Economic Perspectives*, 14(4) pp. 23-48. These authors suggest that USD 1 of ICT investment may be associated with USD 9 of investment in intangible assets, such as skills and organisational changes.

126 It takes time to build networks that are sufficiently large to have an effect on the economy. In this respect, the US may have benefited from ICT investment ahead of other OECD countries.

127 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – *Joint Report on Social Protection and Social Inclusion*, SEC (2005).

In a rapidly changing world, social protection systems need to be responsive to wider social and cultural trends, such as those resulting from demographic, economic and socio-cultural factors. The rapid ageing of EU societies, resulting from the combination of declining birth rates and the rise in life expectancy, poses a major challenge to the sustainability of social protection systems, notably with regard to healthcare and maintenance of adequate income levels. The interaction of these factors is producing a dramatic change in the size and age composition of Europe's population[128]. With unchanged policies, it is estimated that the impact of ageing will, on the one hand, reduce the potential growth rate of the EU from the present 2-2.25% per year to around 1.25% by 2040[129] and, on the other, bring about a dramatic increase in pension and healthcare spending, varying from 4 to 8 percentage points of GDP[130]. Moreover, enlargement has made the financial needs related to EU cohesion more pronounced. Higher net migration flows into the EU could help address the imbalance arising from demographic changes, offsetting labour supply shortages and improving the financial sustainability of pension systems, provided that the necessary conditions for the integration of immigrants into the formal labour market, as well as their economic and social integration, are put in place.

In order to meet these challenges, social systems need to be modernised. Existing social protection systems have mostly been devised in times of near full employment and favourable demographic conditions. The political challenge now is to offer citizens a credible "new deal" that allows for an optimal balance between, on the one hand, security and solidarity, and, on the other, an adequate level of flexibility[131].

As regards the strengthening of social cohesion and inclusion, progress is difficult to assess (as is the case for quality in work) due to lack of data. The available data on poverty and social exclusion only cover a limited time span and do not address the situation of the most exposed groups, especially immigrants, ethnic minorities, people with disabilities, the homeless, and other risk groups, although this situation will improve in the future following recent investment in statistical capacity-building[132]. Moreover, the available indicators can be difficult to interpret at EU level as they are typically designed to reflect the specific national situations.

Harmonised data on income, poverty and social exclusion are only available for EU-15 Member States since the mid-1990s. Following enlargement and during the transition to a new data source, information is being compiled from the best available national sources. Data on social cohesion and inclusion are usually derived from surveys on private households (as for labour market data), hence they cannot reflect the situation of certain highly vulnerable groups such as the homeless and persons in institutionalised care. In addition, sample size issues may restrict the robustness of data concerning immigrants, ethnic minorities and other risk groups. Ideally, social cohesion should be seen in a broad context: having a low income may not necessarily imply having low living standards (e.g. assistance from family), and there are aspects of social inclusion which cannot be measured in monetary terms.

The following discussion assesses progress in strengthening social cohesion and inclusion in a number of specific areas, notably income distribution and the risk of poverty, gender equality, people at a disadvantage in the labour market, and regional labour market disparities.

3.4.1. Income distribution and the risk of poverty

In the EU-15 between 1995 and 2001, the risk-of-poverty rate[133] hovered at around 15 percent, although there is some evidence of an increase in living standards over the period when anchoring the risk-of-poverty threshold at a point in time and comparing that to current incomes[134]. There is now a risk that the 2001-2003 economic slowdown, accompanied by rising unemployment and fewer job opportunities, will put more people at risk of poverty and social exclusion and worsen the position of those who are already affected. The challenge is even greater in many of the new Member States, where economic restructuring requires appropriate social poli-

128 *Facing the Challenge – The Lisbon strategy for growth and employment* (2004), Report from the High Level group chaired by Wim Kok.

129 "The EU economy: 2002 review", European Economy No 6/2002, pp. 192.

130 "The impact of ageing populations on public finances", EPC/ECFIN/407/04 2003.

131 "Commission Staff Working Document in support of the report from the Commission to the Spring European Council, 22-23 March 2005, on the Lisbon Strategy of economic, social and environmental renewal", SEC (2005) 160.

132 For example, the launch of data collection under the EU-SILC regulation No 1177/2003.

133 The risk-of-poverty rate measures the share of the population (as a percentage) living in households with a disposable income below 60% of the national median. The EU aggregate is computed as a population-weighted average of national values. This is therefore a relative concept, depending on national poverty thresholds.

134 Such risk-of-poverty rate decreased from 15% in 1998 to 12% in 2001.

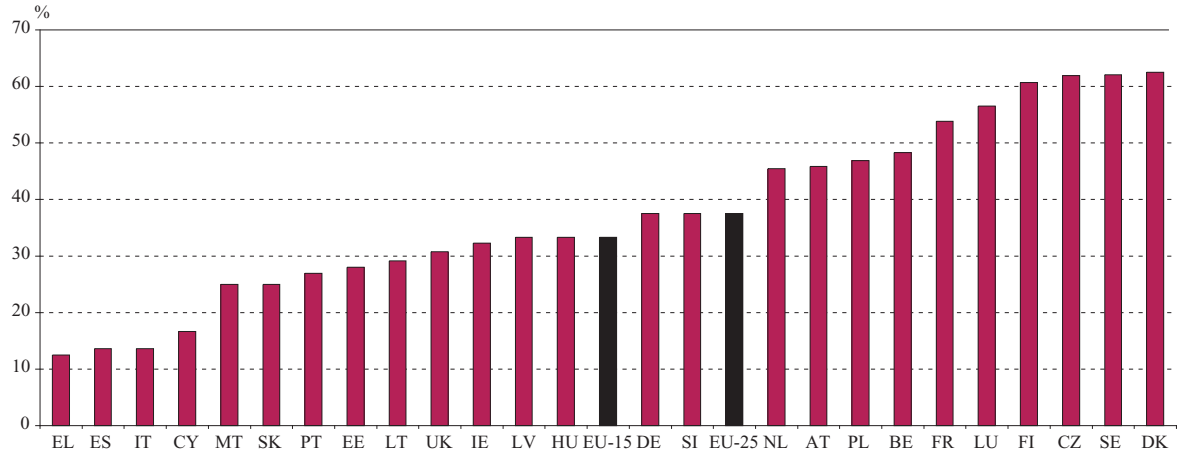
Table 40 – Selected measures of monetary poverty and social exclusion in 2003 (or the latest year for which data are available)

	Gini coefficient	Risk of poverty rate before social transfers (a)	Risk of poverty rate after social transfers	Risk of poverty rate after social transfers		GDP per capita (c)
				Employed	Unemployed	
BE	28.0	29.0	15.0	4.0	32.0	117.7
CZ	25.0	21.0	8.0	NA	NA	68.7
DK	25.0	32.0	12.0	NA	NA	122.0
DE	28.0	24.0	15.0	4.0	37.0	108.0
EE	34.0	25.0	18.0	NA	NA	48.7
EL	35.0	24.0	21.0	12.0	39.0	81.0
ES	31.0	22.0	19.0	10.0	37.0	97.7
FR	27.0	26.0	12.0	8.0	31.0	110.9
IE	30.0	31.0	21.0	7.0	54.0	132.4
IT	29.0	22.0	19.0	10.0	51.0	106.8
CY	27.0	18.0	15.0	NA	NA	81.3
LV	34.0	24.0	16.0	NA	NA	41.0
LT	30.0	24.0	17.0	NA	NA	45.8
LU	28.0	23.0	10.0	8.0	48.0	214.6
HU	24.0	15.0	10.0	NA	NA	60.5
MT	30.0	20.0	15.0	NA	NA	73.0
NL	28.0	22.0	12.0	8.0	18.0	120.9
AT	27.0	24.0	13.0	6.0	23.0	121.9
PL	31.0	32.0	17.0	NA	NA	45.9
PT	37.0	26.0	19.0	12.0	38.0	74.7
SI	22.0	16.0	10.0	NA	NA	76.7
SK	31.0	28.0	21.0	NA	NA	52.3
FI	26.0	28.0	11.0	5.0	31.0	113.6
SE	23.0	29.0	11.0	NA	NA	115.2
UK	35.0	26.0	18.0	6.0	54.0	119.1
EU-25	**29.0**	**24.0**	**15.0**	**NA**	**NA**	**100.0**
EU-15	**30.0**	**24.0**	**16.0**	**7.0**	**39.0**	**109.2**
EU-10 (b)	**28.0**	**NA**	**15.0**	**NA**	**NA**	**52.7**

Source: Eurostat, Income and Living Conditions Statistics, and DG ECFIN Ameco.
Note: Data for 2003 except 2002 (FR, LV, LT, HU, NL, PL, SI, SE, EU-10), 2001 (IT, PT, EU-25, EU-15), 2000 (MT). (a) Risk-of-poverty rate: the share of persons with an equivalised disposable income below 60% of the national median equivalised disposable income. This share is calculated before social transfers (original income including pensions but excluding all other social transfers) and after social transfers (total income). (b) CZ, EE, CY, LV, LT, HU, MT, PL, SI ,SK. (c) Gross domestic product at current market prices per head of population (PPS; EU-25=100).

Chart 84 – Impact of social transfers (other than pensions) in the reduction of the risk-of-poverty rate

In percentage of the poverty rate before transfers for 2003 or the latest year available



Source: Eurostat.

cies to limit the number of people at risk of poverty.

In an enlarged EU where some of the new Member States have income levels below half of the average for the EU-15, differences in economic circumstances have clearly widened (table 40). Although average income levels in new Member States are considerably below the average for the EU-15, due to the relative nature of the indicators employed, there is no evidence of any significant difference in income inequality or risk of poverty between new and old Member States. Using either the poverty rate or the Gini[135] coefficient, there are apparently no significant differences between new and old Member States. In the EU, the poverty rate ranges from a minimum of 8% in the Czech Republic to a maximum of 21% in Greece, Ireland and Slovakia.

As evidenced in table 40, social transfers (other than pensions) play a major role in reducing income inequalities, significantly reducing the average poverty rate in the EU by about 9 percentage points (or about one third of the poverty rate before transfers). However, there are large differences in the social transfer systems as regards their ability to reduce the poverty risk (chart 84). In "southern" Member States, social transfers reduce the poverty risk by less than 30 percent (EL, ES, IT, MT, CY and PT), while in other countries they cut the poverty rate by more than 50 percent (FR, LU, FI, CZ, SE and DK). This may in part be due to a greater focus placed in "southern" countries on care in the family/community than on institutionalised care arrangements provided by public authorities.

As shown in table 40, moving from unemployment into employment lowers considerably the likelihood of being exposed to the risk of poverty. This is particularly true for persons living in households where the work intensity of other members is low. Employment is a key factor for social inclusion, not only because it raises income but also because it can promote social inclusion *per se* and personal development/advancement in a professional career. Employment also contributes to maintaining adequate living standards in old age through the accrual of entitlement to pension benefits.

3.4.2. Gender equality

According to the Employment Guideline[136] on gender equality: *Member States will, through an integrated approach combining gender mainstreaming and specific policy actions, encourage female labour market participation and achieve a substantial*

135 The Gini coefficient is a measure of inequality in the distribution of income. It is half the absolute mean difference in incomes between each pair of individuals, relative to mean income. Plotting a Lorenz curve gives it an intuitive graphical interpretation ("Microeconomic Theory", Layard and Walters, pp. 49).

136 Specifically, the sixth Employment Guideline for 2003-2005.

Table 41 – Gender gaps

		1997	1998	1999	2000	2001	2002	2003	2004
EU-15	Employment rate gap (a)	19.8	19.6	19.1	18.7	18.1	17.2	16.7	15.9
	Unemployment rate gap (a)	-3.4	-3.4	-3.2	-2.9	-2.6	-2.3	-2.2	-2.2
	Pay gap (b)	16.0	16.0	15.0	16.0	16.0	16.0	16.0	NA
EU-25	Employment rate gap (a)	19.1	18.8	18.1	17.6	17.0	16.3	15.8	15.2
	Unemployment rate gap (a)	NA	-3.3	-3.1	-2.9	-2.6	-2.3	-2.2	-2.1
	Pay gap (b)	16.0	17.0	16.0	16.0	16.0	16.0	15.0	NA

Source: Eurostat, Structural Indicators.
Note: (a) Difference between men's and women's rates; (b) Difference between men's and women's average gross hourly earnings as a percentage of men's gross hourly earnings.

reduction in gender gaps in employment rates, unemployment rates and pay by 2010.

Table 41 suggests that since the launch of the EES in 1997 some progress has been achieved in reducing both the employment and unemployment rate gender gaps, but that no progress has been made in reducing the (unadjusted) gender pay gap[137]. Progress in reducing the employment rate gap is likely to be related (at least in part) to the trend for higher female labour force participation, and the impact of active labour market policies.

An unemployment gap equation – defined as the difference between the female and the total unemployment rates – is estimated for the EU-15[138] over the period 1985-2004 (for more details see Annex II). The results suggest that: i) the gap between female and total unemployment rates is countercyclical; and ii) this gap has narrowed significantly since the beginning of the EES.

3.4.3. Long-term unemployment

Long-term unemployment[139] is a particular concern of the EES due to the evidence linking it to a number of problems such as social exclusion, poverty and low productivity growth (or poverty traps). In the Employment Guidelines[140], Member States are asked to ensure that: i) *every unemployed person is offered a new start before reaching […] 12 months of unemployment in the case of adults in the form of training, retraining, work practice, or other employability measure, combined where appropriate with ongoing job search assistance;* ii) *by 2010, 25% of the long-term unemployed participate in an active measure […], with the aim of achieving the average of the three most advanced Member States*.

In the EU-15, despite the economic slowdown of 2001-2003, significant progress has been achieved in reducing the long-term unemployment rate since the onset of the EES (table 42 and chart 70). Among all Member States, some have been particularly successful in reducing it by more than 2 percentage points, notably ES, IE, IT, LV, HU, and FI. In some Member States, notably SK and PL, the long-term unemployment rate is above 10% and has increased since 1999. Rates are also above the EU-25 average in DE, EE, EL, LT and LV.

Developments in the long-term unemployment gap – defined as the difference between the total and the long-term unemployment rates – for the EU-15 in the period 1985-2004 suggest that: i) the gap between the total and the long-term unemployment rates is likely to be countercyclical; and ii) this gap has narrowed significantly since the onset of the EES.

3.4.4. Youth unemployment

Although no specific employment rate target is set for younger workers in the EU, issues related to youth unemployment[141] are specifically addressed by a number of Employment Guidelines[142]:

137 The unadjusted gender pay gap does not use econometric techniques to correct for differences due to factors such as age, experience, education or occupation.
138 EU15, excluding Luxembourg.
139 Unemployed for 12 months or more.
140 Specifically, the first Employment Guideline for 2003-2005.
141 Between 15 and 24 years old.
142 Specifically, the first, fourth and seventh Employment Guidelines for 2003-2005.

Table 42 – Long-term unemployment rate

		1997	1998	1999	2000	2001	2002	2003	2004
EU-15	M+F	4.8	4.4	3.9	3.4	3.1	3.1	3.3	3.4
	F	5.9	5.4	4.8	4.2	3.8	3.7	3.9	4.0
	M	4.0	3.6	3.2	2.8	2.5	2.6	2.8	3.0
EU-25	M+F	5.0	4.5	4.1	3.9	3.8	3.9	4.0	4.1
	F	6.1	5.5	5.0	4.8	4.6	4.6	4.7	4.7
	M	4.1	3.6	3.4	3.3	3.2	3.3	3.5	3.6

Source: Eurostat.

Table 43 – Youth unemployment rate

		1997	1998	1999	2000	2001	2002	2003	2004
EU-15	M+F	20.6	19.0	17.1	15.3	15.1	15.6	16.3	16.6
	F	23.0	21.3	19.3	17.1	16.8	16.7	16.9	17.3
	M	18.4	17.0	15.2	13.7	13.6	14.7	15.9	16.0
EU-25	M+F	NA	19.4	18.4	17.4	17.6	18.1	18.6	18.7
	F	NA	21.6	20.3	19.0	19.2	19.1	19.2	19.3
	M	NA	17.6	16.8	16.0	16.3	17.3	18.2	18.1

Source: Eurostat.

Table 44 – Early school-leavers (percentage of the total population aged 18-24 with at most lower secondary education and not in further education or training)

		1997	1998	1999	2000	2001	2002	2003	2004
EU-15	M+F	20.6	NA	20.5	19.4	18.9	18.6	18.3	17.8
	F	22.7	NA	22.6	21.7	21.3	21.1	20.4	20.4
	M	18.7	NA	18.5	17.1	16.6	16.2	16.1	15.3
EU-25	M+F	NA	NA	NA	17.3	16.9	16.6	16.1	15.7
	F	NA	NA	NA	19.4	19.1	18.9	18.1	18.1
	M	NA	NA	NA	15.2	14.7	14.3	14.1	13.3

Source: Eurostat.

i) *Member States will ensure that every unemployed person is offered a new start before reaching six months of unemployment in the case of young people […];* ii) *by 2010, at least 85% of 22-year olds in the European Union should have completed upper secondary education*; and iii) *policies will aim to achieve by 2010 an EU average rate of no more than 10% early school leavers*.

In the EU-15, despite the economic slowdown of 2001-2003, limited progress has been achieved in reducing the youth unemployment rate since the onset of the EES (table 43). As with many labour market variables, youth unemployment has a marked gender dimension. Although a positive gap still persists between the male and female youth unemployment rates, it has narrowed considerably in recent years. Among all Member States, some have been particularly successful in bringing down the total youth unemployment rate by more than 3 percentage points, notably ES, IE, IT, LT, LV, and HU. Rates are above the EU-25 average in twelve Member States[143].

Developments in the youth unemployment gap – defined as the difference between youth and total unemployment rates – for the EU-15 in the period 1985-2004 suggest that: i) the gap between youth and total unemployment rates is countercyclical; and ii) this gap has narrowed significantly since the onset of the EES.

3.4.5. People at a disadvantage in the labour market

Under the Employment Guidelines[144], Member States are asked to *foster the integration of people facing particular difficulties on the labour market, such as early school leavers, low-skilled workers, people with disabilities, immigrants, and ethnic minorities, by developing their employability, increasing job opportunities and preventing all forms of discrimination against them*.

143 BE, CZ, EE, EL, ES, FR, IT, LT, MT, PL, SK and FI.

144 Specifically, the seventh Employment Guideline for 2003-2005.

Table 45 – Unemployment rates per nationality (aged 15-64)

			1998	2001	2003	2004
EU-15	**non-nat.**	women	21.9	16.0	17.0	17.9
		men	20.0	15.2	17.2	17.3
	nat.	women	11.1	7.6	8.2	8.7
		men	8.4	5.9	7.1	7.5
EU-25	**non-nat.**	women	NA	14.6	16.8	17.8
		men	NA	14.2	16.9	17.1
	nat.	women	NA	7.9	8.4	9.9
		men	NA	6.4	7.3	8.7

Source: Eurostat.
Note: Nat.: EU Nationals; Non-Nat.: non-EU Nationals (EU-15).
Annual values are an unweighted average of the available quarterly data.

Table 46 – Employment rates per nationality (aged 15-64)

			1998	2001	2003	2004
EU-15	**non-nat.**	women	35.3	41.0	43.3	43.1
		men	59.9	64.9	64.1	64.5
	nat.	women	54.8	58.2	59.3	59.5
		men	72.3	74.2	73.6	73.2
EU-25	**non-nat.**	women	NA	43.5	44.1	43.5
		men	NA	65.3	64.3	64.6
	nat.	women	NA	57.8	58.8	57.5
		men	NA	73.4	73.0	70.9

Source: Eurostat.
Note: Nat.: EU Nationals; Non-Nat.: non-EU Nationals (EU-15).
Annual values are an unweighted average of the available quarterly data.

In this context, a number of objectives were set for 2010, notably: a) a reduction in the average rate of early school-leavers to less than 10%; and b) a significant narrowing of the unemployment gaps for people at a disadvantage and between non-EU and EU nationals.

As regards the proportion of early school-leavers (table 44), progress has been achieved in recent years. In 2004 the proportion of early school-leavers declined to 17.8% and 15.7% in the EU-15 and the EU-25, respectively. The pace of progress in recent years suggests that, if continued, it will reduce the average for the EU-25 to less than 10% by 2010. However, a number of Member States such as ES, IT, MT, and PT have much further to go in terms of progress towards this target. It is interesting to note that in all EU Member States there are lower proportions of women early school-leavers than men. On average in the EU, this gender gap (in favour of women) widened somewhat between 1997 and 2004.

Non-EU nationals[145] have higher unemployment rates than national citizens (table 45). Although the available data cover only a limited number of years, they suggest a somewhat gradual narrowing of the differentials between nationals and non-nationals. A breakdown of employment rates by nationality confirms the relative disadvantaged situation for non-nationals (table 46).

3.4.6. Regional labour market disparities

Under the Employment Guidelines[146], *Member States should implement a broad approach towards reducing regional employment and unemployment disparities*. In this respect, *Member States will: i) promote favourable conditions for private sector activity and investment in regions lagging behind; ii) ensure that public support in regions lagging behind is focused on investment in human capital and knowledge capital, as well as adequate infrastructure*.

In the period 1999 to 2003, modest progress was achieved in reducing the dispersion of regional employment rates (table 47) and of regional unemployment rates (table 48). As regards the former indicator, this basically reflects a fall in the female component.

145 Non-nationals of the EU15.
146 Specifically, the tenth Employment Guideline for 2003-2005.

Table 47 – Dispersion of regional employment rates (a)

		1999	2000	2001	2002	2003
EU-15	M+F	14.1	13.5	13.2	12.6	12.0
	M	8.9	8.6	8.6	8.3	8.2
	F	22.8	21.8	21.1	20.2	19.2
EU-25	M+F	13.4	13.5	13.6	13.5	13.0
	M	9.4	9.9	10.4	10.6	10.4
	F	21.1	20.6	20.1	19.6	18.8

Source: Eurostat.
Note: (a) Coefficient of variation of employment rates (aged 15-64) across regions (NUTS 2 level) in the EU.

Table 48 – Dispersion of regional unemployment rates (a)

	1999	2000	2001	2002	2003
EU-15	59.1	63.9	65.0	60.2	56.0
EU-25	55.1	61.5	66.1	64.0	59.8

Source: Eurostat.
Note: (a) Coefficient of variation of unemployment rates (aged 15-64) across regions (NUTS 2 level) in the EU.

4. Summary and Conclusions

This chapter takes stock of the European Employment Strategy (EES) launched in November 1997[147]. The main purpose of the EES is *the promotion of more and better jobs.* For this, it sets many objectives (some of them quantified), which are grouped under three main headings: i) full employment; ii) quality and productivity at work; and iii) strengthening social cohesion and inclusion.

However, two notes of caution are necessary. Firstly, the identification of causal relationships, linking policy measures adopted under the EES and labour market/social outcomes, is particularly challenging, not only because of the natural complexity of the problem (e.g. the varying time lags involved and the possible effects of the position in the economic cycle), but also because the 1990s witnessed a series of significant changes in Europe with a potentially large impact on labour markets. Secondly, the analysis carried out in this chapter is basically a backward looking exercise, as it ignores the introduction of (labour market) reforms, particularly in Germany. These reforms are expected to put the EU economy in a better position to take full advantage of the next economic upswing, especially as regards employment creation.

As regards taking stock of the full employment objective of the EES, the analysis made in this chapter strongly suggests that structural improvements have indeed occurred in recent years, although problems remain in a number of areas. Such a view is in line with an emerging consensus, which is based on ample evidence, pointing to structural improvements across the board in EU labour markets.

As regards the overarching objective of "**full employment**" the following points can be made:

- Although, estimated structural unemployment rates have declined on average across the EU, insufficient or no progress was recorded in some of the largest EU Member States (France and Germany), while a marked deterioration occurred in some new Member States (Poland and Slovakia).
- Lower long-term unemployment rates and shorter average spells in unemployment were observed, particularly in the EU-15.
- An increased efficiency in matching between the unemployed and unfilled vacancies has been seen in a number of EU Member States, according to analyses based on the Beveridge Curve.
- The sustained increase in profitability during the 1990s, the general favouring of stability-oriented

147 This assessment is carried out under the Employment Guideline approved by the Council in 2003 for the period 2003-2005 (OJ L197/13). On 12 April 2005, the Commission published its recommendation for Integrated Guidelines for Growth and Jobs for the period 2005-2008. The new set of integrated guidelines was approved at the European Council of June 2005, leading to the Council Decisions of 12 July 2005 on guidelines for employment policies of Member States (OJ L205/21), and on the broad guidelines for economic policies of the Member States and the Community (OJ L205/28).

macroeconomic policies and the introduction of structural reforms in a number of areas such as competition policy and labour markets have all contributed to an improvement in the functioning of labour markets, which is beginning to bring benefits, particularly since 1997.

- There is the econometric finding of a positive break in the level of aggregate labour demand functions in many EU Member States (but not all) around 1997[148].

- There is statistical evidence indicating that the development of certain types of labour contracts, namely part-time and temporary work, is positively correlated with employment creation and rises in employment rates. As regards temporary work, however, there is also evidence of market segmentation between temporary and permanent workers.

- Expenditure on active labour market policies has been increased and better targeted to the needs of the labour market, with positive results for example in employment creation.

- According to a range of indicators, such as labour tax wedges and unemployment and inactivity traps, little progress has been achieved in lowering marginal effective tax rates on low wages or on facilitating the transition from unemployment/inactivity to employment. However, a decline in tax wedges seems to have contributed somewhat to employment creation in a limited number of Member States in the late 1990s[149].

With respect to the overarching objective of "**quality and productivity at work**", the situation is complex, but the following observations can be made:

- Quality is a multidimensional concept. There have been significant rises in participation in lifelong learning and youth education attainment levels continue to rise, with (for the latter indicator) a gender gap favourable to women emerging. Further progress is necessary as regards transitions, because the transition probabilities both from a temporary to a permanent job and out of low-paid employment are relatively low.

- With respect to productivity developments, there has been a decline in EU productivity growth rates since the mid-1990s, which can be attributed to the creation of low-productivity jobs and a slowdown in total factor productivity growth. The pace of creation and absorption of new technologies decelerated, which according to some authors largely reflects insufficient outlays on organisational change.

With respect to the overarching objective of "**strengthening social cohesion and inclusion**", some limited improvements have been achieved, including the following:

- Gender and age labour market gaps have been somewhat reduced.

- The data suggest that social transfers (other than pensions) play a major role in reducing income inequalities, significantly reducing poverty rates in many Member States.

- The data also show that moving from unemployment to employment lowers considerably the likelihood of being exposed to the risk of poverty. Employment is a key factor for social inclusion, not only because it raises income but also because it can promote social inclusion *per se* and personal advancement in a professional career.

148 This break corresponds to an upward shift in the level of the long-term employment relationship, which results in higher but temporary employment growth rates until the new long-term equilibrium is reached.

149 IE, NL and ES, and possibly also in BE and FR.

Box 6 – Special Focus on Information and Communications Technologies (ICT), Organisational change and Productivity

ICT diffusion in Europe and the United States: explanation of the productivity growth gap?

The remarkable acceleration in labour productivity and total factor productivity growth in the United States since the mid 1990s has been widely discussed in recent years. A general consensus has emerged that this acceleration can largely be attributed to information and communication technology (ICT) (Denis, Mc Morrow, Röger, 2005 ; Gordon, 2004; Jorgenson, Ho and Stiroh, 2004; Nordhaus, 2005), suggesting that the "Solow paradox" ("we see computers everywhere but in the productivity statistics") has been largely resolved.

Empirical studies at aggregate, industry and firm levels all point to three main channels linking ICT and productivity (OECD, 2003; Pilat, 2004).

Capital deepening

Investment in ICT can contribute to capital deepening by adding to the stock of capital that is available for workers and consequently helps raise labour productivity and growth (*e.g.* Colecchia and Schreyer, 2001; Schreyer, Bignon and Dupont, 2003; Timmer, Ypma and Van Ark, 2003; Van Ark, Melka, Mulder, Timmer and Ypma, 2003).

ICT investment accounted for between 0.3 to 1.0 percent of average annual GDP growth during 1995-2002 in EU countries (for which data are available) and the United States. Sweden, the United States, Denmark and Belgium had the largest contributions of ICT investment to GDP growth, while France, Germany and Italy lagged behind (Chart 85).

Increased productivity in ICT-producing sectors

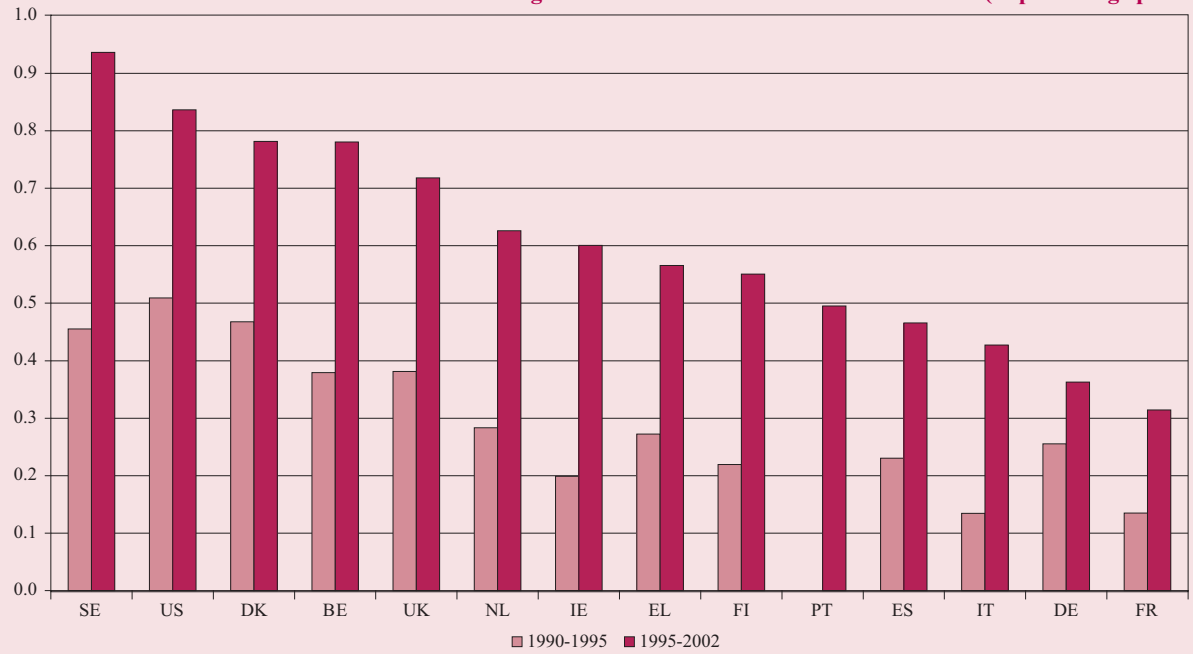
The contribution of ICT producing manufacturing to labour productivity growth in the 1990s increased substantially (e.g. Pilat and Wölfl, 2004; Van Ark, Inklaar and McGuckin, 2002). This reflects in part the growing share of the ICT manufacturing sector in total manufacturing, but also the increased rate of technical change in the production of some ICT goods. ICT producing manufacturing made the largest contributions to labour productivity growth in Ireland, Finland, Sweden and the United States during the period 1996-2002. Its role was more limited in Luxembourg, Spain, Italy and the Netherlands (Table 49).

ICT producing services contributed to labour productivity growth in the 1990s, although to a lesser extent than ICT producing manufacturing. ICT producing services increased labour productivity growth in several countries, such as Germany, Finland and Luxembourg (Table 49). The contribution of ICT producing services mainly reflects the liberalisation of the telecommunications sector and the rapid expansion of the computer services industry.

Increased productivity in the ICT-using sector

The impact of ICT is not limited to ICT producing sectors, but also involves the

Chart 85 – Contribution of ICT investment to GDP growth in selected EU countries and the US (in percentage points)



Source: OECD Productivity Database, September 2004, [www.oecd.org/statistics/productivity].
Note: 1995-2002 for France, Germany and the United States; 1995-2001 for other countries.

Box 6 (cont.) – Special Focus on Information and Communications Technologies (ICT), Organisational change and Productivity

ICT using sector (Pilat and Wölfl *op. cit.*; Triplett and Bosworth, 2004; Van Ark, Inklaar and McGuckin *op. cit.*; Van Ark *op. cit.*). Some estimates emphasise the dramatic increase in the contribution of the ICT using sector to labour productivity growth in the United States in the 1990s, while its contribution remained quite subdued in many EU Member States, such as Luxembourg, France, Spain, Germany and Italy (Table 49).

The results of some of these studies also show that Europe lags behind the United States in terms of labour productivity growth, especially in ICT using services. The performance of the United States in ICT using services seems to be mainly linked to a major acceleration in labour productivity and output growth in distribution (retail and wholesale trade) and financial services (Table 50).

Organisational change: the missing link in Europe?

Although there are large differences across countries in terms of ICT diffusion, the reviewed literature shows that Europe has enjoyed fewer benefits from ICT than the United States.

The slow ICT diffusion and productivity growth in many countries in recent years may be due to the insufficient response of firms in introducing the organisational changes necessary to cope with a rapidly changing business environment (Askenazy and Gianella, 2000; Lundvall, 2004). There is growing evidence that maximisation of the productivity gains resulting from ICT effectively requires changes in workplace organisation (Brynjolfsson and Hitt, 2000; Arnal, Ok and Torres, 2001; OECD *op. cit.*).

However, the importance of organisational aspects should not lead to an underestimation of the role played by other factors, such as the costs of ICT investment, firms' ability to absorb knowledge (avail-

Table 49 – Sectoral contributions to labour productivity growth in selected EU countries and the US (percentage points)

	Total economy		ICT-producing manufacturing		ICT-producing services		ICT-using services	
	1990-1995	1996-2002	1990-1995	1996-2002	1990-1995	1996-2002	1990-1995	1996-2002
AT	2.32	1.73	0.12	0.11	0.15	0.13	0.59	0.51
BE	1.90	0.78	0.03	0.13	0.12	0.05	0.47	0.17
DK	1.99	1.45	0.09	0.09	0.27	0.13	0.18	0.37
FI	2.65	2.02	0.20	0.82	0.13	0.36	0.10	0.22
FR	1.13	1.00	0.20	0.21	0.02	0.14	0.01	-0.17
DE	2.11	1.38	0.17	0.09	0.18	0.46	0.17	0.12
IE	2.39	3.76	0.43	0.89	0.10	0.28	0.15	0.73
IT	2.83	0.56	0.09	0.02	0.12	0.20	0.88	0.14
LU	2.08	0.51	-0.03	-0.01	0.74	0.32	1.13	-0.20
NL	0.63	0.77	0.10	0.03	0.09	0.17	0.25	0.28
ES	1.22	0.28	0.14	0.01	0.09	0.16	-0.17	-0.03
SE	2.95	2.67	0.27	0.51	0.24	0.22	0.45	0.60
UK	2.20	1.08	0.19	0.12	0.18	0.24	0.37	0.85
US	1.12	1.74	0.33	0.45	0.14	0.16	0.24	1.29

Source: Pilat and Wölfl (2004) based on STAN database.
Note: ICT-producing manufacturing covers ISIC Rev3 30-33; ICT-producing services cover ISIC Rev3 64+72; ICT-using services cover ISIC Rev3 71-74.
1991-95 for Germany; 1992-95 for France and Italy; 1996-98 for Sweden; 1996-99 for Spain; 1996-2000 for Ireland; 1996 2001 for France, United Kingdom and United States.

Box 6 (cont.) – Special Focus on Information and Communications Technologies (ICT), Organisational change and Productivity

ability of human capital, experience with other innovations), the nature of the businesses and the regulatory environment. The latter factor can play an important role in reducing firms' incentives to introduce new organisational practices.

Changes in workplace organisation and productivity

Since the mid-1980s, an increasing number of firms have introduced new work practices in order to better cope with a more competitive economic environment (Arnal, Ok and Torres *op. cit*).

These new work practices take many forms, including the restructuring of production processes (e.g. just in time, lean production), management systems and employee involvement schemes (e.g. teamwork, flexible work arrangements, flexible compensation systems), and external re-organisation (e.g. outsourcing) (Murphy, 2002).

A number of studies have highlighted the favourable impact of organisational changes on firms' performance (e.g. Cappelli and Neumark, 1999; Eriksson, 2003). Two main reasons that can be advanced to explain this positive relationship are as follows:

- Organisational changes may improve the overall efficiency of firms in combining labour and physical capital;
- Organisational changes may contribute to productivity growth via their synergies with ICT.

Empirical evidence for the link between ICT, organisational changes and firm performance

A number of studies have related changes in the organisation of work to the introduction of ICT in the workplace, following the seminal contribution of Milgrom and Roberts (1990).

For the United States, Bresnahan, Brynjolfsson and Hitt (2002), using panel data for large firms in the manufacturing and services sectors, found evidence of complementarities among ICT, workplace organisation, and the launch of new products and services. Black and Lynch (2000*a*), examining a sample of US establishments, found that firms that re-engineer their workplaces to incorporate more high performance practices (e.g. profit sharing, greater teamwork) experience higher productivity compared to those that have kept more traditional practices. In a subsequent study, these authors, analysing the impact of workplace practices, information technology and human capital on productivity, found that unionised establishments that have adopted new industrial relations practices that promote joint decision making have higher productivity than other similar non union plants (Black and Lynch 2000*b*).

For a number of EU Member States, evidence is also available regarding the link between ICT, organisational change and firm performance. For Finland, Maliranta and Rouviren (2004) found that organisational change has a significant impact on productivity gains. In the case of Germany, Bertschek and Kaiser (2004) suggest that workplace reorganisation

Table 50 – Average annual growth rates of hourly labour productivity in the ICT and non-ICT industries of the EU-15 and the US

	1979-1995		1995-2002	
	EU-15	US	EU-15	US
Total Economy	**2.3**	**1.2**	**1.8**	**2.5**
ICT Producing Industries	**6.8**	**7.2**	**8.6**	**9.3**
ICT Producing Manufacturing	11.6	15.1	16.2	23.5
ICT Producing Services	4.4	2.4	5.9	2.7
ICT Using Industries	**2.3**	**1.6**	**1.8**	**4.9**
ICT Using Manufacturing	2.7	0.8	2	2.6
ICT Using Services	2	1.9	1.7	5.3
of which:				
Wholesale Trade	2.4	3.5	1.5	8.1
Retail Trade	1.7	2.4	1.5	7.1
Financial Services	1.9	1.5	2.3	5
ICT-intensive Business Services	0.8	-0.9	0.6	0.7
Non-ICT Industries	**1.9**	**0.4**	**1.1**	**0.2**
Non-ICT Manufacturing	3.2	2.3	2.1	1.2
Non-ICT Services	0.8	-0.3	0.5	0.2
Non-ICT Other	3.4	1.4	2.1	0.4

Source: Van Ark (2005) based the Groningen Growth and Development Centre, 60-industry Database.
Note: Total economy excludes real estate.

Box 6 (cont.) – Special Focus on Information and Communications Technologies (ICT), Organisational change and Productivity

(i.e. enhancement of group work and flattening of the hierarchy) in business-related services increases labour productivity. For France, Guellec and Greenan (1998) showed that the use of advanced technologies and the skill base are positively correlated to organisational aspects. In addition, firms that introduce organisational changes are more able to adjust to changing market conditions through technological innovation. For the Netherlands, Broersma and McGuckin (2000) found that computer investments have a positive impact on productivity in the wholesale and retail trade sectors.

Conclusions and implications

Since the mid 1990s, labour productivity developments in Europe *vis-à-vis* the United States have raised concerns. There is a general consensus that the New Economy has largely driven the upsurge in labour and total factor productivity growth in recent years in the United States. Conversely, Europe has benefited less from ICT. Moreover, evidence shows that a large ICT producing sector does not seem to be a prerequisite to obtain the full benefits of ICT, since the major contribution to aggregate productivity at industry level comes from the ICT-using sector, especially ICT using services.

However, ICT *alone* is not enough to raise productivity growth. ICT use requires complementary investments, especially in intangible assets. More specifically, the introduction of new work practices in the workplace, often associated with changes in the skill bases of firms, appear to be paramount in order to optimise the return from ICT investment. The critical importance of such organisational changes, and more generally, in the context of ICT, the concept of adaptability, is corroborated by several historical studies on the introduction and diffusion of general purpose technologies (e.g. David, 1990).

As a consequence, policies aiming at facilitating the uptake of ICT in Europe, as mentioned in the *Integrated Guidelines for Growth and Jobs* (2005-2008) *op. cit.*, should go hand in hand with those aiming to improve the adaptability of workers and enterprises. Such objective has also been recently stressed in the framework of Commission initiative "i2010: European Information Society 2010".

References

Arnal E., W. Ok and R. Torres, (2001), "Knowledge, Work Organisation and Economic Growth", *Labour Market and Social Policy – OECD Occasional Papers*, No. 50

Askenazy P. and C. Gianella, (2000), "Le paradoxe de la productivité: les changements organisationnels facteur complémentaire à l'informatisation ", *Economie et Statistiques*, No. 339-340, pp. 219-241

Bertschek I. and U. Kaiser, (2003), "Productivity Effects of Organizational Change: Microeconometric evidence", *Management Science,* vol. 50(3), pp. 394-404

Black S. and L. Lynch, (2000*a*), "What's driving the new economy: the benefits of workplace innovation", *NBER Working Paper*, No. 7479

Black S. and L. Lynch, (2000*b*), "How to Compete: The Impact of Workplace Practices and Information Technology on Productivity", *NBER Working Paper*, No. 6120

Bresnahan T., E. Brynjolfsson and L. Hitt, (2002), "Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence", February, *The Quaterly Journal of Economics*, pp. 339-376

Broersma L. and R. McGuckin, (2000), "The Impact of Computers on Productivity in the Trade Sector: Explorations with Dutch Microdata", *Research Memorandum*, GD-56, Groningen Growth and Development Centre

Brynjolfsson E. and L. Hitt, (2000), "Beyond computation: information technology, organizational transformation and business performance", *Journal of Economic Perspectives*, vol. 14, pp. 23-48

Cappelli P. and D. Neumark, (1999), "Do 'High Performance' Work Practices Improve Establishment-Level Outcomes?", *NBER Working Paper*, No. 7374

Colecchia A. and P. Schreyer, (2001), "The Impact of Information Communications Technology on Output Growth", *OECD STI Working Paper*, No. 2001/7

David P., (1990), "The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox", *American Economic Review*, vol. 80, pp. 355-361

Denis C., K. Mc Morrow, W. Röger and R. Veugelers, (2005), "The Lisbon Strategy and the EU's structural productivity problem", *European Commission Economic Papers*, No. 221

Eriksson T., (2003), The Effects of New Work Practices – Evidence from Employer-Employee Data, *in* Kato and Pliskin (eds), The Determinants of the Incidence and the Effects of Participatory Organizations, Advances in the Economic Analysis of Participatory and Labor-Managed Firms Volume 7, Elsevier, New York, pp. 3–30

Gordon R., (2004), "Why was Europe left at the station when America's productivity locomotive departed?", *NBER Working Paper*, No. 10661

Greenan N. and D. Guellec, (1998), "Firm Organization, Technology and Performance: An Empirical Study", *Economics of Innovation and New Technology*, vol. 6(4), pp. 313-347

Jorgenson D., M. Ho and K. Stiroh, (2004), "Will the U.S. Productivity Resurgence Continue?", *Current Issues in Economics and Finance*, Federal Reserve Bank of New York, Vol.10(13), pp. 1-7

Lundvall B-A., (2004), "Why the New Economy is a Learning Economy?", *DRUID Working Paper*, No. 04-01

Maliranta and Rouviren, (2004), "ICT and Business Productivity: Finish Micro-Level Evidence", *in* OECD, The Economic Impact of ICT, Paris

150 Further information on i2010 can be found at: http://europa.eu.int/i2010.

Box 6 (cont.) – Special Focus on Information and Communications Technologies (ICT), Organisational change and Productivity

Milgrom P. and J. Roberts, (1990), "The Economics of Modern Manufacturing: Technology, Strategy, and Organization", *American Economic Review*, vol. 80, p. 511-528

Murphy M., (2002), "Organisational change and firm performance", *OECD STI Working Paper*, No. 2002/14

Nordhaus W., (2005), "The Sources of the Productivity Rebound and the Manufacturing Employment Puzzle", *NBER Working Paper Series*, No. 11354

OECD, (2003), ICT and Economic Growth: Evidence from OECD countries, industries and firms, Paris

Pilat D., (2004), "The ICT Productivity Paradox: Insights from Micro Data", *OECD Economic Studies*, No. 38, 2004/1, pp.37-65

Pilat D. and A. Wölfl, (2004), "ICT production and ICT use: what role in aggregate productivity growth", *in* OECD, The Economic Impact of ICT, Paris

Schreyer P., P-E. Bignon and J. Dupont, (2003), "OECD Capital Services Estimates: Methodology and A First Set of Results", *OECD Statistics Working Papers*, No. 2003/6

Timmer M., G. Ypma and B. Van Ark, (2003), "IT in the European Union: Driving Productivity Divergence?", *Research Memorandum*, GD-67, Groningen Growth and Development Centre

Triplett J. and B. Bosworth, (2004), Productivity in the US Services Sector: New Sources of Economic Growth, Brooking Institution Press, Washington DC

Van Ark B., (2005), "Does the Europan Union Need to Reive Productivity Growth?", *Research Memorandum*, GD-75, Groningen Growth and Development Centre

Van Ark B., R. Inklaar and R. McGuckin, (2002), "'Changing Gear': Productivity, ICT and Service Industries", *Research Memorandum*, GD-60, Groningen Growth and Development Centre

Van Ark B., J. Melka, N. Mulder, M. Timmer and G. Ypma, (2003), "ICT Investments and Growth Accounts for the European Union, 1980-2000", *Research Memorandum*, GD-56, Groningen Growth and Development Centre

Annex I

Box 7 – The estimation of Okun type equations

This type of equation reflects the fact that labour market variables display a considerable amount of cyclical variation. In fact, when output moves above trend, employment grows as non-active individuals join the labour force. Typically, the growth in employment tends to outstrip that in the labour force, yielding a reduction in unemployment. The reverse occurs during downturn periods, although the amplitude of movements can vary over the business cycle.

Okun type equations are estimated using a balanced set of pooled annual data for the EU-15[a], covering the period 1972-2003. In effect, what is tested is the correlation of the deviations of labour market variables from their trends (unemployment, employment and the labour force) with the output gap (the deviation of real GDP from its trend). A dummy variable is considered to test for the asymmetry of the effect of the cycle on labour market variables. Another dummy variable is included to identify possible changes that have occurred in the period covered by the EES (1998-2003). The combined effect of these two dummy variables is also considered.

The following equation is estimated for unemployment, employment and the labour force (y_{it})

$$y_{it} = \alpha_i + \beta_1 * y_{it-1} + \beta_2 * y_{it-2} + \gamma_1 * g_{it} + \gamma_2 * g_{it-1} + \gamma_3 * d_1 * g_{it} + \gamma_4 * d_2 * g_{it} + \gamma_5 * d_1 * d_2 * g_{it} + u_{it}$$

where i and t are, respectively, the country and period indices; α_i are the fixed effect coefficients; y_{it} is the cyclical component of the labour market variable being considered; g_{it} is the cyclical component of real GDP; d_1 is a dummy that equals one when the cyclical component is positive (g_t>0) and zero otherwise; d_2 is a dummy that equals one in the period 1998-2003 and zero otherwise.

The cyclical component is calculated using the Hodrick Prescott filter. In order to eliminate country specific effects, besides calculating country fixed effects (α_i), the data used in the regressions are the differences relative to period averages.

The data have various sources. Whenever possible, Eurostat data are used, namely the Labour Force Survey. The other sources of data are DG ECFIN Ameco, OECD MEI, and the IMF IFS.

The following structure for the errors is assumed: (i) errors are independent over time but are contemporaneously correlated across country/cross section; and (ii) the standard deviation of errors varies across country/cross section.

An obvious problem with the estimation of this type of equation is the presence of endogenous regressors, notably the cyclical component of real GDP (g_{it}). This is a serious statistical problem because it leads to biased and inefficient estimates even in large samples. The traditional solution to this problem is the use of instruments.

Using the Eviews programme, *two stage least squares* (*tsls*) regressions were calculated. In a first stage, two types of instruments were used: (i) common to all cross sections; and (ii) country specific. The set of common instruments includes: all non endogenous regressors and the lagged endogenous regressor, the relative price of crude oil deflated by the GDP deflator, and total factor productivity. The latter two variables can be seen as a proxy for global shocks. The set of country specific instruments includes: indicators for relative price competitiveness, foreign demand, real wages (deflated by the GDP deflator), and the cyclical adjusted net primary government balance.

In addition, given the assumed structure for the errors, a cross section weighted least squares procedure is used to estimate the coefficient matrix, together with a robust estimation procedure for the coefficient covariance matrix, which takes account of the contemporaneous cross section heteroskedasticity of the errors.

[a] EU-15, excluding Luxembourg.

The estimates are presented in the following table:

Coefficient	Unemployment	Employment	Labour Force
β_1	0.93 (24.6) ***	0.86 (20.1) ***	0.73 (16.2) ***
β_2	-0.45 (-12.7) ***	-0.38 (-10.4) ***	-0.28 (-6.8) ***
γ_1	-0.13 (-11.2) ***	0.26 (7.1) ***	0.12 (4.6) ***
γ_2	---	0.10 (3.4) ***	0.10 (4.6) ***
γ_3*d_1	---	-0.15 (-3.5) ***	-0.17 (4.9) ***
γ_4*d_2	---	---	---
$\gamma_5*d_1*d_2$	---	0.07 (0.7)	0.21 (2.3)*
R^2 adj. Standard error of the regression	0.76 1.02	0.74 1.01	0.60 1.00

The *t* ratios are in parenthesis. *** coefficient significant at 1%; ** coefficient significant at 2%; and * coefficient significant at 3%.

Annex II

Box 8 – The estimation of unemployment gap equations

A prominent feature of European labour markets is the presence of certain groups in a permanent disadvantaged position. For some of them, such as immigrants, ethnic minorities, people with disabilities, the homeless, etc., no (sufficiently long) data series is available to carry out econometric analysis. However, if the data are pooled together across countries, there are some groups for which some preliminary estimates can be presented for the evolution of the gaps in their respective labour market outcomes against a benchmark group. These groups are women, the long term unemployed and youth unemployed. The benchmark group used is the total aggregate (i.e. the universe). The unemployment rate is the measure chosen for labour market performance.

Unemployment gap equations are estimated using an unbalanced set of pooled annual data for the EU-15[a]. Equations for three gaps are estimated: i) women's versus total unemployment rates; ii) long term versus total unemployment rates; and iii) youth versus total unemployment rates. In the first equation, the estimation period is 1985-2004, while in the second and third equations the period is 1991-2004.

The regressors are the endogenous variables lagged one period and two dummy variables. A first dummy variable is considered to test for the asymmetry of the effect of the cycle on the unemployment gaps. The cyclical component of GDP is calculated using the Hodrick Prescott filter. A second dummy variable is included to identify possible changes that have occurred in the period covered by the EES (1998-2004).

The following type of equation is estimated

$$g_{it} = \beta_{1i} + \beta_2 g_{it-1} + \beta_3 d_{1it} + \beta_4 d_{2t} + \varepsilon_{it}$$

where

$$g_{it} \equiv f_{it} - u_{it} \text{ or } g_{it} \equiv u_{it} - l_{it} \text{ or } g_{it} \equiv y_{it} - u_{it}$$

where i and t are respectively the country and period indices; f_{it} is the women's unemployment rate; u_{it} is the total unemployment rate; l_{it} is the long term unemployment rate; y_{it} is the youth unemployment rate; g_{it} are the gap variables defined in such a way as to hold normally positive values; β_i are the fixed effect coefficients; d_1 is a dummy that equals one when the cyclical component of GDP is positive and zero otherwise; d_2 is a dummy that equals one in the period 1998-2004 and zero otherwise; and e_{it} are the errors which are tested for a first order autoregressive structure.

The source for the data is the *Employment Indicators* database of Eurostat.

The following structure for the errors is assumed: (i) a possible first order autoregressive structure i.e. ar(1); (ii) contemporaneously correlated across country/cross section; and (iii) the standard deviation of errors varies across country/cross section.

Following the equation specification, regressors and errors are assumed to be independent, allowing the use of cross section weighted least squares. In addition, given the assumed structure for the errors, the coefficient covariance matrix is estimated using a robust method with respect to the presence of cross section heteroskedascity.

[a] EU-15, excluding Luxembourg.

The estimates are presented in the following table:

Coefficient	Women	Long-term	Youth
β_1	0.34 (3.6) ***	1.8 (8.1) ***	3.6 (8.3) ***
β_2	0.83 (19.9) ***	0.66 (14.4) ***	0.69 (16.3) ***
β_3	-0.08 (-2.3) **	-0.11 (-2.0) **	-0.24 (-1.8) *
β_4	-0.12 (-2.2) **	-0.28 (-4.5) ***	-0.84 (-6.2) ***
AR(1)	0.28 (3.8) ***	---	---
R^2 adj.	0.98	0.98	0.97
Standard error of the regression	0.33	0.47	1.14

The *t* ratios are in parenthesis. *** coefficient significant at 1%; ** coefficient significant at 5%; and * coefficient significant at 10%.

Chapter 3

Employment and aggregate demand

1. Introduction

National accounts data suggest that the economic slowdown of 2001-2003, though rather prolonged, was not particularly sharp. However, recent surveys (for the first quarter of 2005) have underlined the risks posed, for example, by increases in energy prices, which have clearly heightened the danger of a "double-dip" cyclical downturn[1]. This bears out the assessment made in the Commission's Spring 2005 forecast that the balance of risks was tilted towards the downside.

Although in the EU-15 both the output gap and the dynamism of domestic demand during the 2001-2003 period compare favourably with the previous cyclical downturn of 1992-1994, Germany stands out as a major cause for concern because of the weakness and even decline in all major expenditure components and in employment in recent years. This concern also reflects the potential impact on the EU as a whole through the usual knock-on effects (i.e. cross-border trade and financial links).

It is against this backdrop that this chapter examines a number of issues related to economic activity in general, and employment and aggregate demand in particular, beginning with the level of economic activity and short-term prospects (based mainly on survey data). Then, for the seven largest EU Member States[2], economic developments are compared between the cyclical downturns of 1992-1994 and 2001-2003, with a particular focus on domestic demand and its components. This is followed by an analysis of the quarterly national accounts data for some of the largest EU-15 Member States[3] to assess cyclical trends, with a particular emphasis on the links between output/demand/exports and employment outcomes. Then, following broadly consensual findings in the literature, the impact of aggregate demand (shocks) on labour market outcomes is briefly reviewed. Finally, given the potential role of disequilibrium factors, such as demand shocks, in conjunction with the high persistence of labour market variables, the cyclical properties of budgetary policy are investigated for the euro area as a whole, together with a brief mention of the rationale behind the revised Stability and Growth Pact and some of its essential aspects.

2. Analysis of cyclical developments based on survey data

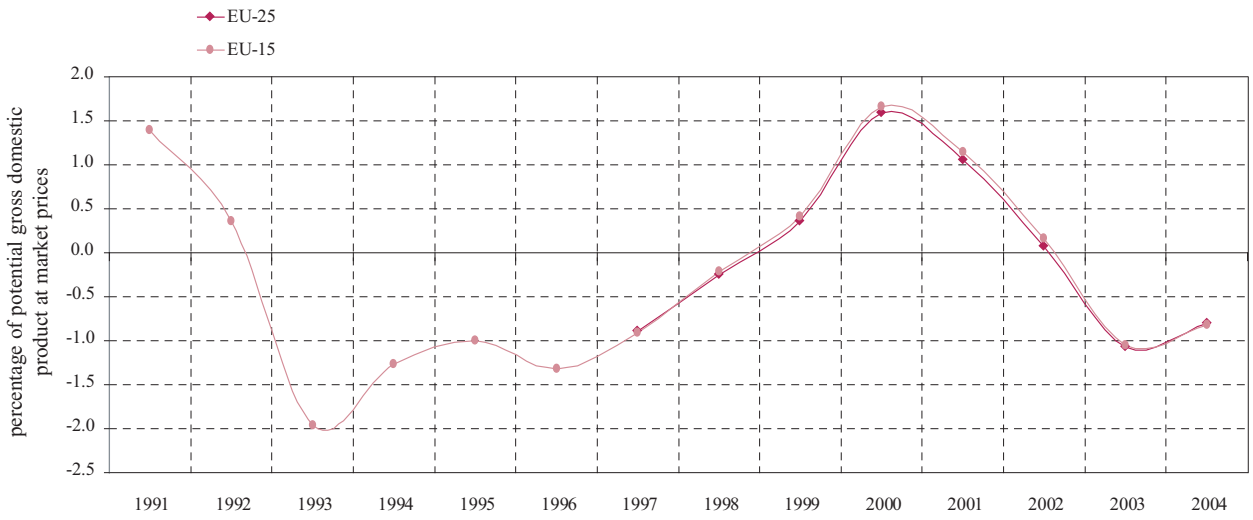
Although rather prolonged, the economic slowdown of 2001-2003 was not particularly sharp when compared to the economic recession of 1992-1994 (chart 86). The estimated output gap[4] in the EU-15 for the 2002-2004 period averaged -0.6 percentage points, which compares with -1.4 percentage points for the 1993-1995 period. This general assessment regarding the relative sharpness and duration of the 2001-2003 cyclical downturn is corroborated by a number of indicators, as follow:

- The seasonally adjusted capacity utilisation level in the industrial sector has remained below its historical average since the fourth quarter of 2001 (chart 87).
- The seasonally adjusted consumer confidence indicator deteriorated between early 2001 and the beginning of 2003, but has since steadily improved (chart 88).
- The seasonally adjusted industrial confidence indicator deteriorated markedly between mid-2000 and the end of 2001, but then improved before declining in the first quarter of 2005 (chart 89).
- The euro area business climate index (a composite indicator) declined between the end of 2000 and late 2001. However, the indicator improved significantly between mid-2003 and mid-2004 but then in March 2005 moved back into negative territory (chart 90).

Overall, the available data suggest that the economic slowdown of 2001-2003 was not particularly sharp. However, as recent developments revealed by economic surveys indicate (in the first quarter of 2005), the risks posed by additional rises in commodity prices (chart 91), particularly in the energy sector, have clearly heightened the danger of a "double-dip" economic downturn. In the Commission's Spring 2005 economic forecast, economic activity in the EU was already projected to decelerate in 2005, largely because of the strong rise in oil prices.

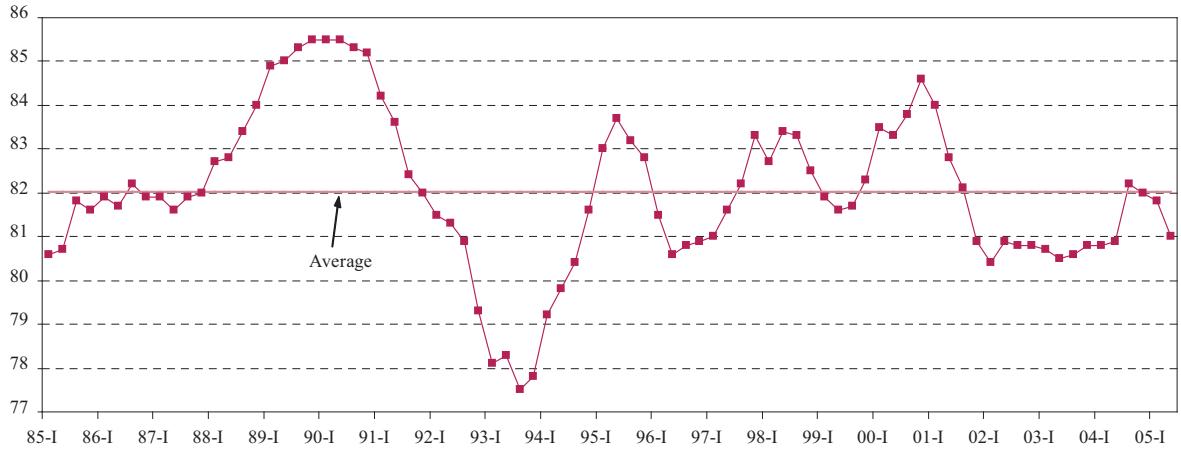
1 For a detailed analysis see the Commission's forthcoming Autumn economic forecast.
2 DE, ES, FR, IT, NL, PL and UK.
3 DE, ES, FR, IT, NL and UK.
4 Gap between actual and potential gross domestic product expressed as a percentage of potential gross domestic product; Source: DG ECFIN, Ameco.

Chart 86 – Gap between actual and potential gross domestic product at 1995 market prices



Source: DG ECFIN, Ameco.

Chart 87 – Current level of capacity utilisation in the industrial sector (seasonally adjusted percentages)



Source: DG ECFIN, Industrial Survey.

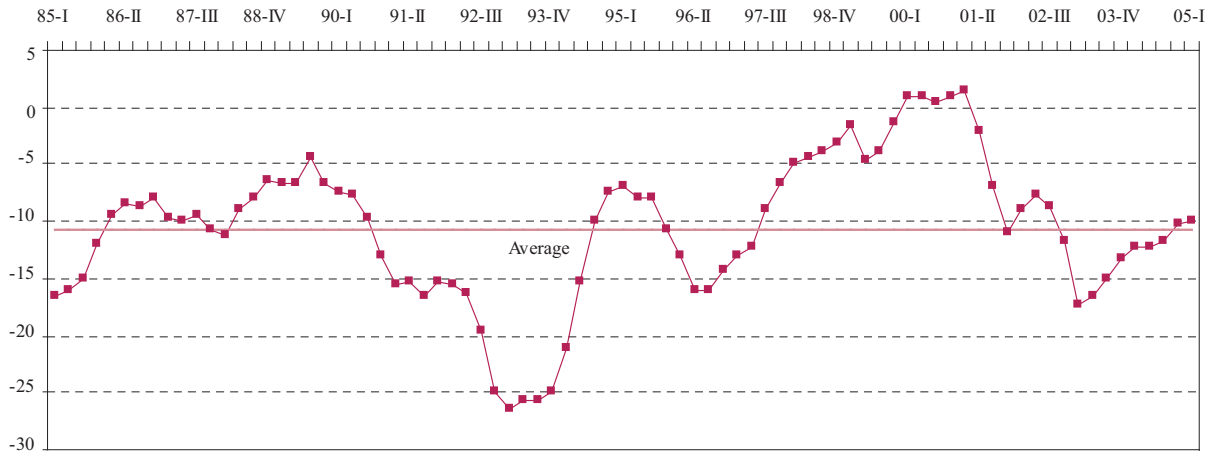
More recent developments seen in economic surveys and oil prices seem to confirm the assessment made in the Commission's Spring 2005 forecast that the balance of risks was tilted towards the downside[5].

3. Analysis of economic developments based on annual national accounts data

In the EU-15, GDP grew on average at a similar pace in the 2001-2003 period compared to the previous cyclical downturn of 1992-1994 (1.2 percent and 1.1 percent per year, respectively). However, an analysis by Member State shows a diversity of experiences. Using annual national accounts data, scatter plots have been drawn to relate average growth rates during the last two economic slowdowns for a number of aggregate variables. For practical reasons, this exercise has been car-

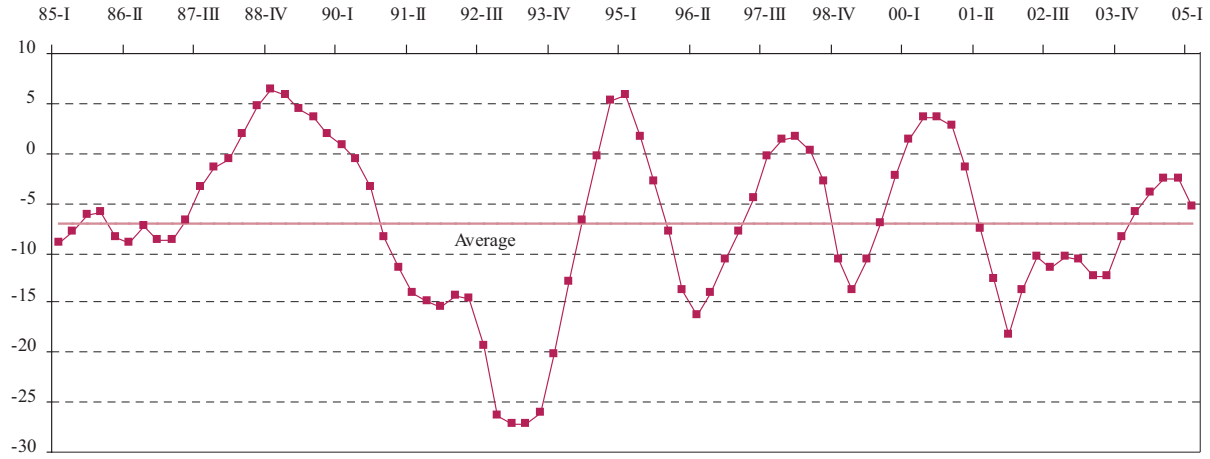
5 For an updated and more comprehensive analysis see the Commission's forthcoming Autumn forecast.

Chart 88 – Consumer Confidence Indicator in the EU (seasonally adjusted)



Source: DG ECFIN.

Chart 89 – Industrial Confidence Indicator in the EU (seasonally adjusted)



Source: DG ECFIN.

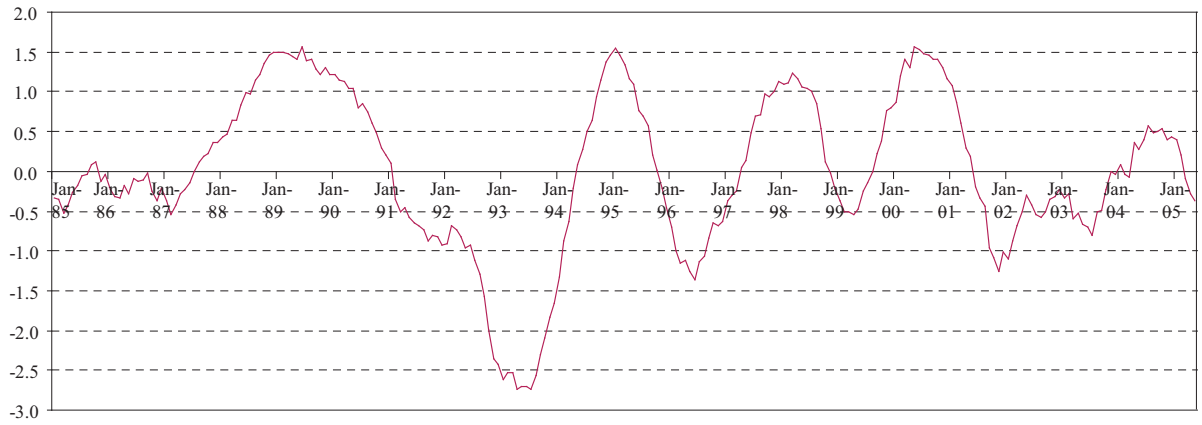
ried out for only the seven largest EU economies (DE, ES, FR, IT, NL, PL and the UK), which represent about 80 percent of the total EU economy.

GDP

As regards GDP (chart 92), three Member States performed worse in the last economic slowdown (2001-2003) than in the previous one (1992-1994), namely Germany, the Netherlands, and Poland[6]. In two Member States (Italy and the United Kingdom), the outcomes were qualitatively similar in the two periods, although the growth rate was significantly higher in the United Kingdom. Finally, two Member States (France and Spain) performed better in the last cyclical downturn, although the improvement

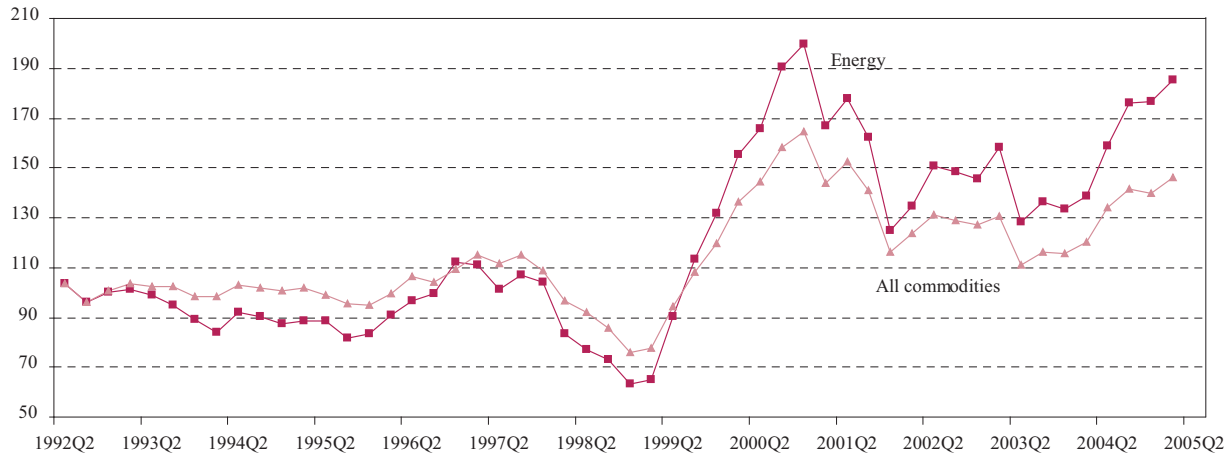
6 It can be argued that the Polish case is qualitatively different from that of the other countries, because Poland is undergoing a protracted period of economic restructuring, which has gathered pace since 1998, first in the aftermath of the Russian crisis and then in the 2001-2003 period with the economic slowdown in the EU-15. Therefore, the recent negative developments in Poland cannot be fully attributed to cyclical conditions as in the other 'mature' economies considered.

Chart 90 – Euro area business climate index



Source: DG ECFIN.

Chart 91 – Price indexes in Euro deflated by the GDP price index in the Euro area (100=1992q2 to 1992q4)



Source: IMF, OECD and own calculations.

was only marginal in France while in Spain it was more significant.

Employment

During the economic slowdown of 2001-2003, employment developments were considerably more favourable than in the previous cyclical downturn in the first half of the 1990s (chart 93). This is in line with the finding that structural improvements in the functioning of European labour markets have occurred in recent years (discussed more fully in Chapter 2), together with the fact that the cyclical downturn of 2001-2003 was less pronounced than the previous one. The strength of job creation in Spain and Italy over the period 2001-2003 is particularly worth mentioning. Both Member States had introduced significant (labour) market reforms in the second half of the 1990s.

Domestic demand

Comparing the two cyclical downturns, the significantly slower GDP growth in Germany and in the Netherlands largely reflects domestic demand developments[7] (chart 94). In particular, domestic demand in Germany decreased from an average annual growth rate of 1.5 percent in the 1992-1994 period to -0.6 percent in 2001-2003. Part of this decline does not seem to be associated with changes in cyclical patterns *per se*, but instead results from "levelling-off" effects related to the process of German reunification, including the uninterrupted fall in construction investment since 1995 following the sharp rise in the period immediately after reunification (see below).

Construction

Somewhat unexpectedly (and contrary to some widely held views), domestic aggregate demand was on average stronger during 2001-2003 than during the 1992-1994 cyclical downturn in Spain, France, Italy and the United Kingdom, contributing to higher domestic aggregate demand in the EU-15[8] as a whole. In particular, investment in construction was higher in a number of Member States (chart 96). The loosening of monetary policy in the euro area since 2000, following the lowering of nominal rates in the run-up to EMU, together with the housing boom in the UK, contributed to the significant growth rates in construction spending during the 2001-2003 period, which are especially significant given the cyclical position in the EU at the time. In the 2001-2003 period, annual spending on construction grew on average by 4.9 percent in Spain, 2.6 percent in Italy, and 10.3 percent in the United Kingdom, while it stabilised in France.

In Germany and (to a lesser extent) the Netherlands, trends in construction spending diverged from those in the other Member States. In the 2001-2003 period, construction spending in Germany fell on average by 4.6 percent per year, compared to an average positive growth rate of 6.4 percent during the period 1992-1994[9]. In the aftermath of German reunification, between 1991 and 1994, the level of construction investment increased by an overall 20 percent, but since 1995 it declined year on year (with the exception of 1999) to reach in 2004 a level (at constant prices) 6.5 percent below that of 1991. Consequently, the decline in construction expenditure in Germany has been exerting a considerable drag on total investment and domestic aggregate demand since the second half of the 1990s.

Equipment

Equipment spending fell in nearly all the large Member States during both periods (chart 97), although, apart from the UK (where spending grew in the early period), the drop was smaller in the period 2001-2003.

Private consumption

Overall, developments in private consumption expenditure corroborate the assessment that the economic slowdown of 2001-2003, although rather prolonged, was not particularly sharp when compared to the economic recession of 1992-1994. In France, Spain and the UK, the average growth rate of private consumption in the 2001-2003 period exceeded that in 1992-1994, while the average growth rate in Poland was a vigorous 2.8 percent in the 2001-2003 period (chart 98). However, Germany stands out again as having the weakest average growth rate of only 0.3 percent per year in the 2001-2003 period. Moreover, in the years 2001 to 2004, private consumption in Germany fell by an overall 1.1 percent. Since 2000, the household savings rate has increased significantly in Germany (chart 103) following a marked deterioration in consumer confidence.

Government consumption

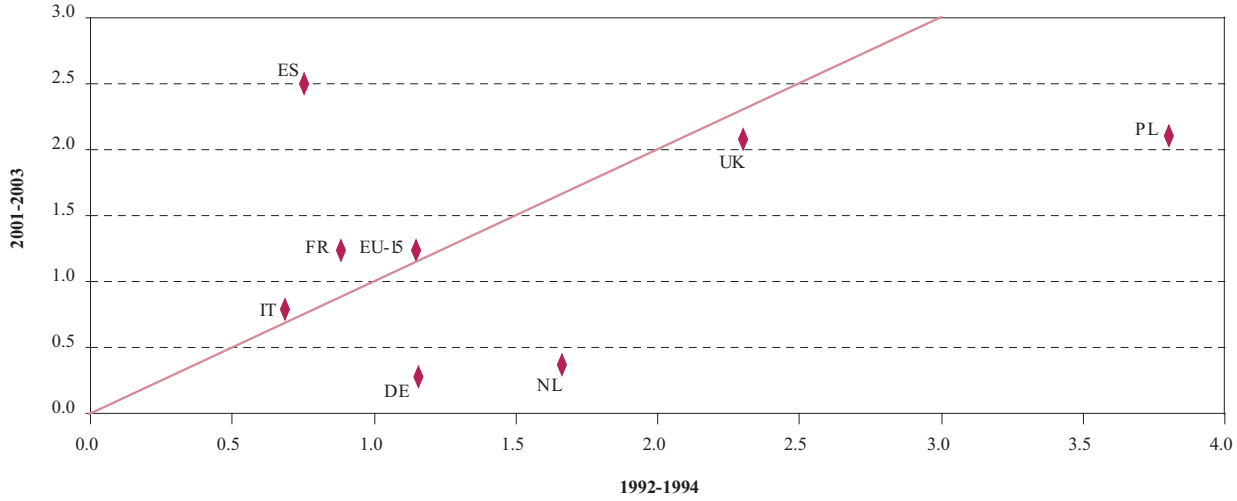
In the EU-15 as a whole and in a number of large Member States (Spain, France, Italy and the United Kingdom), the average growth rate of government consumption increased during the 2001-2003 period compared to 1992-1994 (chart 99). In Germany and Poland the opposite occurred, although in Germany the average growth rate of government consumption in the 2001-2003 period was considerably higher than that of GDP (1.0 percent and 0.3 percent, respectively), while in the 1992-1994 period it was boosted by outlays related to reunification.

The German singularity

An analysis of open economies requires a comprehensive assessment of the drivers of economic growth and employment creation without this being limited to a discussion of the factors affecting total and domestic aggregate demand. Foreign demand, and in particular the ability of countries to remain competitive and secure an adequate level of exports and mar-

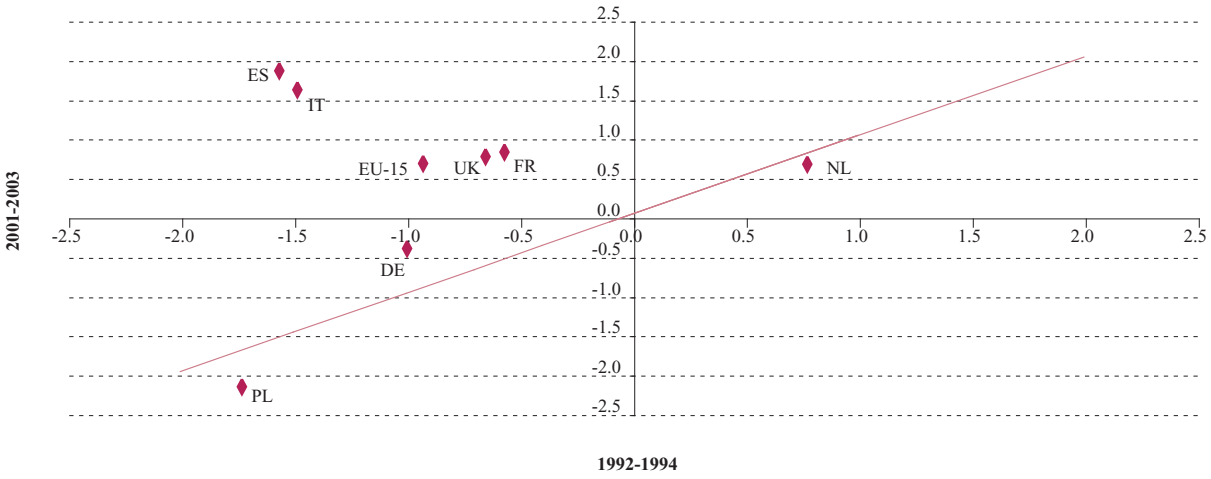
7 Domestic demand excluding stocks.
8 EU-25 data for the 1992-1994 period are not available.
9 In the Netherlands, -2.1 percent and 1.0 percent, respectively.

Chart 92 – GDP, average growth rates (percentages)



Source: Ameco.

Chart 93 – Employment, average growth rates (percentages)

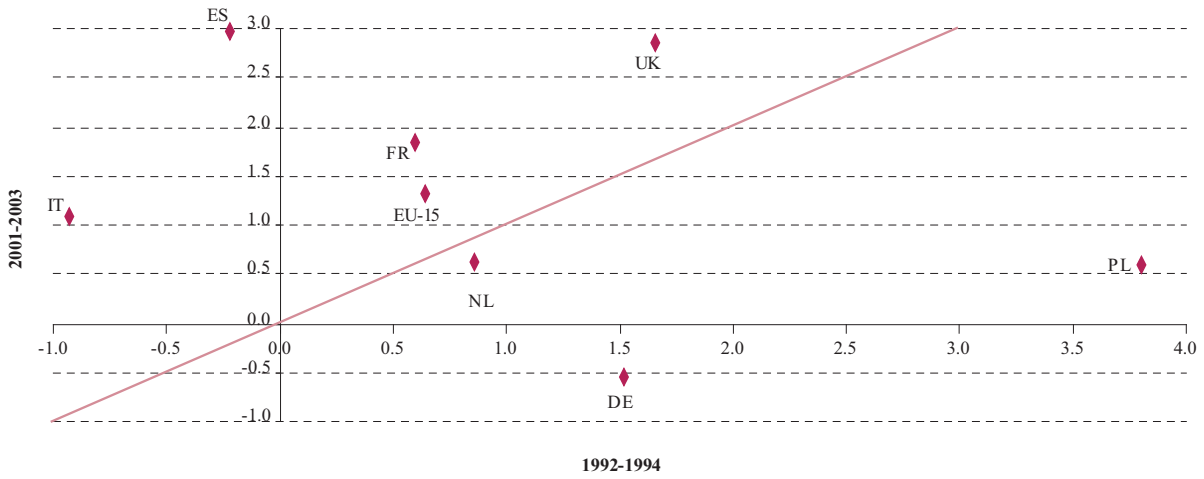


Source: Ameco.
Note: PL: 1993-1994.

ket share, are also issues that have to be addressed. Although in the EU-15 as a whole both the output gap and the dynamism of domestic demand during the 2001-2003 period compare favourably with the previous cyclical downturn of 1992-1994, Germany stands out as a major cause for concern because of the weakness or even decline in all major expenditure components during the 2001-2003 period. This special concern is not only for this country *per se* but is also due to the potential impact on the EU as a whole through the usual knock-on effects. However, assessment of domestic demand developments in Germany calls for two important qualifications to be made.

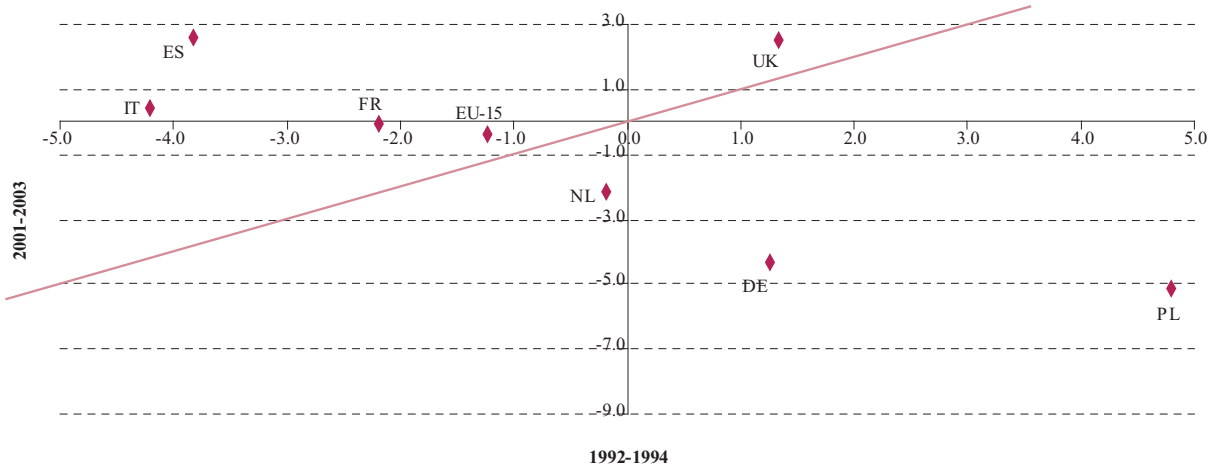
Firstly, since the mid 1990s, Germany has been gaining price competitiveness particularly against other EU Member States (chart 101). In recent years, very low growth in nominal wages has translated into price competitiveness and market share gains, despite the appreciation of the euro. Exports of goods and services in real terms have increased on average by

Chart 94 – Domestic Demand (a), average growth rates (percentages)



Source: Ameco.
Note: (a) Domestic demand excluding stocks.

Chart 95 – Gross Fixed Capital Formation, average growth rates (percentages)



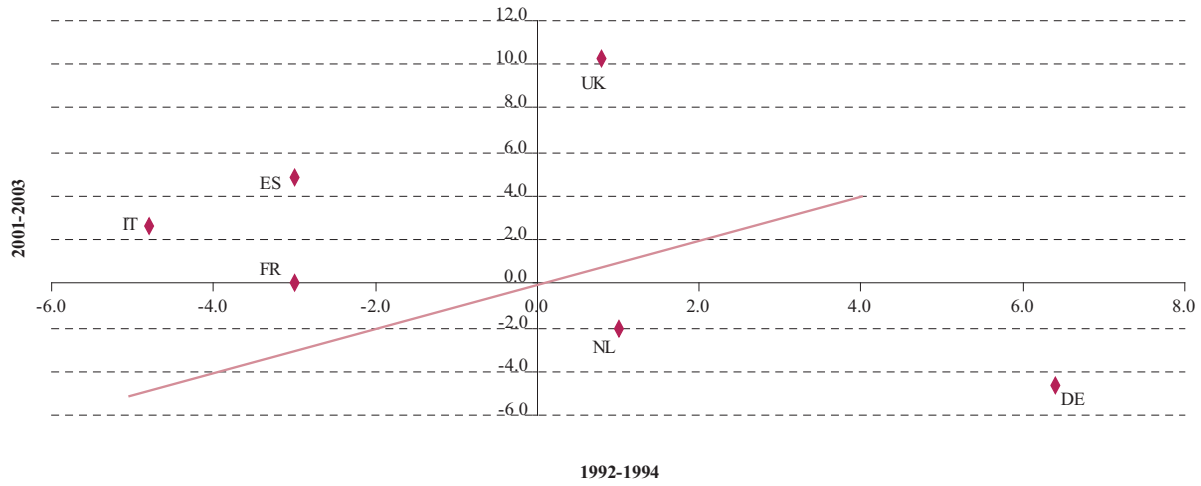
Source: Ameco.

close to 4 percent per year (chart 100). According to calculations reported in Jansen (2005)[10], nearly all of the 6 percent cumulative growth in GDP in the six-year period from 1999 to 2004 is due to the net external contribution. Clearly, this foreign impulse has not been translated into higher employment and domestic demand. The former declined between the second quarter of 2001 and the second quarter of 2003 (chart 105), while the latter has stagnated since the end of 2000.

The dynamism of German export performance stands alone among the largest EU Member States, and only some new Member States have registered a better performance. Therefore, part of the weak domestic demand in Germany seems to reflect a significant reorientation of resources towards tradeable sectors of the economy, encouraged by the substantial gains in price competitiveness.

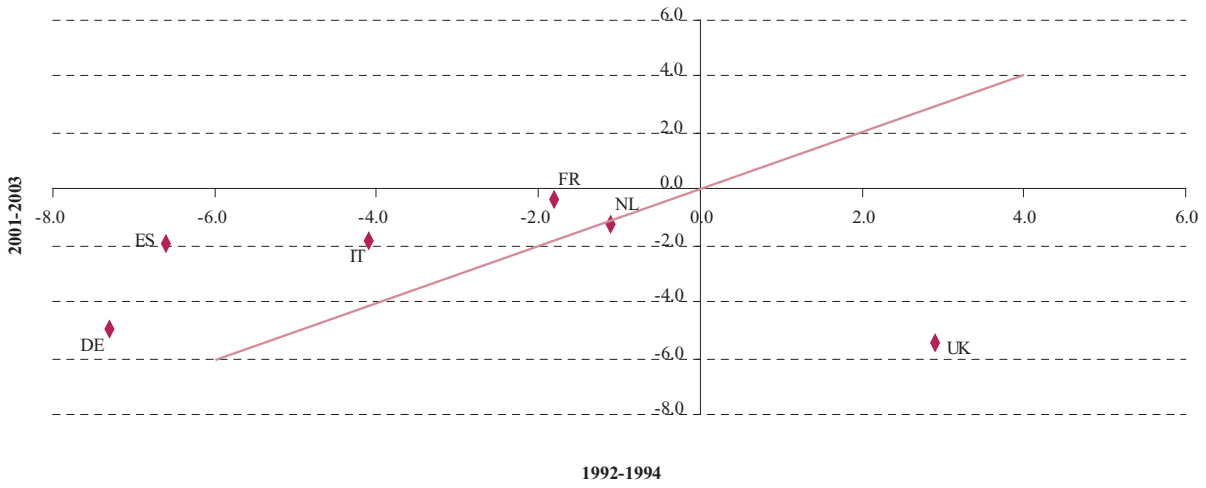
10 Jansen (2005), 'Domestic gloom and export boom: a look at German competitiveness', *ECFIN Country Focus*, v.2, No 6.

Chart 96 – Construction, average growth rates (percentages)



Source: Ameco.

Chart 97 – Equipment, average growth rates (percentages)



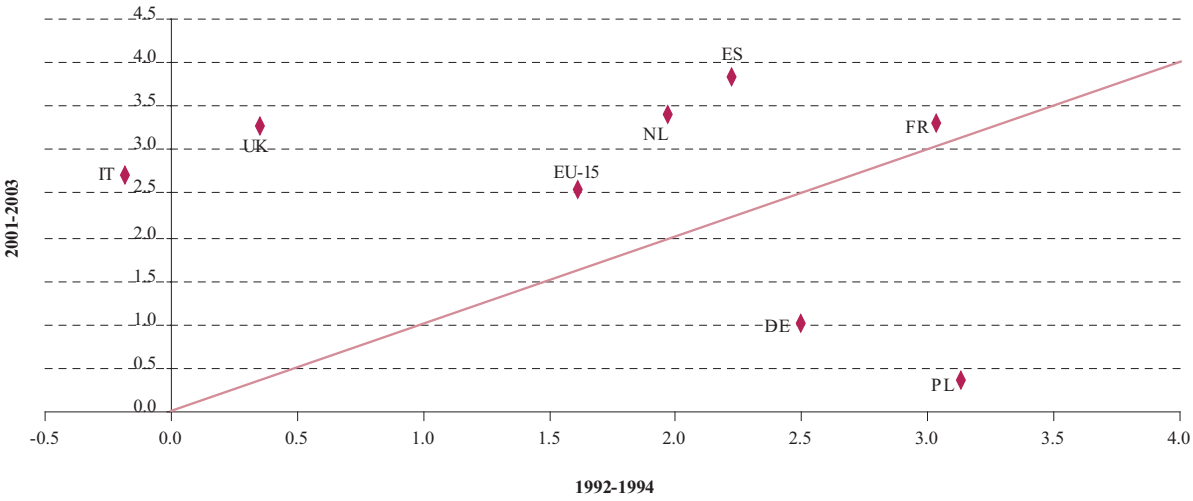
Source: Ameco.

Secondly, in the early 1990s, reunification represented a huge economic shock with long-lasting consequences in terms of both the dynamics of adjustment and equilibrium variables. For example, the large (labour) productivity differentials between the western and eastern parts of Germany had a considerable and lasting impact on employment outcomes, partly due to the adoption of a one-to-one exchange rate for German monetary union at the time of reunification. The overvalued exchange rate for the eastern part of Germany, coupled with access to generous unemployment insurance and social assistance schemes, effectively priced out of the labour market, or else discouraged, a large number of low-skilled workers. In addition, buildings in the eastern part of the country were generally in a comparatively poor condition and a huge investment effort was needed to bring them up to standard, leading to an upward shift in spending during the first half of the 1990s. The correction of this level shift brought about a prolonged period of negative growth rates.

Chart 98 – Private Consumption, average growth rates (percentages)

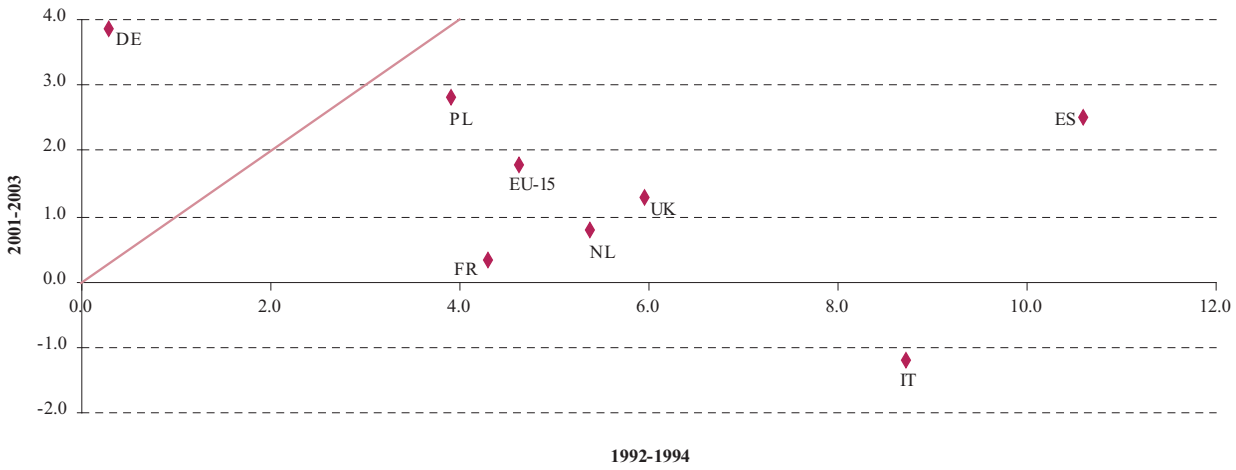
Source: Ameco.

Chart 99 – Government Consumption, average growth rates (percentages)



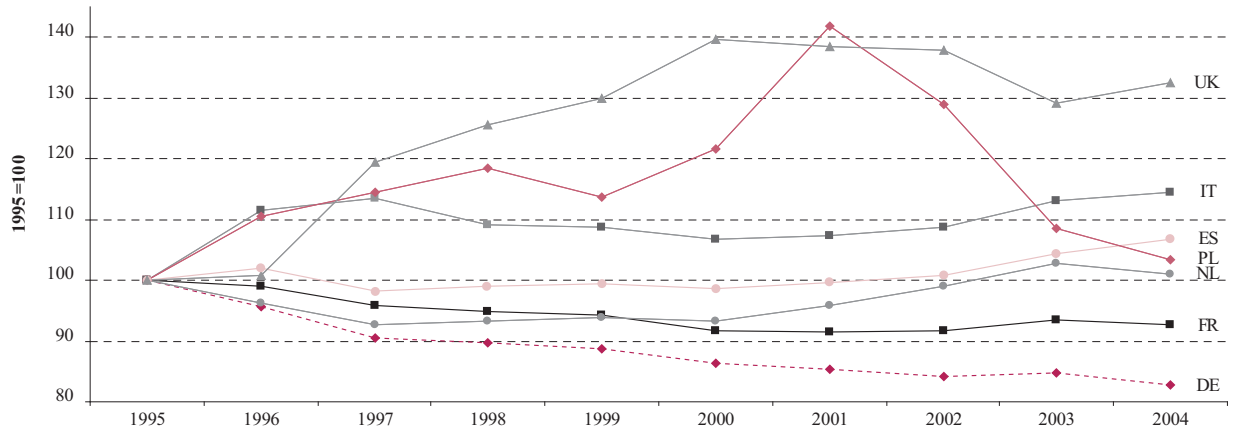
Source: Ameco.

Chart 100 – Exports of Goods and Services, average growth rates (percentages)



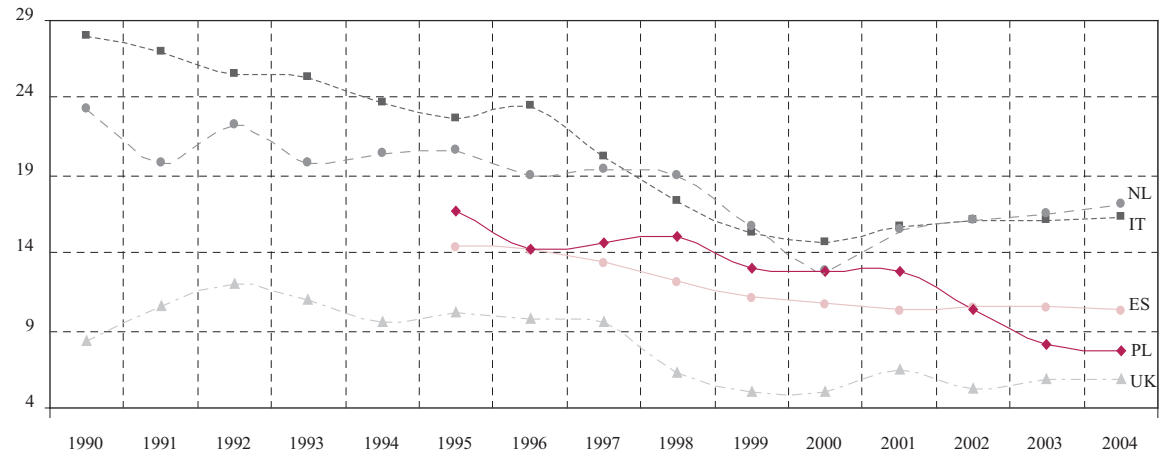
Source: Ameco.

Chart 101 – Nominal unit labour costs (a), total economy – relative to EU-25



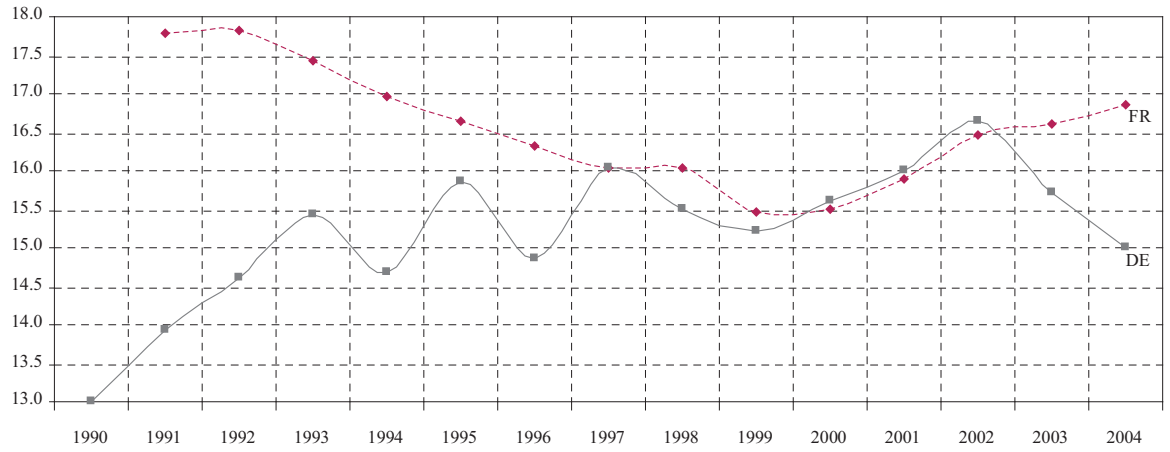
Source: Ameco.
Note: (a) Ratio of compensation per employee to real GDP per person employed.

Chart 102 – Saving rate, gross; households and NPISH (a)



Source: Ameco.

Chart 103 – Saving rate, gross; households and NPISH (a)



Source: Ameco.
Note: (a) Gross saving as percentage of gross disposable income.

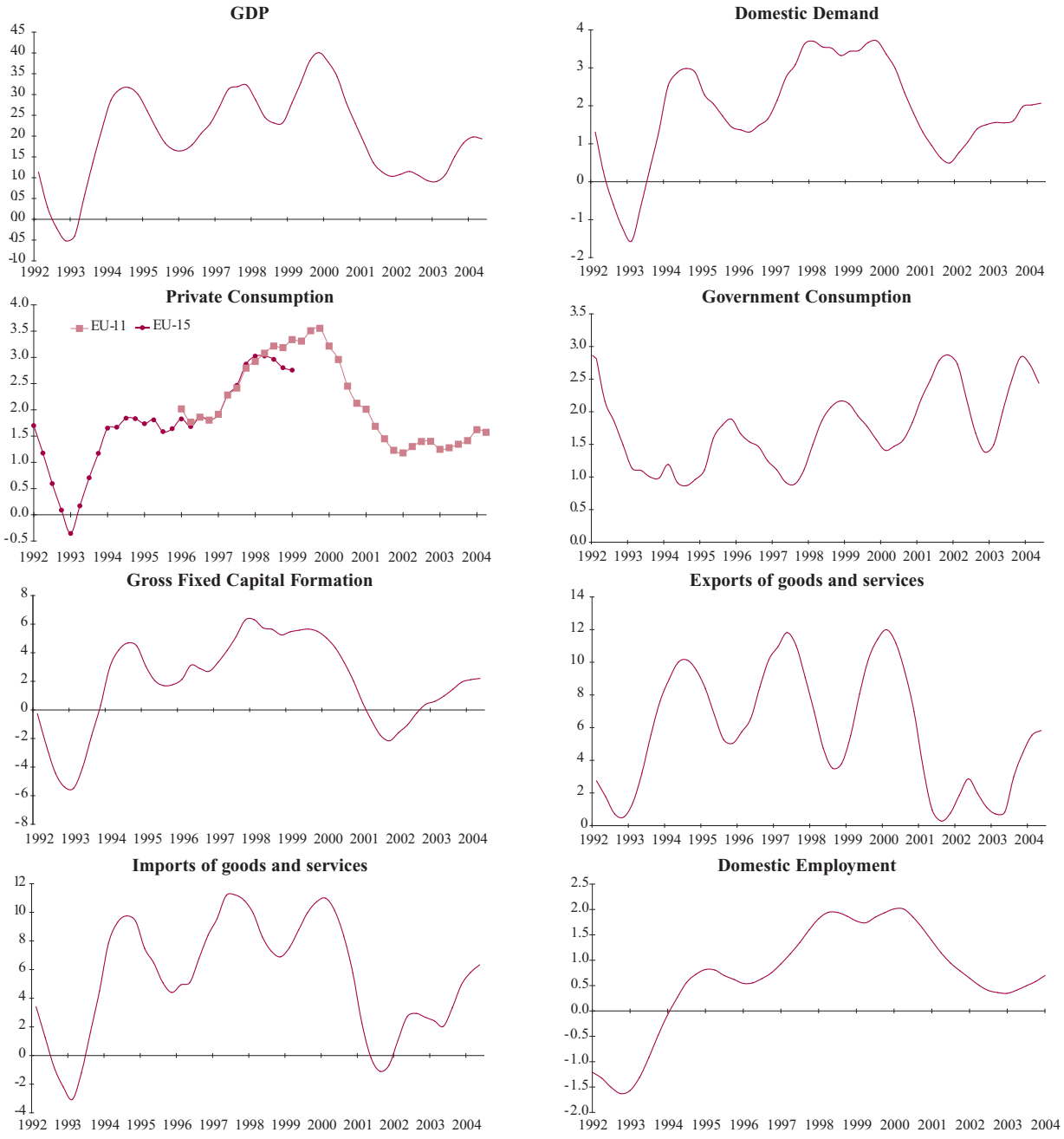
4. Analysis of cyclical developments based on quarterly national accounts data

The EU-15

In order to assess cyclical developments, quarterly national accounts data for the *EU-15* and a selected number of Member States are presented in charts 104 to 110. In order to identify cyclical patterns, the data are smoothed by calculating year-on-year growth rates for the year ending in the current quarter.

In the *EU-15* (in the year ending in the first quarter of 2005) domestic demand increased by 2.1 percent (chart 104). In fact, domestic demand has been increasing since the low of 0.5 percent reached in the third quarter of 2002, although it tapered off somewhat in the fourth quarter of 2004. Since 2004, export growth in the EU-15 has accelerated to around 6 percent (on an annual basis by the first quarter of 2005). Employment growth remains subdued, which can be partly attributed to the uncertainty surrounding the strength and duration of the present economic recovery, together with the usual lags in economic activity.

Chart 104 – Data for EU-15 – Year-on-year real growth rates for the year ending in the current quarter

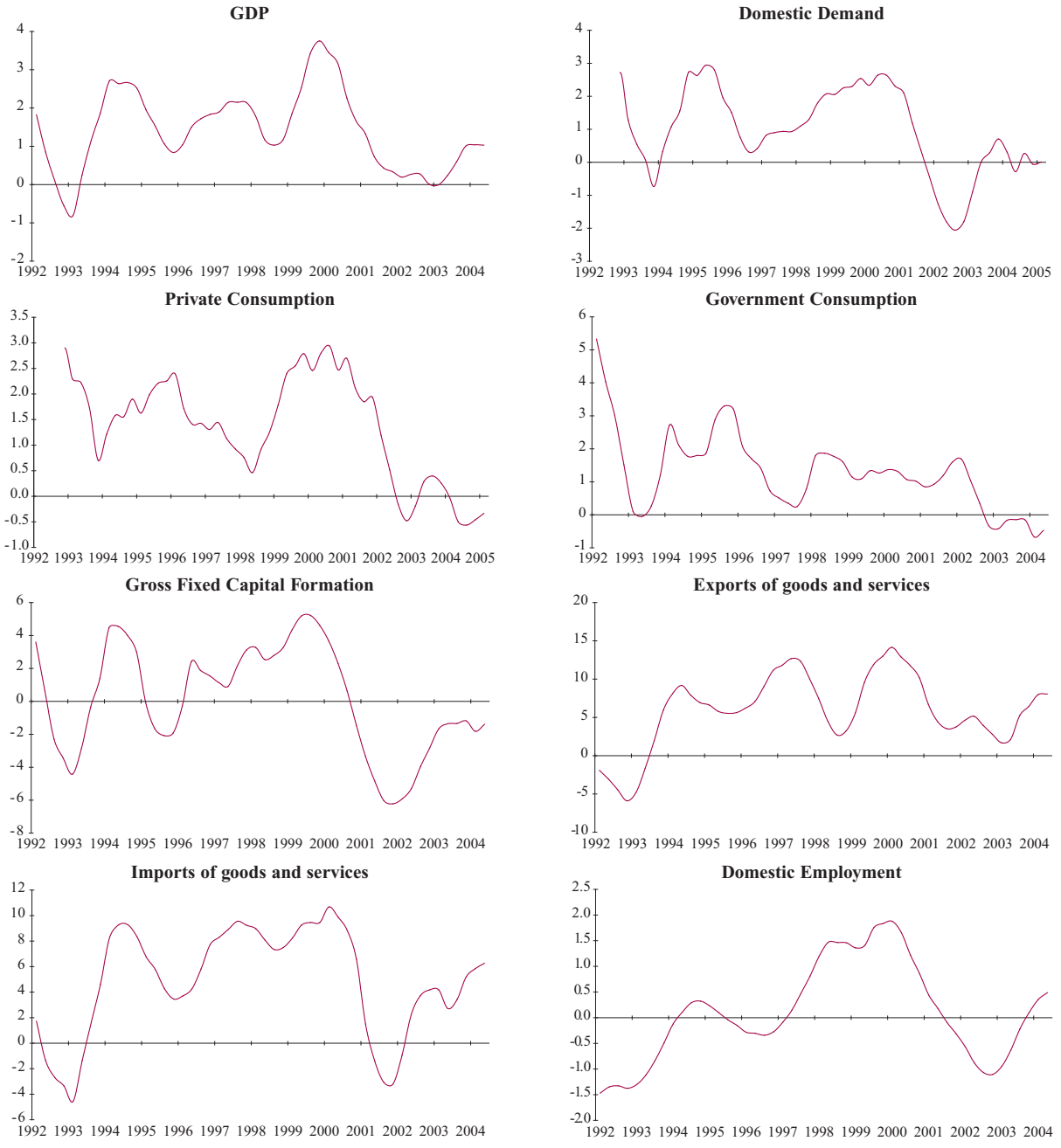


Source: Eurostat, Quarterly National Accounts; EU-11: AT, BE, DE, DK, ES, FI, FR, IT, NL, PT, UK.

Germany

In Germany, the growth rate of domestic demand (in the year ending in the current quarter) moved from +2.6 percent in the second quarter of 2000 to -2.1 percent in the third quarter of 2002 (chart 105). This big swing mainly reflects developments in private consumption, although the growth rates of gross fixed capital formation and government consumption have also moved into negative territory. Although private consumption and investment expenditures have recovered somewhat in recent quarters, domestic demand remained virtually unchanged in the year ending in the first quarter of 2005. Employment growth also registered a swing comparable to that in domestic demand (from an annual growth rate close to 2 percent in 2000 to -1.1 percent in the year ending in the third quarter of 2003). Since late 2003, employment has risen in parallel with the trend in GDP, which contrasts with the trend in domestic demand. In fact, despite the near stagnation in domestic demand, GDP increased by 1 percent in the year ending in the first quarter of 2005, reflecting buoyant exports of goods and services, which progressed by 8.1 percent over the same period.

Chart 105 – Data for Germany – Year-on-year real growth rates for the year ending in the current quarter

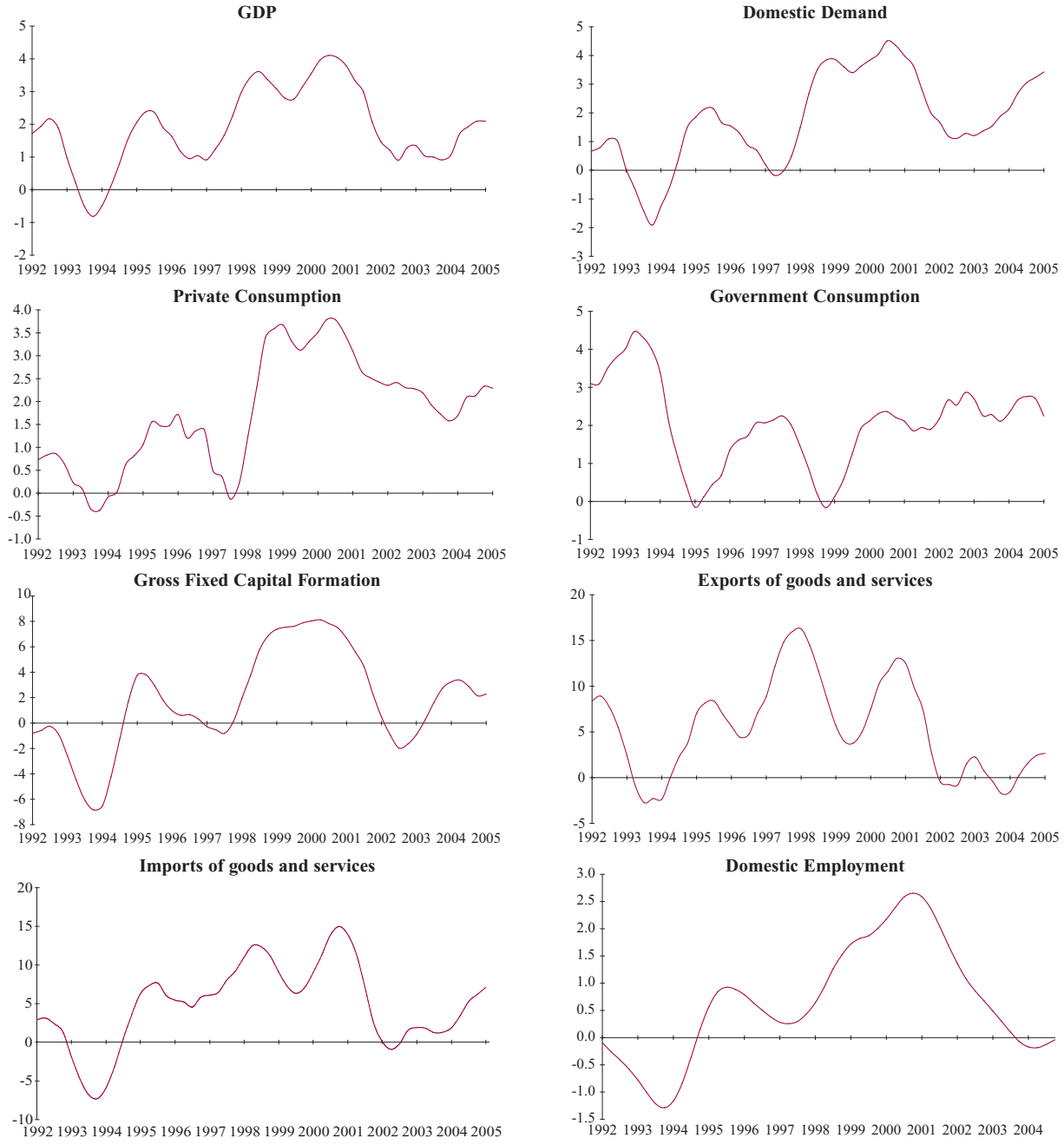


Source: Eurostat, Quarterly National Accounts.

France

Economic activity has been stronger in France than in Germany (chart 106), with the main driving force of economic growth in France being domestic demand, while in Germany it is export growth[11]. During the 2001-2003 cyclical downturn, the growth rate of domestic demand never fell below 1 percent in France, while private consumption showed a remarkable resilience with the annual growth rate remaining above 1.5 percent even at the low point of the cyclical downturn (i.e. the fourth quarter of 2003). With economic recovery, the growth rates of domestic demand and private consumption increased to 3.4 percent and 2.3 percent, respectively (in the year ending in the first quarter of 2005). The relatively good performance of domestic demand in France compared to Germany can partly be explained by lower job losses in the former, together with more favourable developments in terms of consumer confidence. Yet employment outcomes remain relatively unfavourable overall.

Chart 106– Data for France – Year-on-year real growth rates for the year ending in the current quarter



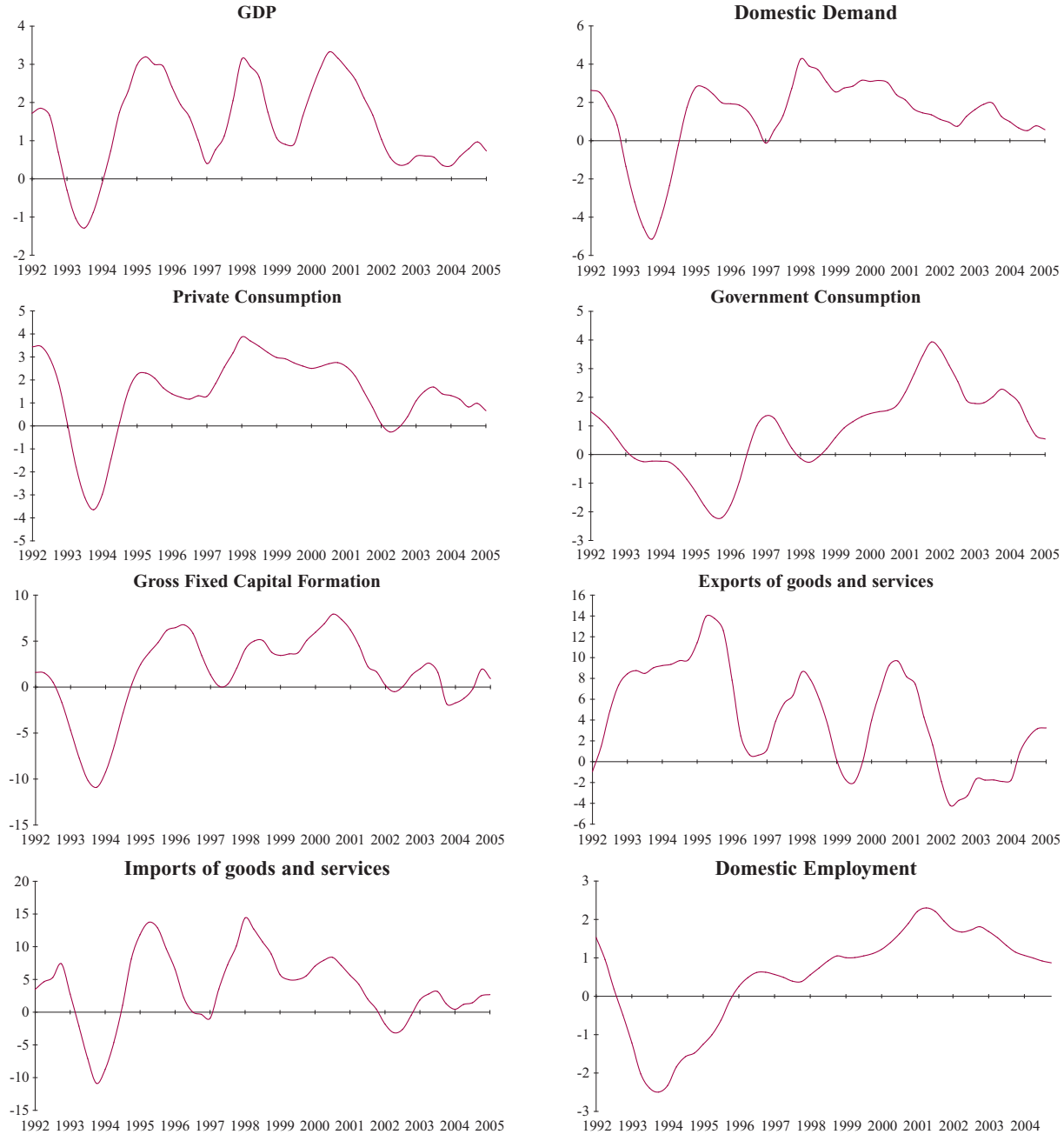
Source: Eurostat, Quarterly National Accounts.

11 The annual growth rate of exports of goods and services in France has been increasing since the beginning of 2004, reaching 2.7 percent in the year ending in the first quarter of 2005, compared with 8.1 percent for Germany.

Italy

Following two years of near stagnation, economic growth in Italy picked up in 2004 (chart 107). The main driving force for this growth is exports of goods and services, while domestic demand remains subdued. Employment developments since the mid-1990s have been particularly favourable following a number of labour market reforms. However, although the pace of job creation has slowed down with the cyclical downturn, the annual growth rate (for the year ending in the current quarter) remained close to 1 percent in the fourth quarter of 2004.

Chart 107 – Data for Italy – Year-on-year real growth rates for the year ending in the current quarter

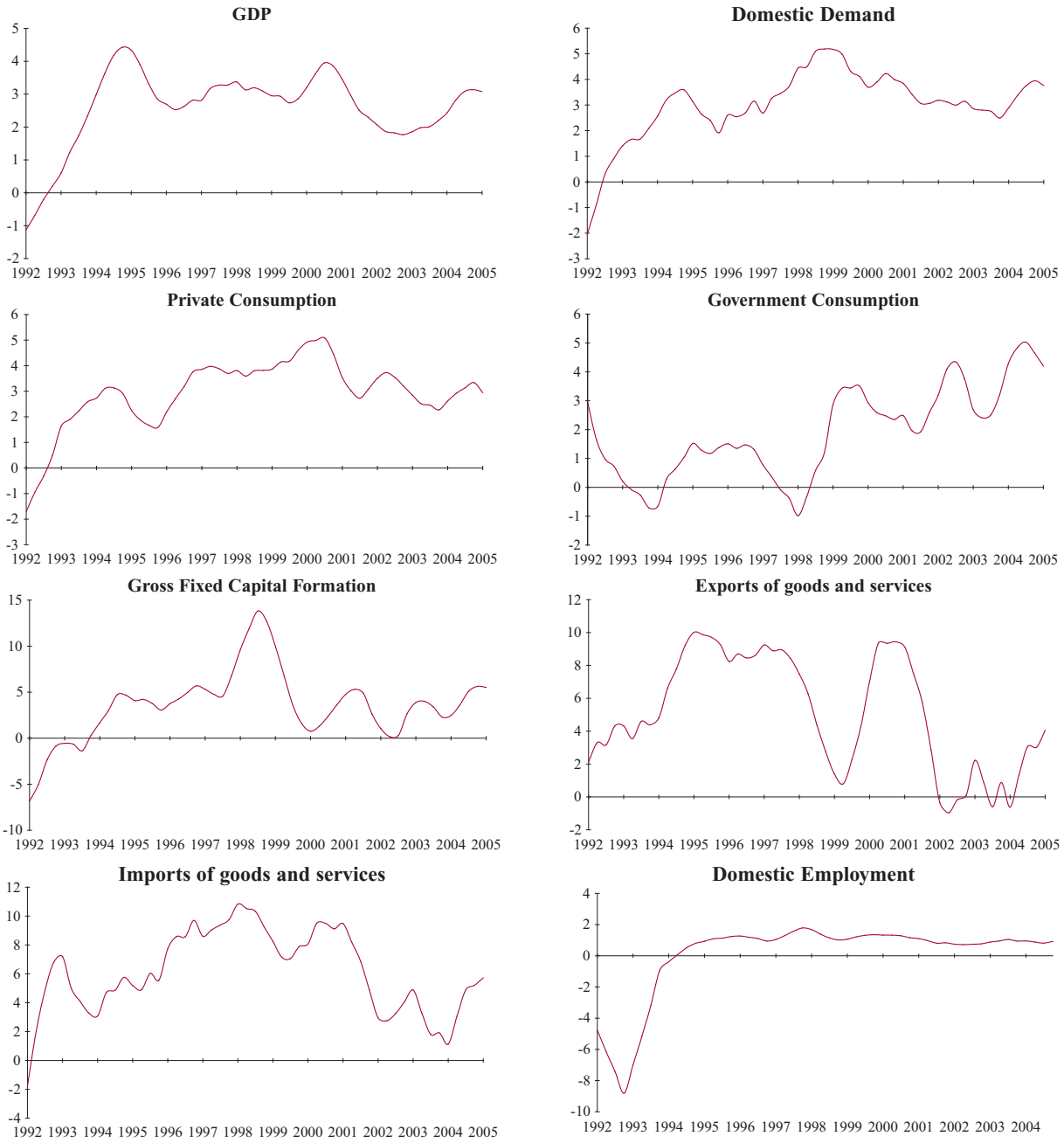


Source: Eurostat, Quarterly National Accounts.

The United Kingdom

In the last ten years or so, GDP growth in the United Kingdom has stayed close to or above 2 percent (chart 108), with domestic demand as the key driver of this favourable performance. Both private and government consumption have sustained domestic demand on a regular basis, while investment has been subject to the normal cyclical fluctuations. Since the economic recession of the early 1990s, employment performance has remained very favourable throughout.

Chart 108 – Data for the United Kingdom – Year-on-year real growth rates for the year ending in the current quarter

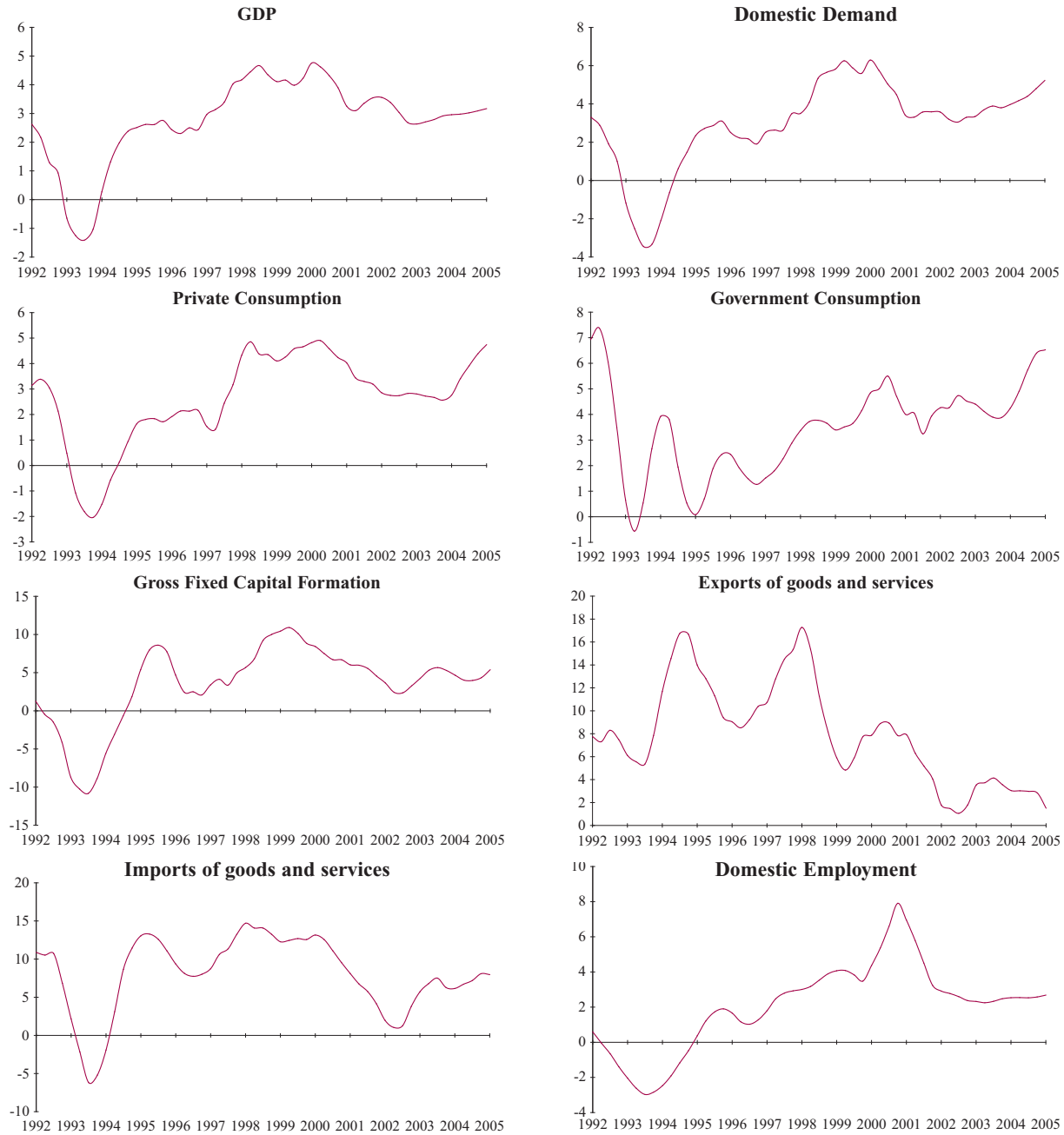


Source: Eurostat, Quarterly National Accounts.

Spain

The dynamism of economic activity in Spain since the mid-1990s has been remarkable (chart 109). All the main components of domestic demand have contributed positively to GDP growth. Net trade, in contrast, has acted mainly as a drag on growth, particularly since the beginning of 2003. Since the mid-1990s, employment growth has remained very positive throughout following a number of labour market reforms.

Chart 109 – Data for Spain – Year-on-year real growth rates for the year ending in the current quarter

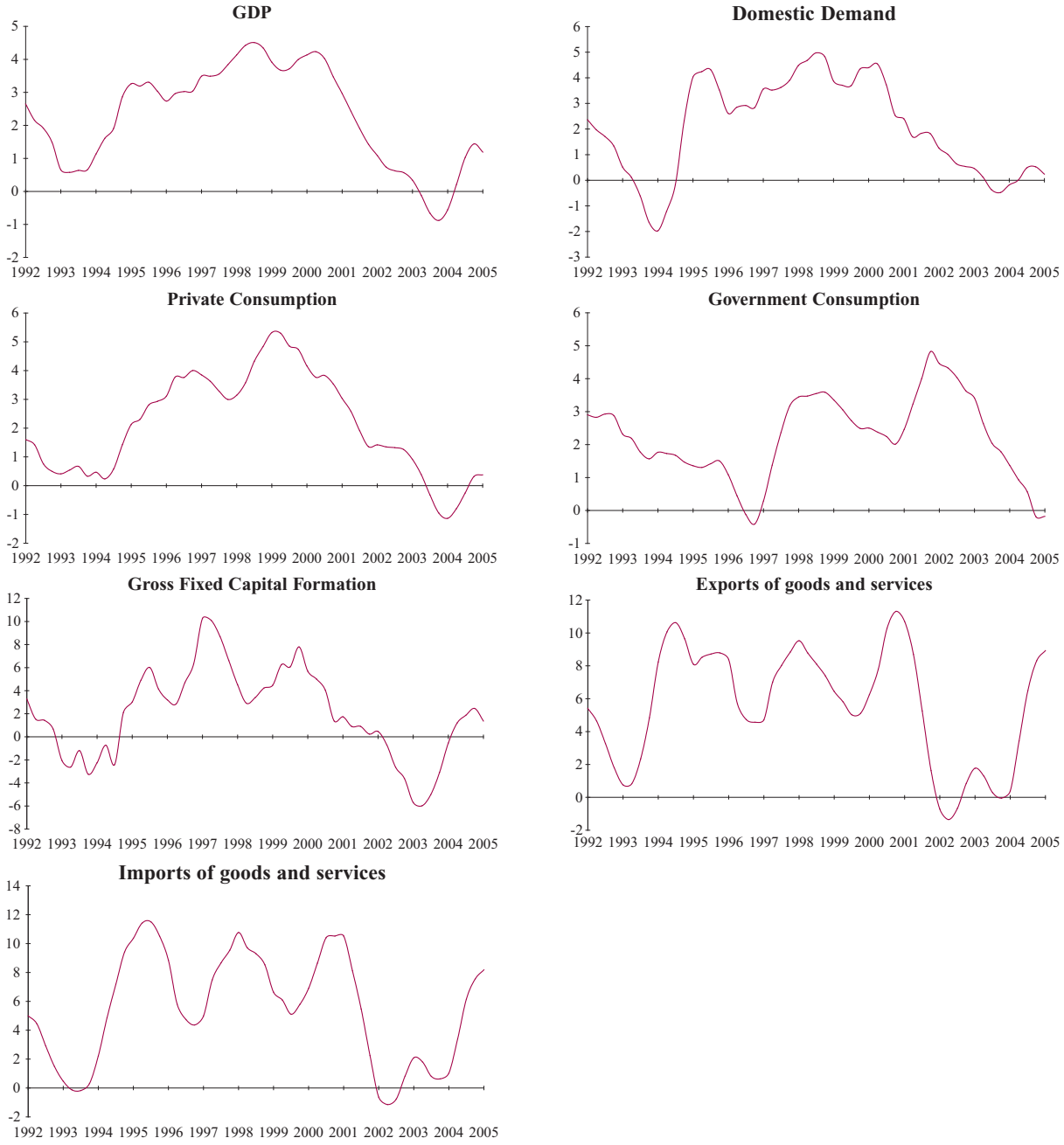


Source: Eurostat, Quarterly National Accounts.

The Netherlands

Economic developments in the Netherlands are highly synchronised with those in Germany. During the economic slowdown of 2001-2003, domestic demand in general and private consumption in particular weakened substantially compared with the very high growth rates registered at the end of the 1990s (chart 110). As in Germany, the economic recovery has been driven by buoyant export growth. Exports of goods and services increased by close to 9 percent in the year ending in the first quarter of 2005. In Germany and the Netherlands, substantial gains in price competitiveness are shifting resources to tradeable sectors, yielding an overall strengthening in the net trade contribution to growth and a reduction in the domestic absorption contribution.

Chart 110 – Data for the Netherlands – Year-on-year real growth rates for the year ending in the current quarter



Source: Eurostat, Quarterly National Accounts.

5. Labour market outcomes – the role of aggregate demand

Policy concerns

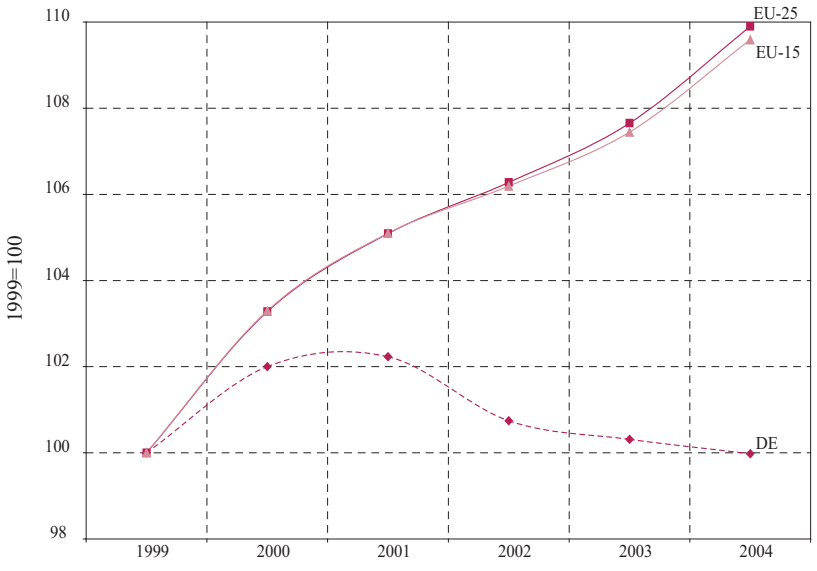
One of the three overarching objectives of the Employment Guidelines for 2005 to 2008 – Integrated Guidelines 17 to 24[12] – is *full employment*, together with *improving quality and productivity at work*, and *strengthening social and territorial cohesion*. *Full employment* is to be achieved by a balanced approach aiming to increase both the *demand* for and *supply* of labour.

This section briefly reviews the role of aggregate demand (i.e. demand shocks) on the evolution of labour market variables, relying for most of the analysis on some well-known (and broadly consensual) results published in the academic literature. The motivation here is the general concern about the potential impact of unfavourable demand shocks on labour market outcomes which, in current circumstances, seems to be particularly relevant for some EU economies, notably Germany (cf. the preceding analysis, and see charts 111 and 112).

The interplay between demand and supply

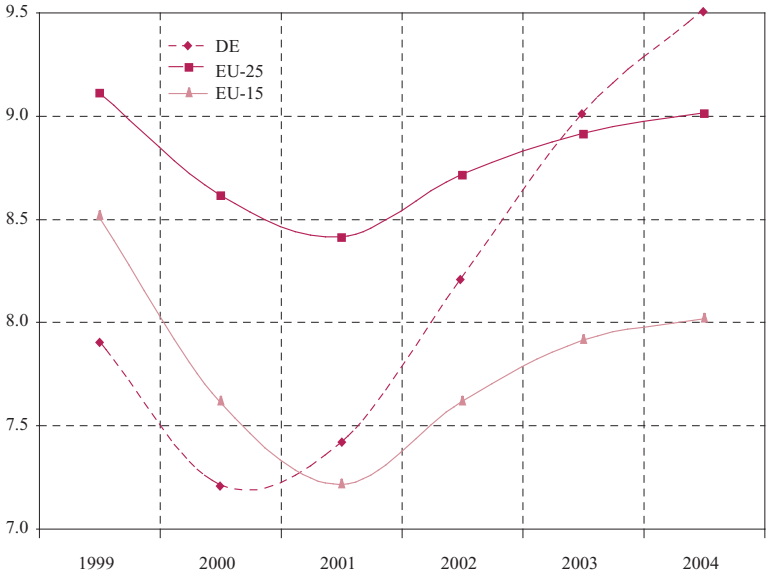
In the long-run, unemployment is determined entirely by supply factors and tends towards the Nairu/Nawru[13]. However, in the short to medium-run, unemployment is determined by the interplay of demand and supply factors[14]. Seen as a succession of short-

Chart 111 – Domestic demand excluding stocks at 1995 prices



Source: DG ECFIN, Ameco.

Chart 112 – Unemployment rate; total – Member States: definition EUROSTAT



Source: DG ECFIN, Ameco.

12 Council Decision of 12 July 2005 on guidelines for the employment policies of the Member States (2005/600/EC).
Council Decision of 12 July 2005 on guidelines for the economic policies of the Member States and the Community (2005/601/EC).

13 The non-accelerating inflation/wage rate of unemployment. This concept captures the theoretical prediction that over the long-run real demand and unemployment generally tend towards the level consistent with stable inflation.
Layard, Nickell and Jackman (2005), *Unemployment - Macroeconomic Performance and the Labour Market*, Oxford University Press.

14 In the labour market, the medium-run horizon can be relatively long due to the high persistence of endogenous variables (e.g. wages, unemployment rates, etc.).

run equilibriums, labour market variables are largely determined by aggregate demand factors. However, the fact that unemployment is mainly determined by aggregate demand factors is fully consistent with the notion that unemployment is on average across economic cycles (i.e. in the long-run) influenced mainly by supply factors, such as terms-of-trade, and (the interaction of) labour market institutions, such as tax structures and their interplay with benefit systems, hence emphasising the importance of structural reforms.

Factors influencing the long-run equilibrium level of unemployment

According to Layard et al. (2005): *the long-run equilibrium level of unemployment is affected, first, by any variable which influences the ease with which unemployed individuals can be matched to available jobs and, second, by any variable which tends to raise wages in a direct fashion despite excess supply in the labour market. Variables in the first group impact on the position of the Beveridge Curve[15], whereas those in the second do not do so in any direct fashion. Any variable shifting the Beveridge Curve to the right will increase equilibrium unemployment.*

Economic analyses usually list the following factors and labour market institutions as those variables influencing the long-run equilibrium unemployment rate (through their impact on the effectiveness with which the unemployed are matched to available vacancies): (i) the unemployment benefit system; (ii) active labour market policies (ALMPs); (iii) the real interest rate; (iv) employment protection laws (EPL); (v) barriers to labour mobility; (vi) systems of wage determination; (vii) product market competition; (viii) labour taxes; and (ix) real wage resistance.

Demand versus supply shocks

Blanchard and Quah (1989)[16] use a bivariate Structural Vector Autoregressive (SVAR) methodology with equations for output and the unemployment rate to break down the relative contributions of demand and supply disturbances to output fluctuations. A number of restrictions are sufficient to identify the two types of disturbances, and their dynamic effects on the joint behaviour of output and unemployment. The identification assumptions are: (i) each disturbance is uncorrelated with the other; (ii) neither has a long-run effect on unemployment; and (iii) the supply disturbance has a long-run effect on output while the demand disturbance does not[17]. One of the main conclusions of this analysis is that although demand disturbances do not have a long-run effect on either output or unemployment, they do make a substantial contribution to output fluctuations in the short and medium-term horizons[18].

The dynamics of unemployment

Several approaches have been used to explain the dynamics of unemployment across countries (Layard et al., 2005). Firstly, there are econometric studies versus calibrated models[19]. Secondly, a distinction may be made between studies that consider the interaction between economic shocks, or baseline variables, and stable labour market institutions and those that focus on changes in labour market institutions.

Well-known examples of studies that interact stable institutions with shocks or baseline variables include Blanchard and Wolfers (2000)[20], Bertola et al. (2001)[21] and Fitoussi et al. (2000)[22]. All these studies use panel data techniques to explain long-run changes in unemployment rates, which depend on long-run shifts in a set of baseline variables/shocks and their interaction with labour market institutions.

In order to explain the evolution of European unemployment, two stylised facts must be accounted for, namely the general rise in unemployment since the 1960s; and the heterogeneity of individual country experiences

15 The loci of unemployment and vacancy rates.

16 Blanchard and Quah (1989), 'The dynamic Effects of Aggregate Demand and Supply Disturbances', *American Economic Review*, Vol. 79, pp. 655-673.

17 Even where demand disturbances may have some long-run effect on output, the identification assumptions used are close to the correct ones when the size of the long-run effect of demand disturbances becomes arbitrarily small relative to that of supply disturbances. Another issue is the possible non-stationary nature of the unemployment rate. In this case, both output and unemployment could be affected even in the long-run by demand and supply disturbances. This is predicted by models with a 'hysteresis' effect, Blanchard and Summers (1986), 'Hysteresis and European Unemployment', *Macroeconomics Annual*, pp. 15-78.

18 However, Blanchard and Quah (1989) were unable to quantify this contribution with any great precision.

19 Calibrated models reproduce major stylised facts characterising an economy or group of economies. As an example see Ljungqvist and Sargent (1998), 'The European Unemployment Dilemma', *Journal of Political Economy*, vol. 106, No 3.

20 Blanchard and Wolfers (2000), 'The Role of Shocks and Institutions in the Rise of European Unemployment: the Aggregate Evidence', *The Economic Journal*, 110 (March), C1-C33.

21 Bertola, Blau and Kahn (2001), 'Comparative Analysis of Labor Market Outcomes: Lessons for the US from International Long-Run Evidence', *NBER Working Papers* No 8526.

22 Fitoussi, Jestaz, Phelps and Zoega (2000), 'Roots of the Recent Recoveries: Labor Reforms or Private Sector Forces?', *Brookings Papers on Economic Activity*, Summer, pp. 237-311.

(Blanchard and Wolfers, 2000). Adverse shocks alone cannot explain much of the heterogeneity in country experiences, because there is insufficient variation in the shocks affecting the different countries. Conversely, while explanations focusing on labour market institutions can account well for cross-country differences, many of these labour market institutions precede the rise in unemployment and have been relatively stable since. Using a panel of labour market institutions and economic shocks for twenty OECD countries since 1960, Blanchard and Wolfers (2000) find that the interaction between shocks and institutions is crucial to explaining both key facts[23]. This finding reflects the varying persistence of unemployment in response to shocks depending on the labour market institutions in place in the different countries[24].

As regards studies that rely on changing institutions to explain unemployment developments, Nickell et al. (2003)[25] use panel data techniques in a dynamic setting. In order to explain the evolution of unemployment, this model also includes factors that might explain the short to medium-run deviations from its equilibrium level, in addition to the long-run determinants of the equilibrium level. The main idea behind this analysis is to explain unemployment by: (i) those factors that impact on equilibrium unemployment (i.e. the usual list of labour market institutions[26]); and (ii) those shocks that cause unemployment to deviate from equilibrium unemployment. The latter include aggregate demand shocks, productivity and other labour demand shocks, and wage shocks. A standard co-integration test does not reject the hypothesis that the regression explains unemployment in the long-run despite the rather high value of the coefficient on the lagged dependent variable. This reflects the high persistence of labour market variables in general, and unemployment in particular, but also the unsatisfactory quality of data for labour market institutions.

Dynamic simulations of the estimated model[27] track the actual data relatively well. It suggests that the institutional variables included in the unemployment regression explain about 55% of the individual country changes in unemployment from the 1960s to the early 1990s. Therefore, other factors not captured by the institutional variables considered, such as demand and supply shocks, other institutions not included in the analysis, the interaction between demand shocks and institutions, or lack of quality of data for institutions, account for the remaining half of the unemployment changes.

Consequently, in the short- to medium-run a potentially important role is played by disequilibrium factors such as demand shocks/disturbances (Blanchard and Quah, 1989, and Blanchard and Wolfers, 2000). In conjunction with the (consensual) finding that labour market outcomes in general, and the unemployment rate in particular have a high persistence, the question emerges whether cyclical fluctuations are detrimental to employment performance. Related to this question are two issues:

- First, is there an asymmetric impact of business fluctuations on employment performance?

- Second, in the affirmative, would this motivate attempts to counteract the impact of shocks on economic activity through macroeconomic policies?

A detailed investigation of these two issues is beyond the scope of this report. Analysis on the first question was published in Employment in Europe 2002[28]. As regards the second issue, the reluctance of many economists to advocate active use of macroeconomic policy to stimulate economic activity is rooted in negative experiences with these policies between the 1960s and the 1980s. Moreover, modern economic theory emphasises the importance of long-term sustainability and confidence effects as crucial determinants for the success of macroeconomic policy. Policies that are detrimental to long-term sustainability risk a response of private sector expectations that runs counter to the initial policy objectives and as a result is likely to jeopardise the effectiveness of macro-

23 The interaction explanation of unemployment is attractive because it has the potential to explain not only the increase in unemployment over time (through adverse shocks), but also the heterogeneity of unemployment evolutions (through the interaction of the shocks with different labour market institutions).

24 For example, if labour market institutions lead to a labour market with long unemployment duration, adverse economic shocks are more likely to result in some of the unemployed becoming disenfranchised, reducing the pressure of unemployment on wages, thereby slowing and possibly even halting the return to lower unemployment.

25 Nickell, Nunziata, Ochel and Quintini (2003), 'The Beveridge Curve, Unemployment, and Wages in the OECD from the 1960s to the 1990s', published in *Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*, Princeton University Press.

26 Including (some) interactions between labour market institutions.

27 Labour market institutions are fixed at their 1960s values.

28 Chapter 2.

economic policies [29]. Against this background, the following sections analyse the cyclical properties of budgetary policy and the motivation of the revised Stability and Growth Pact.

6. The cyclical properties of budgetary policy

In a monetary union, monetary and exchange-rate policies are determined by taking into consideration the collective situation throughout the participating countries. Therefore, the role of budgetary policy is of central importance in bringing about stabilisation through tackling country-specific developments. Consequently, EMU brings with it an increased need to achieve and maintain sound budget positions over the cycle in order to provide a sufficient budgetary margin to absorb (or even to respond to) cyclical fluctuations or economic shocks with an asymmetric impact[30].

As regards the cyclical properties of budgetary policy, some preliminary econometric evidence (see Annex), using macro-pooled data for the EU-15, suggests that on average since 1993, the cyclically-adjusted primary balance (CAPB) of participants in EMU shows no significant reaction to variations in the output gap after controlling for a monetary conditions indicator (MCI). This is consistent with findings elsewhere.

For example, Jordi and Perotti (2003)[31] argue that the quality of macroeconomic stabilisation in the euro area increased in comparison to the 1980s, when, on average, discretionary budgetary polices were strongly pro-cyclical. Debrun and Masson (2004)[32] also found that, on average and in most of the EU-15 Member States, (discretionary) budgetary policy, although remaining pro-cyclical, has become less so since EMU. The estimated coefficients of the equation in the Annex are in line with these results, pointing to an overall pro-cyclical stance for fiscal policy, although this has been less pronounced since the start of EMU. Debrun and Masson (2004) also suggest that the recent reduction in the pro-cyclical nature of budgetary policy can be attributed to a change in behaviour during cyclical downturns[33].

7. The revised Stability and Growth Pact

In order to strengthen the economic rationale behind the existing framework for budgetary surveillance, together with the need to reinforce the stabilisation role of budgetary policy[34], the Commission issued a Communication[35] that considered several elements for strengthening the Stability and Growth Pact (SGP). These included the following:

- *Placing more focus on debt and sustainability in the surveillance of budgetary positions;*
- *Allowing for more country-specific circumstances in defining the SGP's medium-term deficit objective of "close to balance or in surplus";*
- *Considering economic circumstances and developments in the implementation of the Excessive Deficit Procedure; and*
- *Ensuring earlier actions to correct inadequate budgetary developments.*

The Commission's proposals have been largely adopted by the Council in its report of 20 March 2005[36]. As expressed in the broad guidelines for the economic policies of the Member States and the Community for 2005 to 2008 *op. cit.*, in the present economic circumstances, *for those Member States that have already achieved*

29 The following two examples illustrate the argument: i) an increase in long-term interest rates in response to a reduction in short-term rates by the central bank; and ii) a reduction in private consumption spending or investment in reaction to expansionary fiscal policy.

30 Council Decision of 12 July 2005 on guidelines for the economic policies of the Member States and the Community (2005/601/EC).

31 Jordi and Perotti (2003), 'Fiscal policy and monetary integration in Europe', *Economic Policy*, No 37, October.

32 Debrun and Masson (2004), 'L'UEM et son cadre macroéconomique: plus grand, plus haut, … plus fort?', contribution au XVI congrès des économistes belges de langue française.

33 Pisani-Ferry (2005) advances two ideas to explain this change: (a) during cyclical downturns the SGP has been relatively accommodating to higher deficits; and (b) the disappearance of the disciplinary exchange-rate mechanism.
Pisani-Ferry (2005), *La réforme du Pacte de stabilité: ni règles, ni discrétion?*, Rapport préparé pour le XVI congrès des économistes belges de langue française.

34 By securing a sound budgetary position which will allow the full and symmetric play of the automatic budgetary stabilisers over the cycle with a view to stabilising output around a higher and sustainable trend.
Council Decision of 12 July 2005 on guidelines for the economic policies of the Member States and the Community (2005/601/EC).

35 Communication from the Commission to the Council and the European Parliament *Strengthening economic governance and clarifying the implementation of the Stability and Growth Pact*, COM(2004) 581 final.
Communication from the Commission to the Council and the European Parliament, *Public finances in EMU–2005*, ECFIN/C2/REP/51021-EN.

36 *Improving the implementation of the Stability and Growth Pact* – Council Report to the European Council, (21.3.2005) 7423/05.

sound budgetary positions the challenge is to retain that position; while *for the remaining Member States, it is vital to take all the necessary corrective measures to achieve their medium-term budgetary objectives, in particular if economic conditions improve, thus avoiding pro-cyclical policies and putting themselves in a position in which sufficient room for the full play of automatic stabilisers over the cycle is ensured prior to the next economic downturn*.

Moreover, it can be argued that the EU surveillance framework for fiscal policy has been given a broader perspective as economic and budgetary policies thus need to set the right priorities towards economic reforms, innovation, competitiveness and strengthening of private investment and consumption in phases of weak economic growth[37]. The improved governance of the budgetary surveillance process should contribute towards achieving the economic objectives for growth and employment set out in the Lisbon strategy[38].

Debt sustainability and country-specific circumstances

The increased focus on debt sustainability, together with the increased weight given to country-specific economic and budgetary circumstances in defining the SGP's medium-term objectives, is expected to foster investment in physical and human capital, thereby raising the productive capacity of the economy in the medium to long-term[39]. A one-size-fits-all medium-term balanced budget requirement, independent of country-specific circumstances, could lead in some Member States to an excessive reduction in government debt levels[40] which could, among other things result in sub-optimal expenditure on infrastructure and on education and training (De Grauwe, 2005[41]). There is strong empirical evidence that investment in infrastructure and in human capital are key drivers of long-term economic growth[42].

The revised SGP allows the short-term costs of major reforms to be taken into account.

It is often claimed that the Stability and Growth Pact neglects a possible trade-off between short-term budgetary objectives and the implementation of reforms that could durably improve public finances over the medium to long-term. One reason why there could be a trade-off between reforms and budgetary objectives is the fact that reforms have direct budgetary costs. This is the case of pension reforms that introduce a funded pillar classified outside the government sector. In this case, budgets would normally undergo a temporary deterioration (due to lost social security contributions by the government), offset by long-term improvements (associated with lower government expenditure on pension payments). A second reason for a trade-off is the fact that reforms can be politically costly, weakening the drive for fiscal consolidation as policymakers attempt to overcome resistance to reforms via, for instance, tax cuts or government transfers[43].

Under the revised SGP, the budgetary costs of major structural reforms which have a verifiable positive impact on the long-term sustainability of public finances will be taken into account in assessing of the adjustment to the medium-term budgetary objective. In particular, structural reforms that unequivocally improve the long-term sustainability of public finances should not be hampered in order to meet the targets of the SGP. *In order to enhance the growth-oriented nature of the Pact, structural reforms will be taken into account when defining the adjustment path to the medium-term objective for countries that have not yet reached this objective and in allowing a temporary deviation from this objective for countries that have already reached it, with a clear understanding that a safety margin to ensure respect of the 3% of GDP reference value for the deficit has to be guaranteed and that the budgetary position would be expected to return to the medium-term objective within the programme period*[44].

37 Council of the European Union, ECOFIN 104, 21 March 2005.

38 For an overview of the (revised) Lisbon strategy, see the Commission's Communication entitled *Integrated Guidelines for Growth and Jobs (2005-2008)*, COM(2005) 141 final.

39 The medium-term objective should be differentiated and may diverge from 'close to balance or in surplus' for individual Member States on the basis of their current debt ratio and potential growth, while preserving sufficient margin below the reference value of -3% of GDP, COM(2004) 581 final.

40 Leading to a potentially inefficient inter-temporal/dynamic allocation of resources. Blanchard and Fischer, (1989) *Lectures on Macroeconomics*, MIT press.

41 De Grauwe (2005), 'The Stability and Growth Pact in need of reform', ETUC conference on 'Delivering the Lisbon Goals: the Role of Macroeconomic Policy Making', 1-2 March 2005.

42 For a general reference see Barro and Sala-i-Martin (2003), *Economic Growth*, MIT Press.

43 For an analysis of the link between structural reforms and budgetary policy, see European Commission (2005): Public Finances in EMU 2005.

44 *Improving the implementation of the Stability and Growth Pact* – Council Report to the European Council (21.3.2005) 7423/05.

Discretionary fiscal policy has some potential drawbacks

According to some authors[45], another limitation of structural reforms under EMU is their potential deflationary impact which, for political economy reasons, might reduce their attractiveness to policymakers. They argue for discretionary budgetary expansion to accompany structural reforms. Others, however, argue that reforms can also have a direct positive impact on demand through confidence effects[46].

Although it is clear that, under the new EMU policy regime, the role of budgetary policy is now of central importance for stabilisation purposes, particularly in the presence of cyclical fluctuations or economic shocks with an asymmetric impact, a note of caution is necessary regarding the effectiveness of discretionary fiscal policy.

Fiscal policy is subject to various lags, including the time needed to recognise the situation requiring attention, to propose appropriate action and to carry it through the political process. In addition, the ideal timing of discretionary fiscal policy would depend not only on the position in the domestic economic cycle, but also on the conditions prevailing in the euro area and the policy response of the European Central Bank. As a result of these drawbacks, discretionary fiscal policy might possibly have a destabilising effect on economic activity. However, automatic stabilisers do not suffer from the many potential problems of discretionary fiscal policy, although, by their nature, they can only attenuate and not fully offset the effects of shocks.

8. Summary and Conclusions

The main conclusions of the foregoing analysis are as follows:

- In the EU-15 during the period 1997-2000, economic growth was particularly rich in jobs, and in the cyclical downturn of 2001-2003 employment levels showed a remarkable resilience compared to the previous cyclical downturn of 1992-1994[47]. The current broad consensus[48] is that structural improvements have occurred in the functioning of labour markets, resulting from a number of factors, such as: (a) past and ongoing reforms in labour, products and services, and financial markets; (b) development of certain types of labour contracts (e.g. part-time work); (c) changes in the sectoral composition of employment[49]; and (d) wage formation

45 Silbert and Sutherland (1998), "Monetary Regimes and Labour Market Reform", *CEPR Discussion Paper* No 1731.
Calmfors (1998), "Macroeconomic Policy, Wage Setting and Employment – What Difference Does EMU Make?", *Oxford Review of Economic Policy*.
Saint-Paul and Bentolila (2000), "Will EMU increase Eurosclerosis?", *CEPR Discussion Papers* No 2423.

46 See Public Finances in EMU 2005.

47 In the EU-15 during the 1992-1994 recession, employment declined by nearly 3 percentage points. This contrasts with an increase in cumulative terms of about 2 percentage points during the period 2001-2003.

48 For example see recent issues of the European Economy Review and of the Employment in Europe publications (http://europa.eu.int/comm/economy_finance/publications/the_eu_economy_review_en.htm and http://europa.eu.int/comm/employment_social/news/index_en.html, respectively).

49 Resulting from high employment (and GDP) growth rates in most service sectors with a higher weight in total employment in the late 1990s than a decade earlier; conversely, sectors with low or negative employment growth, such as agriculture and industry excluding construction had a lower weight in total employment in the late 1990s than a decade earlier.

50 The risk of a jobless (or even of a 'jobs-loss') economic recovery is mentioned in 'Labour Market and Wage Developments in 2004, with a Special Focus on the Risk of Jobless Growth', *European Economy Special Report* No 3/2005.

51 In recent years, unfavourable/unsustainable starting positions have prevented a number of countries from making full use of automatic stabilisers and even more from introducing discretionary counter-cyclical measures.

mechanisms that take better account of prevailing (competitive) conditions in the economy.

- The economic upswing that started in the second half of 2003 has been characterised by the slow response of employment, which mirrors the limited labour market response during the prolonged downturn. The risk of an upward cycle with low employment growth overall cannot be excluded[50]. The persistent weakness of domestic demand in Germany poses a major downside risk to the current economic recovery in Europe in general, and job creation in particular. The present surge in energy prices could damage economic confidence, adding further to the impact of the uncertainty surrounding the strength and duration of the present economic recovery. Across EU Member States and over the cycle, the poor track record of budgetary policy with respect to economic stabilisation[51] and the difficulties in undertaking a coherent and comprehensive strategy of structural reforms are also likely to weigh negatively on economic confidence, yielding lower investment expenditure and job creation. In the present circumstances, firms might not want to expand (at least early on in the upswing), fearing a possible "double-dip" in the economic cycle.

- While in the EU-15 GDP grew at similar rates during the cyclical downturns of 2001-2003 and 1992-1994, an analysis of individual Member States shows diverse experiences, which are reflected in employment outcomes. For example, Germany, the Netherlands and Poland displayed a weaker performance in the 2001-2003 slowdown than in 1992-1994, mainly because of the weakness or stagnation of domestic demand. Conversely, in France, Spain, Italy and the United Kingdom, domestic demand was stronger on average during the 2001-2003 period (compared to the recession in the first half of the 1990s), contributing to higher domestic demand growth in the EU-15 as a whole.

- Econometric results suggest that although demand disturbances do not seem to have a significant long-run effect on either output or unemployment, they make a substantial contribution to output fluctuations in the short- and medium-term. In the short- to medium-run a potentially important role is played by disequilibrium factors such as demand shocks/disturbances. This, together with the (consensual) finding that labour market outcomes in general, and the unemployment rate in particular, have high persistence, raises the important issue of the quality of macroeconomic policy stabilisation.

- As regards the usefulness of macroeconomic policies, and in particular budgetary policy in stabilising economic activity, a note of caution is necessary especially regarding the effectiveness of discretionary fiscal policy. Fiscal policy is subject to various lags, together with the varying policy response of the monetary authorities. Therefore, discretionary fiscal policy might possibly have a destabilising effect on economic activity and hence also a negative impact on the labour market. However, automatic stabilisers do not suffer from the numerous drawbacks of discretionary fiscal policy, although, by their nature, they can only attenuate and not fully offset the effects of shocks.

- With the revised SGP, the EU surveillance framework for fiscal policy has been given a broader perspective as economic and budgetary policies need to set the right priorities for economic reforms, innovation, competitiveness, and strengthening of private investment and consumption in phases of weak economic growth. The improved governance of the budgetary surveillance process, also thanks to the increased attention paid to the quality of public finances, should contribute towards achieving the economic objectives set out in the renewed Lisbon strategy for both growth and employment.

- In particular, the increased focus on debt sustainability, the extra weight given to country-specific economic and budgetary circumstances in defining the Pact's medium-term objectives, and the enhanced role of structural reforms are expected, on the one hand, to foster investment spending on physical capital and knowledge (both human capital and R&D), thereby raising the productive capacity of the economy over the medium to long-term and, on the other, to establish a political economy mechanism more favourable to the process of structural reform and ultimately act to boost employment creation.

- Successful implementation of the re-launched Lisbon strategy, encompassing guidelines for macro-, micro-economic and employment policies at national level and for structural action at EU level, would make European economies more resilient and able to adjust faster to shocks, thereby strengthening and sustaining confidence among economic actors and reducing the need for stabilisation policies.

Annex I

Box 9 – Estimation of a 'reaction' function for budgetary policy

The general government cyclically-adjusted primary balance (CAPB) aims to measure the discretionary impulses of budgetary policy[52]. The adjustment is based on the estimated average impact on government revenue and expenditure of the deviation between actual and potential GDP[53]. An increase/decrease in the CAPB represents a fiscal tightening/loosening. The monetary conditions indicator (MCI) is a weighted average of changes in domestic real interest rates and real effective exchange rates[54]. An increase/decrease in the MCI represents a monetary tightening/loosening.

Using macro-pooled data for the EU-15[55], the following equation is estimated to explain the cyclically-adjusted primary balance (*capb*):

$$capb_{it} = \alpha_i + \beta_1 mci_{it} + \beta_2 d(gap_{it}) + \beta_3 dum_1 d(gap_{it}) + u_{it}$$

where i and t are respectively the country and period indices; α_i is the fixed effects coefficient; mci_{it} is the monetary conditions indicator; gap_{it} is the cyclical component of output using the production function approach (i.e. the output gap); dum_1 is a dummy that equals one after 1993 for EMU participants and zero otherwise[56]; u_{it} is a first order autoregressive stochastic process; and d is the first difference operator.

The source of the data is DG ECFIN, Ameco. Data for the MCI are derived from calculations made in DG EMPL using Ameco data for real interest rates and real effective exchange rates.

The pool equation for the EU-15 (excluding Luxembourg), covering the 1970-2004 period, is estimated using *ordinary least squares*.

A note of caution is necessary regarding the estimation method. Due to the possible endogeneity of regressors, it would have been preferable to use the *two-stage least squares* estimation method. Lack of adequate instruments prevented this. Therefore, the results should only be taken as illustrative, because the estimates might be both biased and inefficient.

The estimates of this equation are used to test the following hypothesis. On average across EMU countries, and after controlling for monetary conditions (MCI), discretionary fiscal policy (CAPB) has not been actively/systematically used to counteract cyclical fluctuations since the onset of the EMU project (1993). This hypothesis corresponds to testing for $\beta_2 + \beta_3 = 0$. With a *p-value*[a] of 60%, this hypothesis cannot be rejected.

a) The *p-value* indicates the probability of obtaining a test statistic whose absolute value is greater or equal to the sample statistic if the (null) hypothesis is true.

The estimation results:

Coefficient	Estimate
β_1	-0.10 (-1.4)
β_2	-0.20 (-3.6) *
β_3	0.18 (2.7) *
AR(1)	0.76 (20.6) *
R^2 adjusted Standard error of the regression	0.76 1.4

The *t* ratios are in parentheses. * coefficient significant at 1%.

52 It excludes variations in the general government primary balance due to cyclical fluctuations and the impact of automatic stabilisers. However, in recent years the systematic recourse by many Member States to one-off/transitory budgetary measures has introduced a bias between this indicator and the underlying fiscal stance.

53 Source: DG ECFIN, Ameco.

54 $MCI_t = \omega(r_t - r_b) + (1-\omega)(q_t - q_b)$, where r_t is the short-term real interest rate, q_t is the log of the real effective exchange rate (where a rise in q_t represents an appreciation), ω is the weight of the interest rate component, and r_b and q_b are the levels of the real interest rate and the log of the real effective exchange rate in a given base period. The data source is DG ECFIN, Ameco. ω is set to 2/3, which is a value commonly used. Batini and Turnbull (2000), *Monetary Conditions Indices for the UK: A Survey*, Bank of England.

55 EU-15, excluding Luxembourg.

56 It is implicitly assumed that in a number of EU Member States a break in fiscal policy might have occurred around 1992/1993 (the Maastricht Treaty was signed in 1992), as at that time future participants in EMU embarked on a budgetary consolidation path to reduce by 1997 their general government deficits below the reference value of 3% of GDP, and thereby qualify for the first wave of monetary union. Later dates for the starting year of the 'EMU effect' (i.e. the dummy in the regression) were tested without significant changes in the results.

Chapter 4

Earnings disparities and determinants of the earnings distribution in the EU

1. Introduction

The structure and evolution of earnings are important features of the labour market. As earnings reflect labour supply decisions by workers or individuals and labour demand decisions by firms, information and data collected from both firms and workers are most useful in analysing the determinants of earnings. Furthermore, the link between earnings, productivity, profits and consumption are strong determinants of economic growth and employment performance, which are overarching objectives of the renewed Lisbon Strategy. As highlighted in the new 'Integrated Guidelines for growth and jobs'[1], there are two guidelines which deal essentially with wage developments and their social and territorial dimension, thus providing for social cohesion[2].

Essentially this chapter will provide a recent perspective for the understanding of earnings differentiation across Member States, regions, and individual characteristics that determine earnings inequality, exploring the micro-economic foundations of earnings inequality. It provides elements on the distribution of earnings and attempts to relate these elements to the causes of earnings inequality identified in the economic literature, such as individual characteristics (e.g. age, gender, skills), company specificities (e.g. size, location, physical capital, technology, work organisation), increased economic integration, and the institutional and bargaining framework.

Such an analysis is greatly assisted by availability of the *Structure of Earnings Survey* (SES) results from the European Statistical Office (Eurostat), released at the end of April 2005. The SES[3] contains – in its underlying questionnaires – an abundance of information on both the employer and the employee, all gathered at enterprise level and thus represents an extremely valuable source for research in labour economics using micro-data. The SES is an important survey for two main reasons: firstly because it covers the difficult subject of earnings data, though accessibility is constrained by data confidentiality. Secondly, it provides EU-wide harmonised coverage of the data. Such information makes it possible to improve understanding of some key elements for the Lisbon Strategy, including:

- Increased wage differentiation (wage inequalities, according to gender, regions, industries, and their individual and collective determinants) and their links to employment performance and labour mobility[4];
- Impact of remaining pay gaps, in particular the persistent pay inequalities between men and women, which probably form one of the most persistent obstacles to a balanced participation of men and of women in employment[5];
- The role of collective agreements in the regulation of wages, in particular taking into account productivity. Unfortunately, owing to a low response rate in some Member States (the relevant questions in the survey were optional), analysis of this issue is only possible for selected Member States;
- Member States have different histories as far as the trend in wage inequalities is concerned. For instance in the new Member States of Central and Eastern Europe, under central planning, earnings inequality was traditionally low. Then the dispersion in earnings

1 COM(2005)141 final.

2 Integrated Guideline 4. To ensure that wage developments contribute to macroeconomic stability and growth and to increase adaptability, Member States should encourage the right framework conditions for wage-bargaining systems, while fully respecting the role of the social partners, with a view to promote nominal wage and labour cost developments consistent with price stability and the trend in productivity over the medium term, taking into account differences across skills and local labour market conditions.
Integrated Guideline 22. Ensure employment-friendly labour cost developments and wage-setting mechanisms by encouraging social partners within their own responsibilities to set the right framework for wage-bargaining in order to reflect productivity and labour market challenges at all relevant levels and to avoid gender pay gaps; and reviewing the impact on employment of non-wage labour costs and where appropriate adjust their structure and level, especially to reduce the tax burden on the low-paid.

3 Eurostat has published the aggregate data on the following website: http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/popul/labour/earncost/gearning/ses2002&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=176.

4 However the scope of this chapter obviously will not allow coverage of all the issues and the data does not allow us to go as far as examining 'local labour market conditions' in great detail.

5 On the gender pay gap, see the Commission Staff working paper at: http://europa.eu.int/comm/employment_social/employment_analysis/ gender/sec_03_937_en.pdf.

increased and they are now close to or have even exceeded the levels of inequality found in the established market economies of Western Europe[6]. As such, the European Structure of Earnings survey is potentially a very rich source for information on this subject over time;

- Wage formation is a complex issue, with wage developments and aspects of wage flexibility being at the heart of the current policy debate on competitiveness and maximising job creation. Therefore, new surveys such as the European SES provide valuable insights into the issue.

Let us not forget that earnings have a dual nature: they reflect a reward for productivity, skills, enterprise characteristics, sectoral characteristics, quality in work generally[7] and are crucial to defining a job as being a 'good job', in the sense of '*better* jobs'[8]; but they are also an essential component for achieving social cohesion, which fundamentally depends on the distribution of earnings. This duality mirrors the themes which are central to the European agenda – Europe has to stimulate growth and employment while guaranteeing social cohesion. The monitoring of the new Lisbon strategy requires robust examination of the question of remuneration. The main issue is that the development of pay is to a great extent determined by the characteristics of workers, firms, location, and a variety of national institutions and this makes it difficult to generalise and to derive any upward or downward trend in the incidence of inequalities in the EU. Essentially this topic reflects the range of choices facing a society, which revolve around equity and efficiency.

2. No generalised trend across the EU

Earnings inequalities are one of the most tangible subjects, and obviously one of the most sensitive for European populations, with real implications for each and every individual. Earnings inequality in Europe is a major cause for concern among the public at large. Recent developments in the EU such as enlargement or the development of non-wage remuneration (for example, stock options and the like) have intensified interest in the subject. However, it is also a central issue for the economic and social modernisation of Europe because earnings reflect essential elements of the economy (such as productivity) and of society (such as the evolution of skills).

Throughout the EU-25, earnings inequalities have been strongly driven by several country-specific elements. In the United Kingdom, for example, earnings inequality has grown dramatically over a long period among all employees, men and women, young and older workers alike[9]. The new Member States of Central and Eastern Europe that joined the EU in 2004 have also witnessed a widening of the earnings distribution[10] during their transition stages, though they started from the comparatively low levels of inequality which were a feature of the centrally planned systems they formerly had. In continental Europe, we see more variation, with inequality growing in some Member States, but declining in others[11]. Therefore, in terms of the EU, it is not possible to identify a 'generalised trend of widening earnings inequality'[12] such as the one identified in the US, and this is evident from chart 113. Chart 113 plots the evolution over time (1969 to 2004) of the decile ratios (decile 9 over decile 1 – on the vertical axis), which measure earnings dispersion for full-time workers as measured by the earnings limit of the ninth decile of workers relative to the earnings limit for the bottom decile.

6 Rutkowski, J. (1996), 'Changes in the wage structure during economic transition in Central and Eastern Europe', *Social Challenges of Transition Series*, *World Bank Technical Paper n°340*.

7 Ten indicators of quality in work were adopted at the Laeken European Council in December 2001 as a means of both assessing the quality of work in Europe and monitoring its evolution over time. These are (1) Intrinsic job quality, (2) Skills, lifelong learning, and career development, (3) Gender equality, (4) Health and safety at work, (5) Flexibility and security, (6) Inclusion and access to the labour market, (7) Work organisation and work-life balance, (8) Social dialogue and worker involvement, (9) Diversity and non-discrimination, (10) Overall work performance http://europa.eu.int/comm/employment_social/employment_analysis/dimensions_en.htm.

8 Report of the European Employment task-force, chaired by Wim Kok, *Jobs, jobs, jobs*, which underlined the need for 'more and better jobs'.

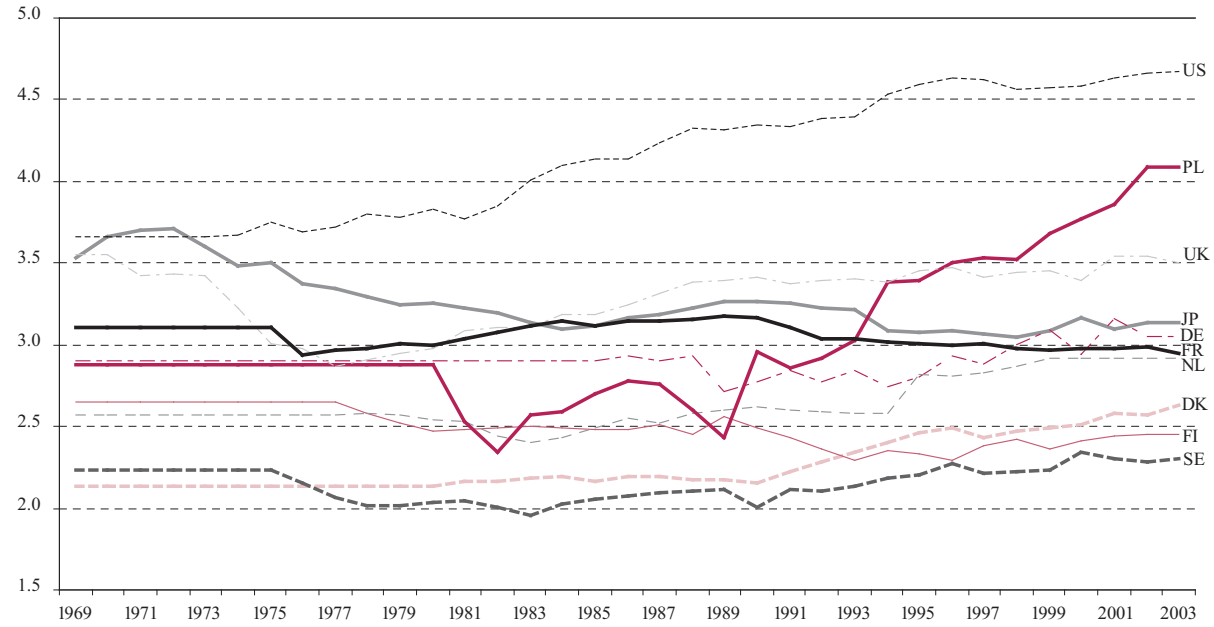
9 McKnight, A. (2000), *Trends in earnings inequality and earnings mobility, 1977-1999, the impact of mobility on long-term inequality*, for the Department of Trade and Industry.

10 Rutkowski, J. J. (2001), 'Earnings inequality in Transition Economies of Central Europe, Trends and Patterns During the 1990s', *Social Protection Discussion Paper Series n°117,* World Bank.

11 Howell, D., Huebler, F. (2001), 'Trends in earnings inequality and unemployment across the OECD', *CEPA working paper n°23*; they state that 'some countries clearly show declines in earnings inequality (BE, IT, DE, FI, FR, NO) while others are stable or exhibit modest increases). OECD (1996) even documents a decline in French earnings inequality in the 1970s to mid-1990s.

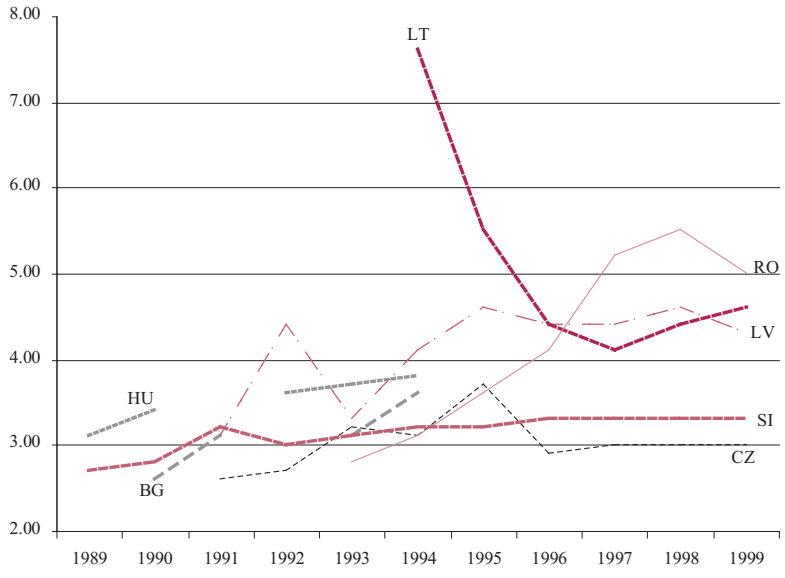
12 OECD (1996), *Perspectives économiques*.

Chart 113 – Trends in earnings inequality (selected countries)



Source: OECD data on the ratio decile9/decile; the source is the Structure of Earnings Database, and in all cases, refer to earnings of full-time workers; data sources are diverse (enterprise surveys, household surveys, tax records, social security records) and can be communicated upon request. There were too many missing values for other European countries not displayed in this chart; some linear interpolation was necessary for FI, DK, NL, PL; data was available for DK (1980-2003), FI (irregular), FR (1969-2002), DE (1984-2002), NL (1977-1999), PL (1980-2002), SE (1980-2003), UK (1970-2003) US (1973-2003), JP (1975-2003).

Chart 114 – Trends in earnings inequality (selected new Member States)



Source: Data in Rutkowski J. (2001), 'Earnings Inequality in Transition Economies of Central Europe, Trends and Patterns During the 1990s', op. cit., World Bank.
Note: Missing and truncated data for some of the countries.

From these data, it is clear that earnings inequality increased in the US, the UK, Poland, Denmark, and the Netherlands, while it clearly decreased in Japan, slightly in France and was relatively stable in Sweden. More specifically there has been a steady increase in earnings inequality in the US over the last thirty years, and in the UK over the last 20 years, whereas the trend has been observable in Poland only since the early 1990s (although it is not strictly comparable to the other countries, given its transition from planned to market economy over the period). Unfortunately the range of years available for the data varies between countries, making comparisons difficult. Interestingly, Finland, Denmark and Sweden feature the lowest levels of earnings inequality; thus there does not seem to be a

direct link to labour market and economic performance. Rising trends in earnings inequalities are usually pointed out when analysing the US and the UK, but this does not necessarily imply a generalised world-wide trend. Indeed charts 113 and 114 suggest that there may be many more factors at work which determine trends in earnings inequality.

Again, no clear trend can be inferred for the new Member States (see chart 114 except Poland, for which data were available for a longer period of time and so are displayed in chart 113). Yet the average level of inequality is significantly higher than for other Member States (the decile ratio varies between 3 and 5, as compared to 2 and 3 for other Member States except the UK).

However, earnings inequality is best understood when studied over time, and it would be useful to have data collected regularly at the level of the enterprise to monitor trends across the EU (firm-level panel data) and here the SES can help up to a point. Unfortunately, because of a number of factors relating to the development of the EU, the information in the two SES exercises carried out in 1995 and 2002 are not strictly comparable.

During the 1980s, earnings inequality increased in several OECD countries, widening the gap between the richest and poorest. This trend has been particularly striking in the US, where researchers largely agree that the main factors bringing about this change have been globalisation and rapid technological change (with the implications for skill needs). However, others have pointed towards labour market institutions and notably the degree of compression of the wage structure, which also reflects certain aspects of wage flexibility, as the principal engine of change. Overall, there appears to be a lack of consensus as to the relative strengths of these effects.

Nonetheless, much more in-depth analysis is needed to establish a causal link, not least as there are various possible explanations to earnings inequality in economic theory that are explored later on in this chapter, after having presented the descriptive evidence from the data contained in the SES.

Box 10 – The difficulties in measuring earnings inequality

Measuring earnings differentials or earnings inequality is very difficult because of problems with the source of data, the coverage, the definition of 'earnings' (whether it includes social benefits or family allowances) and the fact that earnings tend to be misreported (this is the typical shortcoming of household surveys), as both employers and workers might underreport actual earnings for tax purposes.

Evidence based on a cross-section of the earnings distribution provides a snapshot of the extent of earnings inequality at a single point in time and this chapter adopts this approach, given the point made about the lack of comparability between the SES of 1995 and 2002[13]. It is also legitimate to examine the dynamics of earnings inequality over time, as well as other issues such as the lifetime perspective and the development of the situation over the long-term. It would also be important to know whether or not an increase in cross-sectional inequality at any one point in time could lead to an increase in lifetime earnings inequality[14]. These issues are important because there is some evidence (for example in the US and the UK) that increases in cross-sectional earnings inequalities have been accompanied by rising lifetime earnings inequality. However, such questions cannot be addressed using the results of the 2002 SES, since evidence is needed from longitudinal earnings data that tracks individuals continuously over a long period of time.

Employer-based surveys, such as the SES, usually yield different results from those obtained using household surveys, because, wages in the private sector, for example, tend to be more unequally distributed, and the main difference is that these surveys are based on very different designs, with differences in coverage and sampling procedures.

Differences also reflect, in part, variations in coverage and the adopted definition of earnings. For example, in the SES, firms with fewer than 10 employees are not necessarily included in the survey, as reporting these data was optional for countries. In addition, the distribution of earnings tends to differ from an hourly wage rate; this is sometimes due to a premium paid in the private sector, for instance.

13 Owing to developments in European integration, the 1995 survey covered only 15 countries. Exchange rate, inflation, and macroeconomic developments also interfere with data comparability and the structure of the survey itself has changed (classifications).

14 For the UK, a study using longitudinal data on individuals between 1977 and 1997 shows that lifetime earnings inequality has risen over the same period which has seen cross-sectional inequality increase. The measured earnings inequality observed over the past 20 years has increased long-term inequality across the population.

3. What do the data tell us?

(For detailed information about the Structure of Earnings Survey, see Box 13 in Annex I)

Users of the SES want to determine the earnings received by employees and to investigate the statistical relationship between the level of the earnings and the individual characteristics of the employees and the characteristics of the employer. National statistical offices collect the information on earnings used in the survey and it contains questions about the enterprise and on the individual employee, aiming to gather individual data on earnings and working hours, as well as personal characteristics and characteristics of the jobs.

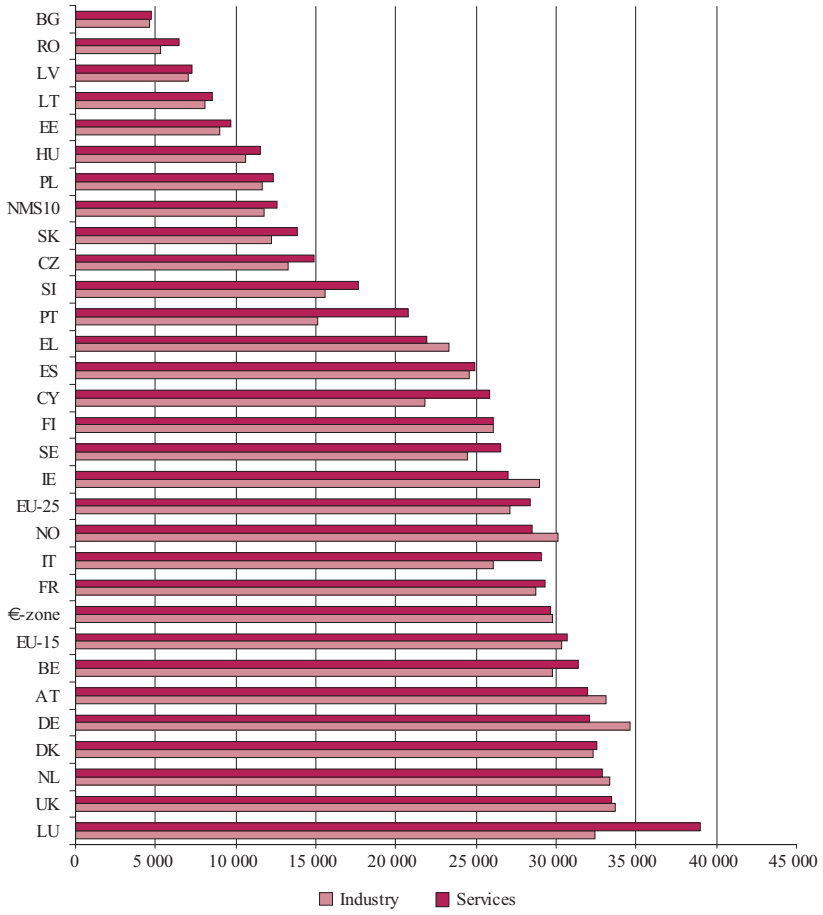
The statistics provide detailed results on gross hourly, monthly and annual earnings of men and women, of salaried employees and wage earners, which can be analysed in relation to personal characteristics and job characteristics (workplace). Monthly earnings only include payments made in each pay period, while annual earnings also include bonuses and allowances that are not paid regularly. Data cover both full-time and part-time employees.

Using aggregate data from the SES, it is possible to give an overview of the various dimensions of earnings disparities[15] (including the national, sectoral, occupational and individual dimensions) that will be further explored later on.

3.1. Differences in earnings between countries

A preliminary examination of the aggregate figures from the SES shows that earnings in industry and in services are, on average, comparable across the EU-25[16]. However, average *annual earnings* in the services sector tend to be higher (measured using *Purchasing Power Parity Standards (PPS)*, a unit which reflects differences in national price levels) in Luxembourg (37 200 PPS), UK (33 600 PPS), Germany (33 500 PPS), Netherlands, Denmark, Austria and Belgium - while they are three times lower in Bulgaria, Romania, Latvia (7 200 PPS), Lithuania (8 300 PPS), and Estonia (9 400 PPS). Average annual earnings are on average two to four times lower in the new Member States compared with the EU-15 or the euro-zone. The comparison of earnings in PPS show a much smaller gap between Member States than the comparison in euros[17],

Chart 115 – Average annual earnings by activity (in € per annum)



Source: SES, data for the year 2002.

15 For an interesting review of the main explanations to wage differentials in the Euro area, see Genre V. et al (2005), 'Wage diversity in the Euro area, an overview of labour cost differentials across industries', European Central Bank, *Occasional Paper series*, n°24.

16 Let us note that the SES covers 27 countries, therefore in this chapter the use of 'countries' is acceptable instead of only 'Member States', unless the sentence specifically refers to EU members.

17 Eurostat News release n°68/2005, 30 May 2005.

effectively reducing the differences in earnings between countries. While the ratio between the Member States with the highest and the lowest earnings in euros was 11 to 1 (Denmark with 41 700 and Latvia with 3 600), the ratio for earnings in PPS is approximately 5 to 1 (Luxemburg with 37 200 and Latvia with 7 200).

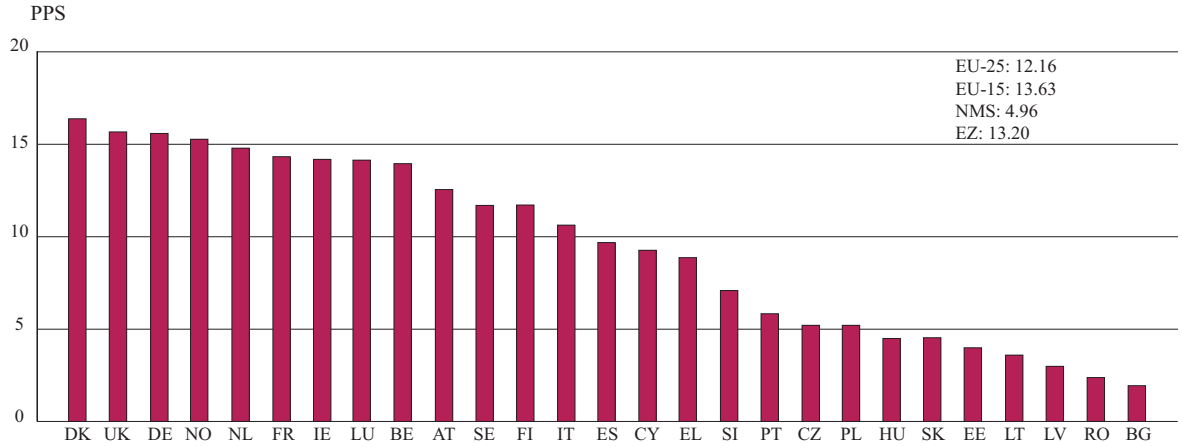
3.2. Services pay only slightly more than industry

Chart 115 displays the average *annual earnings* by broad sector (industry and services) for the year 2002, in euros. It turns out that services pay only slightly more than industry and in some countries, such as Germany, Austria, Norway, Ireland, Greece, and the Netherlands, earnings in industry are higher. Earnings are similar in both sectors in the UK and Finland, whereas they are markedly higher in services in Luxembourg, Italy, Cyprus, Portugal, among some others.

Hourly earnings measured in PPS in the industrial sector tend to be relatively high in Denmark, Germany, Norway and (perhaps surprisingly) the UK, which belong to a group of Member States that seem to have relatively high wages in industry, being well above the EU-25 average. In contrast, Italy, Finland, Sweden and Spain have comparatively lower wages in industry. The new Member States tend to pay significantly less than the average at present, as can be seen from chart 116, although this is already starting to change[18].

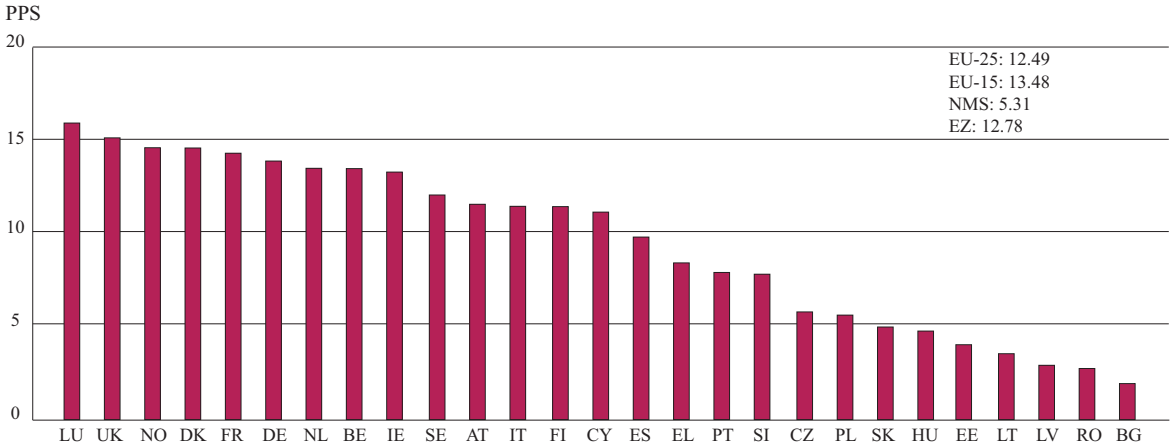
In the services sector, earnings disparities tend to be wider than those in the industrial sector. For example, financial services are an important driver of the

Chart 116 – Hourly earnings in Industry (C-F), in PPS



Source: SES 2002.

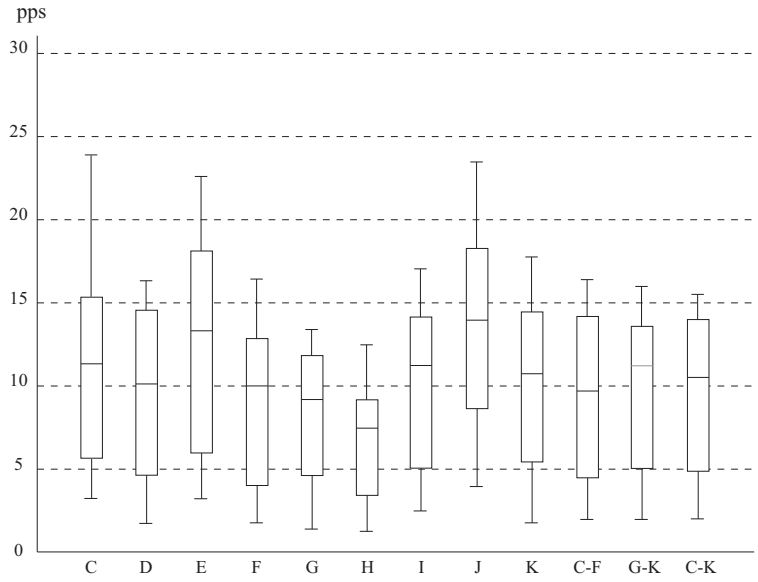
Chart 117 – Hourly earnings in Services (G-K), in PPS



Source: SES 2002.

18 For the sake of clarity, the 10 countries that joined the EU on 1 May 2004 are referred to as 'New Member States' (NMS) despite the fact that at the time the survey was conducted, in 2002, they were not yet members of the EU.

Chart 118 – Variability of hourly earnings (in PPS)



Source: SES 2002.

high level of annual earnings – especially in the case of Luxembourg and the UK. Once again, in the new Member States, the average annual earnings are much lower than for other EU countries. Chart 117 shows that the groupings of Member States according to the level of earnings in services are however fairly similar to those displayed in chart 116, indicating the potential importance of 'earnings structures' and country-specific determinants of these.

Median earnings tend to be higher in the services sector largely because they mostly comprise private sector employers (G-K) as shown in chart 118, especially in financial intermediation (J). Furthermore, hourly earnings can vary considerably (indicating the extreme difference between the highest and lowest earnings per hour) in activities as diverse as mining and quarrying (C), electricity, gas and water supply (E) and financial intermediation (J). As may be expected, though, hotels and restaurants (H) mostly offer comparatively low-paid jobs. The data in chart 118 help reinforce the point that the 'services' sector is not necessarily a high-paying/high-skilled sector[19].

Chart 118[20] illustrates the dispersion of gross hourly earnings in a specific activity, not only as regards the median, but also in terms of dispersion. It shows, for example, that earnings are more dispersed in mining and quarrying (C) (this may be due to the fact that activities such as oil extraction, considered to be comparatively risky and thus well paid, are included in this category) than 'hotels and restaurants' (H).

3.3. The number of hours worked counts

The difference in the number of monthly hours worked is also at the heart of a controversy between 'models' of work organisation, namely models according to which the number of hours worked in a week or given month is very high and models by which more leisure is warranted. This is also a characteristic that contributes to a large gender difference in earnings.

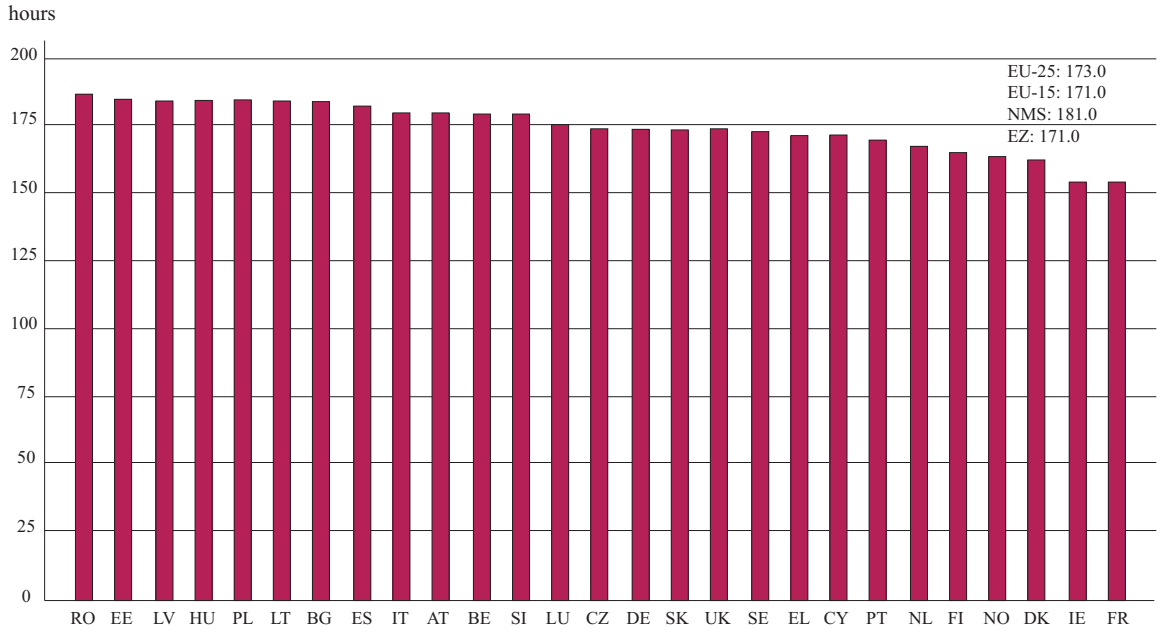
From the data (charts 119 and 120), it is important to note that in the NMS, workers seem to work much longer hours than in the EU-15. Also striking, is the fact that on average, the working week seems to average 43 hours of work, be it in services or industry, with the notable exceptions of both France and Ireland, where the average working week in services amounts to 38.5 hours and in industry, it is 38 hours and 40.5 hours a week in France and Ireland respectively.

Such differences play a role when comparing hourly earnings to monthly and annual earnings, notably for France and Ireland, because it affects the ranking of countries when comparing their earnings to other countries. Such rankings are also influenced by other components of payments to the worker, such as allowances and benefits that are not paid by the hour, for example the thirteenth month or holiday bonuses, as well as irregular allowances.

19 See previous editions of *Employment in Europe* for a thorough discussion of the composition and features of the services sector.

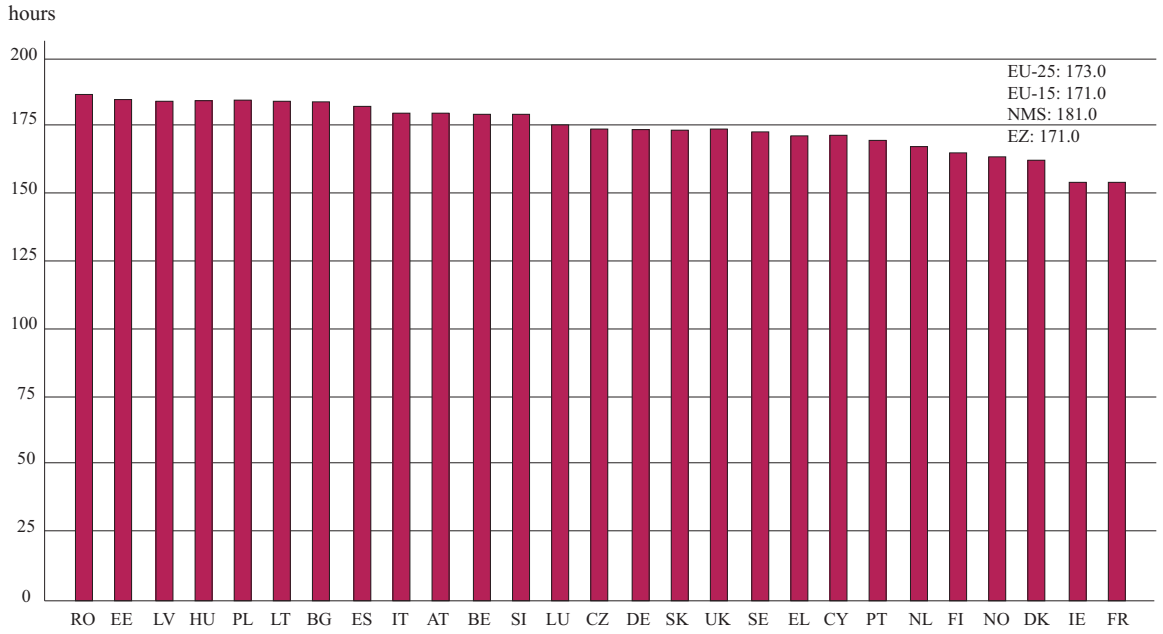
20 Chart 118 represents a set of 12 boxplots (one boxplot per NACE category or grouping). Each boxplot displays the within-branches dispersion by aggregating the information contained in the annual earnings data for the countries for the corresponding NACE category to only five characteristics. These characteristics are the lower quartile (25th percentile) and the upper quartile (75th percentile) of the data set defining the length of the box, the median (50th percentile) marked inside the box and the minimum and maximum of the data set which are connected with the box.

Chart 119 – Hours paid in Services (G-K)



Source: SES 2002.

Chart 120 – Hours paid in Industry (C-F)



Source: SES 2002.

3.4. Wage disparities across Member States and regions

So far the analysis has been concerned with developments at the country level and with differences between countries. There are, however, equally important differences between regions within the countries and this is especially true of the new Member States and so it is these regional differences that are the focus here. There are observable variations in terms of economic performance, the structure of economic activity and the skill requirements of the workforces in these regions, complicated

by the fact that they tend to change over time. Issues of regional disparity are central to identifying a strategy for reducing regional employment imbalances and moving towards the objective of greater social cohesion. In this, three policy dimensions stand out, namely the reduction of the obstacles to geographical mobility, wage adjustment and the promotion of local job creation.

Regional disparities in technology can reflect genuine productivity differences across regions via differences in local facilities. Such an argument has been advanced by economists[21], confirming that the drivers of regional disparity are such factors as infrastructure, local institutions, technology (such as the increased usage of sophisticated machinery and computers, ICT, etc) and climate. All those elements that potentially influence the productivity of labour can help create a region's 'competitive advantage'. Generally, this type of explanation favours high-skilled labour *(cf. the special 'focus' at the end of this chapter)*. The evidence supporting this hypothesis sees an increase in the demand for highly skilled labour, creating excess demand, which puts upward pressure on their wages, while at the same time depressing those of the less skilled. However, there is some empirical evidence that such a scenario may not always prevail[22]. There is the further point that regional disparities of these kind can also increase inequality between skill groups.

Empirical testing on the reasons behind the variation in nominal wages across 200 European regions (NUTS 2) was carried out[23] and it seems that *"what is important for wage variations among NUTS 2 regions of the EU are the links between competitive industries and market service providers, the increasing variety of which in the larger denser cities imparts increasing returns to scale with employment density. Wages also seem to depend on the efficiency of the labour force, plus technological spillover externalities, captured by measures of schooling and technical skills, plus national-level effects that are picked up by country dummy variables"*. Increasing returns - as a basis for understanding the spatial concentration of economic activity - are not the single most important explanation for regional wage variation; indeed market access (or market potential) is also a highly relevant issue.

Moreover, increased economic integration and competition from lower-wage countries, due to *increased international trade* have been said to increase the demand for skilled labour in industrialised economies at the expense of the unskilled. This is consistent with the fact that skilled labour is relatively cheap in industrialised economies compared with developing countries, and unskilled labour is relatively expensive. It has been argued that industrialised economies have therefore shifted towards the production of goods and services using more skill-intensive labour, increasing inequality between skills-groups. However, there is no conclusive evidence as yet on the impact of international trade onto employment and wages[24].

Regional employment changes have been the subject of various research analyses[25] for the European Commission, and the findings can be encapsulated in the discussion below.

Mapping regions according to their specialisation pattern shows some interesting features[26]. In particular, it indicates that regions with a relative concentration of employment in a given broad sector tend to be contiguous in both the EU-15 countries and the new Member States. A further

21 Quah D. (2002), 'Spatial agglomeration dynamics', *American Economic Review Papers and Proceedings*, vol. 92 no. 2, pp. 247-252.

22 Experiments carried out on French data (Combes P. P. *op. cit.*) show that endowments only appear to play a small role.

23 Fingleton B. (2005), 'Testing the new economic geography: a comparative analysis based on EU regional data', paper presented at the workshop on spatial economics held at the Kiel Institute for World economics April 8-9, 2005.

24 For further discussion of the related literature, please see *Employment in Europe 2004*, European Commission, chapter 5.

25 http://europa.eu.int/comm/employment_social/employment_analysis/restruct_sem_en.htm, Final report on *Economic Restructuring and Labour Markets in the Accession Countries*, December 2004. For purposes of the analysis, the NUTS 2 regions across the EU-25 plus Bulgaria and Romania are divided into five clusters or groups, in each case according to the relative importance to employment of broad sectors of activity for employment. This is defined in terms of the share of employment in particular sectors relative to the national average. The sectors in question are agriculture, industry, basic services - here defined as all service activities apart from business and financial services - and business and financial services. A final group of regions includes those in which capital cities are located, since these tend to have a specific structure of economic activity as compared with other regions, with more employment in government as well as in financial and business services. Since the national average shares vary markedly between countries, this means that each group contains regions with very different absolute shares of employment in the sector defining the group in question. For example, in the EU-15 countries, the agricultural group includes UK regions with only around 3-4% of employment in agriculture as well as regions in Greece, with over 30% in this sector. In the new Member States, the group includes regions in the Czech Republic, Hungary and Slovakia with under 10% of employment in agriculture and those in Poland and Romania, where the figure is 40% or more (see map 1 for the location of the regions concerned). The same contrast in employment proportions also applies to the other sectors.

26 See http://europa.eu.int/comm/employment_social/employment_analysis/restruct_sem_en.htm, Final report on Economic Restructuring and Labour Markets in the Accession Countries, December 2004.

point to note is that both agricultural and industrial regions in the new Member States tend to have larger shares of employment in these sectors than similarly classified regions in the EU-15 countries, while both the basic service and business services regions have smaller shares of employment in these sectors than in the latter countries and correspondingly larger shares in agriculture and/or industry.

Following from this, by using percentiles calculated from the SES 2002 (on the basis of the whole sample) and applying them to the regions at NUTS 1 level and comparing them to national averages (see map), we obtain a picture – albeit a crude one – of the regional dimension of the issue of earnings disparities. It suggests that regions around capital cities or large cities display relatively high earnings levels. Unfortunately, the level of aggregation (NUTS 1) does not enable us to come up with very conclusive evidence on the regional dimension of earnings disparities.

Nevertheless, there is the suggestion that the peripheral regions and remote areas seem to share the characteristic of relatively large agricultural employment or basic industry services and also relatively low earnings disparities (e.g. South-West France, Corsica, and Southern Italy). By contrast, capital cities or large cities tend to display relatively high earnings disparities partly because they attract more of the higher-skilled workers (Northern Italy, the region around Madrid, Athens, and London).

The map is based on the SES data, which contain all the individual characteristics of persons surveyed. Years of schooling are a key individual-level determinant of wages for individuals, and the more skilled individuals, those with the highest educational attainment, tend to be located in the more populated regions. Furthermore, foreign-owned firms are likely to be located in larger cities[27], some of which will be the capitals, thereby helping to shape the skill-composition of labour demand. Moreover, such incoming firms may tend to pay higher wages than many local firms (which could be as high as a +30% premium), partly in order to secure the skilled workforce they require.

In the Czech Republic, Hungary, and Poland[28], the capital cities and well-connected areas closer to Western markets in the EU have gained most from overall economic growth, while remoter regions have not done as well or may have even lost out from the process of transition and integration. Furthermore, these gaps – notably the rural-urban divide – have tended to widen. Overall, regional disparities have widened substantially over the transition period. Economic activity has grown disproportionately in capital cities and surrounding regions, where new businesses and other services have developed most rapidly, and where Foreign Direct Investment (FDI) has been concentrated. It is also likely that regional disparities will widen further in the absence of measures to achieve more balanced development within the countries concerned[29]. In addition to proximity to EU markets driving the concentration of economic activity, the uneven distribution of infrastructure and public services also creates very different opportunities for the regions. In the new Member States, managers, professionals and technicians (or highly skilled non-manuals) account for a much larger proportion of employment in capital cities than in the other regional clusters and this reflects both the underlying sectoral structure of economic activity, with higher employment in services and in high skill services, in particular, and the type of activity performed within each sector. In total, therefore, some 42% of overall employment was in these types of job in capital cities in 2003 as opposed to 30% or less in the other regions and only 25% in the agricultural regions. Similarly, within industry, around 29% of jobs fell into the highly skilled non-manual category in the capital city regions as opposed to 20% or less in other regions. The difference within services activities was less marked but still significant (around 6 percentage points or slightly more)[30].

The prospects for agricultural regions in the new Member States are heavily influenced by restructuring taking place, which, though it entails a reduction of agricultural labour force, is accompanied by an improvement in agricultural income per annual work unit. Agriculture, which has been declining in employment terms in most of the new Member States, remains comparatively high in Poland for instance. At the same time, the average educational levels of the working-age population are relatively high but never-

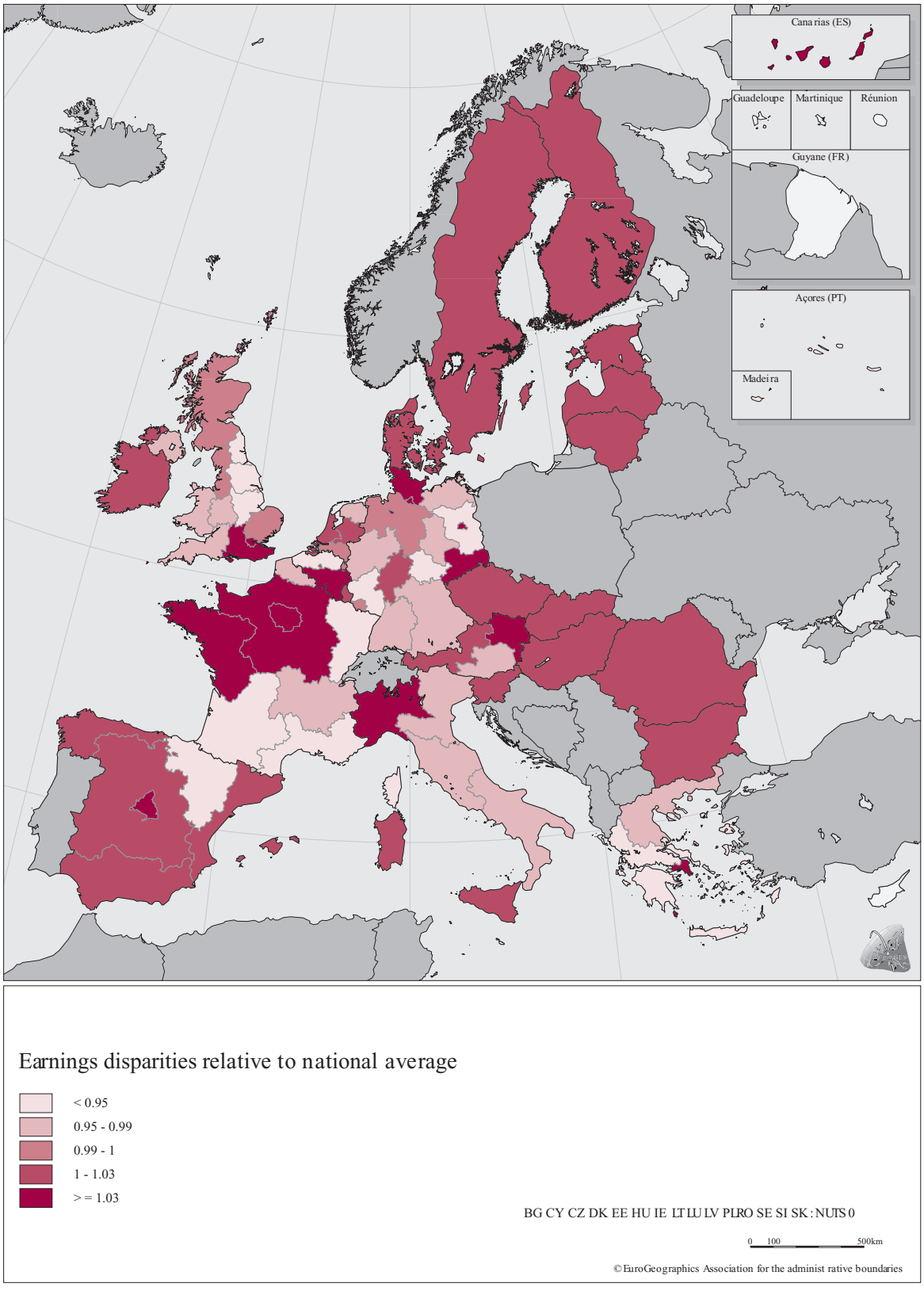
27 Geishecker I. (2004), 'The skill-bias of foreign direct investment in Central and Eastern Europe', DIW, Berlin, http://europa.eu.int/comm/employment_social/employment_analysis/restruct/fdi_case_en.pdf.

28 Förster, Jesuit D., Smeeding T. (2005), 'Regional Poverty and Income Inequality in Central and Eastern Europe: Evidence from the Luxembourg Income Study', *UNU/WIDER discussion paper DP2003/65*. Forthcoming (2005) in: Kanbur and Venables (eds.), Spatial Inequality and Development http://www.wider.unu.edu/publications/publications.htm.

29 On this issue, please refer to the recent Commission study on Economic Restructuring and Labour Markets in the Accession Countries, Study prepared for the European Commission by WIIW, DIW, Alphametrics, December 2004.
http://europa.eu.int/comm/employment_social/employment_analysis/restruct_sem_en.htm.

30 http://europa.eu.int/comm/employment_social/employment_analysis/restruct_sem_en.htm, Final report on *Economic Restructuring and Labour Markets in the Accession Countries*, December 2004.

Earnings disparities compared to national average



Source: SES 2002.

theless not easily adaptable (as applies sometimes to other Member States). This is a factor which may deter potential foreign business investors. The scale of likely restructuring in these regions is therefore substantial and in some cases the services needed to encourage investment are underdeveloped. Problems are also acute in the traditional industrial regions where heavy industry and mining are in decline. Those individuals who will tend to lose out are likely to be those with little or no education beyond basic schooling and many of whom tend to be dependent on agriculture for employment. Unlike in most of the EU-15, the service sector tends to be underdeveloped in some of the new Member States (with the exception of Cyprus, Malta and Slovenia), whereas the distributive trades, hotels and restaurants in particular offer the best prospect of alternative jobs to those currently working in agriculture. Enlargement has widened the labour market search area across the EU. This is especially visible in the UK, Ireland and Sweden, where no labour market mobility transitional measures are in place, but it is also true in all other Member States through undeclared work. The ability to move where the jobs are alleviates some of this relative educational disadvantage.

Looking in more detail at regional inequalities, table 58 (in Annex II) examines the comparative indices which show that some specific locations are subject to higher earnings disparities (with inequality measured by percentile ratio P90/P10 being above 4 in London (UK) and Ile de France (FR), where the highest earnings are concentrated. Poland, Estonia and Slovenia feature a higher than average degree of earnings inequality across the whole distribution (P90/P10, P90/P50, P50/P10).

The degree of variability in indices of earnings inequality across regions (using decile or percentile ratios) is another illustration of regional disparities. For instance, the top to bottom decile ratio (percentile 90 over percentile 10) ranges between 1.95 in Finland (Åland) and 5.13 in Slovenia, which represents a much wider range of inequality (2.55 times) than in the other categories: the maximum difference for percentile 90 over percentile 50 is 1.91 times lower in Finland (Åland) than in Latvia, and for percentile 50 over percentile 10 the ratio is 1.95 times lower in Sweden than in Slovenia.

More specifically, within the regions mentioned in table 58 of Annex II, some specific groups are subject to higher degrees of earnings inequality than others, as illustrated in table 58. In order to specify and characterise these regional earnings inequalities, the regions where inequality at the lower end (P50/P10) is higher than inequality at the upper end (P90/P50) were identified, by gender and age class. Taking the analysis further, table 58 lists only the regions actually displaying this characteristic of *higher inequality at the lower end* **(P50/P10), thus the groups listed in table 51 are those most affected by earnings inequality**. This could possibly suggest a certain degree of **polarisation** of low-end/low-skilled workers versus high-skilled/high-paid workers, and may be due to some compression at the higher end of the earnings scale. Some researchers[31] have found evidence of wage compression in Europe, meaning that relative wages are lower compared to what the productivity differential would allow. However, further research would be warranted to shed light on such aspects.

However, despite attempts to link regional earnings disparities to regional labour market outcomes, such as the employment or unemployment rates, no significant link could be found (using correlations calculated for this purpose). This is potentially an important conclusion, in the sense that many more factors influence the labour market outcomes of employment and unemployment rates, and also taxes and social security contributions, labour market policies and institutions, and these aspects should also be taken into account when studying regional disparities.

In examining the regional dimension of earnings inequalities, there are some methodological issues to consider including the difficulty in accounting for regional price differences or variations; using survey data, the sample is not large enough to provide adequate measures of regional inequality; where census data are used there is not enough detailed information on personal characteristics and especially employer characteristics to carry out the same type of analysis.

The best approach therefore combines various data sources, especially those with micro-data. In reality, regional convergence issues are a mix of demographic and economic factors, for instance the age-earnings relationship and the age structure of a region. As a result, some regions may converge at a faster rate than others, largely reflecting the prevailing age composition and the change in it for a given region[32]. Also, the relative size of a region and spillovers between neighbouring regions matter for a region's own productivity[33]. As an illustration of such spillovers, using data on 131

31 A review of this 'wage compression hypothesis' has been carried out in *Employment in Europe 2004,* European Commission, Chapter 4.

32 This strand of literature largely follows Krugman's pioneering works in the early 1990s, e.g. Krugman P. (1991), 'Increasing returns and economic geography', *Journal of Political Economy, 99*.

33 Davis D., Weinstein D. (2004), 'A search for multiple equilibria in urban industrial structure', *NBER working paper n°10252*, use Japanese data and show that doubling the size of a region raises productivity by 3.5 %.

Table 51 – Regions and groups most affected by earnings inequality

CZ	Czech Republic	Women 30-59
DE1	Baden-Württemberg	Women 20-39 and men 20-29 and 60+
DE2	Bayern	Women and men 20-29
DE3	Berlin	Women 20-29, 39-59 and men 20-39 and 60+
DE4	Brandenburg	Women 20-59, men 20-29
DE5	Bremen	Women 20-29, 50+, men 20-29 and 60+
DE6	Hamburg	Women 20-59, men 20-29 and 60+
DE7	Hessen	Women 20-39 and 50-59, men 20-29 and 60+
DE8	Mecklenburg-Vorpommern	Women 20-39, men 20-29
DE9	Niedersachsen	Women and men 20-29
DEa	Nordrhein-Westfalen	Women 20-39, men 20-29
DEb	Rheinland-Pfalz	Women 20-59, men 20-29 and 60+
DEc	Saarland	Women 20-59, men 20-29
DEd	Sachsen	Women 20-39 and 60+, men 20-29
DEe	Sachsen-Anhalt	Women 20-49, men 20-29
DEf	Schleswig-Holstein	Women 20-60+, men 20-29 and 60+
DEg	Thüringen	Women 20-39, men 20-29
EE	Estonia	Women 20-29 and 50-59, men 20-59
EL2	Kentriki Ellada	Men 40-49
EL3	Attiki	Men 40-49
EL4	Nisia Aigaiou, Kriti	Men 60+
FR3	Nord-Pas-de-Calais	Women 60+
FR4	Est	Women 60+
FR8	Méditerranée	Women 60+, Men 60+
ITe	Centro	Men 50-59
CY	Cyprus	Women 60+
NL3	West-Nederland	Women 30-59, men 20-29
NL4	Zuid-Nederland	Women 40-49 and 60+, men 20-29 and 60+
PL	Poland	Women 60+
SI	Slovenia	Women 60+ and men 60+
FI2	Åland	Women 40-49, 60+
UKi	London	Women 20-39, men 20-29
UKn	Northern Ireland	Men 40-49

Source: own calculations on the basis of SES data.

European regions, researchers[34] have found that the economic performance of a particular region depends on that of the surrounding areas and that the intensity of spillovers fades with distance. In addition, technology differs across regions and convergence is partly due to technological catch-up. Using data on 89 European regions[35], researchers have shown that technological spillovers have played a role across Europe, at local/regional level, at national level (through the intensity of sectoral R&D) but also through international trade that favours technology transfer (though to a smaller extent), thereby increasing labour productivity.

3.5. Gender disparities remain

An initial assessment of the aggregate data on gender disparities is the focus of this section, without checking for factors other than those displayed in the charts, which are illustrative. More detailed analysis of the gender parameter will be covered in section 5, where results of earnings regressions also shed light on the gender gap in a way that takes into account individual characteristics.

Regarding the gender dimension, in 1995, the SES showed that on average across the EU, women working full-time were paid 75% of the male *gross hourly wage* (unadjusted gap[36]). For the

34 Paci R., Pigliaru F. (2001), 'Technological diffusion, spatial spillovers and regional convergence in Europe', University of Cagliari, *CRENoS Working Paper* No. 01/01, *FEEM Working Paper No.* 36.

35 Cainelli G. et alii (2003), 'Spatial knowledge spillovers and regional productivity growth in Europe', http://www.idse.mi.cnr.it/pdf/GCR-LAM_paper.pdf

36 Gender Pay Gap, defined as the average earnings of all full-time female employees divided by the average earnings of full-time male employees. Data are for gross hourly earnings including overtime.

2002 survey this gap has been marginally reduced marginally (women were paid 77% of the male wage).

Again, including other types of payments, benefits and allowances,(i.e. taking the *annual average earnings* as an indicator) the gender difference is greatest at 30% or more in the UK and Cyprus, whereas the smallest differences in annual average earnings are found in Slovenia, Hungary, Poland, Belgium, Sweden and Finland (less than 20% difference).

Across the EU-15 in general and in the UK, Cyprus, Austria, and Germany in particular (chart 121), distinct gender differences in earnings are prevalent, more so than is currently the case in the new Member States of Central and Eastern Europe.

Chart 122 offers a closer look at relative hourly earnings of women in the very specific activity of financial intermediation, which, on average, displays the highest levels of earnings compared to other activities across the EU-25. It shows that the gender earnings gap is more complicated than can be explained by activity or occupation. Indeed the relative earnings of women as a percentage of those of men are unexpectedly higher than average in countries such as Bulgaria, Portugal, Slovakia, Slovenia, Italy, Romania, Denmark, Luxembourg, Belgium and Greece. One explanation for this is that, in the transitional economies, women have a significantly better earnings position owing to the fact that the transition period itself brings an increase in the demand for those skills held predominantly by women, and exemplified by the high proportion of women working in the services sector. The findings are in line with other research covering issues to do with gender and economic transition[37]. Then for the other countries, it could be that highly skilled women tend to choose to work in the services sector; this point requires further investigation with the micro-data (and is covered later in this chapter).

3.6. The occupational structure plays a large role

Earnings differentials obviously reflect differences in the type of jobs taken up by individuals, according to their acquired skills, background and education. Some of these factors are therefore reflected in the occupational structure of earnings and illustrated in chart 123. It shows that higher-level occupations (such as legislators, managers, etc.) have twice the average hourly earnings, while manual workers in general earn less than the average.

The gender dimension of earnings differentials has attracted much attention and a great number of studies have used increasingly complex econometric techniques in order to assess the degree of 'discrimination' in the labour market. Other authors have pointed to the existence of a certain degree of 'occupational segregation', indicating that by choosing certain types of occupations (which is basically a self-selection process) or not breaking through the 'glass ceiling' of career advancement, women are automatically affected by this problem.

There is little doubt that occupational structures play an important role in widening the gap between men's and women's earnings, the extent of which is clearly shown in chart 124 which depicts the percentage of women's earnings as a proportion of men's for different occupations. It clearly shows that the gap is largest in certain manual occupations (crafts), where women represent a comparatively small proportion of the workforce. This also holds true for certain non-manual occupations (top managers and legislators), where the gap is also relatively large, and illustrates the presence of a 'glass ceiling'.

To illustrate in more detail the effects of segregation between men and women in different types of occupations, researchers often use a measure known as the 'Duncan index'[38], which can provide some additional information as to the degree of segregation, especially when it is calculated on the basis of the whole sample of the SES survey.

In the first case, the index is calculated for all occupational groups for the EU as a whole, revealing a Duncan Index or DI = 0.312 (table 52). This is comparable to other reference figures for the DI for OECD countries, where the usual DI for individual OECD countries ranges between 0.21 and 0.45.

The range of the DI's is relatively wide (ranging from 0.15 in Romania to 0.55

37 Rutkowski J. (2001), *op. cit.*

38 The *Duncan Index of Dissimilarity* is a weighted measure of the dispersion of the gender ratios across occupations or activities. It is actually the most common index of occupational segregation, the latter being measured by the mean of the deviation about ratio *(Fi/Fi+Mi)*.

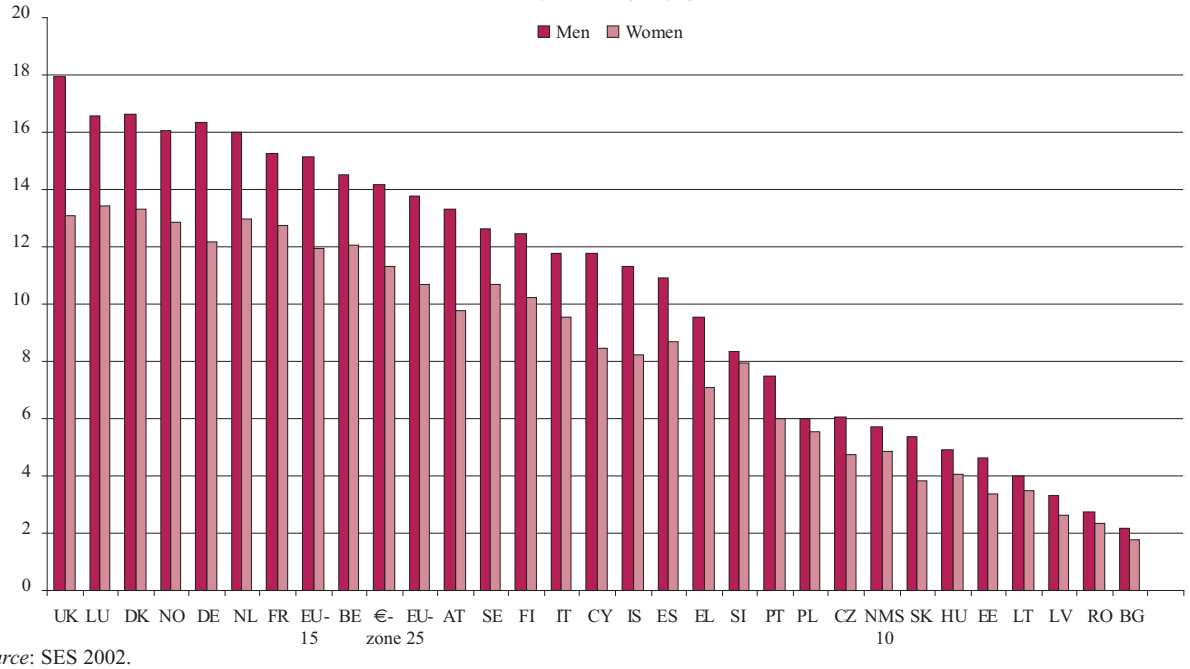
$$DI = 1/2 \sum_{i=1}^{n} \left| (Mi/M) - (Fi/F) \right|$$

The Duncan Index varies between 0 and 1; the closer it is to 1, the higher the degree of occupational segregation. While the index can be calculated for broad occupational groups, it can also be used for age cohorts and educational attainment in order to derive more refined figures. In essence, the Duncan index can be interpreted as a kind of 'Gini' index of inequality, depicting the degree of dispersion of the genders across a given group.

in Austria), indicating the extent to which men and women are employed in different types of occupations; this is especially true for Austria, Luxembourg, the UK, Germany. By contrast, fairly little difference in the types of occupations performed by men or women is observed in Romania, Italy, Portugal, Slovenia, Belgium and the Czech Republic, where this indicator points to less occupational segregation. More detailed investigation is needed to discover the reasons behind these different outcomes.

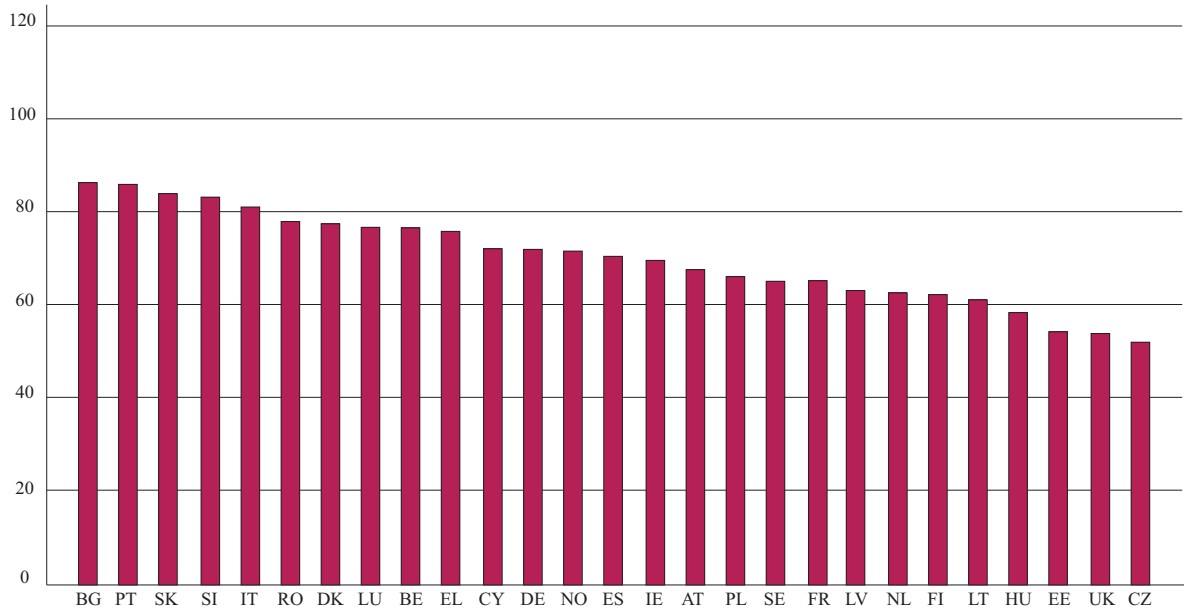
However, this broad indicator on the degree of occupational segregation needs to be complemented with other

Chart 121 – Hourly earnings by gender (in PPS)



Source: SES 2002.

Chart 122 – Women's earnings in financial intermediation activities (J) as a percentage of those for men



Source: SES 2002.

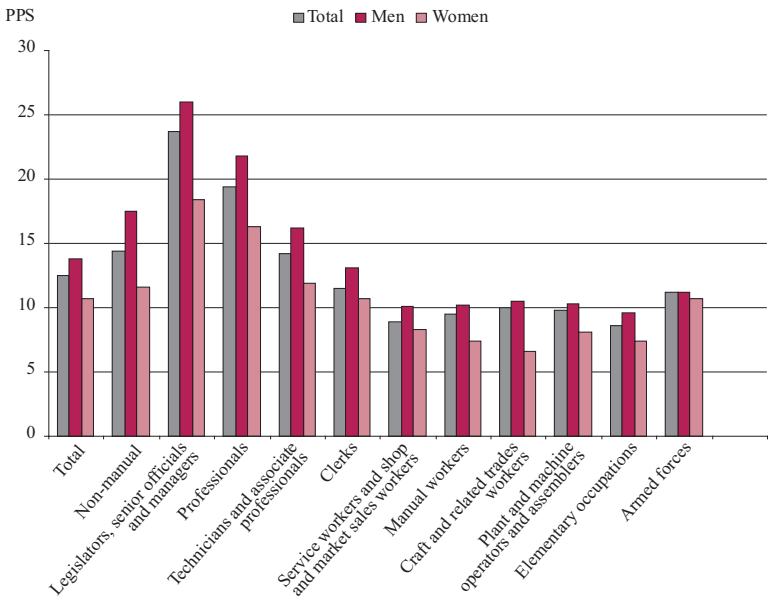
tools, especially when carrying out comparisons across countries.

Table 53 shows the results of applying the DI formula using age-related data for the 27 countries covered by the SES. From this it is evident that the DIs tend to decrease in the early years of labour market participation (25-35), then increase again up to the mid 50's, before, decreasing again beyond 55.

Table 54 provides an additional perspective using educational levels attained. Here there is a clear trend of the DI rising for medium levels of education, but decreasing sharply for higher levels of education, broadly indicating less segregation in jobs requiring such a level of attainment. When the education level increases sharply, segregation diminishes; men and women end up doing more similar jobs or occupations, as one would intuitively expect[39].

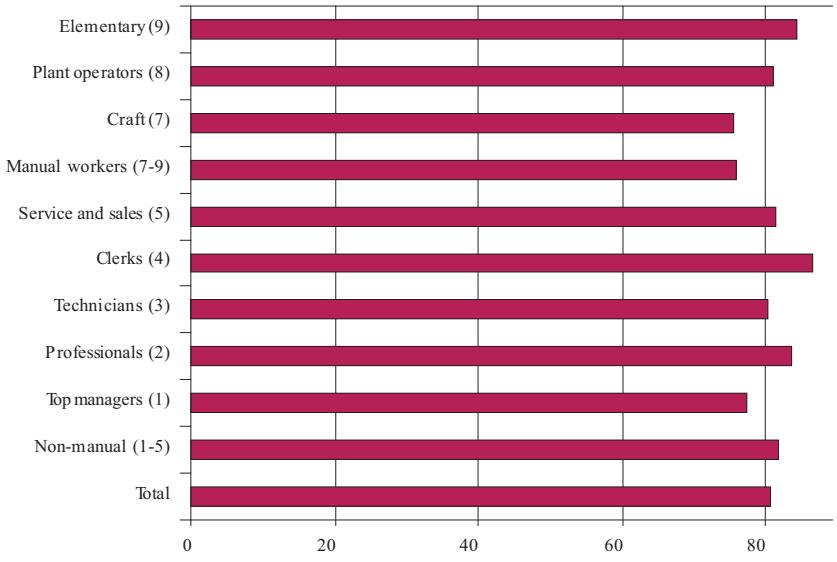
Another related question is that of the distribution of earnings inequality, which is best illustrated using the SES data collected. Given the nature of the dataset, this aspect can be studied in detail. Indeed, individual observations are needed to locate an individual relative to the whole earnings distribution within the sample of workers.

Chart 123 – Hourly earnings by gender and occupation



Source: SES 2002.

Chart 124 – Women's hourly earnings as % of men's, by occupation



Source: SES 2002; ISCO categories; manual (ISCO 7-9) and non-manual (ISCO 1 to 5) categories are aggregates.

4. Distribution of earnings

In this section some of the key findings that can be derived using the SES are examined, putting them into a broader perspective of labour market developments within the enlarged EU. The overall aim is to provide a perspective on the earnings structures in Member States.

39 It would be interesting to calculate such Duncan indices using the Labour Force Survey, in future work, to check if these are at least comparable or of comparable magnitude. Given the different nature and basis for data collection for the two surveys, we preferred to stick to one data source in this chapter, thereby avoiding any confusion.

Table 52 – Duncan Index by country

AT	0.55	IS	0.36
BE	0.27	IT	0.25
BG	0.24	LT	0.31
CY	0.40	LU	0.45
CZ	0.27	LV	0.39
DE	0.42	NL	0.39
DK	0.34	NO	0.38
EE	0.32	PL	0.37
ES	0.36	PT	0.24
FI	0.34	RO	0.15
FR	0.33	SE	0.31
EL	0.30	SI	0.23
HU	0.35	SK	0.30
IE	0.40	UK	0.44

Source: Commission services; data refers to the 27 countries covered by the SES 2002.

Table 53 – Developments by age cohort

Duncan index by age cohort	
15-25	0.34
25-35	0.28
35-45	0.31
45-55	0.32
55-65	0.25

Source: Commission services.

Table 54 – Developments by education level (ISCED classification)

Duncan index by ISCED level	
Low	0.30
Medium	0.36
High	0.27

Source: Commission services.

4.1. Disparities within countries are higher in the NMS…

In this analysis, the use of percentiles allows a better feel for the distribution of earnings within Member States and across the EU. Using three types of ratios - namely the $90^{th}/10^{th}$ percentile, the $50^{th}/10^{th}$ percentile and the $90^{th}/50^{th}$ percentile, some results are shown in chart 125, which illustrates an aspect of the distribution of earnings inequality within Member States. Decile ratios are simple indicators of dispersion (scale on the vertical axis), comparing ratios of the upper earnings limits of various deciles of the earnings distribution.

The $90^{th}/10^{th}$ ratio expresses the dispersion in earnings between the top and bottom percentiles. Inequality of the $90^{th}/50^{th}$ ratio on the one hand and the $50^{th}/10^{th}$ ratio on the other hand indicates asymmetry of the earnings distribution. Chart 125 illustrates the asymmetries in earnings distribution, a feature which is particularly acute in Latvia, Romania, Lithuania, and slightly less so *inter alia* in Ireland, Austria, Spain, France, the UK. Table 55 shows the values of the interdecile ratios, respectively for the $50^{th}/10^{th}$, $90^{th}/10^{th}$ and $90^{th}/50^{th}$ ratios. So, for example, the most extreme earnings disparities are to be found in Bulgaria, Estonia, Latvia, Lithuania, Poland, Romania, and Slovenia. Among all the Member States shown in the table, Ireland stands out as the Member State in the middle, which, taking this as a reference point, all other remaining countries feature a lesser degree of earnings disparities. This is the case for all EU-15 countries plus Slovakia, Cyprus, the Czech Republic, and Hungary, with Finland, Norway and Denmark displaying the lowest disparities. The $90^{th}/10^{th}$ decile ratio (top to bottom decile) ranges in most EU (and OECD[40]) countries from 2 to 3.5, with most of the countries in the 2.5 to 3.0 range. The value of the decile Ratio for Bulgaria, Estonia, Latvia, Lithuania, Poland, Romania, and Slovenia exceeds 4, a level not observed in the other European countries[41] using the 2002 SES data. A relatively large dispersion of earnings in the top half of the distribution may have a positive impact, *inter alia* by providing incentives to invest in more skills and lead to higher average productivity levels

40 The US is an outlier with the decile ratio reaching 5.5.

41 For Slovenia, this figure contrasts with previous findings by Rutkowski J. (2001), *op.cit.* As noted by Rutkowski, patterns of inequality are changing in Central European countries, and trends can be reversed.

of workers over time. On the other hand, greater inequality in the bottom end of the distribution might imply substantial hardship for low-skilled workers at the lower end of the earnings distribution.

Labour market policies or institutions such as those relating to a minimum wage play an important role in the distribution of earnings. This means that the higher the minimum wage as a proportion of the average wage, the more compressed is the bottom part of the earnings distribution (the 50th/10th), although there is no strict relationship between this 50th/10th decile and the impact of the minimum wage. For the New Member States, Rutkowski (2001) reports[42] that the minimum wage as a percentage of the average wage is relatively low in the Czech Republic (less than 30%) while the 50th/10th gap is relatively small or compressed. By contrast in Hungary where the minimum wage is relatively high (47% of the average wage) the 50th/10th gap is quite large. In Latvia and Romania, the minimum wage is low relative to the average wage and so is the bottom decile wage (the 50th/10th gap is large). According to the literature[43], this would lead one to expect that more compression at the bottom end of the earnings distribution would exist in countries where trade unions are stronger, as indicated by a high trade union membership density and extensive coverage of collective agreements. However, these factors all depend on the structure and level of bargaining, and on the ownership and governance structure of enterprises.

Table 55 - Interdecile gaps

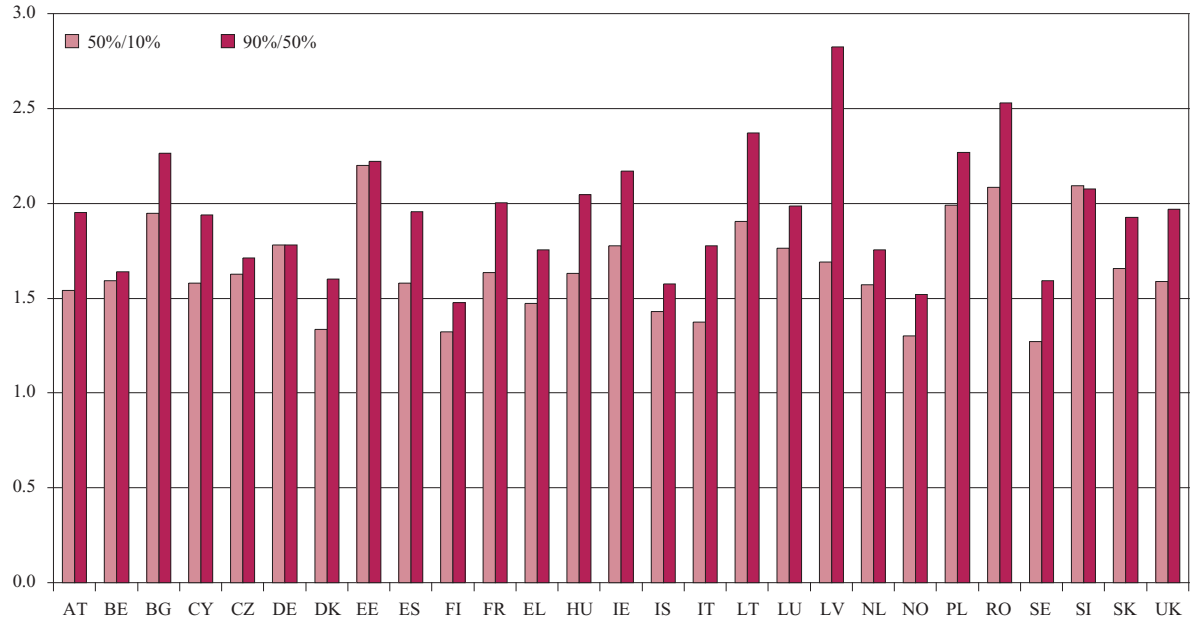
	interdecile gap		
	P50/P10	P90/P10	P90/P50
AT	1.54	3.03	1.95
BE	1.59	2.62	1.64
BG	1.95	4.40	2.26
CY	1.58	3.11	1.94
CZ	1.63	2.80	1.71
DE	1.78	3.15	1.78
DK	1.34	2.14	1.60
EE	2.20	4.94	2.22
ES	1.58	3.15	1.96
FI	1.32	1.96	1.48
FR	1.64	3.36	2.00
EL	1.47	2.63	1.75
HU	1.63	3.40	2.05
IE	1.78	3.91	2.17
IS	1.43	2.27	1.58
IT	1.38	2.46	1.78
LT	1.91	4.55	2.37
LU	1.76	3.40	1.99
LV	1.69	4.76	2.82
NL	1.57	2.75	1.75
NO	1.30	1.98	1.52
PL	1.99	4.67	2.27
RO	2.08	5.09	2.53
SE	1.27	2.03	1.59
SI	2.09	4.50	2.08
SK	1.66	3.21	1.93
UK	1.59	3.16	1.97

Source: Eurostat calculations.

42 Op. cit.

43 Acemoglu D. (2002), 'Cross-country inequality trends', for a review of the main hypotheses on this issue. This topic will be brought up again in section 6 of this chapter.

Chart 125 – Asymmetry of the earnings distribution



Source: SES 2002.

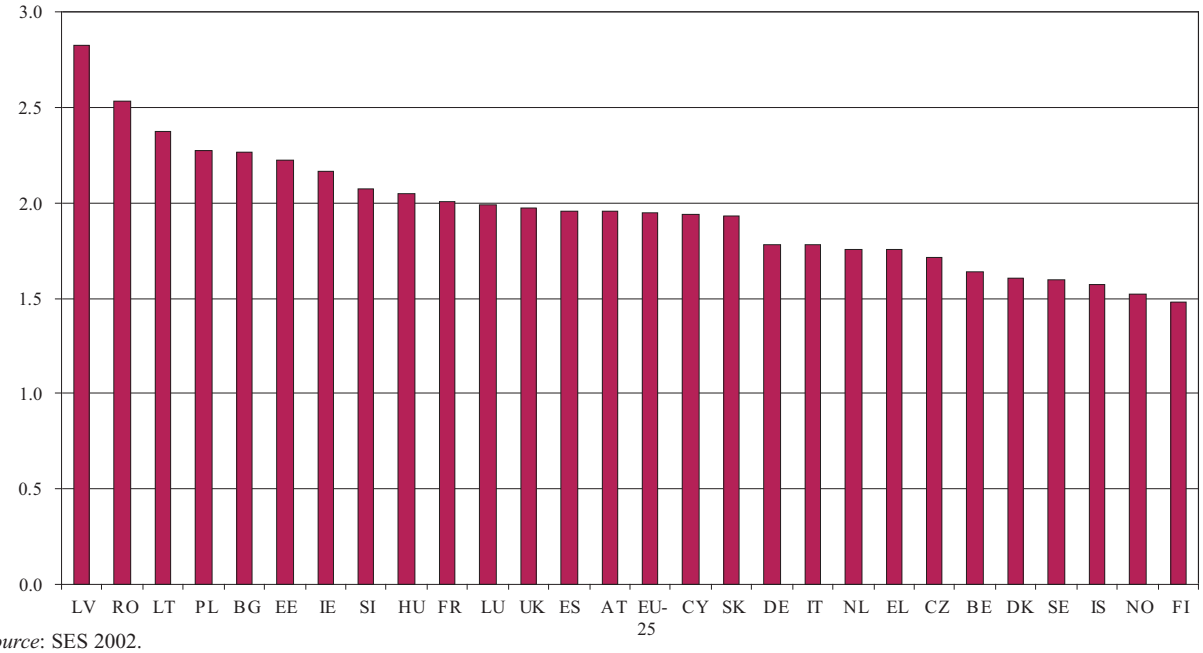
4.2. … Across countries, some cases are surprising

The general picture showing higher earnings inequality in 2002 in the countries of Central and Eastern Europe is confirmed by the findings in charts 126, 127 and 128. They show a decile ratio above 4 for Romania, Estonia, Latvia, Poland, Lithuania, Slovenia and Bulgaria, which is more than twice as high as the decile D5/D1 (the median relating to the bottom decile of workers). On the other hand, ratios for Hungary, the Czech Republic, Cyprus and Slovakia do not differ radically from other European countries.

Chart 126 – Earnings of top decile of workers relative to bottom decile (D9/D1)

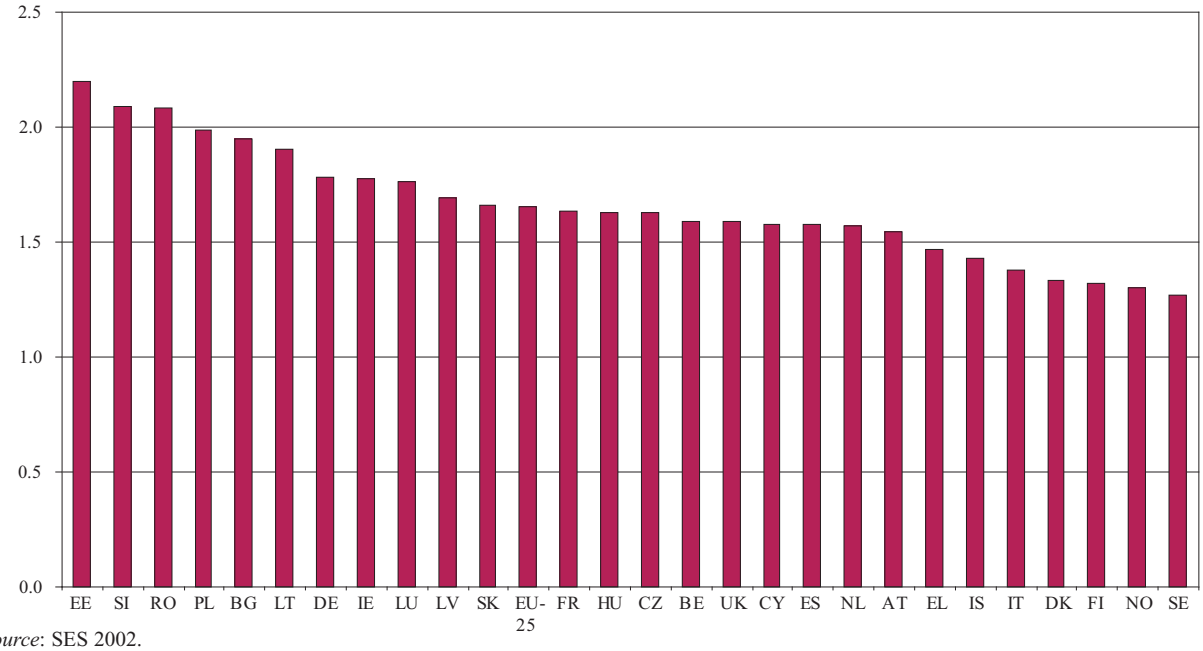
Source: SES 2002.

Chart 127 – Earnings of top decile of workers relative to the median (D9/D5)



Source: SES 2002.

Chart 128 – Median relative to earnings of the bottom decile of workers (D5/D1)



Source: SES 2002.

By contrast, the Nordic countries (Finland, Norway, Sweden and Denmark) are at the other end of the scale, displaying the lowest degree of inequality. Moreover the UK – contrary to the conventional view that it has comparatively large earnings gaps – displays average figures, and in fact sits below France in all three charts.

4.3. Comparing two points in time

Comparing these data for 2002 to similar calculations for the mid-1990s[44], the ranking of countries has changed, sometimes very significantly.

Table 56 summarises the change in levels of inequality of the Member States as classified according to their degree of earnings inequality, measured by decile ratios, for those Member States for which comparable data are available for the two reference periods (both the mid-1990s and for 2002).

Looking at some of the more interesting changes, the level of earnings inequality between the mid-1990s and 2002 has decreased in Spain, while in Poland by contrast, earnings inequality has increased significantly. However, it should be noted that Table 56 presents only broad trends, because the OECD study providing the mid-1990s reference point, uses a variety of data sources and measures of inequality (such as decile ratios), and these may differ according to the type of workers examined and the type of earnings available. This again points to the uniqueness and the degree of comparability that is ensured by the European SES 2002.

From charts 126, 127 and 128 it is possible to suggest that there is greater inequality shown in comparisons of D9/D1 (Chart 126) than of D5/D1 (Chart 128). Indeed chart 126 shows that inequality in Romania and Estonia is more than double that in Finland and Norway, while chart 128 indicates a much smaller difference between lower decile earners in Sweden and Norway compared with Slovenia and Estonia. This effect might be caused, in part, by employers providing incentives to those in the top deciles, which contribute towards higher returns to education and skills, whereas bottom deciles are generally less advantaged in employment and social terms.

In reality, the countries with a high (or low) degree of earnings dispersion in the bottom half of the earnings distribution also tend to have a high (or low) degree of earnings dispersion in the top half. An example is the US, where workers at the top end have very high wages in relation to the median and those at the bottom end have very low wages. The correlation coefficient is 0.93 (own calculation).

Workers are imperfect substitutes for each other and the demand for certain categories of workers varies according to the production structure of the country, the technology in use, the labour market policies and institutions, as well as the extent of industrial regulation. These factors combine to cause differences in earnings. Over time, the composition of the supply of workers will also change, for example as a result of the take-up of certain courses rather than others, or immigration / emigration. Also, the general supply is affected by the birth rate and cohort effects (baby-booms). The demand for certain types of workers may also change because of such factors as skill-biased technological change, variations in sectoral productivity, shift in trade flows and outsourcing trends, etc.

Table 56 – Change in the level of inequality of countries by decile ratio

Country	D9/D1	D9/D5	D5/D1
AT	↑	↑↑	↓↓
BE	↑	↓	↑
CZ	↓	↓	=
DE	↑	↑	↑
ES	↓↓	↓↓	↓↓
FR	↑	↑	↑
HU	↓	↓	↓
IE	↓	↑	↓
IT	↑	↑	↑
NL	↑	↑	↓
PL	↑↑	↑↑	↑↑
FI	↓	↓	↓
SE	↓	=	↓
UK	↓	↑	↓

↑ stands for an increase of inequality
= means that inequality remains more or less stable
↓ stands for a reduction of inequality
Source: Commission services.

44 Bardone L., Gittleman M. and Keese M. (1998), 'Causes and consequences of earnings inequality in OECD countries', OECD, Paris. This paper presents an analysis of earnings inequality in the OECD countries in the mid-1990s, using various data sources such as enterprise surveys, household surveys and social security records, as were available at the time. The references vary and can be found in table 58 of this paper.

This section has shown that the distribution of earnings is an important factor in assessing the relative level of earnings in a Member State and across Member States (and not just differences in average wages); basically it suggests that the shape of the overall distribution and the relative position of a worker or a group of workers in that distribution should be taken into account.

5. Individual determinants of earnings inequality

A review of the principal causes of earnings inequality is given here, before subsequent examination of the empirical evidence to support it. As a first approach to this dataset, the following section attempts a simple empirical analysis of the determinants of earnings differentials, based on the 2002 European SES. Naturally, there will be a need for further and more sophisticated studies, but those go beyond the scope of this chapter.

There are a number of explanations for the differences in individuals' earnings[45]. The differences that relate to large wage and earnings disparities are generally based on characteristics that are specific to the individual, the firm or the country.

Factors based on the individual

Individual characteristics relate to conventional definitions of human capital[46], which include such elements as education, skills, labour market experience, innate abilities, age, gender, attitude towards change/mobility, and directly reflect disparities in the skill composition of the workforce. Furthermore, industries and services are not evenly distributed across areas and so requirements in terms of the mix of skills will vary. These differences can therefore impact on the decisions made by firms looking to locate in the EU. In such a scenario there would be an expectation of higher mean wages in those regions/countries with a higher skills profile. From a theoretical perspective, one would expect earnings inequality to reflect this skills dispersion and the actual distribution of skills[47]. This issue was documented in chapter 3 of *Employment in Europe* 2004. To summarise, such disparities based on individual characteristics increase inequality between different skill-groups.

Firm-based factors

Firm-based explanations for earnings inequality include type of ownership, the management and governance structure, the degree of market power held, trade union strength, size (in employment and turnover terms), capital-to-labour ratios, capital formation, etc. Some interactions between workers and firms take place locally and have an impact on productivity gains, generating spillovers and agglomeration effects[48], leading to a greater division of labour, higher wages, ultimately making the matching of workers with firms easier in thicker labour markets[49]. Thick labour markets are defined as those allowing more job offers, i.e. the worker has the option to choose from among a wide variety of job offers[50]. Input-output linkages between buyers and sellers generate such agglomeration economies.

Changes in *work organisation*, sometimes called *skill-biased organisational change*, have also been seen as a source of earnings inequality. Recent firm-level studies have shown that in order to achieve efficiency gains, the use of ICT should correspond to appropriate organisational changes, such as high-performance workplace organisation, which includes team working, flatter hierarchies, job rotation or the use of quality circles, for example. These uses of ICT and organisational change are increasingly viewed as strategic complements. Both have a significant effect on wages, with evidence from Germany[51] indicating that wages earned by IT users are 6% higher than those of their peers and that companies that have changed their work organisation do pay higher wages. This effect usually works through increased company productivity[52], and, in the case of the US, results have included increased profit sharing and stock options. Testing the same idea on Italy has shown that technology and organisation both affect the demand for labour and drive the shift towards higher-skilled

45 This chapter takes into account employees, and not the unemployed. It restricts itself to earnings differentials among jobholders.

46 A broad definition of human capital can be found in OECD (2001), *The well-being of nations, the role of human and social capital,* which states 'the knowledge of skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being'.

47 Nickell S., Layard R. (1997), 'Labour Market Institutions and Economic Performance', Papers 23, Centre for Economic Performance & Institute of Economics.

48 Krugman P., Fujita M., Venables A (1999), *The spatial economy: cities, regions and international trade*, MIT Press, 1999.

49 Therefore growing disparities within Member States have become a key concern in the process of European integration, which has led to a push for social and territorial cohesion. Experiments on French data show that interaction effects are mostly caused by the local density of employment, to the extent that high local wages are primarily the outcome of higher-skill workers gathering in dense local labour markets.

50 Lazear E.P. (2004), 'Firm-specific human capital: a skills-weights approach', *NBER working paper n° 9679.*

51 Bertschek I., Spitz S. (2003), 'IT, organisational change and wages', *ZEW discussion paper n°03-69.*

52 Black S.E., Lynch M. (2000), 'What's driving the new economy: the benefits of workplace innovation', *NBER working paper n° 7479.*

labour[53]. As a consequence, the proportion of skilled workers increases and thus the organisation of work becomes more decentralised[54]. Based on the analysis of French data, both skilled and unskilled workers become more autonomous and perform a wider range of tasks. Organisational change[55] reduces the demand for unskilled workers. In a nutshell, technical change complements human capital.

From the 1995 SES, both firm-level factors and individual employee characteristics appeared to play a significant role in explaining pay inequalities[56]. Better business performance had led to greater pay inequalities within firms, but this relationship has declined over time as levels of inequality have increased generally. Overall, the greater pay inequalities in some Member States (such as IE, UK, ES) compared with others, cannot be proved to have systematically given rise to higher employment rates. However, the greater inequality in these three Member States appeared to be linked to a greater degree of labour market segregation of low-paid groups and by gender and age. Pay inequalities at enterprise level have to be considered in conjunction with other human resources issues and work organisation practices. One of the most interesting findings is that many interrelationships observed at the aggregate level, such as between bargaining structures and pay inequality, or the determinants of the gender pay gap, are not corroborated when full account is taken of employment composition differences accessed through the SES data. It underlines the value of a sound analysis of the underlying individual data of the SES.

This kind of regression analysis will help disentangle the sources of inequality and identify the contribution of various factors to earnings inequality, such as educational attainment, gender, occupations and activities, the industry premium, the size of enterprises, etc. Previous studies[57] based on similar datasets for the new Member States of Central and Eastern Europe have shown that education is the single most important observable characteristic explaining the current level of inequality. According to the findings, differences in educational attainment account for one third of the explained variation in earnings, and as much as 60% in Hungary. The second most important factor contributing to earnings inequality is inter-industry wage differentials. Gender comes third, but has a relatively small impact. All other factors (labour market experience, firm ownership, urban/rural residence) are secondary or insignificant. The authors conclude that higher earnings inequality in those countries is due to a revaluation of human capital during the transition period.

Very few studies use individual data[58] (especially at European level), containing precise information about employers and employees, and to test the various explanations of wage determination. Firm-level panel data or linked employer-employee data[59] could prove extremely rich sources, *inter alia:*

- to estimate the magnitude and relative importance of these factors in explaining wage disparities across areas;
- to identify the determinants of wage disparities among groups of individuals;
- to identify the drivers of wage disparities across regions.

A basic attempt at analysing the determinants of earnings differentials is carried out here, as a first use of the SES dataset. Explaining the individual earnings effects uses regression (econometric) analysis to help identify the weight of each personal or company characteristic that contributes to determining the earnings differentials between individuals. Using this technique, several regressions were performed in order to derive more meaningful results and possibly find causal relationships.

53 Piva M. et alii (2005), 'The skill bias effect of technological and organisational change: evidence and policy implications', *Research Policy 34,* pp. 141-147 and Giuri P. et alii (2005), *'ICT, skills and organisational change: evidence from a panel of Italian manufacturing firms',* www.lem.sssup.it.

54 Caroli E., Greenan N., Guellec D. (2001), 'Organisational change and skill accumulation', *Industrial and Corporate Change,* volume 10, nb 2.

55 Caroli E., Van Reenan J. (2001), 'Skill-biased organisational change? Evidence from a panel of British and French establishments', *Quarterly Journal of Economics*.

56 PIEP results from the 5th framework project 'Pay inequalities and Economic performance', http://cep.lse.ac.uk/piep/query.asp?id=2.

57 Rutkowski (2001), Op. cit.

58 Combes et alii (op. cit.) use a panel of French workers and find that individual skills account for a large fraction of existing spatial wage disparities. Endowments only play a small role. In particular, the authors find that local public goods may not have a large direct impact on productivity and wage disparities.

59 Abowd, J. M., Kramarz, F. (1999), 'The analysis of labour markets using matched employer-employee data', in Ashenfelter, O., Card, D. (eds), Handbook of labour economics, volume 3B, chapter 40.

5.1. Returns to education are unambiguously positive…

Individual earnings regressions (table 59 is featured in Annex III)

This first regression uses over five million observations taking the hourly earnings differential between individuals as the dependent variable. Its aim is to estimate the marginal contribution of each variable to the earnings differential. The model is structured to describe the expected wage of an individual given their place of work, size of workplace enterprise, the activity (NACE), gender, age, occupation, highest level of educational attainment, whether he/she is working full-time or part-time, and the length of tenure in the particular enterprise.

For example, the estimate for *males* measures the difference in the expected wage between a man and a woman with the same other characteristics (education, country, size of enterprise, activity, etc.). This model would then suggest that if we compare a man and a woman with the same education, occupation, experience, and company characteristics etc, then the expected wage differential it predicts is a 2.49 difference in hourly pay between men and women (all other variables being constant) and this difference is statistically significant. Furthermore, adjusting for other variables does not greatly change the average hourly wage differential, which is 3.19 taking the 'raw' hourly wage differential in the EU-25 between men and women. Thus controlling for individual characteristics of the employee and of the firm, the gender gap would be reduced from 22.6% to 17.6%[60].

Similarly the estimated coefficient for the ISCED educational attainment measure gives the expected wage difference between two individuals with the same experience and gender where one of them has attained a higher level of education. This regression suggests that returns to education are unambiguously positive[61]. Indeed the highest education category (ISCED 6) was set as reference category in this case, and so all other educational levels lead to relatively lower earnings. Working in top occupations (as legislators or managers for example) increases earnings significantly. Adding to this model the data for the 'length in enterprise', (i.e. the length of service of the employee in the same company), regression results remain the same overall, and the results show a positive effect of length of service on earnings. Working part-time on the other hand has a negative effect on earnings.

The current model explains 36% of the within sample variation in earnings, which can be considered quite satisfactory compared to standard earnings regressions. Further investigation using a refined model gave the following results:

5.2. …As are returns to higher-skilled types of jobs

Logarithm of hourly earnings (table 60 is featured in Annex III)

In this second specification, the log of hourly earnings is used; this is a standard approach (see Box 11) where the interpretation of coefficients differs. Here, the coefficient of the gender variable measures the relative difference in expected earnings for males and females; the difference in expected log earnings is now 0.22, which equates to approximately 22%. This corresponds to the average value using aggregate figures from the SES.

Box 11 – Methodological notes

The basic reasoning behind this type of regression is that returns to education are the essential determinant of individual remuneration patterns. Most of the studies run Mincer regressions[62] in order to derive a meaningful measure of returns to education. The initial idea is to test a simple model in which the logarithm of a person's wage at a certain point in time can be broken down into the sum of a linear function of years of schooling and work experience (squared). The usual result is that an additional year of schooling increases the individual wage by 10%. In subsequent studies several refinements have been added to this kind of regression, because such a simple model might be biased in three different ways: (i) there might be a positive correlation between the number of years of schooling and the returns to education, thus over-estimating the coefficient; (ii) omitted variables such as initial intellectual capabilities might also bias the estimate; (iii) measurement errors could seriously affect the final results.

60 This result is somewhat higher than the overall gender pay gap measure obtained from previous analyses, in which women's average earnings were 16% below those of men. This difference could be explained by the fact that the SES covers only private sector workers. For results of earlier studies, please consult: http://europa.eu.int/comm/employment_social/employment_analysis/gender/sec_03_937_en.pdf.

61 Indeed ISCED 6, the highest education category was set as the reference category in this case, so all other educational levels lead to relatively lower earnings.

62 As presented and commented by Card D. (1999), 'The Causal Effect of Education on Earnings', *in:* Handbook of Labour Economics, ed. By Ashenfelter O.C. and D. Card, Volume 3C.

Under this, working part-time makes a 10% negative difference compared with full-time work; being a non-manual worker makes a 23% positive difference; working in a large enterprise (more than 250 employees) makes an 18% difference; but most of all, being a low or medium-skilled worker reduces earnings by between 32 and 45%. The effect of age/seniority is also positive.

While Bulgaria and Romania come out below all the EU Member States in earnings levels, Denmark, Norway and the UK are far ahead. However, the country-specific dimension is explored further below.

The above results should be interpreted with caution. This is partly due to the fact that the individual's occupation (as indicated by the ISCO) will tend to reflect his/her educational attainment, since employers often use educational qualifications as the main recruitment filter. Because of this, although the results may be valid for the sample or sub-population used in the regression analysis, they cannot be extended to other groups such as the unemployed or the inactive because of the risk of a non-random decision to enter the labour market (selection effect) that is dictated by perceived potential earnings. This would introduce a selection bias into the regression analysis and so invalidate the results.

5.3. Working in a large company helps…

Individual earnings of men and women (table 61 is featured in Annex III)

An attempt was made to separate men and women into two different subsamples in order to check to what extent some of the factors affect each gender differently. From this analysis, working in a larger firm (in employment terms) seems to positively affect men's earnings to a greater extent than women's. In addition, being a non-manual worker yields higher rewards, as does working in industrial sectors. The age variable, which could be interpreted as seniority or experience, while remaining positive for both genders, has a greater positive effect on earnings for men and for women.

The two approaches explained in (2) and (3) above account for around 80% of the within sample variation in earnings.

5.4. …Especially in the case of men in top occupations

Country-specific regressions (table 62 is featured in Annex III)

For the country-specific models, one regression per country was attempted separately, each using the same specification for each country, with the logarithm of hourly earnings as the dependent variable. The model seems to perform very badly for Belgium, Spain and Iceland, for which none of the results are significant. Yet the model explains between 25% (Estonia) and 63% (Germany) of the variation in earnings for the other countries.

Among the other interesting results, men's wages are between 14% and 32% higher depending on the country. Also, company size has a positive effect on earnings, as does working in industry, except in Cyprus, Portugal and Romania where the effect is negative. Being a non-manual worker can involve an earnings premium of up to 34% (in the UK). Having low-to-medium skills generally has a negative impact on earnings, with the notable exception of Ireland in the case of medium-skilled workers, perhaps this reflects a shortage of such skills, and thus explains the premium paid to those who have them. Fixed-term contracts and apprenticeships (where available) also place negative strains on the level of earnings. Part-time working yields ambiguous results, as does the bargaining level (i.e. whether centralised or decentralised).

The *composition* of the earnings differential can vary according to various national or even company-specific practices. One aspect of this, namely 'rent-sharing' practices will be developed in section 7.

6. Institutions matter

One of the main questions to which we would like an answer is, to what extent wage differentiation matters for labour market outcomes, reflected in the employment and unemployment rates. However, a full review of this question goes beyond the scope of this chapter. Here the discussion focuses on the issue from two perspectives that both relate to the theories on the determinants of earnings differentiation: these are the role of labour market policies and institutions and the impact of wage differentiation on unemployment.

As can be seen from chart 129, hourly earnings vary considerably across the countries shown and suggest the influence of a range of country-specific characteristics. Moreover, this leads to variability of hourly earnings and to the upper and lower bounds displayed around the median earnings being fairly wide as evidenced in Luxembourg, the UK, Norway, and Ireland, for example.

The common classification of 'flexible' labour markets in some countries

and those countries with more 'rigid' labour markets could be a factor in this variation. However, from the information in chart 129, it is not immediately obvious how the degree of 'flexibility' of the labour market explains this variability of earnings.

However, the determinants of wage variability cannot be looked at simply in terms of labour market flexibility. Other factors need to be considered such as the effect of welfare transfers, and labour market institutions/policies, including employment protection legislation, unemployment benefits and the like, that may act as a 'compensating mechanism'.

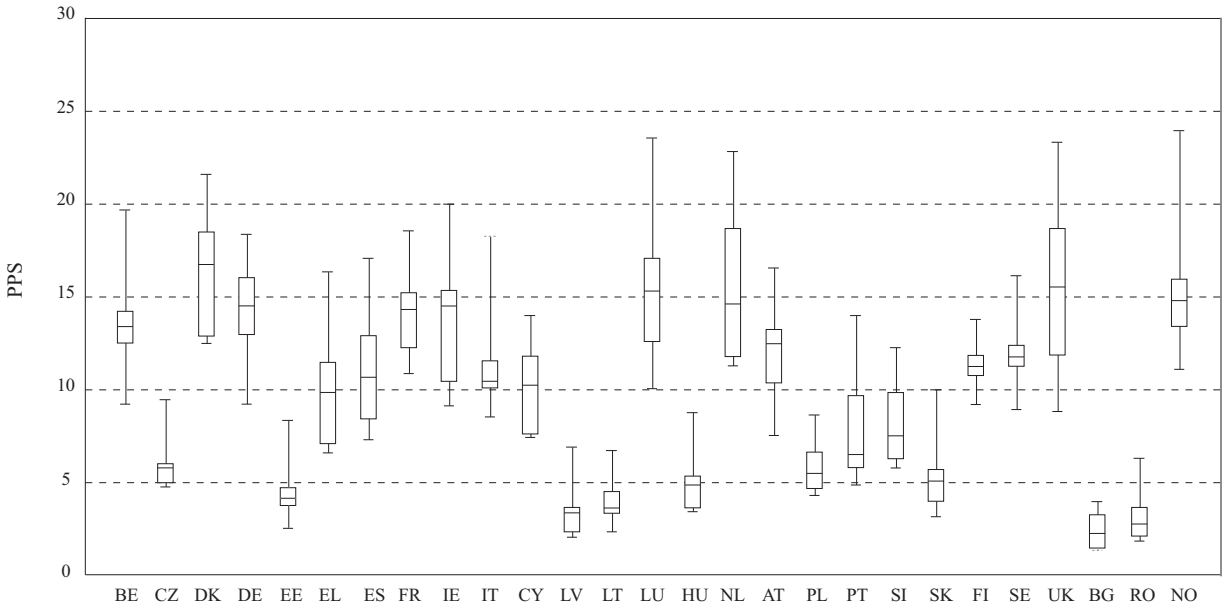
6.1. Earnings dispersion and labour market institutions

Several types of labour market policy or institution might have an effect on earnings distribution. For instance, the generosity of welfare benefits might affect the willingness of individual workers to take up low-paid jobs. A weakening of employment protection legislation (EPL) or low levels of it might lead to greater inequality, as any job loss would be associated with a higher wage penalty for unskilled workers than for skilled workers.

Labour market institutions and policies are seen as playing an important role in the relative structure and distribution of earnings, for example the deregulation of the labour market in the UK to ease the 'compression' of the earnings structure, the introduction of performance-related-pay, and similar measures. Such explanations are based on the perceived role of wage compression[63] arising from the power of strong trade unions and works councils. According to this explanation, 'rigidity' would tend to hinder wage adjustment and impose wage compression; if this were the case, it would lead to tradeoffs between earnings inequality and unemployment rates. If the problem were wage compression, lower earnings inequality levels would be associated with higher unemployment levels and wider unemployment gaps between the skilled and the less skilled. This extent of support for this hypothesis ranges from nil[64] to mild support[65] from some authors.

A very extensive survey of the determinants of wage structures was done

Chart 129 – Variability of gross hourly earnings in different branches in industry and services, in PPS (within-country dispersion)



Source: SES 2002.

63 Freeman R.B., Schettkat R. (2000), 'Skill Compression, Wage Differentials and Employment: Germany vs. the US', NBER Working Papers 7610.

64 Howell D., Huebler F. (2001), 'Trends in earnings inequality and unemployment across the OECD: labour market institutions and simple supply and demand stories', *CEPA working paper n°23*, http://www.newschool.edu/cepa/publications/workingpapers/archive/cepa0123.pdf.

65 *Employment in Europe 2004,* European Commission, chapter 3.

in *Employment in Europe 2003,* chapter 3, based on various data sources provided by Eurostat. The main findings were as follows:

- While non-wage labour costs are a crucial determinant of total labour costs, there is no simple relationship between the two. The two countries with the highest gross hourly labour costs in Europe – Sweden and Denmark – are also the countries with the highest and lowest share of non-wage labour costs, respectively. In addition the relative size of net wages, taxes and social security contributions differs across countries. Therefore, when interpreting differences in wage levels, these differences have to be taken into account.

- There is a considerable amount of wage differentiation across firms and industries. Wage differentiation across regions, however, is much less pronounced. Wages are generally higher in high productivity industry and services.

- Although wage structures are certainly not based solely on workers' productivity, since they also reflect historical influences, social norms and managerial strategies of organisational restructuring, there is evidence that wage bargaining systems in Europe allow wages, by and large, to actually reflect productivity effectively, taking into account differences across skills and local labour market conditions.

- On the one hand, there is strong evidence for traditional seniority- and tenure-based pay schemes in the European labour markets, which is indicative of strong internal labour markets that tend to offer long-term employment relationships and provide effective insurance against wage variations and employment risks. On the other hand, there is a considerable degree of turbulence and flexibility in European wage formation systems, with wage formation accounting for factors as diverse as family status, career interruptions, contract status, firm size, earnings risks and local labour market conditions.

The extent to which these factors are rewarded differs considerably across the EU Member States. Another example is the compensation of earnings risks. There is in fact little evidence of any effective compensation of employment risks by means of additional wage premiums. On the contrary, in several Member States there is evidence of quite strongly segregated labour markets, where low-wage earners are the ones who also face the highest employment risks. The UK actually seems to be the only country in the EU with such risk compensation in place[66].

Most theories have focused on the impact of minimum wages and trade unions. The theory relating minimum wages to earnings inequality is relatively straightforward and uncontroversial. It predicts[67] that the imposition of a binding minimum wage results in lay-offs for the workers whose productivity level is below the minimum wage and thus, for those remaining in work, to a reduction in the dispersion of earnings. Some models predict that the minimum wages might also increase the earnings of those at the bottom of the distribution. In any case, the firm prediction is that in the presence of minimum wages, the earnings distribution will definitely be more compressed.

The presence of trade unions could work in one of two ways, either towards the widening of the earnings distribution or towards narrowing it. The earnings distribution could widen if the presence of trade unions gives a relative wage advantage to unionised workers, or it could become narrower if the presence of trade unions tended to compress wage differentials between different types of workers (e.g. manual vs non-manual).

Table 57 presents measures of earnings dispersion alongside a variety of indicators of labour market policies and practices, as well as a calculation of the simple correlation between them. Collective bargaining seems to have a dampening effect on earnings dispersion; higher coverage or more encompassing collective bargaining tends to narrow earnings dispersion and this finding is well established[68]. The degree of coverage by a collective agreement appears to affect the earnings dispersion equally strongly at both ends of the distribution; it has a stronger effect than any other 'institutional' variable presented here. Across the EU, two thirds of employees are covered by a collective agreement. Yet there is significant variation between countries, from around 90-100% in France, Austria, Slovenia, Belgium, and Sweden, to under 30% in the

66 This chapter of Employment in Europe 2003 had raised questions for further research, notably the separation of employer and employee effects on wages, based on matched employer-employee data.

67 Simple neo-classical models.

68 Blau F., Kahn L. (1999), 'Institutions and laws in the labour market', in Ashenfelter O., Card D. (eds), Handbook of labor economics, vol. 3, OECD (2004), *Employment Outlook*, chapter 3.

Table 57 – Earnings dispersion and labour market institutions

Country	D9/D1	D9/D5	D5/D1	Collective bargaining coverage	Minimum wage (as % of average wage)	ALMPs (expenditure)	Unemployment benefit replacement rate	Tax wedge	EPL (overall strictness)
AT	3.03	1.95	1.54	95	NA	7 825	0.34	29.57	1.90
BE	2.62	1.64	1.59	90	0.49	13 193	0.38	40.12	2.20
BG	4.40	2.26	1.95	NA	NA	NA	NA	NA	NA
CY	3.11	1.94	1.58	65	NA	NA	NA	NA	NA
CZ	2.80	1.71	1.63	25	0.32	526	NA	28.67	1.90
DE	3.15	1.78	1.78	68	NA	7 774	0.33	32.54	2.35
DK	2.14	1.60	1.34	80	NA	16 849	0.59	30.86	1.40
EE	4.94	2.22	2.20	30	0.34	NA	NA	NA	NA
ES	3.15	1.96	1.58	80	0.32	3 221	0.34	31.37	3.10
FI	1.96	1.48	1.32	90	NA	5 286	0.30	38.54	2.00
FR	3.36	2.00	1.64	90	0.62	8 570	0.44	39.19	3.00
EL	2.63	1.75	1.47	NA	0.51	1 289	0.11	35.12	2.80
HU	3.40	2.05	1.63	30	0.51	2 479	NA	30.16	1.50
IE	3.91	2.17	1.78	NA	0.56	15 502	0.30	8.96	1.10
IS	2.27	1.58	1.43	NA	NA	NA	NA	NA	NA
IT	2.46	1.78	1.38	80	NA	3 485	0.34	33.99	1.90
LT	4.55	2.37	1.91	14	0.41	NA	NA	NA	NA
LU	3.40	1.99	1.76	60	0.49	NA	NA	NA	NA
LV	4.76	2.82	1.69	20	0.42	NA	NA	NA	NA
NL	2.75	1.75	1.57	80	0.47	31 199	0.53	25.22	2.10
NO	1.98	1.52	1.30	70	NA	15 571	0.43	27.22	2.60
PL	4.67	2.27	1.99	40	0.33	577	NA	37.75	1.70
PT	3.32	2.21	1.51	80	0.38	4 397	0.53	23.43	3.70
RO	5.09	2.53	2.08	NA	NA	NA	NA	NA	NA
SE	2.03	1.59	1.27	90	NA	13 593	0.24	40.50	2.20
SI	4.50	2.08	2.09	100	0.46	NA	NA	NA	NA
SK	3.21	1.93	1.66	50	0.42	318	NA	29.63	1.90
UK	3.16	1.97	1.59	30	0.42	3 868	0.17	18.16	0.70
Correlation with earnings dispersion				**2000**	**2000**	**2001**	**2001**	**2002**	**2003**
D9/D1	1.00	0.93	0.93	-0.54	-0.25	-0.31	-0.05	-0.29	-0.12
D9/D5	0.93	1.00	0.73	-0.56	-0.17	-0.33	-0.01	-0.40	-0.01
D5/D1	0.93	0.73	1.00	-0.42	-0.25	-0.24	-0.07	-0.21	-0.18

Source: Eurostat, SES 2002 data for earnings dispersion and OECD data for labour market institutions, Industrial relations report for some collective bargaining coverage (SI, CY, EE, LV, LT) and own calculations of the correlations. Note: ALMP expenditure is measured by unemployed person. Unfortunately, the year 2002 is not always available for institutional variables; however, there is not a wide variation from one year to the other. The coverage rate of collective bargaining is an indicator of the extent to which the terms of employment in an economy are regulated by collective agreement. It represents the number of employees covered by a collective agreement as a proportion of all wage and salary earners.

Baltic States, the UK, Czech Republic and Hungary[69].

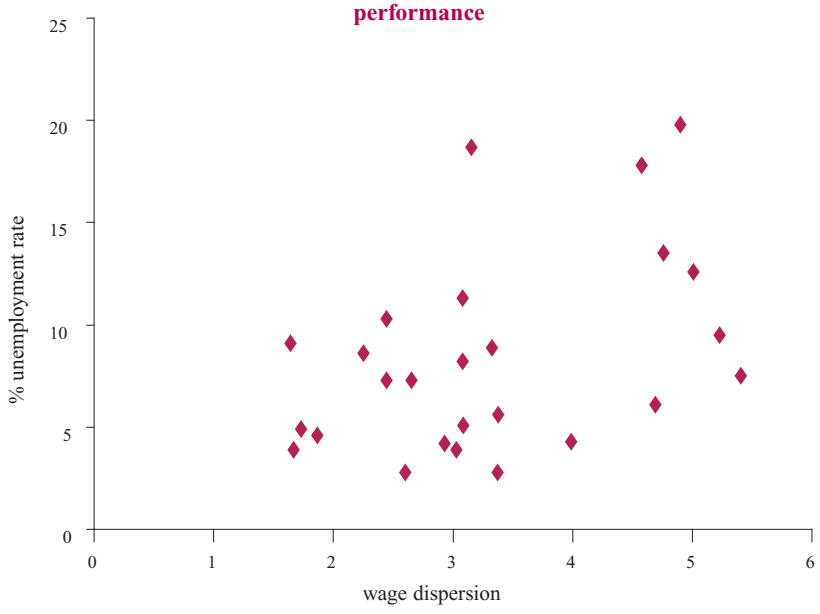
All of the different factors have on average the same effect at the top or the bottom of the earnings distribution, although collective bargaining seems to have a stronger impact at the top of earnings distribution. ALMPs also reduce inequality of the earnings distribution[70]. Minimum wages appear to have a weaker effect than collective bargaining and ALMPs, notably on top-wage earners, which seems to be in line with theoretical predictions (although here no asymmetry is found), and also on the replacement rate, which has very small and ambiguous effects. EPL seems to narrow earnings inequality to a greater extent at the lower end of the earnings distribution, and the tax wedge seems to affect mostly the upper-end of the wage distribution.

Correlations in table 57 suggest that stronger institutions reduce earnings inequality (dispersion), which further suggests that equity effects have to be taken into account when giving policy guidance on labour market institutions. However, it should be pointed out that while these correlations are interesting as a means of illustrating the variations, they are only indicative, and do not suggest any causal links between the factors. In addition, most of the relevant economic literature is devoted to explaining changes in the levels of earnings inequality, which cannot be attempted in this chapter, given the available data. Regression results from section 5, using the level of centralisation of bargaining in the model, did not enable further conclusions to be drawn.

6.2. Earnings inequality and labour market outcomes

Economic theory, grounded in the competitive model of supply and demand, predicts a tradeoff between earnings inequality and unemployment. As the demand for labour shifts from the least skilled towards the more skilled, earnings inequality has increased and unemployment remains high. Therefore, some countries with high degrees of inequality and competitive labour markets show a relatively favourable employment performance, while others display more equality but slow employment growth in protected labour markets. This conventional wisdom has been challenged by some researchers, who consider that labour productivity is not exogenous and is also influenced by relative earnings in some particular cases, which could blur the relationship between the unemployment rate and earnings inequality. The graphical analysis, as displayed in chart 130 suggests that the relationship between labour market performance and wage dispersion is far from obvious at macroeconomic level. There is no robust relationship between the unemployment rate and wage dispersion. In looking at the development of EU labour markets since the mid 1970s, it is evident that the incidence of unequal access to employment has increased, with a specific feature being the rise in the unemployment rate of the least qualified. Data for relative unemployment rates - by skill level are not available for many countries, and so the alternative measure of the overall unemployment rate is used. The rough correlation (own calculation) between wage dispersion (as measured by decile ratio P90/P10) and the unemployment rate is positive but

Chart 130 – Interdecile dispersion (90%/10%) of wages and labour market performance



Source: Eurostat data, SES 2002.

69 For a more detailed discussion of collective bargaining in the EU, please refer to the *Industrial Relations Report, 2004,* European Commission.
70 The results of such bivariate correlations are in line with the findings of the OECD (2004), *Employment Outlook*, chapter 3.

weak, and does not seem to suggest any strong link between wage dispersion and the unemployment rate.

In addition, there are many caveats to the simplistic correlations presented, notably in chart 130, there is an outlier (Poland) with an unemployment rate above 18%, which tends to drive the correlation upwards. Secondly, graphical analysis of this kind tends to be relatively weak and cannot be considered conclusive.

Structural policies include changes in labour market policies and institutions. In some of the EU Member States, little has been done to reform such institutions and foster further earnings differentiation. Therefore it is worthwhile focusing on the interdependence between labour market institutions and earnings differentials.

The early research on the impact of labour market institutions on the wage level focused either on the impact of taxes on wages, or on a static cross-country framework. However, thanks to accessible data encompassing information on changes in institutions over time, researchers[71] are now able to analyse the issue in a panel approach, while controlling for macroeconomic determinants. The estimates reveal that unemployment and productivity have a strong impact on the level of labour costs. Labour market institutions also have a significant impact, both directly and through their interaction with unemployment and taxation. For instance, bargaining coordination has a negative direct effect on labour costs, and also a negative indirect effect by reducing the positive impact of taxation and increasing the negative impact of unemployment. Higher benefit replacement rates as well as employment protection legislation have a positive impact (increasing labour costs) whereas benefit duration has no impact. Nunziata (2005) points to the fact that the impact of institutions on wage inequality is as strong as that of trade and technology measures and that more flexibility might therefore increase wage inequality.

Chapter 3 of *Employment in Europe 2004* extensively reviewed the 'wage compression' hypothesis, according to which the narrower wage distribution in Europe compared with the US might reduce low-wage employment in the EU especially in the low-productivity services.

It is possible to try to identify wage compression in Europe using the SES 2002. Wage compression was defined by Mourre (2005) as the wage differences across workers or firms which are narrower than productivity differences. When estimating a labour demand model by means of cross-sectional econometric analysis, there is some evidence of wage compression both across occupations and across educational attainments. The evidence, however, appears much less robust across levels of education than across occupations, which might be due to the fact that educational attainment was too coarse a measure to capture the various levels of professional skills. Moreover, the research suggests that compression of wages is not uniform across wage levels, a finding which is consistent with the traditional observation of less wage dispersion at the lower end of the earnings distribution and with the earlier findings of this chapter.

7. Rent-sharing practices

7.1. Inter-industry wage differentials reflect rent-sharing between employers and employees

'Rent-sharing' or 'profit-sharing' is about defining the share of 'profits' to which employers and workers respectively are entitled. In other words, it reflects the public debate on the rewards to capital and labour, which becomes especially acute when growth picks up again and each party searches for their entitlement arising from the improving economic situation. By its nature, the type of firm-level data contained in the European SES seems ideally suited to investigating such a topic. However, this survey does not contain information on firms' profits.

The idea behind the rent-sharing theory is that those firms earning positive economic rents share them with their employees, usually in relation to the employees' bargaining power. So workers employed in the most profitable firms will tend to earn more than others. Companies and institutions would usually try to 'smooth' the cyclical effect of growth on profits, by compensating workers' risks. Indeed, in order not to have to shed (hire) too much labour in bad (good) times, companies would pay workers and renegotiate their pay gradually, using variable pay schemes or bonuses in good times.

Competitive models would predict that there is no relationship between workers' wages and the profits of their firms. Wages should purely reflect the marginal productivity of labour. The conventional explanation offered by

71 Nunziata L. (2005), 'Institutions and Wage Determination: a Multi-Country Approach', *Oxford Bulletin of Economics and Statistics,* forthcoming.

textbook economics is that there is a shift in demand for skilled versus unskilled labour, creating an excess demand for skilled labour, which drives up the wages of the high-skilled. In the real world, that of imperfect labour markets and imperfect information about workers' true productivity and effort, there is room for manoeuvre as regards wage setting. Non-competitive models predict a positive correlation between rents and wages for comparative workers. Most authors studying the inter-industry wage structure have found that industry differentials 'reflect in large part rent sharing between firms and workers'[72]. Moreover, signalling or posting high wages attracts high quality workers.

The degree to which supply and demand factors impact on changes in relative employment and earnings also depends on institutions. Institutions may affect the level and trends in earnings inequality and the degree of regulation may affect the existence of 'rents' in regulated industries and the extent to which workers are able to capture the rents.

7.2. Rent-sharing increases the skill-bias

Using a Portuguese matched employer-employee panel and econometric techniques that control for a number of biases, Martins (2004)[73] found a significant amount of rent-sharing, especially for those workers with high levels of tenure or education and for men in particular, who benefit more from rent-sharing. In the case of France and Norway[74], there is evidence of a positive relationship between profits per worker and annual earnings, especially for men, even though collective bargaining plays a larger role in earnings determination in Norway than in France. Focusing on the relationship between profits and pay, and data on the UK, US and Canada, results give a clear indication that more profitable firms pay higher wages when all the characteristics of the individual worker and the firm's characteristics are included. Using detailed data on the US manufacturing sector, substantial rent sharing was identified[75]; the authors discovering a relationship between value added and wages, such that variations in rents explain a substantial part of the wage variation, while changing the mix of worker quality is irrelevant. This suggests that changes in industry rents are a very important component of wage determination in US manufacturing. The use of ICT can increase productivity and profit-sharing opportunities. However, an increase in the use of profit-sharing or stock options results in lower wages for technical and clerical or sales workers (in the US). In France, for instance, profit-sharing (*participation)* is a statutory requirement for companies with over 50 employees, whereby companies set aside a certain pre-defined percentage of their profits, for distribution to their employees. Then there are also forms of 'voluntary profit sharing' (*intéressement*).

A study[76] using a firm-level panel dataset of European companies shows that the relationship between parent-company profits per worker and wages in affiliates is positive and of similar magnitude to domestic profit-sharing and partly explains why multinational affiliates pay higher wages. On average, annual wage growth is often less than 5% across Europe, and this study shows that a 1% change is solely due to profit sharing, thus explaining a fifth of individual wage outcomes, which is quite substantial.

European and OECD trends illustrate the sharp decline in the share of rewards to labour in value added, from the beginning of the 1980s[77]. This is confirmed in France, whereas in the US the sharing of returns between capital and labour has remained stable over time. Such trends have recently been commented on by Askénazy (2003)[78], using detailed data by sector and national accounts data. The capital/labour share was studied taking into account the various components of 'earnings' and using an innovative way of calculating value added. Results are very different compared to previous literature on the issue. They point to fairly similar developments in the US and in France, when definitions control for the sectoral aspects. The author points to the need for further evidence based on micro-data to investigate this point; therefore the Commission has launched a series of projects to analyse linked employer-employee datasets and firm-level panel data. Further analysis of the SES

72 Krueger A., Summers L. (1987), 'Reflections on inter-industry wage structures', in Land K., Leonard J. (eds), Unemployment and the structure of labour markets, Basil Blackwell, Oxford.

73 Martins, P.S. (2004), 'Rent sharing before and after the wage bill', *IZA Discussion Paper n°1376*.

74 Margolis, D. N., Sylvanes, K. G. (2001), 'Do firms really share rents with their workers?', *IZA Discussion Paper n°330.*

75 Estevao M., Tevlin S. (2002), 'Do firms share their success with workers? The response of wages to product market conditions', *Economica 70*.

76 Budd J. W., Konings J., Slaughter M. J. (2005), 'Wages and international rent sharing in multinational firms', *Review of Economics and Statistics* 87(1).

77 OECD (1998), *Perspectives Economiques.*

78 Askénazy Ph. (2003), 'Partage de la valeur ajoutée et rentabilité du capital en France et aux Etats-Unis: une réévaluation', *Economie et Statistique* n°363-364-365.

data, in particular of the information on bonuses, could help identify meaningful patterns, but a first treatment of the aggregate information contained in the SES is given below.

7.3. Bonuses represent 8.4% of average annual earnings in the EU-25

Bonuses can encompass a variety of elements related to holidays (such as extra pay corresponding to a 13th month), shift work, productivity, seniority, or other factors. Following on from this, profit-sharing schemes can be added to this concept of 'bonus'.

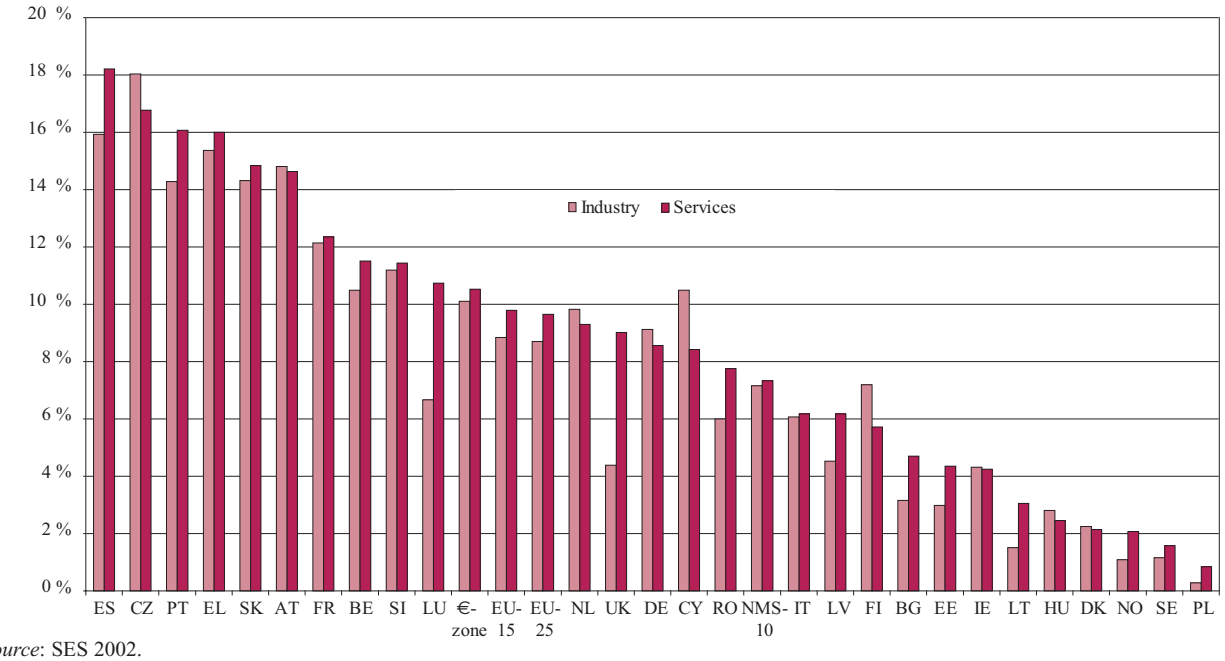
As a first approximation, given the data available in the SES 2002, chart 131 shows the bonuses paid annually in both industry and services. Bonuses represent quite a large 'top-up' on regular wages of between 14 and 18%, which might be considered quite large, in Spain, the Czech Republic, Portugal, Greece, Slovakia and Austria, and in France, Belgium, Slovenia, and Luxemburg bonus payments exceed the EU-25 average (i.e. over 8.4%). At the other end of the range, workers in Poland, Sweden, Norway, Denmark, Hungary, Lithuania, Ireland, Estonia, and Bulgaria receive comparatively small bonuses (less than 5% of mean annual earnings).

Another interesting characteristic of bonuses is their fairly similar levels across 'sectors', as broadly defined as 'industry' and 'services', apart from a few exceptions. For example, in Luxemburg and the UK, but also to a lesser extent in Spain and Portugal, bonuses are much higher in the services sector, while in Cyprus, Finland and the Czech Republic, on the other hand, bonuses in industry exceed those in services.

As clearly illustrated in chart 132, the top occupations and in general non-manual occupations, pay higher bonuses than the average.

Results for France[79] show that profit-sharing accounts on average for 3.1% of annual gross earnings, whereas bonuses related to holidays, shift work, productivity and seniority account for 13.7%. This proportion has been fairly stable across time

Chart 131 – Mean annual bonuses as % of mean annual earnings

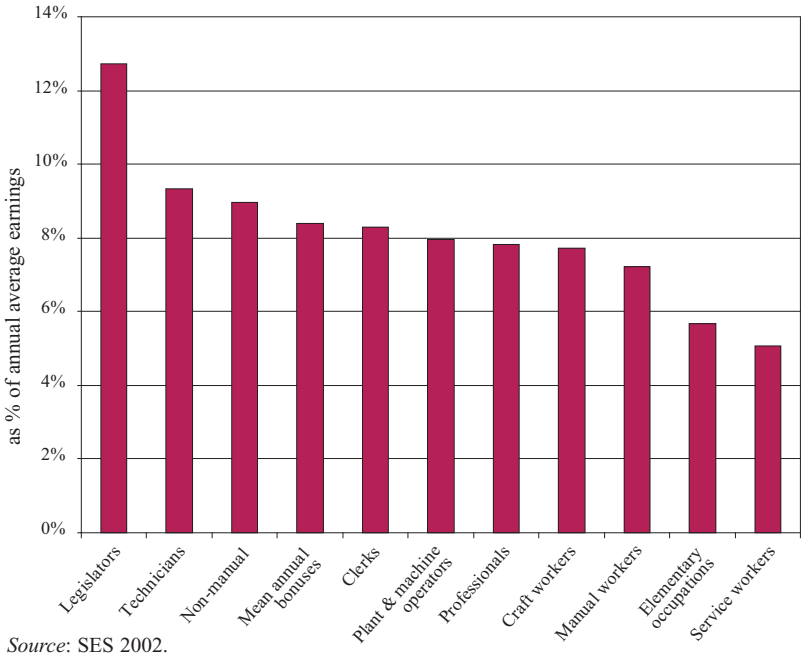


Source: SES 2002.

79 Pouget J. (2005), Presentation on the French Structure of Earnings Survey 2002, in a joint seminar organised by DG Employment, Social Affairs and Equal Opportunities and Eurostat on the results of the European Structure of Earnings Survey 2002.

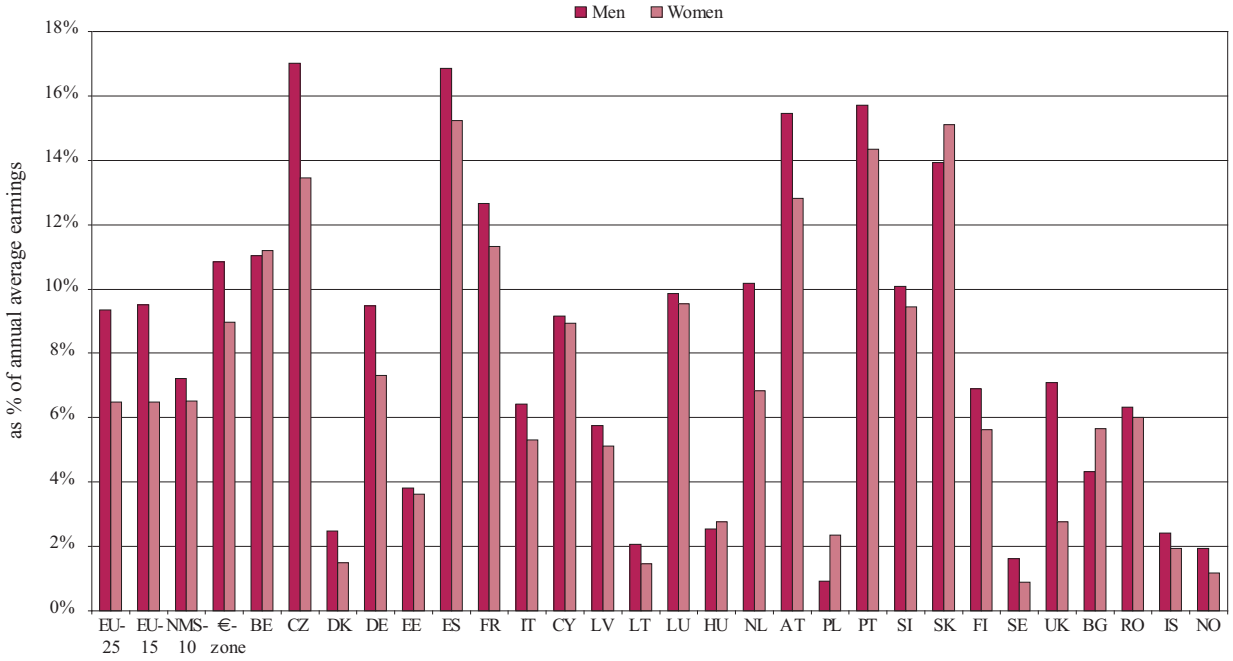
(across the 1990s and beginning of 2000s). Furthermore, 9 out of 10 workers receive bonuses and generosity in the level of payment varies from sector to sector (the energy sector is more likely to spend on bonuses than hotels and restaurants, for example). Relating the various components of earnings to the distribution of earnings, researchers mentioned previously illustrate the fact that earnings inequality as measured by the decile ratio (D9/D1) remains the same whether bonuses and profit sharing are included or not. Therefore, earnings inequality should not be affected by such variable pay schemes in the French case.

Chart 132 – Top occupations, top bonuses



Source: SES 2002.

Chart 133 – Gender gap in bonuses



Source: SES 2002.

8. Conclusion

This chapter has explored the topic of earnings inequality across Europe, based on a new set of data – the SES for the year 2002 – that has recently been released at pan-European level. However one needs to bear in mind that this data refers to 2002 and may already have evolved since then. This issue is fundamentally linked to employment and the creation of 'more and better jobs' in the EU, relating especially to the 'better jobs' part of the objectives.

On the basis of this sample of 8 million individuals employed in companies across Europe, the data indicates that in 2002 there were wide disparities between the EU-15 and the new Member States of Central and Eastern Europe (as of 1 May 2004), where average annual earnings were two to four times lower. Across the EU-25, services continued to pay slightly more than industry, yet industrial hourly wages were still comparatively high in Denmark, Germany, Norway and the UK and relatively low in Latvia and Lithuania. Financial intermediation was the highest paying activity, and by contrast 'hotels and restaurants' was the lowest.

The distribution of earnings was also extreme in most of the countries – in particular Bulgaria, Estonia, Latvia, Lithuania, Poland, Romania and Slovenia. It also appears that some specific groups were subject to higher degrees of earnings inequality than others, these include women in general (e.g. in Germany), but also young men and women aged 20 to 29 across the EU. Comparing findings about the general level of earnings inequality between the 1990s and the year 2002, Poland and Spain are two Member States which stand out: the former having clearly increased its overall level of inequality and the latter having clearly reduced it. Inequalities have also increased in Germany, France and Italy, although to a lesser extent. Furthermore, there is evidence of a higher degree of inequality in the top deciles for higher wage earners than in bottom deciles for lower wage earners, which might indicate that incentives to invest in higher education and skills are being provided.

The geographical location of a region, e.g. proximity to a capital city or a dynamic border region, seems to play a role in earnings differentiation, bearing in mind that the SES data contain fairly limited information on this regional dimension. Earnings disparities can be large in capital cities such as London (UK), or the Île-de-France (Paris) region (FR), where the highest earnings are concentrated. Meanwhile, Poland, Estonia and Slovenia featured a higher than average degree of earnings inequality across the whole distribution. Currently, the countries with a high (or low) degree of earnings dispersion in the bottom half of the earnings distribution also tend to have a high (or low) degree of earnings dispersion in the top half. More particularly, within regions, some specific groups were subject to higher degrees of earnings inequality than others, notably affecting women.

Exploration of the gender dimension of earnings disparities showed in particular that occupations played an important part in the persistent gender gap. For example, in Austria, there seems to be a marked segregation between men and women in terms of working in very different occupations, whilst in Romania and Slovenia it is much less the case. A further examination of the issue using individual data and simple econometric techniques indicates that the gender earnings gap ranged between 14% (Norway) and 32% (Estonia). On average and controlling for other characteristics, the gap represents slightly over 17% of the gender earnings gap among employees of the private sector covered in this sample. In addition, some factors such as seniority, being a non-manual worker, and working in industrial sectors leads to higher rewards in the case of men.

Some regions actually exhibited greater inequality at the lower end of the earnings distribution, indicating a polarised earnings structure, and suggesting a certain compression of wages. This points towards the role of incentives for higher investment in skills. However, compression was not uniform across the earnings distribution, moreover it also depended strongly on institutional features such as minimum wages or collective bargaining agreements. Moreover, the effect of labour market institutions and policies on the distribution of earnings appears to be unequal, and more specifically, the coverage of collective bargaining seems to have a greater effect on earnings inequality.

More generally, company size had a positive impact on individual earnings. Within services and industry, the premium can vary widely: it is positive for financial intermediation and mining and quarrying whilst it is negative for hotels and restaurants and construction, for example. Being a high-skilled worker bears a high earnings premium, and returns to education were unambiguously positive, whereas having low to medium-skills generally had a negative impact on earnings. Workers on fixed-term or part-time contracts, as well as apprentices (where available) also earned less on average.

The *composition* of the earnings differential can vary according to various national or even company-specific practices, including 'rent-sharing' practices, such as bonuses that amount to on average to 8.4% of annual earnings in the EU.

This chapter has shown that there are many dimensions to the issue of earnings inequality. Earnings disparities have several determinants, including the individual characteristics of employers (firm size, the type of activity) and workers (skills, gender, age, and occupations), work organisation, the type of contracts and labour market institutions. It would therefore be misleading to suggest that there is a growing trend in earnings inequality throughout the EU similarly to that observed in the US and the UK. Very wide earnings differentiation is not the norm within European countries, though there are significant disparities between countries, particularly between the EU-15 and the new Member States of Central and Eastern Europe**.**

Further in-depth analysis of the pan-European Structure of Earnings Survey is needed. While the scope of the analysis in this chapter does not allow any direct guidance to making policy choices, it nonetheless contributes to a better understanding of earnings inequality across the EU.

Box 12 – Special focus on technical change, skill bias and wage polarisation

The skill-biased technical change hypothesis

Although there is still some disagreement concerning the fundamental causes of the increasing skill-intensity of employment and wage inequality in industrialised countries, economists generally believe that technical change is an important factor (Acemoglu 2002; Chennels and Van Reenen 1999). Technical change has increased the relative demand for skilled labour, in what has been described as skill biased technical change, and has even contributed to increased wage differentials compared with the past. This view derives from a combination of empirical findings based on the above hypotheses and which are summarised below:

- The employment shifts to skill-intensive industries seem too small to be consistent with the hypothesis that increased international trade between industrialised and developing countries is the main cause (Katz and Murphy 1992; Berman, Bound and Griliches 1994). Indeed, around 70% to 95% of the shift away from manual to non-manual employment in the United States and several European countries (*e.g.* Norway, Denmark, Finland, Germany, Sweden, Austria and Belgium and the United Kingdom) in the 1970s and 1980s are due to within-industry changes (Berman, Bound and Machin 1998). Moreover, globalisation has not led to a significant increase in prices of skill-intensive goods in the United States and several European countries (*e.g.* United Kingdom, Germany, Denmark and Sweden) during that period (Lawrence and Slaughter 1993; Sachs and Shatz, 1994; Desjonqueres, Machin and Van Reenen 1999).

- The rise in inequality is unlikely to be caused principally by deunionisation (and the decline in bargaining coverage) in the United States and United Kingdom contexts. In the United Kingdom, for instance, the growth in wage inequality began in the mid-1970s, whereas union membership density continued to increase until 1980. However, in the United States, part of the increasing wage differentials can indeed be attributed to the decline in unionisation during the 1980s (DiNardo, Fortin and Lemieux 1996; Card 2001). However, deunionisation started in the 1950s at the time when inequality was relatively stable (Acemoglu, Aghion and Vilante 2001). Moreover, while the erosion of the real value of the minimum wage in the United States during the 1980s had an impact on wage inequality (Lee, 1999), the latter started to rise well before this time.

- The slowdown in the rate of growth of the share of more educated workers coinciding with a continued growth in the demand for educated labour has effectively widened wage inequality. In several countries, the rate of growth of the highly educated section of the workforce was slower than in the 1970s. Education differentials may thus have increased later because the supply of highly educated workers, although rising, fell short of a steadily growing demand (Katz and Murphy *op. cit.*). However, the source of this steady growth in demand remains largely unexplained.

- There appears to be a strong positive within-sector relationship between technology related-indicators (*e.g.* R&D intensity, technological innovations, physical capital and computerisation) on one the one hand, and the increased demand for skills and the rise of wage inequality on the other - at both industry and firm levels. The increased skill-intensity of employment associated with technology has been emphasised in the United States, Japan and several European countries (*e.g.* Denmark, France, Germany, Sweden and the United Kingdom) (Berman, Bound and Griliches *op. cit.*; Autor, Katz and Krueger *op. cit.*; Doms, Dunne and Troske 1997; Machin and Van Reenen, *op. cit.*; Aguirregabiria and Alonso-Borrego 2001; Falk and Koebel 2004). The positive relationship between technology and the distribution of wages has also been stressed for the United States and a number of European countries (*e.g.* Germany, Italy, Spain and the United Kingdom) (Machin and Van Reenen *op. cit.*; Doms, Dunne and Troske 1997; Borghans and Weel 2004; Martinez-Ros 2001; Casavola, Gavosto and Sestito 1996).

Is skill-biased technical change a new phenomenon?

The introduction and rapid spread of information technology and computers (ICT) in modern economies over the past three decades are generally perceived as being responsible for this upward trend in the skill-intensity of employment and in wage inequality (Krueger 1993; Caselli 1999).

However, evidence shows that skill-biased technical change has occurred throughout the 20th century, since well before the emergence of the New Economy. Indeed there were already signs of significant technology-skill complementarity in the first half of the 20th century with, for instance, the diffusion of batch and continuous-process methods of production and with the switch from steam and water-power energy to electricity in many industries. The former reduced the demand for unskilled manual workers while the latter increased the demand for skills; however, wage differentials by skill did not increase during that period (Goldin and Katz 1998).

Nevertheless, skill-biased technical change seems to remain a 20th century phenomenon. Indeed, there is a consensus that technical change in the 19th century was about deskilling because of the increasing division of labour (Braveman 1974), even though recent evidence tends to moderate this view (Chin, Juhn and Thompson 2004). A major goal of technical change was indeed to raise the division of labour and make tasks previously performed by artisans simpler by splitting them into smaller parts that required less skill.

Box 12 (cont.) – Special focus on technical change, skill bias and wage polarisation

Is the recent rise in wage inequality attributable to an acceleration in the skill-bias of technology?

Although technical change has encouraged a process of upskilling since the early part of the 20th century, wage inequality began to rise, in the United States and the United Kingdom, in the late 1970s, *i.e.* at the time when the relative supply of skilled labour was also increasing. Why was this so? The answer to this question is still controversial - all the more so since there is no direct measure of the degree of skill-bias. However, several hypotheses have been put forward to explain the apparent acceleration in the skill-bias of technology and the increasing demand for more educated and skilled workers. The most popular hypotheses so far have been those which regarded technical change as exogenous, *i.e.* driven by scientific and technological progress and independent of economic forces. Nonetheless, alternative hypotheses have been suggested which consider that the apparent acceleration in the skill-bias of technology is the result of economic forces.

- *Capital-skill complementarity*. This approach maintains that the more rapid decline in the relative price of production equipment goods in the United States since the mid-1970s has led to an acceleration of the pace of capital-embodied technical change and thereby to the rise in the skill premium (Krussel, Ohanian, Rios-Rull and Vilante 2000), since, according to Griliches' hypothesis (Grliches 1969), capital is assumed to be more complementary to skilled rather than unskilled labour.

- *Technological revolutions and human capital.* This approach claims that the rise in wage inequality over the past three decades is attributable to the ICT revolution which has raised the pace of technical change and its complexity and thereby increased the premium placed on adaptability in labour markets, according to the Nelson-Phelps hypothesis (Nelson and Phelps 1966). Indeed, the introduction of general-purpose technology such as ICT and its diffusion throughout the economy requires intensive learning. Even though in the long run everyone can adapt to this technology, in the short run some learn the requisite skills much faster than others, and thus earn a premium for their adaptability (Greenwood and Yorukoglu 1997, Caselli *op. cit*., Galor and Moav 2000; Aghion and Howitt 2002).

- *Directed technical change and induced innovations*. The above approaches assume that technical change is skill-biased by nature. A different perspective is to relate the type of technologies that are developed with profit incentives. The central idea is that the development of skill-biased technologies will be more profitable when the market prospects are high, *i.e.* when there are more skilled workers to adopt and consume them. Thus, the degree of skill-bias, determined endogenously, could increase with the rise in the relative supply of skilled workers. An increase in the supply of skills will then lead to skill-biased technical change. In addition, acceleration in the supply of skills can lead to an acceleration in the demand for skills (Acemoglu *op. cit*.).

Some empirical studies have attempted to corroborate, in particular, the first two hypotheses. The capital-skill complementarity hypothesis has been used to interpret the dynamics of the skill premium in European countries such as Sweden during the 1980s and 1990s (Lindquist, 2005). The Nelson-Phelps hypothesis in the context of general-purpose technologies has proved to be valuable in explaining the stagnation of aggregate multi-factor productivity since the mid-1970s. It can indeed partially reconcile the idea of acceleration in technical change (due to ICT) and the "productivity slowdown" (Hornstein, Krusell and Violante 2004) as highlighted by other earlier historical examples of the introduction of pervasive technologies pointed out (David, 1990). Besides, the comparative advantage of more educated individuals at implementing new technologies has been underlined empirically (Bartel and Lichtenberg 1987).

Implications and follow-up

There is growing evidence that the increasing skill-intensity of employment in many countries over the past three decades can be accounted for by skill-biased technical change. An important implication of such a causal relationship between technical change and the skill structure could be that the increase in R&D investment in the EU in the framework of the Barcelona objective set in 2002, could lead to labour market segmentation and exclusion. However, the EU has built-in mechanisms that could help mitigate these negative effects of technical change. Drawing on the Nelson-Phelps hypothesis, there is generalised access to education and training as well as to lifelong learning that could help both workers and enterprises increase their adaptability. In particular, policies that favour general education, which teaches fundamental analytical and problem-solving skills, may reduce inequality more than education policies that favour specialised and vocational education in an context of rapid technical change (Aghion and Howitt, *op. cit*.; Krueger and Kumar 2004).

However, existing studies on the relationships between technical change, skills, and inequality have several caveats, including the following:

- *Measurement issues*. Measures of technical change (*e.g.* R&D intensity, physical capital, size of the ICT sector, use of computers) vary significantly across countries (Card and DiNardo 2002). In addition, measures of wage structure, especially in the United States, pose some methodological problems that potentially affect the measurement of wage inequality (Card and DiNardo *op. cit*.). Finally, the measures of skill level are also different (*e.g.* years of schooling, occupations) in many studies and often not

Box 12 (cont.) – Special focus on technical change, skill bias and wage polarisation

precise enough (*e.g.* blue *versus* white collar jobs). More refined measures of skill are required in further studies (Howell and Wolff, 1992; Autor, Levy and Murnane 2003).

- *Returns to experience*. Only a few studies have attempted to link technical change to the experience premium (Card and DiNardo *op. cit.*; Hornstein, Krusell and Violante *op. cit.*).

- *Organisational change and skill-biased technical change*. Several studies have shown that skill-biased technical change is not stand alone. Indeed, the increasing diffusion of new organisational practices within firms (*e.g.* decentralisation, delayering, collective work, multi-tasking) often associated with technical change has led to an increased need for an upskilled workforce. Empirical studies on French (Caroli and Van Reenan 2001; Greenan 2003), Italian (Piva, Santerelli and Vivarelli 2005), and US (Hitt and Brynjolfsson 1997; Bresnahan, Brynjolfsson and Hitt 2002) firms have shown such trends.

- *Geographical coverage.* The bulk of studies on skill-biased technical change focus on US and British industries and firms. Both the US and the UK have indeed been characterised by increasing inequality, especially since the 1980s. Few studies have concentrated on the case of other countries, in particular in the EU, which have not shown substantial shifts in the wage structure (Acemoglu 2003) during that period despite a rise in R&D intensity. They do not explain why low-skill and low-wage jobs have grown faster in the US than in the EU. Could skill-biased technical change thus be more a European than a US phenomenon (Pianta 2004)? Does the relative supply of skills increase faster in Europe than in the US? Do labour market institutions prevent inequality from rising? Does relative demand for skills increase differently?

There is a need for more systematic analysis of the evolution in the wage and employment structures, especially in the EU, for example, by taking into account the differential growth in the supply of skilled workers (and not only the demand for skilled workers), experience, learning and adaptability, and the role of additional factors (*e.g.* wage-setting institutions, organisational change, international trade) while relying on more precise measures of skill.

References

Acemoglu D., (2003), "Cross-country inequality trends", *The Economic Journal*, vol. 113, February, pp. 121-149.

Acemoglu D., (2002), "Technical Change, Inequality, and the Labor Market", *Journal of Economic Literature*, vol. XL, pp. 7-72.

Acemoglu D., P. Aghion and G. Vilante, (2001), "Deunionization, Technical Change and Inequality", *CEPR Discussion Paper Series*, No. 2764.

Aghion P. and P. Howitt, (2002), "Wage Inequality and the New Economy", *Oxford Review of Economic Policy*, vol. 18(3), pp. 306-323.

Aguirregabiria V. and C. Alonso-Borrego, (2001), "Employment occupational structure, technological capital and reorganisation of production", *Labour Economics*, vol. 8, pp. 43-73.

Autor D., L. Katz and A. Murphy, (1998), "Computing Inequality: Have Computers Changed the Labor Market?", *The Quarterly Journal of Economics*, November, 1169-1213.

Autor D., F. Levy and R. Muranne, (2003), "The skill context of recent technological change: an empirical exploration", *The Quaterly Journal of Economics*, November, pp. 1279-1333.

Bartel A. and F. Lichtenberg, (1987), "The Comparative Advantage of Educated Workers in Implementing New Technology: Some Empirical Evidence", *NBER Working Paper Series*, No. 1718.

Berman E., J. Bound and Z. Griliches, (1994), "Changes in the Demand for Skilled Labor within U.S. Manufacturing: Evidence from the Annual Survey of Manufactures", *The Quaterly Journal of Economics*, May, pp 367-397.

Berman E., J. Bound and S. Machin, (1998), "Implications of Skill-biasd Technological Change: International Evidence", *The Quarterly Journal of Economics*, November, pp. 1245-1279.

Braveman H. (1974), Labor and Monopoly Capital: the Degradation of Work in the Twentieth Century. NY: Monthly Review Press.

Bresnahan T., E. Brynjolfsson and L. Hitt, (2002), "Information technology, workplace organization and the demand for skilled labor: firm-evidence", *The Quarterly Journal of Economics*, February, pp. 339-376.

Borghans L. and B. Weel, (2004), "The Diffusion of Computers and the Distribution of Wages", *IZA Discussion Paper Series*, No. 1107.

Card D., (2001), "The effects of unions on wage inequality in the U.S. labor market", *Industrial and Labor Relations Review*, 54, pp. 296-257.

Card D. and J. DiNardo, (2002), "Skill biased technological change and rising wage inequality: some problems and puzzles", *NBER Working Paper Series*, No. 8769.

Caroli E. and J. Van Reenan, (2001), "Skill biased organizational change? Evidence from a panel of British and French establishments", *The Quarterly Journal of Economics*, November, pp. 1449-1492.

Casavola P., O. Gavosto and P. Sestito, (1996), "Technical progress and wage dispersion in Italy: evidence from firms' data", *Annales d'Economie et de Statistique*, January-June, pp. 387-412.

Box 12 (cont.) – Special focus on technical change, skill bias and wage polarisation

Caselli F., (1999), "Technological Revolutions", *American Economic Review*, vol. 89(1), pp. 78-108.

Chennels L. and J. Van Reenen, (1999), "Has Technology Hurt Less Skilled Workers?: an Econometric Survey of the Effects of Technical Change on the Structure of Pay and Jobs", *IFS Working Paper Series,* No. W99/27.

Chin A., C. Juhn and P. Thompson, (2004), "Technical Change and the Wage Structure during the Second Industrial Revolution: Evidence from the Merchant Marine, 1865-1912", *NBER Working Paper Series*, No. 10728.

David P., (1990), "The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox", *American Economic Review*, vol. 80, pp. 355-361.

Desjonqueres T., S. Machin and J. Van Reenen, (1999), "Another nail in the coffin? Orcan the trade based explanation of changing skill structures be resurrected?", *Scandinavian Journal of Economics*, vol. 101(3), pp. 533-54.

DiNardo J., N. Fortin and T. Lemieux, (1996), "Labor market institutions and the distributions of wages, 1973-1992: A semi-parametric approach", *Econometrica*, vol. 64, pp. 1001-1044.

Doms M., T. Dunne and K. Troske, (1997), "Workers, Wages, and Technology", *The Quarterly Journal of Economics*, February, pp. 253-290.

Falk M. and B. Koebel, (2004), "The impact of office machinery and computer capital on the demand for heterogeneous labour", *Labour Economics*, vol. 11, pp. 99-117.

Galor O. and O. Moav, (2000), "Ability-biased Technical Transition, Wage Inequality, and Economic Growth", *The Quarterly Journal of Economics*, May, pp. 469-497.

Goldin C. and L. Katz, (1998), "The Origins of Technology-Skill Complementary", *The Quaterly Journal of Economics*, August, pp. 693-732.

Greenwood J. and M. Yorukoglu, (1997), "1974", *Carnegie-Rochester Conference Series on Public Policy*, vol. 46, pp. 49-95.

Griliches Z., (1969), "Capital-Skill Complementary", *Review of Economics and Statistics*, vol. 5, pp. 465-468.

Hitt L. and E. Brynjolfsson, (1997), "Information technology and internal firm organization: an exploratory analysis", *Journal of Management Information Systems*, vol. 14, pp. 81-101.

Hornstein A., P. Krusell and G. Violante, (2004), "The Effects of Technical Change on Labor Market Inequalities", mimeo.

Howell D. and E. Wolff, (1992), "Technical Change and the Demand fo Skills by US Industries", *Cambridge Journal of Economics*, vol. 16, pp. 128-146.

Katz L. and K. Murphy, (1992), "Changes in Relative Wages: Supply and Demand Factors", *The Quarterly Journal of Economics*, February, pp. 35-78.

Krueger A., (1993), "How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984-1989", *The Quarterly Journal of Economics*, February, pp. 33-60.

Krueger D. and K. Kumar, (2004), "Skill-Specific rather than General Education: A reason for US-Europe Growth Differences", *Journal of Economic Growth*, vol. 9, pp. 167-207.

Krussel P., L. Ohanian, J-V. Rios-Rull and G. Vilante, (2000), "Capital-Skill Complementary and Inequality", *Econometrica*, 68(5), pp. 1029-1053.

Lawrence R. and M. Slaughter, (1993), "Trade and US Wages in the 1980s: Giant Sucking Sound or Small Hiccup?", *Brooking Papers on Economic Activity: Microeconomics*, vol. 2, pp. 161-201.

Lee D., (1999), "Wage Inequality in the United States during the 1980s: rising dispersion or falling minimum wage?", *The Quarterly Journal of Economics*, August, pp. 977-1023

Lindquist M., (2005), "Capital-skill Complementarity and Inequality in Sweden", *Working Paper Series*, Swedish Institute for Social Research, Stockholm University, No 2/2005.

Machin S., (1996), "Changes in the relative demand for skills", in Booth and Snower, Acquiring Skills, UK: Cambridge University Press.

Machin S. and J. Van Reenen, (1998), "Technology and Changes in Skill Structure: Evidence from Seven OECD Countries", *The Quarterly Journal of Economics*, November, pp. 1215-1243.

Nelson R. and E. Phelps, (1966), "Investment in Humans, Technological Diffusion, and Economic Growth", *American Economic Review*, vol. 56, pp. 69-75.

Martinez-Ros E., (2001), "Wages and Innovations in Spanish Manufacturing Firms", *Applied Economics*, vol. 33(1), pp. 81-89.

Pianta M., (2004), "Innovation and Employment", in Fagerberg, Mowery and Nelson (2004), The Oxford Handbook of Innovation, UK: Oxford University Press.

Piva M., E. Santerelli and M. Vivarelli, (2005), "The Skill biais effect of technological and organisational change: Evidence and policy implications", *Research Policy*, vol. 34, pp. 141-157.

Sachs J. and H. Shatz, (1994), "Trade and jobs in U.S. manufacturing", *Brooking Papers on Economic Activity*, vol. 1, pp. 1-83.

Annex I

Box 13 – The European structure of earnings survey, a unique source of information

The main reasons for initiating the European Structure of Earnings Survey (SES) were set out in the Council Regulation (EC) No 530/1999 of 9 March 1999 concerning structural statistics on earnings and on labour costs. The SES 2002 is the first in the series of 4-yearly surveys to be conducted under the aforementioned regulation.

There were a number of aims shown, including the following:

- In order to be able to perform the tasks assigned to it, the Commission should be kept informed of the level and composition of labour costs and of the structure and distribution of earnings in the Member States. The SES sheds light on the latter part, gathering data on earnings of employees working in the private sector, through a firm-level survey.
- The development of the EU and the operation of the internal market increase the need for comparable and harmonised data on the level and composition of labour costs and on the structure and distribution of earnings. This is particularly relevant as a means of assessing progress in economic and social cohesion and for establishing reliable and relevant comparisons between Member States and the regions of the EU.
- In order to provide comparable information at EU level, the creation of common statistical standards is best achieved at EU level.
- To be able to reflect changes taking place in the structure of the labour force, in the distribution of earnings, and in the composition of expenditure on wages and related employers' contributions, the statistics need to be regularly updated.
- To establish complete, reliable and comparable statistical sources at national and regional levels of disaggregation.
- To give the European Central Bank information on the level and composition of earnings in order to assess the economic development in Member States in the context of a single European monetary policy.
- Previously, not all Member States collected complete data in certain activities, hence the need for a pan-EU approach.

These reasons therefore provided the rationale for producing EU statistics on the level and composition of labour costs and on the structure and distribution of employee's earnings.

The SES gives detailed and comparable data on the distribution of earnings and the individual characteristics of both employers and employees. Major improvements brought about with the SES include the fact that it represents all activities with NACE C-O codes and that the definition covers all forms of employee compensation, consistent with practices in national accounts and other statistical domains. The statistics cover all economic activities defined in sections C (mining and quarrying), D (manufacturing), E (electricity, gas and water supply), F (construction), G (wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods), H (hotels and restaurants), I (transport, storage and communications), J (financial intermediation), K (real estate, renting and business activities), M (education), N (health and social work), and O (other community, social and personal service activities) of the NACE Rev.1 classification of economic activities in the European Community; although the inclusion of categories M-N-O remained optional in 2002.

These statistics on the structure of earnings have been produced for the year 2002 and subsequently every 4 years, with a representative month in that year taken as the reference point. The SES had so far been an irregular survey of enterprises, covering industry and services, but excluding agriculture, public administration and firms with less than 10 employees. Information is also not gathered for the self-employed, which of course would be a much more difficult task.

In all Member States of the EU (except Malta), as well as Bulgaria and Romania, Iceland and Norway, a SES has been carried out in 2002, and the micro-data were delivered by countries[80]. The data were then verified and compiled by Eurostat and relevant aggregates made publicly available recently (April 2005). This chapter reflects on earnings data across the EU Member States, extracting as much information as possible from the following characteristics of the data:

Characteristics of the local unit (enterprise) in which the person is employed

- The regional breakdown (NUTS 1)
- The size of the enterprise to which the local unit belongs (10-49, 50-249, 250-499, 500-999, 1 000 or more employees)
- The economic activity (Nace Rev. 1, 2-digit)
- The type of collective pay agreement

80 According to Council Regulation 530/1999, all Member States were obliged to send their data (micro-data on individuals and enterprises) by the end of June 2004 for SES 2002. After reception of the individual datasets, Eurostat verifies the data until the data are declared ready by both the country concerned and Eurostat. The exact delivery date of final data for SES 2002 varied from country to country. For example, Portuguese data was ready for publication only on 3 June 2005. The data for 24 Member States are now available.
http://epp.eurostat.cec.eu.int/pls/portal/docs/PAGE/PGP_PRD_CAT_PREREL/PGE_CAT_PREREL_YEAR_2005/PGE_CAT_PREREL_YEAR_2005_MONTH_05/3-30052005-en-ap.PDF.

Annex I (cont.)

Box 13 (cont.) – The European structure of earnings survey, a unique source of information

Characteristics of the employee

- Sex
- Age
- Occupation (ISCO)
- Highest completed level of education and training
- Length of service in the enterprise
- Whether full-time or part-time
- Type of employment contract

For the following *variables*:

- Gross earnings for a representative month (distinguishing separately earnings related to overtime and special payments for shift work): this is the remuneration paid (in money units) to the employee by the employer for each pay period, before deductions of any tax and social security contributions payable by the employee and withheld by the employer. It includes the basic wage or salary for work done or time worked in the reference month, earnings related to annual paid holiday leave and absences paid in full by the employer, payment for overtime, shift work, public holidays, seniority, other agreed entitlements, bonuses paid regularly. Hourly earnings refer to normal working hours in the reference month.

- Gross annual earnings in the reference year (distinguishing bonuses paid on an irregular basis)

- Working-time (the number of hours paid in a standard working month, the number of overtime hours paid in the month and the annual leave entitlement)

The SES2002 provides data on 402 046 local units and gathers approximately 8 million observations. Full-time employees are considered to perform a full day of work for the entire week in the local unit. Part-time employees are defined as those with contracts who did not perform a full day's work or did not complete a full week. Part-time work rarely exceeds 35 hours a week while the normal duration of full-time is at least 30 hours a week. For most of the countries, October is taken as the representative month, with some exceptions however.

The SES aims to give comparable (between Member States) European-level information on the structure and distribution of earnings, the individual characteristics of the employer and of the employee.

Annex II

Table 58 – Regional earnings inequalities

		P90/P10	P90/P50	P50/P10
BE1	Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest	2.72	1.74	1.56
BE2	Vlaams Gewest	2.26	1.60	1.41
BE3	Région Wallonne	2.30	1.66	1.38
CZ	Czech Republic	2.82	1.73	1.63
DK	Denmark	2.13	1.59	1.34
DE1	Baden-Württemberg	2.94	1.72	1.71
DE2	Bayern	3.15	1.81	1.74
DE3	Berlin	3.35	1.82	1.84
DE4	Brandenburg	2.85	1.72	1.66
DE5	Bremen	3.07	1.73	1.77
DE6	Hamburg	3.49	1.83	1.91
DE7	Hessen	3.14	1.79	1.76
DE8	Mecklenburg-Vorpommern	3.58	1.85	1.93
DE9	Niedersachsen	2.98	1.74	1.71
DEa	Nordrhein-Westfalen	2.90	1.73	1.67
DEb	Rheinland-Pfalz	2.70	1.63	1.65
DEc	Saarland	2.91	1.69	1.73
DEd	Sachsen	3.08	1.83	1.69
DEe	Sachsen-Anhalt	2.99	1.78	1.69
DEf	Schleswig-Holstein	3.09	1.73	1.79
DEg	Thüringen	2.88	1.77	1.63
EE	Estonia	4.99	2.26	2.21
EL1	Voreia Ellada	2.58	1.82	1.42
EL2	Kentriki Ellada	2.47	1.69	1.46
EL3	Attiki	3.35	2.06	1.63
EL4	Nisia Aigaiou. Kriti	2.45	1.66	1.48
ES1	Noroeste	3.30	2.11	1.56
ES2	Noreste	3.02	1.86	1.62
ES3	Comunidad de Madrid	3.97	2.18	1.82
ES4	Centro	3.24	2.10	1.55
ES5	Este	3.23	2.06	1.57
ES6	Sur	3.24	2.06	1.58
ES7	Canarias	3.42	2.26	1.51
FR1	Île de France	4.21	2.30	1.83
FR2	Bassin Parisien	3.59	2.33	1.54
FR3	Nord-Pas-de-Calais	2.97	1.99	1.49
FR4	Est	2.82	1.86	1.52
FR5	Ouest	3.29	2.18	1.51
FR6	Sud-Ouest	2.85	1.91	1.49

Annex II (cont.)

Table 58 (cont.) – Regional earnings inequalities

		P90/P10	P90/P50	P50/P10
FR7	Centre-Est	3.31	2.16	1.53
FR8	Méditerranée	2.76	1.74	1.59
IE	Ireland	4.02	2.23	1.80
ITc	Nord Ovest	2.72	1.88	1.45
ITd	Nord Est	2.42	1.75	1.39
ITe	Centro	2.41	1.68	1.43
ITf	Sud	2.42	1.87	1.30
ITg	Isole	2.52	1.90	1.33
CY	Cyprus	3.14	1.97	1.60
LV	Latvia	4.76	2.82	1.69
LT	Lithuania	4.56	2.39	1.91
LU	Luxembourg (Grand-Duché)	3.33	2.08	1.61
HU	Hungary	3.41	2.09	1.63
NL1	Noord-Nederland	2.68	1.81	1.48
NL2	Oost-Nederland	2.69	1.77	1.52
NL3	West-Nederland	2.81	1.78	1.58
NL4	Zuid-Nederland	2.55	1.60	1.59
AT1	Ostösterreich	3.12	1.99	1.57
AT2	Südösterreich	2.83	1.93	1.46
AT3	Westösterreich	2.96	2.01	1.47
PL	Poland	4.73	2.36	2.01
SI	Slovenia	5.13	2.07	2.48
SK	Slovakia	3.26	1.95	1.67
FI1	Manner-Suomi	2.01	1.51	1.33
FI2	Åland	1.95	1.47	1.32
SE	Sweden	2.05	1.61	1.27
UKc	North East	3.02	1.91	1.59
UKd	North West (including Merseyside)	3.21	2.02	1.59
UKe	Yorkshire and The Humber	3.12	2.03	1.54
UKf	East Midlands	3.01	1.95	1.54
UKg	West Midlands	3.17	2.02	1.57
UKh	Eastern	3.23	1.99	1.62
UKi	London	4.24	2.20	1.93
UKj	South East	3.48	2.08	1.67
UKk	South West	3.18	1.98	1.61
UKl	Wales	3.11	2.00	1.56
UKm	Scotland	3.22	1.98	1.62
UKn	Northern Ireland	3.12	2.01	1.56

Source: Eurostat calculations and own calculations.

Annex III

1. Individual earnings regressions

Table 59 – OLS results Dependent variable: hourly earnings
nb of observations: 5431139

variable	estimate	Std error	t-ratio	variable	estimate	Std error	t-ratio
Intercept	3.60	0.19	18.51	E50_249	1.34	0.03	52.54
AT	4.73	0.19	24.79	E250_499	1.86	0.03	67.11
BE	4.68	0.19	24.30	E500_999	2.19	0.03	77.80
BG	-7.96	0.19	-41.43	E1000	2.32	0.03	91.76
CZ	-6.86	0.19	-36.15	NaceC	0.81	0.05	17.73
DE	6.99	0.19	37.10	NaceD	0.04	0.01	2.76
DK	12.33	0.19	64.35	NaceE	0.04	0.04	12.83
ES	0.59	0.19	3.13	NaceF	-0.78	0.02	-39.14
FI	4.37	0.19	22.69	NaceG	-1.32	0.02	-84.53
FR	4.12	0.19	21.85	NaceH	-1.93	0.03	-75.98
EL	-1.19	0.19	-6.17	NaceI	-0.54	0.02	-29.80
HU	-6.25	0.19	-32.73	NaceJ	2.76	0.02	129.64
IE	7.30	0.19	37.79	Male	2.49	0.01	248.18
IS	7.01	0.30	23.36	ISCOO	1.36	0.65	2.10
IT	2.87	0.19	15.18	ISCO1	13.04	0.02	601.76
LT	-8.25	0.20	-42.22	ISCO2	8.37	0.02	358.95
LU	7.38	0.21	35.18	ISCO3	4.56	0.02	249.76
LV	-7.79	0.20	-39.52	ISCO4	2.31	0.02	134.66
NL	5.72	0.19	30.20	ISCO5	1.34	0.02	69.89
PT	-1.54	0.19	-8.06	ISCO7	1.43	0.02	85.35
RO	-7.71	0.19	-40.69	ISCO8	1.05	0.02	59.69
SI	-3.28	0.20	-16.66	ISCED1	-5.73	0.04	-142.86
SK	-7.16	0.20	-37.35	ISCED2	-5.69	0.04	-149.94
SE	5.42	0.19	28.41	ISCED3	-4.52	0.04	-120.95
NO	12.77	0.19	66.74	ISCED4	-5.02	0.04	-115.20
EE	-7.13	0.20	-35.49	ISCED5	-2.42	0.04	-65.43
PL	-5.72	0.19	-30.23	PTM	-0.64	0.01	-46.44
UK	7.78	0.19	41.28	Age	0.10	0.00	262.25
E10_49	0.57	0.03	22.67	$R^2=0.36$			

2. Log of hourly earnings

Table 60 – OLS results
Dependent variable: log of hourly earnings

variable	estimate	Std error	t-ratio
Intercept	1.13	0.00	613.12
AT	0.81	0.00	455.89
BE	0.84	0.00	391.67
BG	-2.04	0.00	-1 012.10
CZ	-0.73	0.00	-452.53
DE	1.01	0.00	736.02
DK	1.44	0.00	820.50
ES	0.41	0.00	287.52
FI	0.87	0.00	398.59
FR	0.82	0.00	602.36
HU	-0.85	0.00	-456.16
IE	0.98	0.00	442.69
IS	1.09	0.01	115.56
IT	0.64	0.00	460.05
LT	-1.29	0.00	-521.87
LU	1.06	0.00	260.16
LV	-1.43	0.00	-531.07
NL	1.01	0.00	668.36
RO	-1.84	0.00	-1 162.50
SI	-0.12	0.00	-44.52
SK	-1.11	0.00	-563.15
NO	1.14	0.00	721.87
EE	-1.04	0.00	-329.90
PL	-0.63	0.00	-432.42
UK	1.07	0.00	805.94
E10_249	0.05	0.00	51.87
E250	0.18	0.00	177.59
Industry	0.01	0.00	163.49
Non-manual	0.23	0.00	520.22
ISCED_L	-0.45	0.00	-747.28
ISCED_M	-0.32	0.00	-602.72
Part-Time	-0.10	0.00	-186.44
Length in enterprise	0.01	0.00	403.23
Male	0.22	0.00	542.18
Age 25-34	0.30	0.00	461.74
Age 35-44	0.38	0.00	586.83
Age 45-54	0.37	0.00	518.63
Age 55-64	0.33	0.00	376.36
Age 65	0.18	0.00	71.96
$R^2=0.82$			

3. Explaining individual earnings of men and women

Table 61 – OLS results for women and men
Dependent variable: log of hourly earnings

Women				Men			
variable	estimate	Std error	t-ratio	variable	estimate	Std error	t-ratio
Intercept	1.32	0.00	488.24	Intercept	1.34	0.00	594.40
AT	0.73	0.00	267.55	AT	0.75	0.00	341.89
BE	0.81	0.00	264.24	BE	0.72	0.00	257.58
BG	-2.10	0.00	-711.31	BG	-2.09	0.00	-792.96
CZ	-0.83	0.00	-353.93	CZ	-0.79	0.00	-402.93
DE	0.93	0.00	525.18	DE	0.93	0.00	634.63
DK	1.35	0.00	438.09	DK	1.33	0.00	548.35
ES	0.29	0.00	142.46	ES	0.35	0.00	217.05
FI	0.78	0.00	234.68	FI	0.78	0.00	288.22
FR	0.74	0.00	394.29	FR	0.70	0.00	456.79
HU	-0.88	0.00	-335.70	HU	-0.96	0.00	-420.28
IE	0.88	0.00	272.27	IE	0.93	0.00	323.42
IS	1.00	0.16	61.59	IS	1.03	0.01	78.28
IT	0.60	0.00	311.95	IT	0.54	0.00	341.73
LT	-1.36	0.00	-365.64	LT	-1.34	0.00	-396.56
LU	1.01	0.01	143.23	LU	0.97	0.01	186.98
LV	-1.52	0.00	-390.00	LV	-1.47	0.00	-387.75
NL	0.95	0.00	424.51	NL	0.93	0.00	528.90
RO	-1.91	0.00	-868.79	RO	-1.91	0.00	-1 013.40
SI	-0.17	0.00	-39.73	SI	-0.21	0.00	-59.78
SK	-1.24	0.00	-440.11	SK	-1.11	0.00	-423.93
NO	1.38	0.00	464.26	NO	1.33	0.00	562.31
EE	-1.17	0.00	-253.06	EE	-1.06	0.00	-237.60
PL	-0.72	0.00	-353.24	PL	-0.71	0.00	-420.91
UK	0.97	0.00	539.58	UK	1.02	0.00	681.35
E10_249	0.03	0.00	18.24	E10_249	0.07	0.00	52.32
E250	0.15	0.00	93.79	E250	0.21	0.00	150.87
Industry	0.03	0.00	44.18	Industry	0.08	0.00	154.77
Non-manual	0.20	0.00	250.71	Non-manual	0.25	0.00	437.79
ISCED_L	-0.46	0.00	-463.30	ISCED_L	-0.45	0.00	-552.13
ISCED_M	-0.33	0.00	-373.37	ISCED_M	-0.32	0.00	-442.60
Part-Time	-0.10	0.00	-140.60	Part-Time	-0.10	0.00	-98.01
Length	0.01	0.00	248.14	Length	0.01	0.00	291.15
Age 25-34	0.27	0.00	249.11	Age 25-34	0.33	0.00	354.93
Age 35-44	0.32	0.00	291.29	Age 35-44	0.44	0.00	468.34
Age 45-54	0.29	0.00	245.26	Age 45-54	0.44	0.00	433.81
Age 55-64	0.24	0.00	157.40	Age 55-64	0.40	0.00	335.57
Age 65	0.13	0.00	31.70	Age 65	0.22	0.00	63.85
$R^2=0.83$				$R^2=0.81$			

Table 62 – Country-specific regressions

	nb obs	R^2	Intercept	Size	Industry	Non-manual	ISCED L	ISCED M	Part-time	Length	Male	Age	Fix_t	Appr_t	National bargaining	Decentralised bargaining
AT	118 438	0.56	2.08	NS	0.12	0.27	-0.41	-0.27	-0.08	0.01	0.25	+	0.08	-0.71	0.09	0.05
BE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BG	102 001	0.38	NS	NS	0.09	0.15	-0.47	-0.39	-0.25	0.01	0.21	+	-0.07	-0.10	NS	0.26
CY	12 324	0.62	1.35	+	-0.05	0.19	-0.41	-0.35	-0.20	0.03	0.30	+	0.09	-0.22	0.13	0.11
CZ	709 023	0.35	NS	NS	0.02	NS	NS	NS	-0.77	0.00	0.27	NS	-0.10	NS	NS	-0.02
DE	666 460	0.63	2.21	+	0.08	0.28	-0.43	-0.33	-0.18	0.01	0.22	+	-0.08	-1.04	NS	0.06
DK	542 473	0.37	NS	NS	0.55	NS	NS	NS	0.04	0.30	0.21	NS	-0.05	-0.43	NS	-0.04
EE	69 458	0.25	0.07	+	0.10	0.29	-0.41	-0.32	-0.07	0.01	0.32	+/-	-0.03	NS	0.01	-0.02
ES	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FI	118 001	0.37	2.41	+	0.05	0.15	-0.23	-0.18	-0.09	0.00	0.22	+	-0.13	-0.12	-0.14	-0.12
FR	109 917	0.38	NS	NS	0.06	0.21	-0.49	-0.37	0.04	0.01	0.21	+	-0.05	-0.61	-0.01	NS
EL	43 247	0.49	NS	NS	0.00	0.01	-0.46	-0.34	-0.06	0.02	0.18	+	0.02	-0.52	-0.06	-0.02
HU	138 502	0.39	0.62	+	0.09	0.19	-0.82	-0.67	0.27	0.01	0.15	+	-0.10	0.60	NS	0.03
IE	28 810	0.42	2.07	+	0.06	0.23	-0.36	0.24	-0.27	0.01	0.23	+	0.01	-0.15	-0.05	0.00
IS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	76 844	0.40	NS	NS	0.04	0.16	-0.45	-0.28	0.01	0.01	0.18	+	-0.08	-0.20	0.14	NS
LT	74 680	0.29	-0.77	+	0.07	0.18	-0.41	-0.33	-0.32	0.01	0.22	+	-0.10	NS	NS	0.03
LU	25 647	0.55	NS	NS	0.00	0.24	-0.54	-0.38	-0.02	0.02	0.19	+	-0.03	-0.77	0.03	NS
LV	167 091	0.32	-0.25	+	0.07	0.15	-0.47	-0.39	-0.21	0.01	0.22	+/-	0.22	0.07	NS	0.11
NO	572 772	0.44	2.77	+	0.06	0.15	-0.33	-0.25	-0.15	0.00	0.14	+	-0.12	-0.19	NS	NS
PL	440 214	0.37	0.69	+	0.03	0.09	-0.79	-0.58	NS	0.01	0.22	+	NS	NS	NS	NS
PT	49 383	0.53	NS	NS	-0.06	0.29	-0.73	-0.50	0.31	0.01	0.24	+	-0.10	NS	-0.27	-0.25
RO	166 616	0.39	NS	NS	-0.03	0.10	-0.88	-0.71	-0.12	0.01	0.20	+	-0.15	NS	-0.02	-0.07
SI	21 711	0.47	NS	+	0.02	0.21	-0.77	-0.60	0.15	0.00	0.17	+	-0.10	-0.39	NS	NS
SK	284 597	0.30	0.67	-/+	0.03	0.11	-0.66	-0.49	-0.36	0.00	0.29	+	-0.01	0.29	NS	-0.08
UK	82 769	0.40	2.13	+	0.05	0.34	-0.30	-0.26	-0.27	0.01	0.27	+	-0.05	-0.21	NS	-0.06

All coefficients reported are significant at the 5% level, 'ns' means 'non significant' or not available

Chapter 5

The economically inactive population in the EU: Out of the labour force or potential labour supply? *A perspective from the EU Labour Force Survey*

1. Introduction

To underpin economic growth, Member States must attract more people into employment and ensure they can achieve sustainable integration into the labour market. This is all the more important as demographic ageing will result in a decline in the working age population. As emphasised in the report of the employment taskforce chaired by Wim Kok[1], in the face of an ageing workforce, everyone is needed. Furthermore, in line with the overall Lisbon employment objective of aiming for full employment, an increase in labour force participation is a fundamental pre-requisite to achieve this goal. Breaking down barriers to labour market entry or re-entry, assisting effective job search, creating attractive working arrangements, ensuring that work pays and promoting lifelong learning are essential to achieving increased activity in the labour market.

This chapter examines in detail the current situation and past developments concerning the inactive population in Europe. It provides an analysis of the size and structure of the inactive population, generally defined as those 'out of the labour force', with breakdowns according to gender, age, education, reasons for inactivity, length of inactivity, degree of attachment to the labour market, willingness to work, etc., as a guide to identifying where measures to increase participation could most effectively be targeted.

2. Economic inactivity: some definitional issues

The focus of the discussion is on the situation of the economically inactive population of working age, broadly defined as those persons outside the labour force (i.e. neither employed nor unemployed). However, it should also be borne in mind that 'inactivity' corresponds to a rather ad hoc statistical definition that includes a very diverse group of people in terms of their 'proximity to the labour market'.

The conventional ILO statistical definition classifies someone as 'unemployed' if five conditions are fulfilled: the person is currently not working, has looked for work in the four weeks prior to the survey, has done so actively[2], is willing to work and is immediately available for work, which means s/he can start a job within the two weeks following the survey interview. Between a situation whereby all five characteristics are fulfilled - and the person is classified as 'unemployed' - and a situation whereby none of the last four characteristics is fulfilled - and the person is classified as 'inactive' – lies a 'grey' area, also classified as 'inactivity'. It may be the case, therefore, that a person is classified as 'inactive' even if s/he has been actively looking for work and is willing to work, but is not immediately available to start work within two weeks. Alternatively, an inactive person may be willing to work and available to start immediately, but is not actively looking for work, say, because s/he does not believe that there is any available (and is therefore discouraged).

These simple 'definitional' considerations call into question the commonly held view that 'inactivity' is exclusively a 'supply-side' problem and that active labour market policies are the only relevant option to mobilise the inactive workforce. For this reason, new concepts such as 'labour force reserve' are being introduced to identify, in this case, working age people who despite being classified as 'inactive' are actually 'willing to work', should the opportunity arise. An effective response to the need for mobilising the workforce more than is currently the case should therefore consist of a comprehensive set of policies that combines Active Labour Market Policies (ALMPs) with other measures aimed at supporting job creation and opportunities.

1 *Jobs, Jobs, Jobs – Creating more employment in Europe*, Report of the Employment Taskforce chaired by Wim Kok, November 2003.

2 For example by contacting a private or public employment office, sending applications to employers directly, inserting, answering or studying advertisements in newspapers or journals, taking tests, interviews or examinations or taking concrete steps to start working as a self-employed person, such as looking for land, premises or equipment or looking for permits, licences or financial resources.

3. The policy context

The European Council of March 2005 has again emphasised that '*it is essential to attract more people into the labour market. This aim will be achieved by following the course of an active employment policy, of making work pay and of measures to reconcile working life and family life, including the improvement of childcare facilities; priority must also be given to equal opportunities, active ageing strategies, encouraging social integration and converting undeclared work into lawful employment*'.

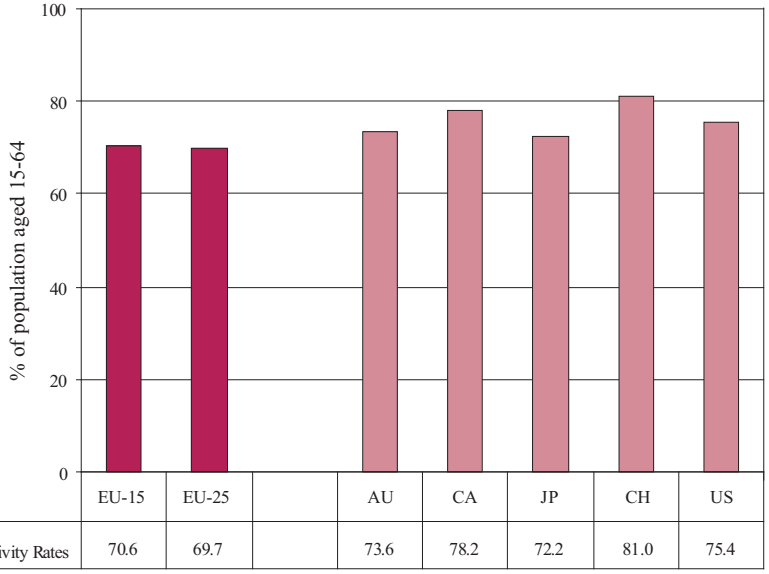
A core element of the new Integrated Guidelines for Growth and Jobs (2005-2008)[3], as adopted by the Commission on 12 April 2005, includes taking the necessary action to attract more people into the labour market and create more jobs. As mentioned in the Communication, the continued under-performance of the EU economy is due, in part, to the fact that labour input remains relatively low compared with other developed economies such as the US or Japan, despite the recent improvements in raising the employment rate to just over 63% in 2004. This comparatively low employment rate suggests that the EU still has a substantial reservoir of unused labour, and that there remains considerable scope for raising employment further, especially among such sub groups as women, youth and older workers. It is evident that a substantial part of the potential labour force is currently not engaged in labour market activity and hence unable to make a contribution to increased economic performance.

3.1. The new integrated guidelines

Achieving higher labour market participation will provide an essential contribution to sustainable development and social cohesion in the EU. The re-launched Lisbon Strategy prioritises the need to attract and retain more people in employment. The goal of achieving full employment involves reducing unemployment and inactivity, and increasing the demand for and supply of labour. However, to achieve this will require determined action to improve the attractiveness and quality of work, to prevent exclusion from the labour market and support integration into employment of those currently disadvantaged. The new integrated guidelines that specifically address these issues are as follows:

- *Integrated Guideline 17* specifically calls for implementation of employment policies aimed at achieving full employment, and reducing unemployment and inactivity. Raising employment levels is the most effective means of generating economic growth and promoting socially inclusive economies whilst ensuring a safety net for those unable to work. Promoting a new lifecycle approach to work and modernising social protection systems to ensure their adequacy, financial sustainability and responsiveness to changing needs in society are all the more necessary because of the expected decline in the working-age population.
- *Integrated Guideline 18* calls, among other things, for measures to increase youth participation, to support better reconciliation of work and private life, including the provision of accessible and affordable childcare facilities and care for other dependants, appropriate incentives to work and discouragement of early retirement, and sup-

Chart 134 – International comparison of activity rates in 2004



	EU-15	EU-25		AU	CA	JP	CH	US
Activity Rates	70.6	69.7		73.6	78.2	72.2	81.0	75.4

Source: Eurostat, QLFD for EU-15 and EU-25, OECD Employment Outlook 2005 for AU, CA, JP, US and CH.
Note: US refers to pop 16-64.

3 COM(2005) 141 final.

port for working conditions conducive to active ageing.

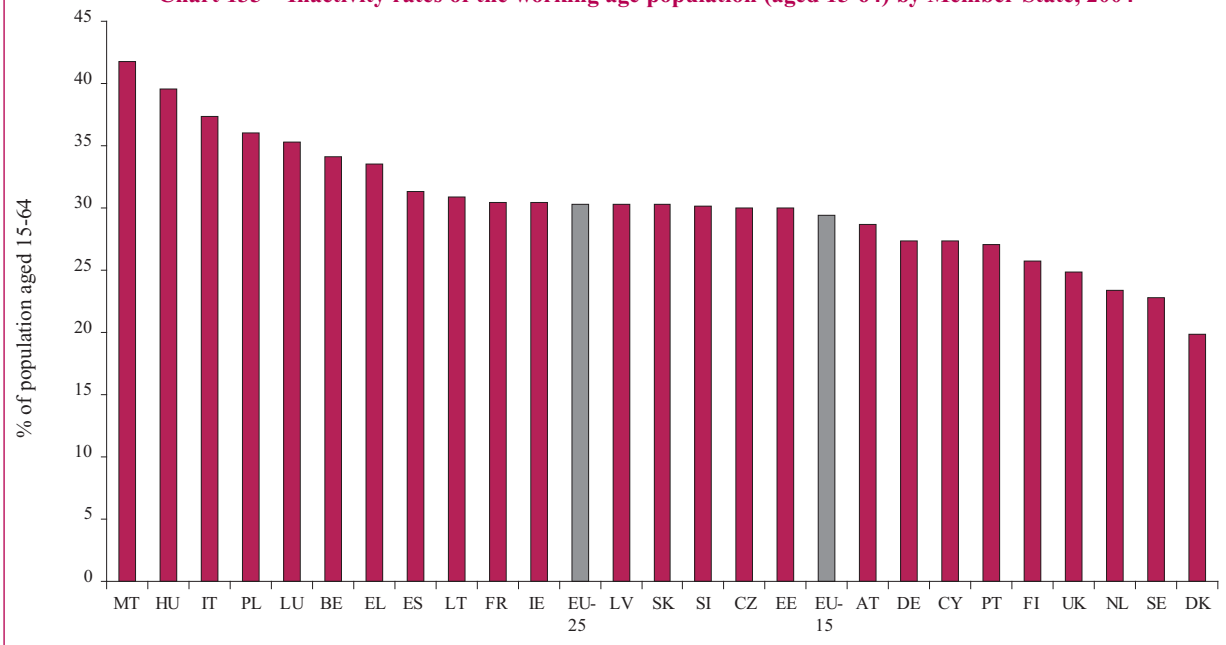
- *Integrated Guideline 19* specifically seeks to ensure inclusive labour markets for jobseekers and disadvantaged people. Facilitating access to employment for jobseekers, preventing unemployment and ensuring that those who become unemployed remain closely attached to the labour market and increase their employability are essential to increasing participation and combating social exclusion. Active and preventive measures are called for to break down barriers to entry to the labour market by assisting with effective job search, facilitating access to guidance, training and other active labour market measures, ensuring that work pays, and removing unemployment, poverty and inactivity traps. Special attention should be paid to promoting the inclusion of disadvantaged people in the labour market. In this regard, combating discrimination, promoting access to employment for disabled people and integrating migrants and minorities are particularly essential.

- Finally, *Integrated Guideline 20* calls for improved matching of labour market needs, in order to better anticipate and resolve possible mismatches. This will require the modernisation and strengthening of labour market institutions, notably public employment services, greater transparency of employment and training opportunities at national and European level to facilitate mobility across Europe, better anticipation of skill needs, labour market shortages and bottlenecks, and appropriate management of economic migration.

The guidelines emphasise that Member States and the social partners must increase efforts to boost the level of employment - particularly by pursuing active employment policies that help people into work and provide incentives for them to remain there, developing active ageing policies to discourage people from leaving the workforce too early, and modernising social protection systems so that they continue to offer the security needed to help people embrace change.

Increasing the labour market participation of older workers is one of the underlying requirements for achieving the employment rate targets set by the Lisbon and Stockholm European Councils of 2000 and 2001 respectively. Moreover, the Open Method of Coordination in the field of pensions that was launched by the Laeken European Council in December 2001 also identifies the promotion of active ageing as a priority for action, particularly through its 5th common objective of extending working lives.

Chart 135 – Inactivity rates of the working age population (aged 15-64) by Member State, 2004



Source: Eurostat, QLFD.

Many people are inactive due to a lack of relevant skills (because their existing skills have atrophied or because they did not have them in the first place) or a lack of the necessary incentives or support to enter or re-enter the labour market. In particular, many are likely to be inactive due to sickness or disability, because they have to take care of children, elderly or sick relatives, because the wages are too low to make work worthwhile, or simply because they do not understand what to do to find work. Improving participation in the labour force therefore requires the EU to tackle in particular those barriers to labour market participation experienced by disadvantaged people such as the low-skilled and people with disabilities.

4. The size and characteristics of the inactive population in the EU in 2004

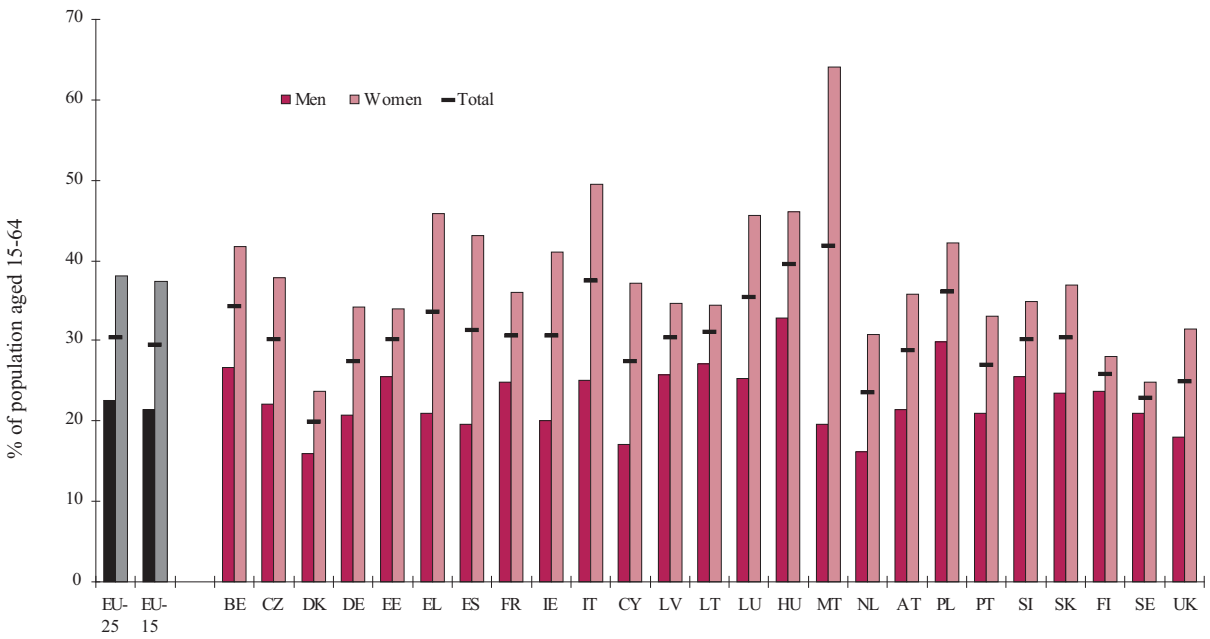
International comparison of activity rates for the working age population in 2004 reveals that the EU rate of 69.7% is below that of many other similarly advanced economies (Chart 134). In particular, activity rates in Canada and the USA are more that 5 percentage points higher, while within Europe the rate for Switzerland is around 11 percentage points higher.

These figures suggest an underutilisation of the EU labour force potential, and inactivity remains high in most Member States (Chart 135). In 2004 the inactive population of working age (15-64) in the EU-25 amounted to some 92 million people, corresponding to an average inactivity rate (the mirror image of activity rates) of 30.3%. The inactivity rate varied quite markedly between Member States, ranging from a low of 19.9% in Denmark to a high of 39.5% in Hungary and 41.7% Malta.

4.1. Inactivity by gender

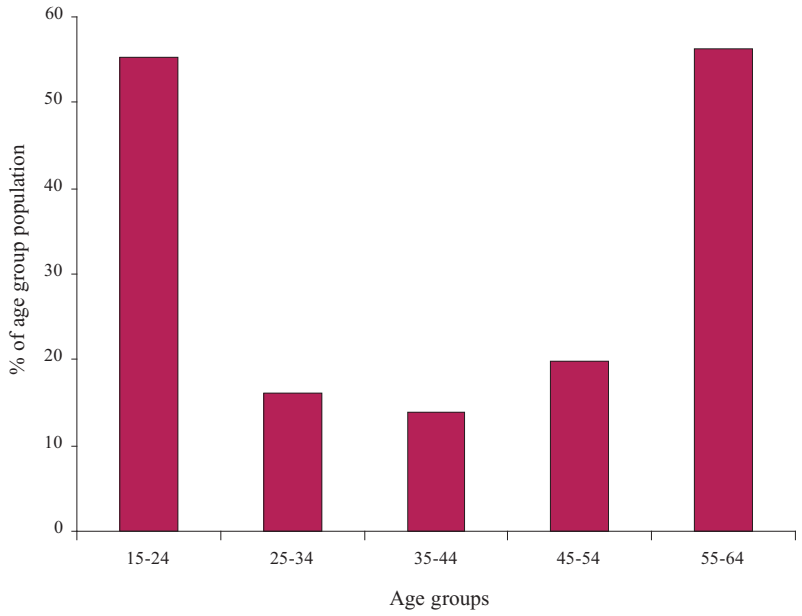
For all Member States the inactivity rate is higher for women than for men, the disparity averaging around 16 percentage points for the EU-25 as a whole, although the difference is relatively small (less than 5 percentage points) in Finland and Sweden (Chart 136). This compares with gaps in the order of 25 percentage points in Greece, Italy and Spain, and as high as 44 percentage points in Malta.

Chart 136 – Inactivity rates of the working age population (aged 15-64) by gender, 2004



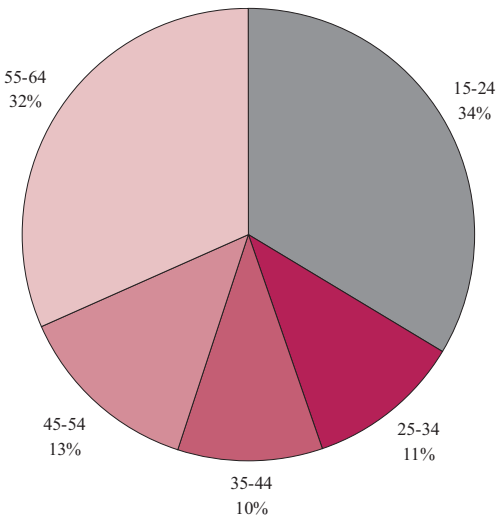
Source: Eurostat, QLFD.

Chart 137 – Inactivity rates in the EU-25 by age group, 2004



Source: Eurostat, LFS, spring results.

Chart 138 – Structure of the EU-25 inactive population aged 15-64 by age group, 2004



Source: Eurostat, LFS, spring results.

4.2. Inactivity by age

As would be expected, inactivity rates are much higher for the youth (aged 15-24) and older persons (aged 55-64) compared to the population of prime working age (25-54), (Chart 137). In the case of young people, this is primarily due to their participation in education or training and can therefore be considered a positive alternative to labour market activity (in effect postponing their labour market entry). The different incidence of inactivity for each age group is reflected in the underlying structure of the inactive population, with some 34% of the total inactive population of working age being accounted for by those in the age group 15-24, and 32% by those aged 55-64. As a simple guide, the inactive population aged 15-64 is distributed evenly with one third in each of the three main segments - youth, prime age and older people (Chart 138)[4].

However, among Member States there are some quite marked deviations from the average EU-25 age distribution of the inactive population. In particular, inactivity in the youth age group (aged 15-24) accounts for a much larger share (over 40%) of the total inactive population in CZ, EE, CY, LV, PL, SK and SE, and over 50% in LT (Table 63). In contrast, compared to the EU average the inactive population is more concentrated in the older age group (55-64) in DE, FI, SI and especially in AT and NL. This suggests the need for a different emphasis in policies targeting the different age groups in each Member State concerned.

4 For a more in-depth analysis of the labour market situation of the young and older people, see chapter 1. Chapter 5 ('Labour market trends and characteristics of older workers') of the 2003 Employment in Europe report contains a detailed analysis of the labour market situation of older workers. The policy implications are also stressed in COM (2004) 146 final 'Increasing the employment of older workers and delaying the exit from the labour market'.

Table 63 – Structure of inactive population by age group in 2004 (% of total inactive population in age group)

	15-24	25-34	35-44	45-54	55-64
EU-25	33.6	11.0	10.4	13.4	31.6
EU-15	31.8	11.4	11.4	13.2	32.3
BE	35.0	6.9	10.0	15.3	32.7
CZ	41.3	14.0	4.6	6.9	33.2
DK	27.9	13.9	11.6	13.0	33.6
DE	31.9	11.0	10.4	10.9	35.8
EE	47.4	11.9	6.9	8.6	25.2
EL	33.6	10.4	10.6	15.8	29.6
ES	32.2	12.0	13.4	15.9	26.5
FR	39.5	9.2	8.4	10.8	32.2
IE	37.9	11.9	13.8	14.5	21.8
IT	26.8	13.0	12.2	14.6	33.4
CY	40.9	9.2	10.7	13.5	25.7
LV	46.0	9.7	8.0	9.8	26.4
LT	54.0	8.6	6.6	7.2	23.6
LU	35.5	8.0	12.7	13.8	29.9
HU	34.7	13.0	8.2	14.2	29.9
MT	20.2	12.5	18.6	23.5	25.1
NL	21.1	9.8	13.4	16.0	39.7
AT	25.5	9.6	10.4	11.8	42.6
PL	41.1	7.9	6.0	17.7	27.3
PT	39.5	10.0	8.9	13.9	27.8
SI	39.8	5.6	5.0	13.5	36.0
SK	47.2	10.0	4.4	8.3	30.1
FI	30.7	11.1	9.9	12.2	36.0
SE	42.6	12.3	9.8	10.7	24.6
UK	29.0	13.5	14.3	13.4	29.9

Source: Eurostat, LFS, spring results.

Comparing gender gaps across age groups (Chart 139), the main difference in inactivity rates occurs for the older age group (a 21 percentage point gap between men and women), while for the prime age group it is generally around 16-17 percentage points on average and for the youth age group only 7 percentage points. Despite the large gaps still existing in 2004, much progress has been made to reduce the differences in inactivity rates between men and women in recent years. Nevertheless, it is clear that there is still much scope for reducing overall inactivity by implementation of measures targeting the female inactive population aged 25 and over.

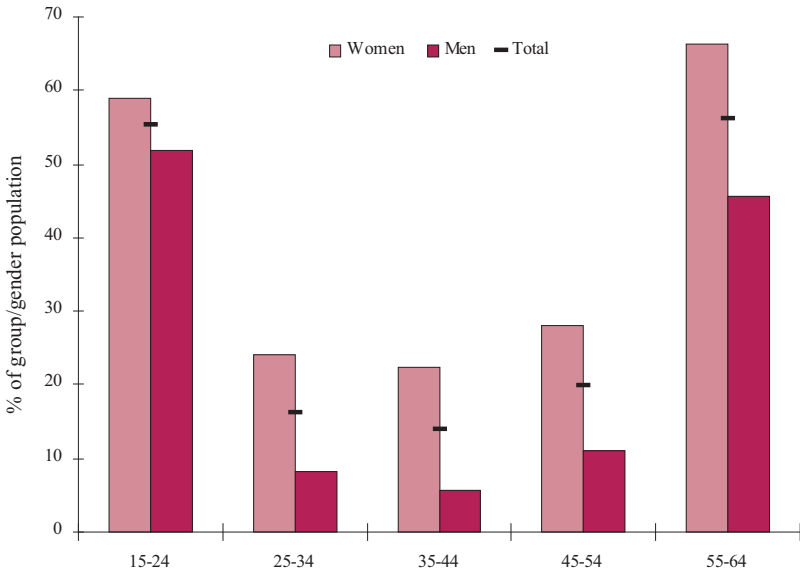
In the EU-25, inactivity rates tend not to differ substantially between nationals and non-nationals, the difference being only around 3 percentage points in 2004 (Chart 140). However, the picture changes slightly if we disaggregate non-nationals as to whether or not they come from another Member State[5]. Whereas the inactivity rate of other Member States' nationals tends to be lower by half a percentage point as opposed to that of nationals, the inactivity rate of non-EU-15 nationals is actually substantially higher – by approximately 7 percentage points. Also, the gender gap in inactivity rates is much higher for non-EU-15 nationals where it corresponds to approximately 26 percentage points as opposed to 14 for nationals in the EU-15.

4.3. Inactivity by skill level

For all Member States inactivity rates are much higher among the low-skilled population than among both the medium- and high-skilled (Table 64). At EU level the inactivity

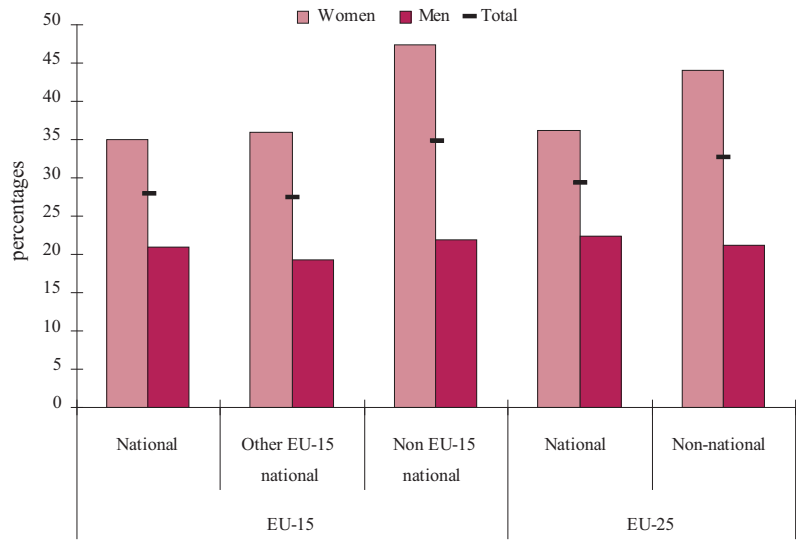
5 However, up to 2004, which is the latest year for which data are available, this can only be done for the EU-15.

Chart 139 – Inactivity rates for the EU-25 by age group and gender, 2004



Source: Eurostat, LFS, spring results.

Chart 140 – Inactivity rate of the working age population by nationality and sex, 2004



Source: Eurostat, LFS, spring results.

rate for the low-skilled population aged 15-64 is 47%, compared to 24.5% for the medium-skilled and 13.1 % for the high-skilled. Inactivity rates for the low-skilled are especially high in almost all of the new Member States in central and eastern Europe. In particular, the inactivity rate for the low skilled is over 60% in EE, LT, PL, HU and CZ and over 70% in SK.

The majority of the inactive population tends, on average, to consist principally of low-skilled people. For the EU-25 as a whole, the low-skilled (those with lower secondary education and below) account for some 53% of the inactive population aged 15-64. However, it is also the case that there are substantial shares of medium-skilled (upper secondary completed) and high-skilled (tertiary education completed), accounting for around 39% and 8% respectively.

There is also a very wide variation in the skill structure of the inactive population between Member States (Chart 141). In general, those located in the southern part of the EU tend to have inactive populations composed of relatively high shares (over 55%) of low-skilled above the EU average, while for northern and central European Member States the share of low-skilled is generally much lower. For LU and the UK, for example, the share of low-skilled among the total inactive population is less than one third.

Therefore, while the *incidence* of inactivity is higher among the low skilled – and this is true in all Member States – the *composition* of the inactive population is often characterised by a large share of medium-skilled individuals. This means that although the low-skilled are a particularly disadvantaged group and it is therefore an important target for active labour market policies, if inactivity is to be reduced substantially, it is also important to consider the problems of all skill groups, including the higher skilled. It suggests that not

Table 64 – Inactivity rates by skill level, 2004 (row percentages)

	Low	Medium	High
EU-25	47.0	24.5	13.1
EU-15	44.3	23.7	13.0
BE	53.5	29.7	13.7
CZ	69.2	22.9	12.6
DK	35.9	17.3	10.1
DE	50.5	23.2	12.7
EE	63.3	23.8	16.1
EL	45.3	30.7	11.8
ES	37.9	30.1	13.7
FR	45.5	23.8	16.6
IE	48.2	26.1	13.1
IT	48.7	27.9	14.0
CY	43.8	23.0	9.2
LV	59.1	23.7	13.2
LT	67.3	24.2	9.8
LU	48.5	36.5	16.2
HU	68.8	30.5	16.0
MT	48.5	30.5	13.5
NL	36.8	18.6	11.9
AT	50.2	24.9	16.0
PL	67.4	29.4	13.4
PT	28.7	33.1	8.7
SI	54.1	24.7	10.7
SK	71.1	20.3	12.6
FI	42.1	20.2	11.2
SE	39.1	16.2	11.2
UK	44.7	19.8	10.6

Source: Eurostat, LFS, spring results.
Notes: Low (ISCED 0-2: lower secondary), medium (ISCED 3-4: upper secondary), high (ISCED 5-6: tertiary).

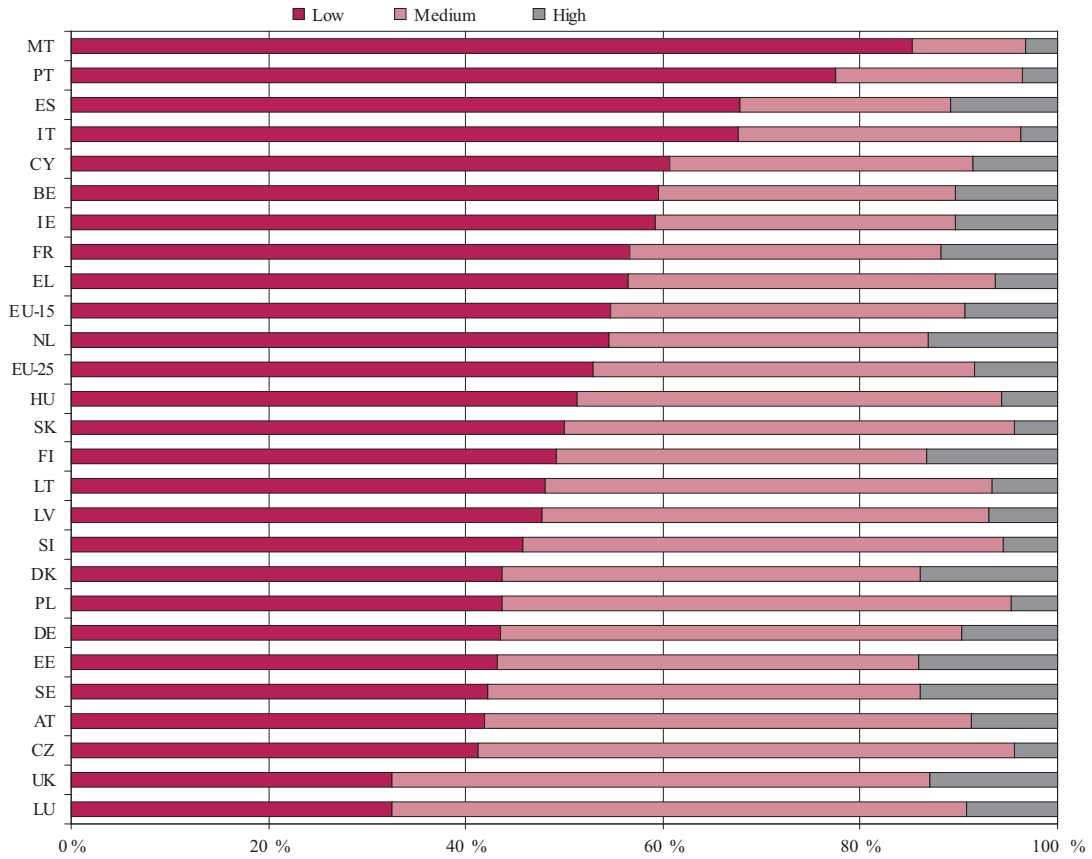
only is it necessary to have an adequate level of skills *per se*, but it is equally important that these skills correspond to the changing requirements of the labour market.

The skill structure of the inactive by age groupings (Chart 142) indicates that, apart from the youth age group (where the share of low skilled is high because it includes those still in compulsory and further education), the share of low-skilled increases with age. Within the working age population the age groups 45-54 and 55-64 show large shares (around 53%) of low skilled compared to 32% and 45% for the age groups 25-34 and 35-44. This highlights the need to also address in particular the skill levels and training needs of the older people in the inactive working age population to enhance their options for participation in the labour market[6].

The skill structure of the inactive population aged 15-64 is very similar for both men and women, with 53% consisting of low-skilled individuals, 39% medium-skilled and 8% high-skilled. However, if we exclude the 15-24 age group (Chart 143), the share of low-skilled women in the female inactive population is 7 percentage points higher than for men.

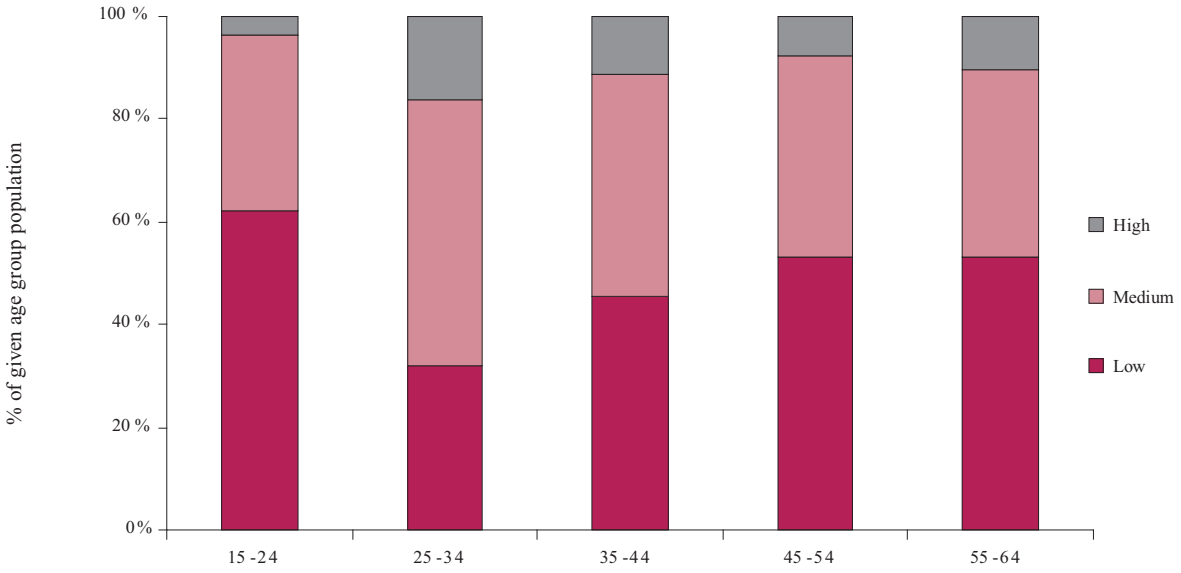
6 However, it should be remembered that the classification used here is based on the highest qualification obtained since this is the only measure of skills available in the LFS. It does not take account of skills acquired, for example, through work experience. Therefore, the skill level of older people is likely to be underestimated by the measurement used.

Chart 141 – Skill structure of the inactive population aged 15-64, 2004



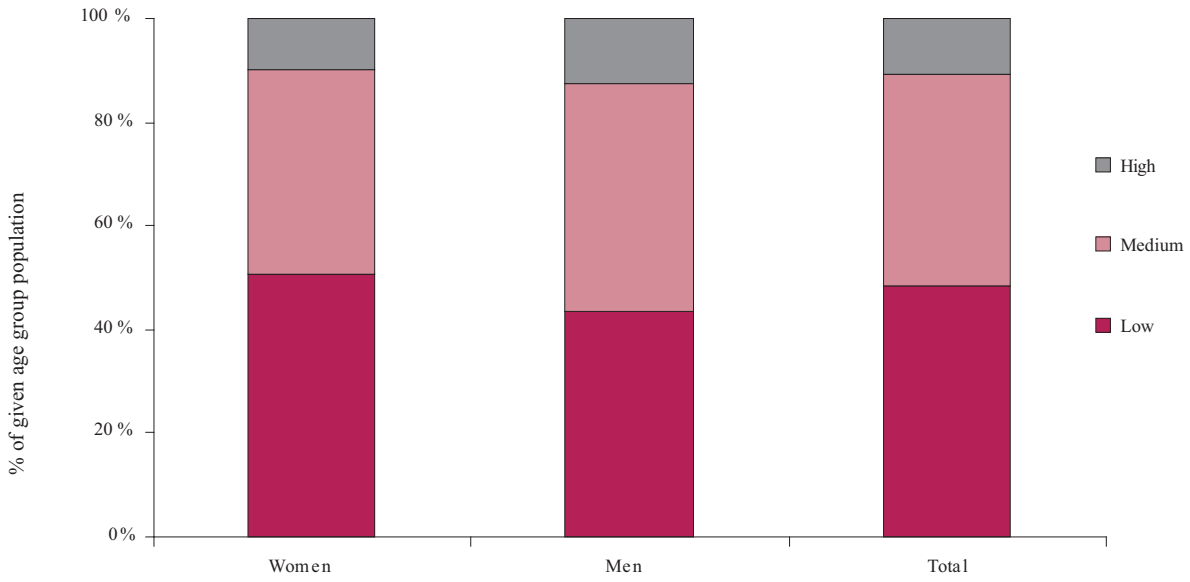
Source: Eurostat, LFS, spring results.
Note: Low (ISCED 0-2: lower secondary), medium (ISCED 3-4: upper secondary), high (ISCED 5-6: tertiary).

Chart 142 – Skill structure of the inactive population aged 15-64 in the EU-25 by age group, 2004



Source: Eurostat, LFS, spring results.
Note: Low (ISCED 0-2: lower secondary), medium (ISCED 3-4: upper secondary).

Chart 143 – Skill structure of the inactive population aged 25-64 in the EU-25 by gender, 2004



Source: Eurostat, LFS, spring results.
Note: Low (ISCED 0-2: lower secondary), medium (ISCED 3-4: upper secondary).

BOX 15 – Labour market disadvantage and inactivity: the disabled

In preparation for the 2003 European Year of People with Disabilities, an *ad hoc* module on the employment situation of disabled people was carried out during the Spring 2002 round of the Labour Force survey[7]. In relation to the overall prevalence of long-standing health problems or disabilities in Europe, the key results of the survey can be summarised as follows[8]:

- *Of those persons aged between 16 and 64, 44.6 million – i.e. one in six (15.7%) – stated that they had a long-standing health problem or disability (LSHPD).*
- *Overall there is little difference in the prevalence of disability among males and females, while the prevalence rates of LSHPD strongly increase with age. They are higher among those with lower education, among the widowed, divorced and the inactive.*
- *The percentage of the working-age population with LSHPD varies widely among countries, with the highest percentage (32.2%) found in Finland and the lowest in Romania (5.8%). This wide-ranging spectrum might also reflect differences in how respondents perceived the question. Although utmost attention was paid to translation of the questions, the replies could have been mediated by cultural traits.*

Concerning more specifically the employment situation of people with LSHPD, labour force participation is indeed much lower for the disabled: 78% of the severely disabled aged 16-64 are outside of the labour force as compared to 27% for those without LSHPD. And even among those in the labour force, the unemployment rate is nearly twice as high among the severely disabled as compared to the non-disabled. Only 16% of those who face work restrictions are provided with some assistance to work, with wide variations between countries. 43.7% of non-working persons with LSHDP and facing work restrictions consider that they would need some form of assistance to work. However, this percentage also varies widely among countries. The major type of assistance needed to work also relates to the kind of work performed.

7 The following key results are taken from Dupré D. and A. Karjalainen, 2003, 'Employment of disabled people in Europe in 2002', in *Statistics in Focus*, theme 3 – 26/2003, Eurostat.

8 See the data annex for a comprehensive table of the characteristics of disabled people and their labour market status.

5. The evolution of the inactive population in the EU

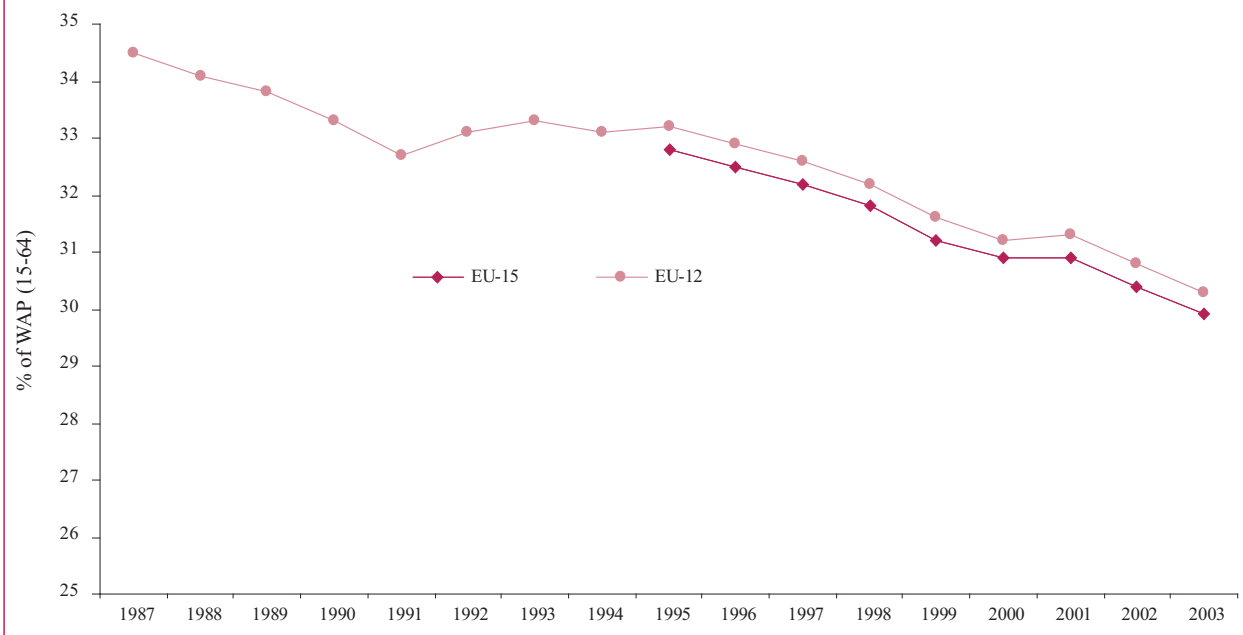
5.1. General long-term trend

Looking at developments in the inactive population over time, and focusing on the EU12[9] (for which longer time series are available), there has generally been a gradual long-term decline in the share of the inactive in the working age population since the mid-1980s, although progress halted temporarily in the early 1990s before picking up again from 1995 onwards (Chart 144).

For those Member States where data are available (basically the EU-12), the longer-term developments from the mid-80s onwards show mixed trends (Chart 145). In particular, inactivity rates decreased more sharply in the NL, where they fell from 41.4% in 1983 to 23.4% (a decrease of over 43%) and in ES, from 44.1% in 1986 to 31.8% in 2004 (a decrease of 39%). In FR inactivity rates were broadly constant over the period, with a slow increase in the late 1980s from 31.6% in 1983 to 33.3% in 1991, followed by a slow decrease afterwards to 30.8% in 2004. Similarly, in DK the inactivity rate remained broadly unaltered over the period, oscillating between around 18% and 21%.

In the remaining Member States there was a moderate decrease between the first half of the 1980s and 2004, with different trajectories in between. In the UK, inactivity noticeably decreased in the second half of the 1980s, from 29.1% in 1983 to 23.5% in 1990 and slowly increased afterwards to 25.1% in 2004. In DE, too, inactivity decreased markedly from 35.9% in 1983 to 28.3% in 1991 and it remained broadly constant afterwards, reaching 27.9% in 2003. In IT and PT inactivity peaked in 1995 when it reached 42.4% and 32.6% respectively and then it slowly declined in the remaining period. In BE and EL inactivity peaked earlier, in 1988 and 1987 respectively, and then declined afterwards, apart from a small increase in 2001. In IE inactivity rates remained between 37% and 40% for the period up to 1997 and then decreased substantially to 31.3% in 2004. Finally, in LU inac-

Chart 144 – Inactive working age population as share of total working age population (aged 15-64)



Source: Eurostat, LFS, spring results.

9 The EU-12 includes BE, DK, DE, EL, ES, FR, IE, IT, LU, NL, PT and the UK.

Chart 145 – Inactive population as share of the working age population (aged 15-64)

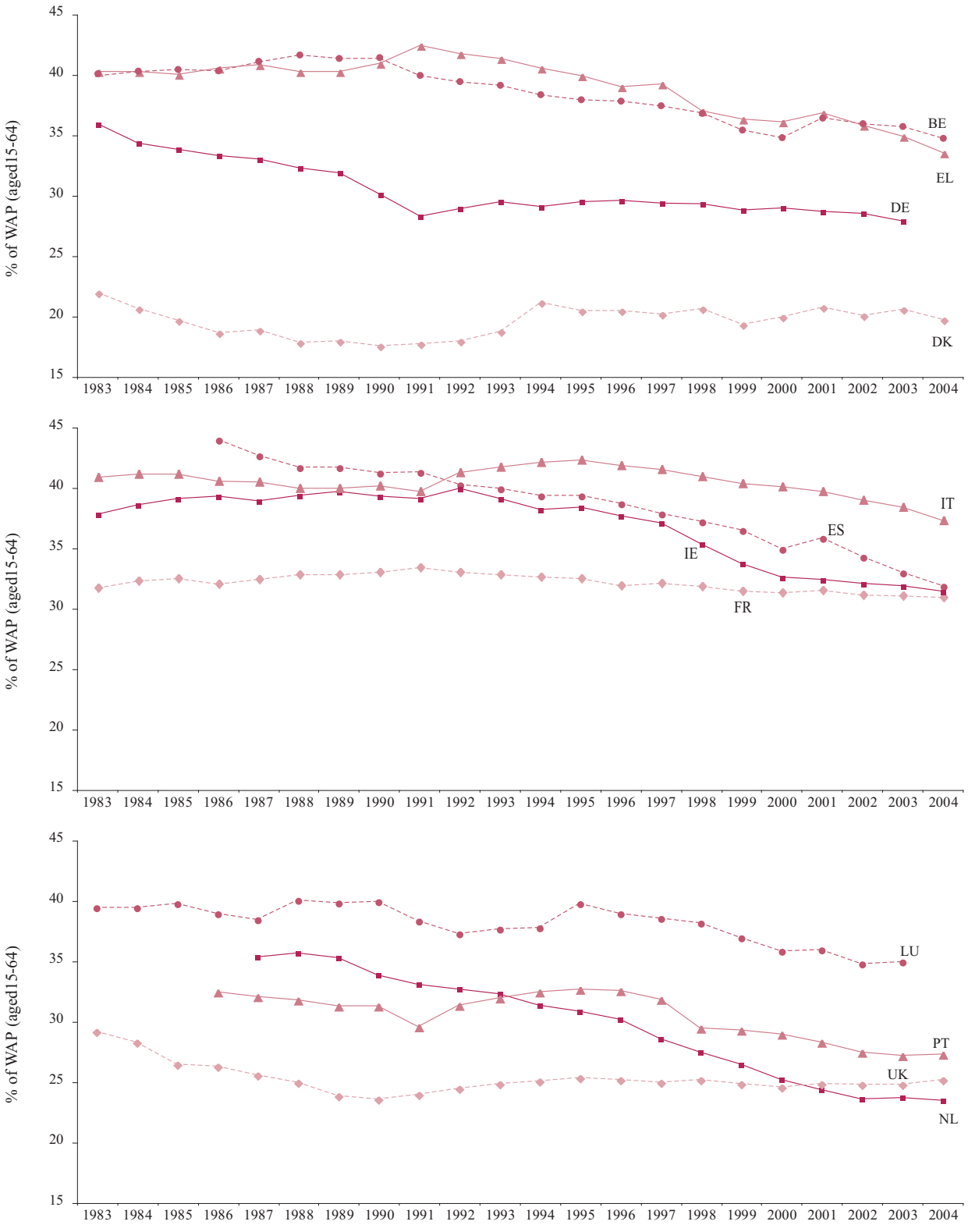
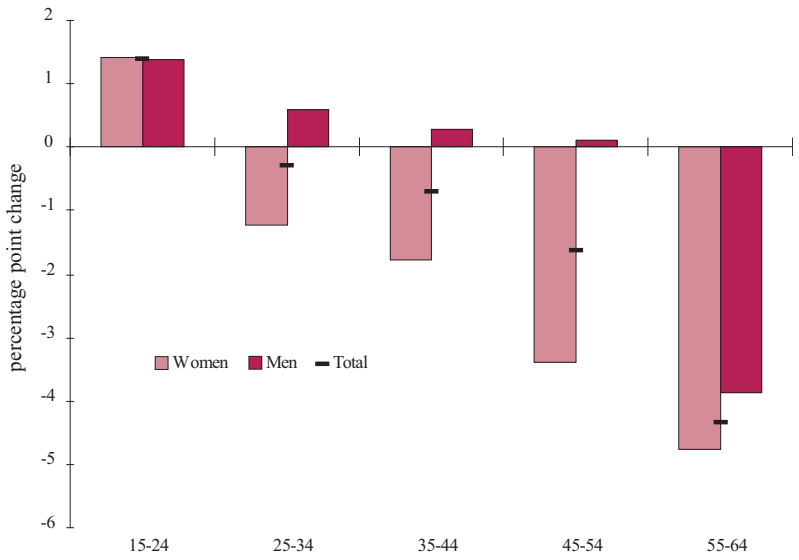
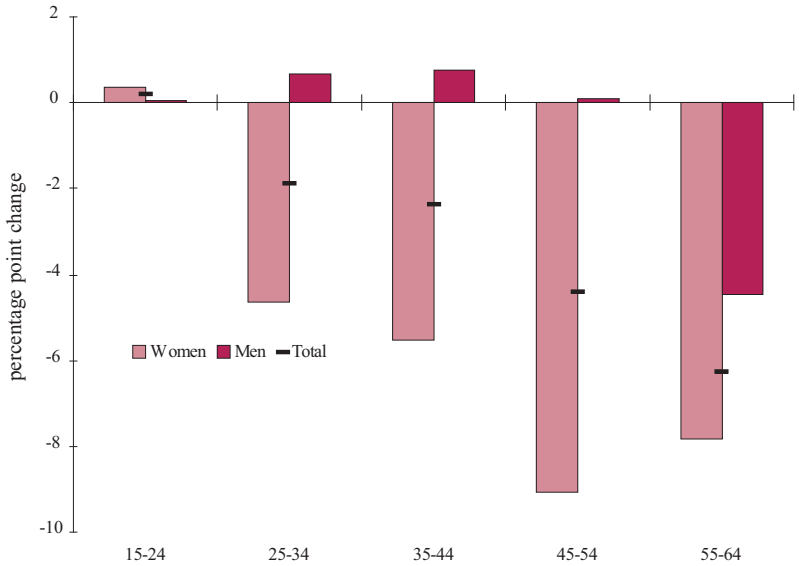


Chart 146 – Change in inactivity rates for the EU-25 by age group and gender between 2000 and 2004



Source: Eurostat, LFS, spring results.

Chart 147 – Change in inactivity rates for the EU-15 by age group and gender between 1995 and 2004



Source: Eurostat, LFS, spring results.

tivity went from 39.4% in 1983 to 34.9 in 2003, with two peaks in 1988 and 1995.

5.2. Reasons behind the trends

The decline in the inactive population in the EU-25 over recent years appears to have been driven by two main trends (Chart 146): the entry into the labour market or delayed exit of increasing numbers of women aged over 25 and of older people (aged 55-64) of both sexes. In contrast, men of prime working age have shown signs of a limited withdrawal from the labour market, while youth of both sexes have seen a more significant change, with inactivity rates rising by around 1.5 percentage points in the period 2000 to 2004.

This development in the EU-25 over the last four years is broadly similar to the longer-term changes in the EU-15 observed since the mid-1990s (Chart 147). The same patterns in trends are apparent for the EU-15, but with an even stronger effect from the entry of women aged 45-54 into the labour market and a reduced negative effect for youth.

Table 65 – Time since inactive people last worked by country – 2004 (row percentages)

	worked 0 to 2 yrs before	worked 2 to 8 yrs before	worked 8+ yrs before	No work experience
EU-25	14.5	19.5	23.1	42.9
EU-15	15.3	19.1	23.1	42.5
BE	12.0	17.3	26.8	43.9
CZ	15.6	25.6	15.3	43.5
DK	29.1	25.4	22.6	22.8
DE	14.0	21.9	23.5	40.6
EE	16.0	22.8	15.4	45.7
EL	7.5	12.5	12.0	68.1
ES	16.1	12.9	18.9	52.1
FR	14.7	21.6	18.1	45.5
IE*	14.1	19.7	27.4	38.8
IT	13.2	14.8	25.3	46.6
CY	11.7	14.5	18.5	55.3
LV	14.0	15.2	25.7	45.1
LT	7.3	17.7	17.5	57.4
LU	9.7	18.3	28.1	43.8
HU	7.8	21.4	30.4	40.4
MT	9.5	14.9	37.9	37.6
NL	17.0	22.6	37.6	22.9
AT	18.4	24.7	27.1	29.8
PL	11.5	20.6	24.1	43.9
PT	13.3	18.6	20.1	48.1
SI	8.3	20.5	25.0	46.2
SK	9.0	22.1	19.3	49.6
FI	37.3	25.3	18.7	18.6
SE*	49.3	12.7	4.6	33.4
UK	16.8	23.7	28.9	30.6

Source: Eurostat, LFS, spring results.
Note: * Data for IE and SE to be interpreted with caution due to high non-response rate.

6. Length of inactivity and previous work experience

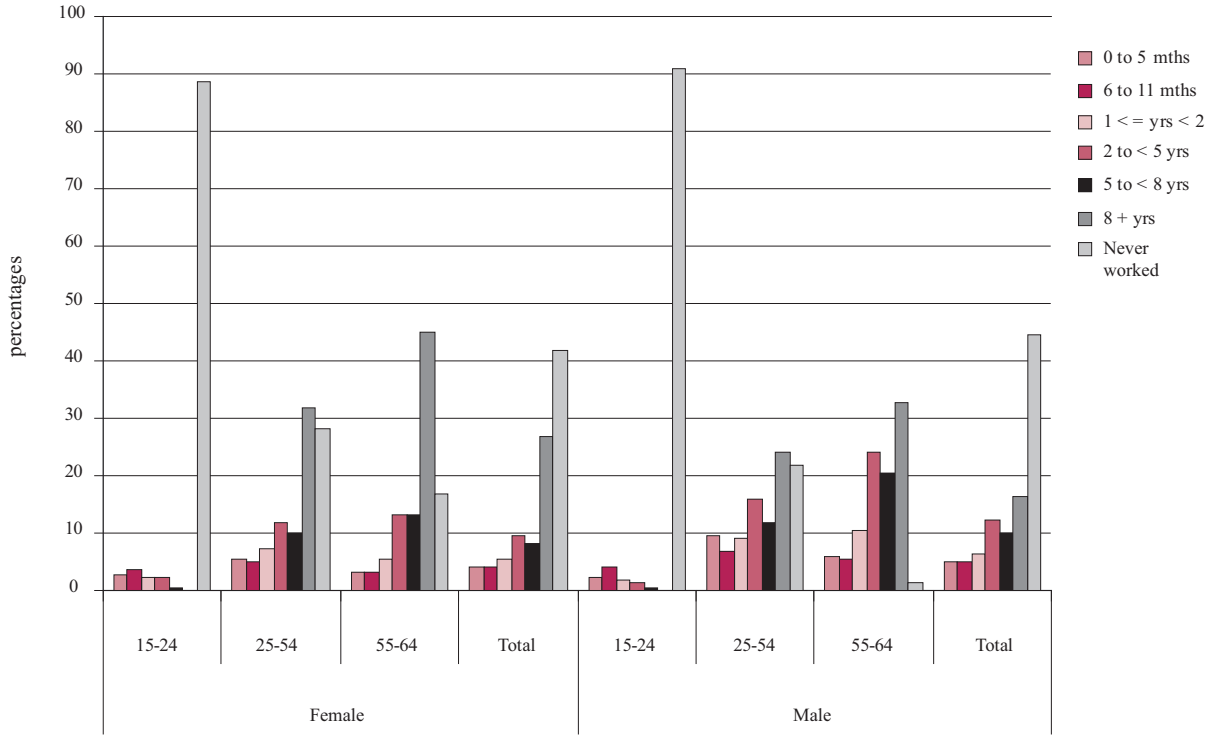
Policies aimed at encouraging activity among those currently out of the labour force need to take into account the reasons why people are inactive and for how long they have been out.

6.1. Periods of inactivity

Examining the period of inactivity first, an important consideration emerging from the data is that over 40% of the inactive population of working age (15-64 year old) have never been in employment (Table 65). A further 23% have been without a job for the previous 8 years, and only around 15% of the inactive population were without a job for less than 2 years. There are of course significant differences between Member States. The percentage of the inactive population with no previous work experience ranges from very low figures in FI, DK and the NL (18.6%, 22.8% and 22.9% respectively) to very high values of over 50% in EL, LT, CY and ES. FI, DK and the NL, together with SE and AT, are also the Member States with the highest proportion of inactive people who have had some work experience in the previous two years (over 17%). On the other hand, LT, EL, HU, SI and SK have less than 9% of the inactive workforce with some recent work experience.

Chart 148 shows the differences in inactivity by gender and age. The percentages of inactive men and women in the EU-25 with no work experience are similar, with a slightly higher proportion for men than for women (45% and 42% respectively). However, for

Chart 148 – Length of inactivity by gender and age in the EU-25, 2004



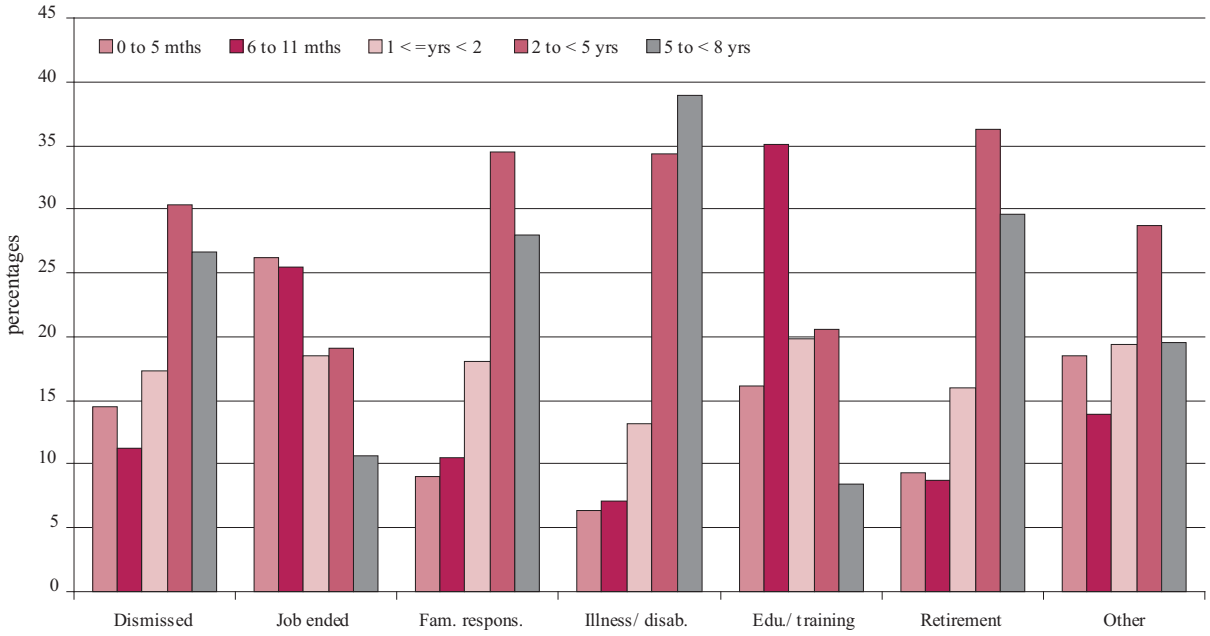
Source: Eurostat, LFS, spring results.

those with previous work experience, the length of inactivity is longer for women than for men, with 46% of women not having worked for more than 8 years as opposed to 30% of men. This may reflect the withdrawal of women from the labour market to have and look after children following a period of working. The percentage of individuals with no work experience decreases with age, with only just over 1% of inactive men – and 17% of women - aged 55-64 without any work experience. However, for those affected, the length of inactivity increases with age, with 54% of women and 33% of men having stopped working more than 8 years before the survey. In other words, while for younger cohorts the main problem is acquiring skills and work experience in the labour market, for older cohorts a key issue is likely to be coping with skills obsolescence.

6.2. Reasons for leaving previous employment

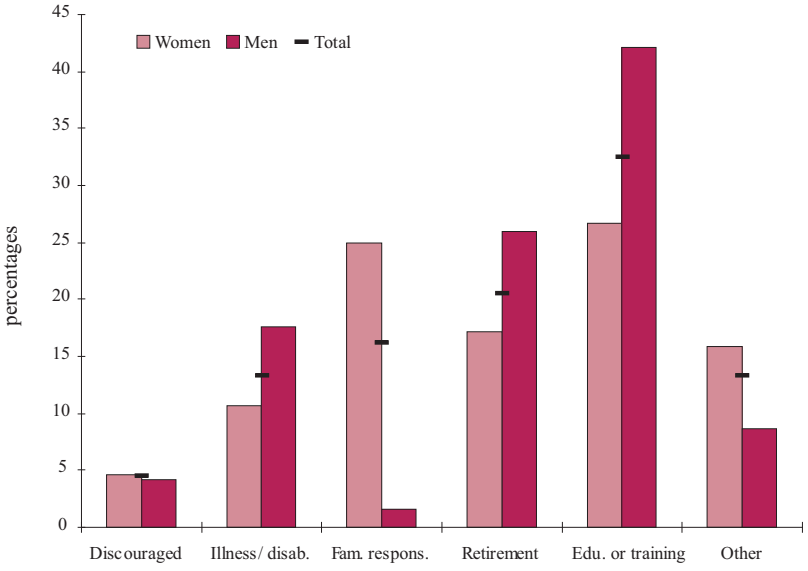
The length of inactivity also depends on the reason why the individuals left their last job (Chart 149). People made redundant are more likely to stay out of the labour market for longer than those in temporary employment whose job came to an end. In particular, 57% of the inactive that were dismissed are out of the labour force for more than 2 years, as opposed to 30% for those whose job ended. The time spent without work is highest for those that left their last job due to illness or disability and for those who retired, with respectively 73% and 66% being without work for more than 2 years. Considering those who stopped working due to personal or family responsibility, the highest proportion of them (35%) has been without work for 2 to 5 years. Finally, 35% of the inactive that stopped working to undertake education or training have been without a job for a period of between 6 to 11 months.

Chart 149 – Length of inactivity by reason for leaving last job in the EU-25, 2004



Source: Eurostat, LFS, spring results.

Chart 150 – Reasons for inactivity for the working age population (15-64) in the EU-25



Source: Eurostat, LFS, spring results.

7. Why people are inactive

Inactive people are essentially those that are neither employed nor unemployed. As already indicated, following the standard ILO definition, the employed are those that have worked at least one hour in the week before the survey and the unemployed are those that are not working, are actively seeking employment, and are willing and available to work. One small caveat relates to those that are not seeking employment because they have already found a job which starts at some later point: only those that are starting their new jobs in more than 3 months' time are classified as inactive.

7.1. Main reasons for current inactivity

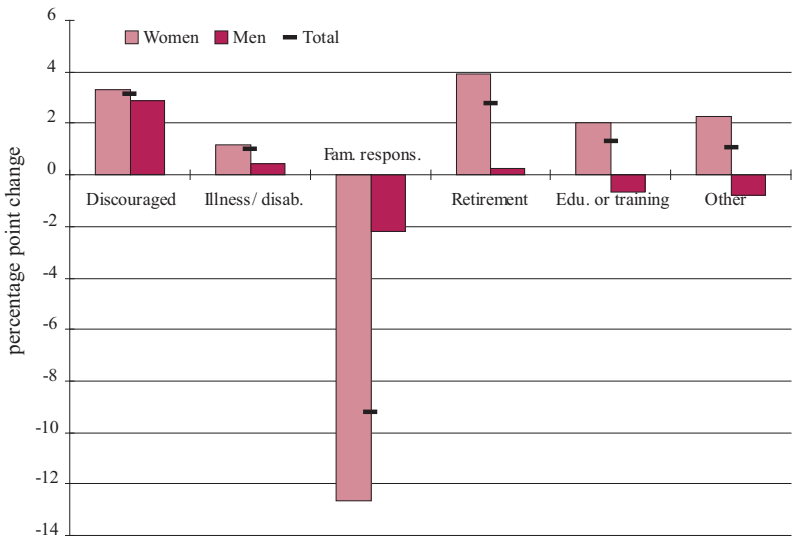
The main reason for inactivity among the working age population is education and training (Chart 150), corresponding to 32.5% of the inactive population and with a much higher incidence for men than for women (42% and 27% respectively). However, if the younger age group (15-24) are excluded, the percentage of the inactive population in education or training falls dramatically to just 4.7%. The second most important reason for inactivity is retirement, at around 20% of the inactive population, while family or personal responsibilities comes third at approximately 16%. However, if the gender breakdown is examined, the picture is very different, with family responsibilities rather more important than retirement for women (25% compared to 17% respectively), while the opposite is true for men, with a very low percentage inactive for family or personal responsibilities (1.5%).

The incidence of illness or disability in the inactive population varies between 18% for men and 11% for women. Finally, around 4.5% of the inactive population are not looking for work because they believe that there is none available, a group that will be referred to as 'discouraged' workers.

7.2. Changes in reasons for inactivity

In the 10-year period from 1995 to 2004, the reasons for inactivity have changed markedly in the EU-15 (Chart 151). In particular, the percentage of people that have dropped out of the labour market because they 'believe that no work is available' went up by just over 3 percentage points, with only a minor difference between men and women. Illness or disability as a cause of inactivity has increased by 1 percentage point, while family or personal responsibilities has decreased dramatically, especially for women, where it went down by almost 13 percentage points. This may be due to better public care facilities, higher income so that people can afford private care facilities, more extensive maternity leave, lower fertility rate or changes in social or cultural norms that affect the way people answer the relevant survey question. Correspondingly, the proportion of women who retired or left the labour force to undertake education or training went up by 4 and 2 percentage points respectively, with minor changes for men (+ 0.2% and – 0.6% respectively).

Chart 151 – Change in reasons for inactivity in the EU-15 between 1995 and 2004 for the working age population (15-64)

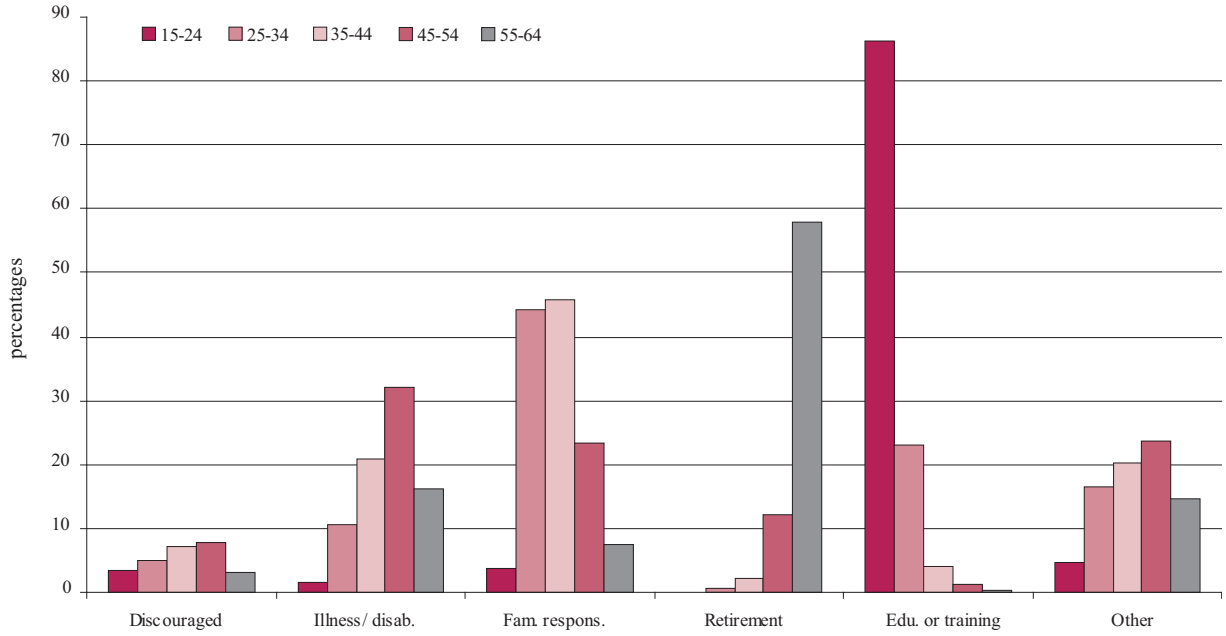


Source: Eurostat, LFS, spring results.

7.3. Changes in inactivity with age

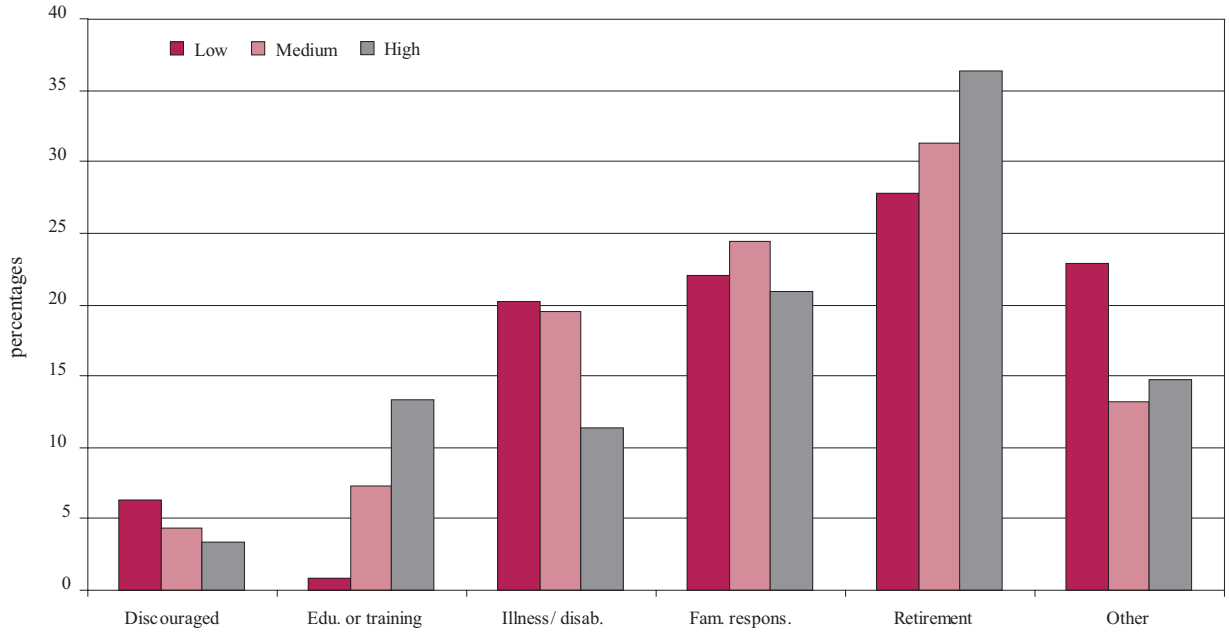
The reasons why people are inactive clearly change with age (Chart 152). Perhaps predictably, the main reason why individuals aged 15-24 are inactive is education and training, which amounts to 86% of the inactive population in this age bracket. More interestingly, this percentage drops significantly to around 23% for those aged 25-34 and then to below 4% for those aged 35+. This means that very few prime age workers leave the labour market to pursue further education or training. The percentage of discouraged workers more than doubles with age, from just over 3.5% for those aged 15-24 to almost 8% for those aged 45-54. The same is true for 'illness and disability', which rises from just below 2% for individuals in the 15-24 age bracket to more than 32% for those aged 45-54. 'Family responsibilities' is the main reason for inac-

Chart 152 – Reason for inactivity by age in the EU-25, 2004



Source: Eurostat, LFS, spring results.

Chart 153 – Reason for inactivity by educational qualifications for the working age population (15-64), 2004



Source: Eurostat, LFS, spring results.

tivity among individuals aged 25-44, while retirement accounts for 58% of the inactive population aged 55-64. The very high proportion of retired people in this latter category also explains why the incidence of other reasons, including disability and lack of prospects, declines after 55 as early retirement schemes are partly taken up by disabled or discouraged individuals.

7.4. Changes in inactivity reasons by skill level

It is also possible to notice specific patterns when looking at the reasons why people are inactive by skill levels

(Chart 153). In particular, the percentage of discouraged workers in the inactive population decreases with the level of qualifications, from 6% for the low-skilled to just over 3% for the high-skilled. If the 15-24 age group are excluded, education and training as a reason increases with skill levels – for example, over 13% of the better qualified inactive are in education or training, against below 1% for the low qualified. Illness and disability is inversely correlated with skills, with 20% of the low-skilled inactive being ill or disabled, against just over 11% of the highly qualified. Finally, retirement is a more important explanation for inactivity among the highly qualified inactive; almost 36% of them are retired, against 28% among the low-skilled.

7.5. Differences between Member States

Table 66 presents an overview of the reasons why people are inactive by Member State. The percentage of inactive people that do not look for work because they believe that no work is available is relatively high in EE, LV, IT and HU, where it is above 5%. By contrast, it is relatively low (below 0.5%) in LU, PT, SE, the UK, MT and CY. The percentage of ill and disabled people is particularly high in SE, DK, the UK, FI and the NL where it is above 27%, reaching 36.5% in SE; it is lowest in EL, AT, IT, MT, SI and LU. However, definitions of illness and disability vary between Member States and are a function of institutional factors such as access to and levels of support. Family or personal responsibilities are a relatively important cause of inactivity – over 25% - in MT, CY, LU, the UK and EL. This may reflect cultural and social norms or the availability of affordable care facilities for children, the disabled and elderly people. The proportion of retired people of working age is more than a quarter in SI, AT, HU, DE, CZ and SK; this is linked to demographic and institutional factors, such as the availability of early retirement schemes.

Education and training as the reason for inactivity affects more than 40% of the inactive population in LT, SE, SK, EE, SI and LV. However, if the 15-24 age group are excluded, the percentage of those aged 25-64 who are inactive because of education or training drops to less than 5% in the EU-25. Only in DK, at 18.4%, and SE, at 15.8%, does this percentage rise above 10%. The situation in some of the new Member States may be a cause for particular concern, since the percentage of individuals within the 25-64 age group who are inactive because of education and training is only around 1%.

In order to assess the numerical importance of the various reasons for inactivity in an EU context, Table 67 reports the numbers of inactive people in each Member State by reason for inactivity[10]. Of the 3.9 million inactive people who are not looking for work because they think that there is none available, almost a million are in Italy and a further half a million in Poland. Two Member States account for around 40% of the inactive population due to illness or disability, with 2.5 million in the UK and 2 million in Poland. Given the large working age population in DE and the high inactivity rate in IT, these two Member States account for the largest groups of inactive people in absolute terms, corresponding to just over 15 and 14 million respectively, and to the highest number of inactive people in the 'illness and disability', 'retirement' and 'education or training' categories.

8. Labour market transitions and inactivity

8.1. Flows into and out of inactivity

The long-term decline in inactivity rates since the 1980s is accompanied at any point over that period by relatively large flows into and out of inactivity. Increasing labour force participation and the mobilisation of labour resources to deal with the demographic challenge means both a reduction in the flows into inactivity and an increase in the outflows. Furthermore, while for the young the key challenge is to facilitate entry into the labour market, for older generations it is important to delay their exit from the labour market.

Table 68 shows that between 2003 and 2004 around 9.5% of the inactive population moved into employment, while a further 4.2% entered the labour force either by becoming an active job seeker or by becoming immediately available for work - or both. At the same time, 3% of the employed and 21.6% of the unemployed left the labour force. It is interesting to note that while employed people tend to withdraw from the labour market for several different reasons (with only a slightly higher percentage for those who retire or have personal or family responsibilities) the main reason why the unemployed leave the labour market is because they stop searching for a job because they believe there is none available.

10 The percentage values reported in Table 66 depend on the proportion of inactive people and the total size of the working age population.

Table 66 – Reason for inactivity by country for the working age population (15-64), 2004 (row percentages)

	discouraged	illness/disab.	fam. respons.	retirement	educ. or training	other
EU-25	**4.5**	**13.2**	**16.1**	**20.5**	**32.5**	**13.2**
EU-15	**4.6**	**12.0**	**16.9**	**20.4**	**31.0**	**15.1**
CZ	0.6	14.7	15.3	27.2	39.9	2.3
DK	(0.9)	29.5	6.5	20.3	38.3	4.5
DE	0.9	8.3	19.1	27.4	32.3	12.0
EE	7.2	14.7	15.1	17.4	43.0	(2.5)
EL	0.5	5.2	24.0	17.1	32.7	20.4
ES	1.6	10.4	19.3	7.6	31.7	29.4
IT	6.8	7.1	17.2	17.3	27.2	24.5
CY	(0.4)	11.5	42.1	6.5	38.5	1.1
LV	7.0	13.5	15.9	18.9	41.0	3.7
LT	3.4	16.7	9.1	15.4	52.1	3.4
LU	(0.0)	7.9	39.5	14.5	36.9	1.2
HU	5.3	13.4	11.4	29.4	32.3	8.3
MT	(0.4)	7.3	58.1	13.0	17.8	3.4
NL	3.5	27.5	16.2	21.8	21.0	10.0
AT	0.7	6.4	17.6	38.4	26.2	10.8
PL	4.8	21.9	12.4	16.4	38.0	6.5
PT	(0.0)	11.2	18.8	19.3	39.5	11.2
SI	(1.6)	7.6	5.0	41.5	41.7	2.7
SK	0.5	14.8	12.3	26.1	44.0	2.2
FI	4.3	28.0	12.1	15.1	27.4	13.1
SE	(0.3)	36.5	10.9	5.3	45.6	1.4
UK	0.4	28.4	27.3	15.8	19.5	8.6

Source: Eurostat, LFS, spring results.
Note: Data for BE, FR and IE not available. Percentages of valid answers. Data in brackets not fully reliable due to small sample size.

Table 67 – Reason for inactivity by country in thousands for the working age population (15-64), 2004

	discour.	illness/ disab.	fam. respons.	retirement	edu. or training	other	Total
EU-25	**3 920**	**11 592**	**14 099**	**17 942**	**28 465**	**16 195**	**92 213**
EU-15	**3 217**	**8 386**	**11 818**	**14 252**	**21 692**	**15 195**	**74 559**
CZ	13	319	331	589	865	60	2 177
DK	(6)	207	46	142	269	35	704
DE	139	1 258	2 907	4 161	4 907	18 48	15 221
EE	20	40	41	47	117	(7)	272
EL	13	123	567	405	771	506	2 384
ES	147	955	1 777	694	2 917	350	9 190
IT	971	1 001	2 437	2 459	3 854	3 545	14 269
CY	(0)	15	54	8	49	2	129
LV	34	66	78	92	200	18	489
LT	24	117	64	108	366	29	708
LU	0	8	42	15	39	2	107
HU	144	364	310	800	878	226	2 721
MT	0	8	65	15	20	5	113
NL	83	660	388	524	505	399	2 560
AT	12	103	285	622	424	175	1 622
PL	454	2 076	1 177	1 555	3 599	616	9 477
PT	(0)	211	352	363	741	255	1 921
SI	(7)	32	21	175	176	12	423
SK	6	169	141	299	504	26	1 145
FI	36	230	99	124	226	108	823
SE	(4)	446	133	65	556	102	1 305
UK	36	2 492	2 399	1 383	1 707	1 583	9 600

Source: Eurostat, LFS, spring results.
Note: Data for BE, IE and FR not available. Data in brackets not fully reliable due to small sample size.

Table 68 – Transitions by economic status and reasons for inactivity in the EU-25 between 2003 and 2004 (row percentages)

		Employed	Unempl.	Inactive						
				discour.	ill/dis-abled	fam. respons.	retired	edu. or training	other/no reason	Total Inactive
		2004								
2003	**Total**									
	Employed	94.1	2.9	0.1	0.4	0.6	0.8	0.3	0.8	3.0
	Unemployed	29.9	48.5	5.6	3.1	3.5	1.0	1.6	6.9	21.6
	Inactive	9.5	4.2	3.3	10.9	14.9	16.9	28.4	11.9	86.3
	15-24									
	Employed	89.1	6.1	0.2	0.3	1.0	0.0	2.0	1.2	4.8
	Unemployed	38.2	44.1	3.9	0.9	3.0	0.0	3.5	6.5	17.7
	Inactive	12.5	5.3	3.0	1.2	2.8	0.1	69.6	5.6	82.3
	25-54									
	Employed	95.3	2.7	0.1	0.3	0.6	0.1	0.2	0.7	2.0
	Unemployed	30.2	49.8	5.1	3.1	3.9	0.1	1.2	6.4	20.0
	Inactive	12.4	5.8	4.3	17.4	33.2	4.5	7.2	15.3	81.8
	55-64									
	Employed	89.9	1.8	0.2	1.0	0.2	5.6	0.0	1.3	8.3
	Unemployed	12.1	47.1	11.7	7.2	1.7	8.6	0.1	11.4	40.8
	Inactive	2.2	0.7	2.7	15.7	8.6	54.0	0.1	16.0	97.1

Source: Eurostat, LFS, spring results.

However, the picture changes if different age groups are examined. In particular, inactive people aged 55-64 are the least likely to move into employment (only 2.2% do so) and when they leave the labour market, it is mainly due to retirement (54%) or illness or disability (15.7%). Similarly, unemployed older workers are also less likely to find a job (12.1% against 38.2% and 30.2% for young and prime age unemployed people respectively), and are more than twice as likely as the other age groups to drop out of the labour force altogether, mainly ceasing to look for a job in the belief that they cannot find one (11.7%). Personal or family responsibility tends to be the main reason why prime age workers move out – or are out – of the labour force, while for younger people it is education or training. It is also worth noting that young workers aged 15-24 are more than twice as likely as prime age workers to lose their job and become unemployed.

8.2. Movements into and out of inactivity by Member States

The situation by Member State is shown in Table 69. Between 2003 and 2004, 30% of the unemployed in the EU-25 found a job, with percentages of over 40% in DK, PT and ES and over 50% in the UK, LU and CY. On the other hand, Member States where it was comparatively more difficult to find work include MT, PL, SE, DE, SI and BE, where only 19% of unemployed people found a job. Around 22% of the unemployed dropped out of the labour force and became inactive in the EU-25, but this figure exceeds 40% in HU, SI and BE, where almost one in two unemployed people leave the labour market.

Table 69 – Transitions by economic status and by country between 2003 and 2004 in the EU-25 (cell percentages)

2003	2004	EU-25	EU-15	BE	CZ	DK	DE	EE	EL
Employed	Employed	94	94	95	93	95	94	94	96
	Unemployed	3	3	2	3	3	3	3	2
	Inactive	3	3	3	4	3	2	4	2
Unemployed	Employed	30	32	19	37	40	22	33	27
	Unemployed	48	45	33	50	28	61	57	64
	Inactive	22	23	48	13	31	17	10	9
Inactive	Employed	10	10	7	11	27	11	7	3
	Unemployed	4	4	4	4	6	3	5	4
	Inactive	86	86	89	85	67	86	88	93
2003	**2004**	**ES**	**IT**	**CY**	**LV**	**LT**	**LU**	**HU**	**MT**
Employed	Employed	92	96	95	93	95	95	94	97
	Unemployed	4	2	2	4	3	2	2	1
	Inactive	4	3	3	4	2	3	4	2
Unemployed	Employed	45	29	54	33	31	51	34	23
	Unemployed	41	34	29	42	56	41	26	60
	Inactive	14	36	17	25	14	8	40	17
Inactive	Employed	8	6	12	10	7	5	6	3
	Unemployed	4	3	3	4	5	3	2	3
	Inactive	88	91	85	85	88	92	92	94
2003	**2004**	**AT**	**PL**	**PT**	**SI**	**SK**	**FI**	**SE**	**UK**
Employed	Employed	93	92	95	96	90	93	95	95
	Unemployed	3	4	3	2	6	3	3	2
	Inactive	5	4	2	2	4	4	3	3
Unemployed	Employed	35	22	41	21	25	27	22	50
	Unemployed	31	61	46	34	67	38	50	33
	Inactive	34	17	13	45	8	36	29	16
Inactive	Employed	18	6	7	10	7	23	13	16
	Unemployed	3	7	2	2	6	12	12	4
	Inactive	80	88	91	88	87	65	75	80

Source: Eurostat, LFS, spring results.

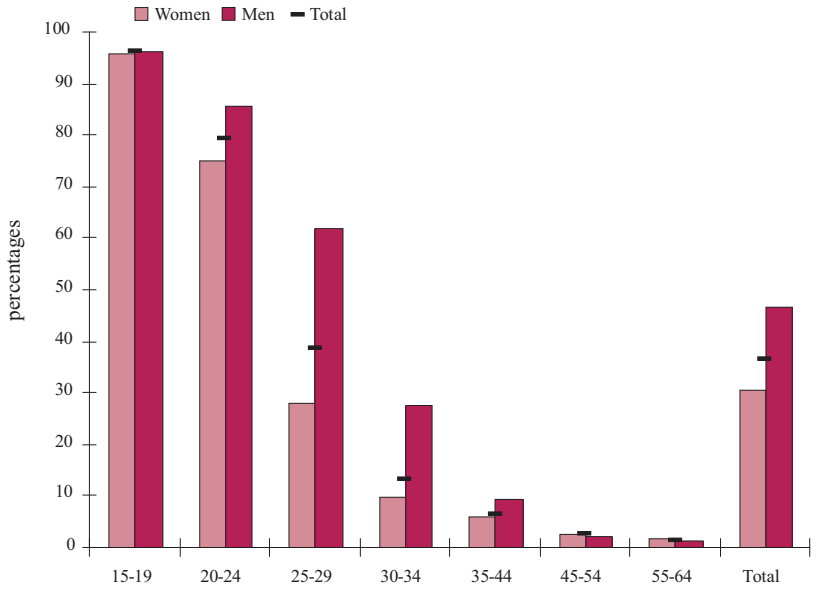
9. Inactivity and human capital

High labour market participation is an essential requirement to underpin economic growth and foster social inclusion. Individuals who are not working may see their skills become obsolete, thereby reducing their future employability and making it more difficult for them to reintegrate in the labour market. This, of course, is not necessarily true of all inactive individuals as some people may delay their entrance into or leave the labour market precisely to improve their skills and enhance their long-term employability (through education and training). Others, who end up without a job, may decide to undertake education or training, either to avoid skills obsolescence or to become more adaptable to labour market needs.

9.1. Participation in education and training

Chart 154 shows that around 37% of the inactive population of working age received training in the four weeks preceding the survey – with a relatively higher percentage for men than women (47% compared to 30% respectively). The vast majority of young people aged 15-19 (around 96%) have been in education or training, and this percentage declines markedly with age. However, more than a quarter of inactive men have participated in education and training up to their mid-30s, while for women it drops from 28% to 10% at the age of 30. After 35, less than 10% of inactive men and women have done any training at all, and this figure drops to 1.5% for older people.

Chart 154 – Inactive people participating in education or training in the EU-25, 2004



Source: Eurostat, LFS, spring results.

Table 70 – Inactive people undertaking education or training by level in the EU-25, 2002 (row percentages)

	General – secondary or lower	Vocational – lower secondary	Vocational – upper secondary	Tertiary	Other
15-19	71.6	2.1	17.3	8.4	0.7
20-24	8.6	0.6	8.3	80.8	1.8
25-29	4.9	1.3	3.9	84.1	5.8
30-34	8.7	6.5	10.0	62.6	12.3
35-44	9.9	9.9	16.7	42.3	21.1
45-54	13.8	13.3	14.3	26.7	31.9
55-64	10.8	11.0	6.4	11.8	60.0
Total	**48.7**	**2.0**	**13.9**	**33.0**	**2.4**

Source: Eurostat, LFS, spring results.
Note: 2002 data is the last one that includes both general and vocational education and training by level.

The education and training undertaken by inactive people of working age is mainly of the general type at secondary or lower level and at tertiary level, but this differs for each age group (Table 70). The former is relatively more prevalent for the youngest group, while tertiary education is by far the most important type for those in the 20-44 age group, but it remains the main type of education leading to a recognised qualification also for progressively older people up to 55, albeit at a declining rate. Vocational education is undertaken by roughly 16% of the inactive population and it is predominantly at upper secondary level, except for older workers.

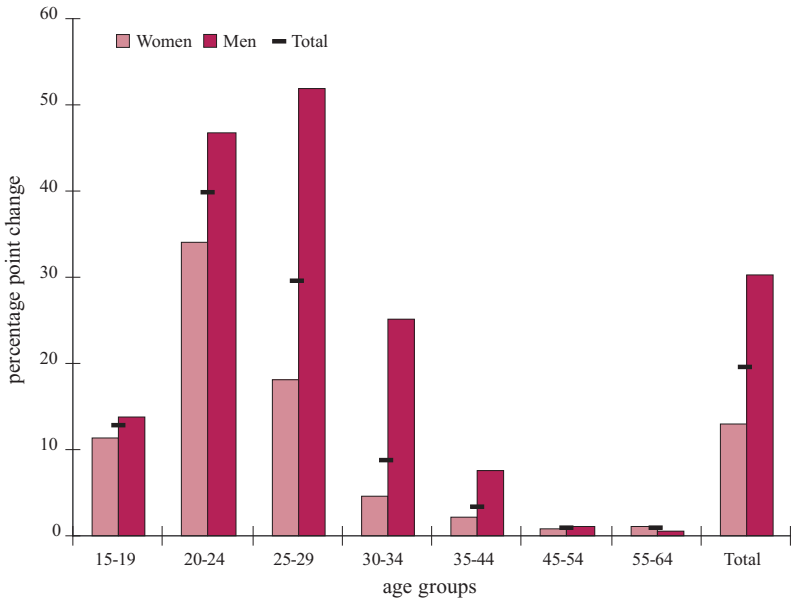
It is also interesting to note that training not leading to a formal qualification that can be allocated to one of the ISCED classification increases with age ranging from 0.7% for those aged 15-19 to 60% for those aged 55-64. This category includes language courses, computer courses, seminars and the like. Although it is not possible to say *a priori* whether these courses are of a lesser quality, the fact that they do not lead to a standard qualification may pose problems in terms of their recognition by potential employers[11].

9.2. Trends in participation in education and training among inactive people

Between 1995 and 2004, the percentage of inactive people participating in education or training in the four weeks prior to the survey increased by an average 20 percentage points for the whole EU-15 inactive population[12] (Chart 155). However, increases were particularly marked for the under 30s, for whom this proportion increased by 13, 40 and 29 percentage points respectively for the three age groups 15-19, 20-24 and 25-29. The increase in participation in education or training also occurred for older people, but at a decreasing rate, being less than 1 percentage point for those aged 45-64.

There are also significant gender differences in the changes in participation in education or training, with much bigger increases for men than for women. In particular, the increase was 30 percentage points for men but only 13 for women. The difference between increases in male and female participation in education or training was particularly large for the 25-29 and 30-34 age groups, where it reached 34 and 20 points respectively.

Chart 155 – Inactive people participating in education or training in the EU-15 between 1995 and 2004



Source: Eurostat, LFS, spring results.

10. Inactivity and proximity to the labour market

As mentioned earlier, the conventional definition of unemployment is rather restrictive. Between the situation where individuals fulfil all of the unemployed criteria and one where they fulfil none of them (except, of course, that they are not working) lies a 'grey' area that from a statistical point of view is still classified as inactivity. However, it is not always correct to classify all of those 'inactive' as also 'out of the labour force', in the sense that they have severed all links with the labour market, since they still have varying degrees of attachment to the labour market. For example, it could be the case that although individuals are not able to start working

11 For a discussion on the role of human capital in labour market transitions, see *Employment in Europe 2004*, chapter 4 ('Labour market transitions and advancement: temporary employment and low pay in Europe').

12 The figures presented in the following two paragraphs have to be interpreted with great caution due to the very high no-response rate in 1995, which amounted to approximately 40%.

Table 71 – Inactive people registered at a Public Employment Office, 2004 (cell percentages)

	Female	Male	15-24	25-54	55-64	Work experience	No work experience	Total
EU-25	8.3	8.3	5.0	15.0	4.6	10.7	5.3	8.3
EU-15	8.9	9.3	5.8	15.4	5.2	11.3	6.0	9.0
BE	17.2	26.7	4.0	29.8	30.4	34.1	4.2	21.0
CZ	2.8	3.3	1.1	7.9	1.5	4.5	1.0	3.0
DK	5.6	5.7	.	9.8	4.1	6.8	(2.6)	5.7
DE	2.8	5.6	1.7	7.2	2.8	5.9	0.9	3.9
EE	.	.	.	.	.	.	.	.
EL	1.8	1.2	0.9	2.7	0.9	2.8	1.0	1.6
ES	8.5	9.3	4.2	14.3	5.8	16.0	2.1	8.5
FR	7.7	7.6	2.6	13.5	8.6	12.7	1.6	7.6
IT	21.8	17.5	22.3	33.2	3.8	19.3	21.6	20.4
CY	2.2	.	.	4.9	(1.6)	5.0	.	2.3
LV	4.8	3.7	(1.3)	11.0	(2.7)	7.0	.	4.4
LT	(2.5)	.	.	(6.0)	.	(4.5)	.	(2.0)
LU	.	.	.	.	.	(0.9)	.	(0.6)
HU	3.9	5.2	2.0	9.7	1.0	6.8	1.4	4.4
MT	.	.	.	.	.	.	.	.
NL	11.2	16.4	6.9	22.7	6.6	13.2	12.1	13.0
AT	4.9	13.5	3.9	18.5	3.1	11.2	(1.2)	8.2
PL	8.4	5.0	3.7	15.5	2.2	9.6	3.7	7.0
PT	6.6	6.9	2.9	11.2	6.8	11.7	1.4	6.7
SI	8.9	12.4	(4.5)	28.2	(5.0)	14.9	(5.2)	10.4
SK	3.2	2.7	1.5	8.9	(1.0)	4.1	2.0	3.0
FI	12.1	14.6	5.1	20.8	13.1	16.1	3.3	13.2
SE	7.9	7.7	4.1	15.5	6.4	10.4	5.6	7.8
UK	0.6	2.1	0.8	1.8	0.7	1.3	0.7	12

Source: Eurostat, LFS, spring results.
Note: Percentages of valid answers; data for IE is not available; '.' figure not publishable due to small sample size; data in brackets not fully reliable due to small sample size.

within the two week rule of the survey definition, they nevertheless undertook some active steps to look for work, such as registering at a public employment office. Alternatively, although they did not actively look for work in the previous four weeks (to the survey), they could in principle be willing to work, should the opportunity arise. The analysis that follows tries to explore these varying degrees of attachment to the labour market, giv-

ing a rough estimate of the inactive labour force that could be most easily mobilised to increase overall employment. It also questions the assumption that the whole inactivity problem is linked to supply-side problems.

10.1. Registrations at public employment offices

Table 71 looks at the percentages of the inactive population that are registered at a public employment office (PEO). In 2004 more than 8% of the inactive population in the EU-25 was registered at a PEO. The percentages are similar for men and women, but it tends to be 3 times greater for prime age people (25-54) as opposed to younger and older workers. Interestingly, the percentage is twice as high for people with previous work experience as for those without, possibly indicating a higher labour market attachment for people who have previous work experience. However, in certain Member States and for certain categories of people (such as those on temporary lay-offs) this might be linked to the legal requirements for claiming benefits. This is particularly the case in BE and FI where 31.5% and 13.5% of inactive people with previous work experience are registered at a PEO and claim benefits (as opposed to 2.7% in each Member State who are registered but do not claim benefits). However, apart from institutional differences and whether the registration was at an individual's own initiative or because of a requirement, registering at a PEO can provide the opportunity to become acquainted with labour market openings and, if appropriate support is given, can help to motivate individuals who might otherwise not consider the work option.

Registration of inactive individuals at a PEO varies greatly between Member States, ranging from less than 1% in LU, the UK and EL to over 10% in SI, NL, FI, IT and up to 21% in BE. In the cases of BE and FI these very high percentages (21% and 31% respectively) mainly consist of inactive individuals with previous work experience who are claiming benefits, while in IT and the NL (20% and 13% respectively) it mainly involves inactive individuals not claiming benefits and with no work experience.

10.2. Estimating the labour force reserve

It is possible that individuals who are not working and have not sought employment in the four weeks preceding the survey might nevertheless be willing to work. Many people might consider themselves effectively trapped on the outside of the labour market because of barriers – real and perceived – even though they are willing and able to work. Overcoming these obstacles to participation requires addressing the barriers to employment, facilitating integration in the labour market and increasing the rewards of work as compared to inactivity. It also means combining activation policies with effective economic policies aimed at supporting a high and sustainable degree of job creation for those who are willing and able to work.

The percentage of this 'labour force reserve' in 2004 is estimated at just over 14% of the inactive population in the EU-25 (Table 10). Willingness to work does not appear to differ much between inactive men and women, but in terms of age it is highest for prime age inactive people at just over 23%, falling to around 6% for those in the 55-64 age group. Those inactive people with medium level qualifications are more willing to work than both the low and highly qualified ones, and this level is almost 5 percentages points higher for people who worked before.

The differences between Member States also need to be considered, with percentages of inactive people willing to work above 20% in LV (36%), IT (26%), AT (25%), EE (24%), the UK (21%) and SI (20%). By contrast, those inactive are less willing to work in LU, EL, PT, FR, CY, DE and ES, all with fewer than 10% in this category.

Among the different categories of inactive people, the percentage of those that are willing to work is highest for those currently not looking for work because they think that there is no work available, representing 43% of this category (Chart 156). Over 20% of those currently inactive because of personal or family responsibilities are willing to work, and this percentage is much higher for men at 32%, than for women at around 20%. It is also interesting to note that over 17% of those inactive due to illness or disability are actually willing to work, with little difference between men and women. Almost 12% of those in education or training are willing to work and this percentage doubles if we consider those aged 25-64 only. Finally, and perhaps not surprisingly, those already retired are the least willing to work, with a percentage of less than 3%.

The fact that the labour market status of many non-working people is at the boundary between unemployment and inactivity is also shown by a recent study from the Bank of Italy[13]. The authors show that many non-working

13 Brandolini A., P. Cipollone and E. Viviano, 2004, 'Does the ILO definition capture all unemployment?', in *Temi di discussione del servizio Studi della Banca d'Italia*, number 529, December 2004.

Table 72 – Inactive people willing to work in the EU-25, 2004 (cell percentages)

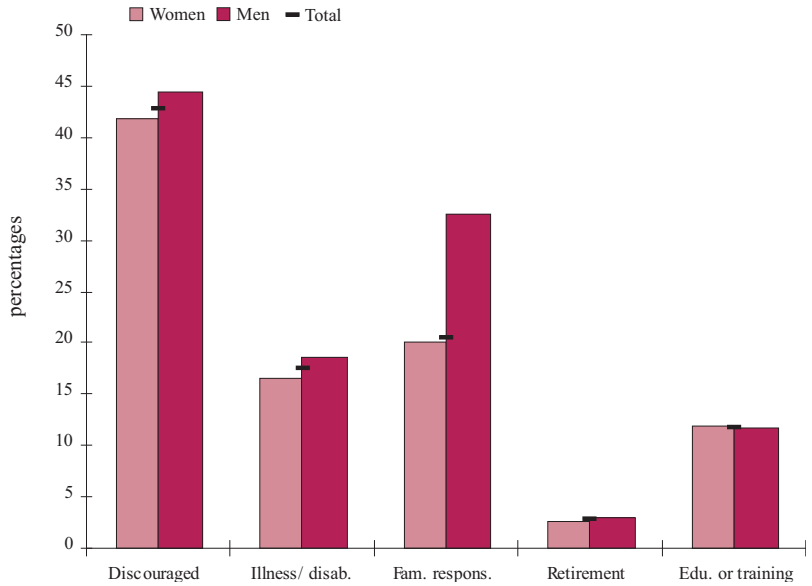
	Female	Male	15-24	25-54	55-64	Low qualified	Medium qualified	Highly qualified	no work exp.	work exp.	Total
EU-25	14.2	14.2	12.9	23.3	5.7	11.6	18.0	15.7	11.6	16.2	14.2
EU-15	13.8	13.6	12.8	22.6	5.0	11.7	17.2	15.0	11.3	15.6	13.8
CZ	12.0	12.9	10.9	20.3	8.3	9.8	14.3	12.9	10.9	13.5	12.4
DK	18.1	22.4	28.8	30.8	(2.0)	17.2	20.8	23.5	29.6	18.2	19.8
DE	9.6	8.3	7.9	17.1	3.6	7.5	10.6	11.6	7.1	10.5	9.1
EE	21.8	27.8	16.3	38.2	23.7	20.1	26.4	30.5	15.2	31.7	24.3
EL	3.3	2.8	2.8	5.4	0.8	2.1	4.5	4.8	2.6	4.5	3.2
ES	8.9	9.7	8.9	13.2	3.5	7.9	10.3	15.2	5.3	13.2	9.1
FR	5.3	4.8	2.9	12.4	1.4	3.9	6.3	7.5	2.5	7.4	5.1
IE	9.0	13.2	10.6	13.7	3.8	8.7	11.5	15.4	8.6	11.5	10.4
IT	27.2	24.0	32.4	39.1	6.0	21.6	35.5	36.9	27.2	25.2	26.2
CY	10.2	6.2	4.1	17.7	5.6	5.9	12.5	18.1	3.7	15.5	9.0
LV	39.7	30.8	31.1	56.3	24.4	26.9	43.6	51.7	29.3	42.0	36.2
LT	10.2	10.2	8.2	19.8	6.0	5.7	13.5	20.6	7.3	14.2	10.2
LU	(1.1)	(1.7)	.	(2.7)	.	.	(1.3)	.	.	(1.8)	(1.3)
HU	12.9	16.1	9.7	25.9	5.6	12.8	16.2	10.9	9.2	18.2	14.2
MT	11.9	(11.0)	19.5	13.7	.	10.9	(17.6)	.	9.0	13.3	11.7
NL	14.2	18.6	27.6	20.7	5.0	.	.	.	22.8	13.6	15.7
AT	23.6	28.5	24.4	44.5	12.5	21.0	28.6	30.6	21.1	27.4	25.5
PL	17.5	17.1	14.1	28.6	9.6	10.2	23.0	24.1	14.0	20.0	17.3
PT	5.5	4.3	2.8	10.1	2.3	5.3	3.0	.	1.6	8.3	5.1
SI	19.7	21.5	26.2	28.3	9.0	20.1	20.7	(22.1)	25.4	16.2	20.5
FI	14.9	17.3	24.6	19.1	7.5	16.9	16.4	11.5	22.5	15.4	16.0
UK	19.2	25.4	20.7	28.7	11.9	21.8	25.8	18.9	16.5	22.8	21.3

Source: Eurostat, LFS, spring results.
Note: Percentages of valid answers; data for SE not available; very high non response rate for BE and SK; '.' data not publishable due to very small sample size; data in brackets not fully reliable due to small sample.

people do seek and are available for work, in the same way as those unemployed do; but unlike them, their last search action was not recent enough to meet the ILO definition of unemployment and they are therefore classified as inactive. Using data from the European Community Household Panel, they show that in most EU Member States such job seekers constitute a distinct labour market status. Furthermore, using information from the Italian Labour Force Survey, they derive a measure of search intensity and they use this to identify those job seekers outside the labour force. On the basis of their transition probabilities, the most active of this group are indistinguishable from the unemployed (as conventionally defined).

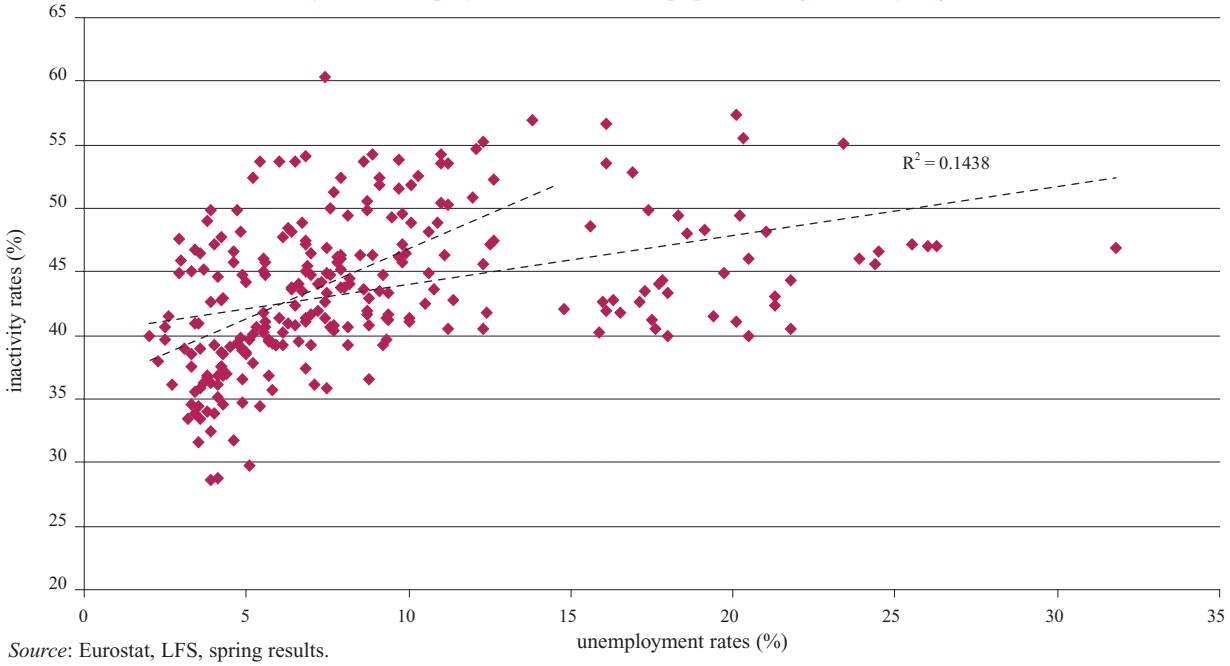
Similarly, a study by Schweitzer (2003)[14] shows that in the UK a group far larger than the ILO defined unemployed group is willing to work. Evaluating all working-age individuals based on their likelihood of finding a job in three months' time, the author finds that several categories of the inactive have tendencies to work that equal those of the unemployed. In all of this it is clear that labour market transition rates depend on both the reasons/activities of the non-employed and their other characteristics. The paper suggests three main conclusions. Firstly, a model of availability for work relying only on the unemployment rate is based on a false premise that other categories of the non-employed are considerably less relevant to labour supply. Secondly, models that combine information on the classification of the inactive with demographic information do best in explaining labour supply. Finally, models based on the unemployment rate tend to overstate the recent falls in amount of labour available for employment in the UK.

Chart 156 – Willingness to work by reason of inactivity and gender in the EU-25, 2004



Source: Eurostat, LFS, spring results.

Chart 157 – Inactivity and unemployment rates for the population aged 15+ by region in the EU-25, 2003



Source: Eurostat, LFS, spring results.

14 Schweitzer M., 2003, 'Ready, willing and able? Measuring labour availability in the UK', *Bank of England Working Paper* no. 186. See also Jones J., M. Joyce, J. Thomas, 2003, 'Non-employment and labour availability', in the *Bank of England Quarterly Bulletin*, Autumn 2003.

Therefore, potential labour supply extends far beyond conventional measures of the unemployed, and the inactive population constitutes a sizeable part of it. Furthermore, it is not necessarily the case that this potential labour supply faces only supply-side constraints, such as high reservation wages[15], low skills or individual characteristics. Indeed, the fact that inactivity is not merely a supply-side problem is also shown by the fact that inactivity tends to be correlated with unemployment[16].

Chart 157 examines inactivity and unemployment rates in the European regions at NUTS2 level. For unemployment rates roughly below 15%[17], regions with progressively higher unemployment rates tend to have proportionally more people out of the labour market[18]. However, above this unemployment threshold, the relationship becomes weaker and this is probably due to the fact that workers have different levels of labour market attachment according to their personal circumstances. So, for example, those that can rely on other sources of income, such as the salary of a partner, will tend to drop out of the labour market more readily as labour demand weakens. However, inactivity will eventually hit a critical threshold and even if unemployment affects a larger share of the population, including primary workers with lower labour market elasticity, the active labour force will stop shrinking any further regardless of the demand conditions.

11. Summary and conclusions

A core element of the new Integrated Guidelines for Growth and Jobs (2005-2008) is the focus on growth and employment, including taking the necessary action to attract more people into the labour market and create more jobs. The continued under-performance of the EU economy is due, in part, to the fact that the labour input remains comparatively low compared to other developed economies such as the US or Japan, despite the recent improvements in raising the employment rate to just over 63% in 2004. This relatively low employment rate indicates that Europe still has a substantial reservoir of unused labour, and that there remains considerable scope for raising activity and employment further, especially among women, youth and older workers. Breaking down barriers to labour market entry or re-entry, assisting effective job search, creating attractive working arrangements, ensuring that work pays and promoting lifelong learning are essential to achieving greater labour market participation.

The EU as a whole underutilises its labour force potential, and inactivity remains high in most Member States. In 2004 the inactive population of working age (15-64) in the EU-25, i.e. those that are neither working nor actively seeking and immediately available for work, amounted to some 92 million people, corresponding to an average inactivity rate (the residual of the activity rate) of 30.3%. The inactivity rate varied markedly between Member States, ranging from 19.9% in Denmark to around 40% in Hungary and Malta. For all Member States the inactivity rate is higher for women, and the disparity with men averages around 16 percentage points for the EU-25 as a whole. The inactive population aged 15-64 is approximately one third in the youth, one third in the prime age and one third in the older age groups.

There has been a gradual long-term decline in the share of the inactive in the working age population since the mid-1980s, although progress halted temporarily in the early 1990s before recovering again from 1995 onwards. The decline in the inactive population in the EU-25 over recent years has been driven by two main trends: the entry into the labour market of increasing numbers of women aged over 25 and of older people (aged 55-64) of both sexes. In contrast, men of prime working age have shown signs of a limited withdrawal from the labour market, while youth of both sexes have seen a more significant change, with inactivity rates rising by

15 The reservation wage is the minimum wage at which individuals are willing to work.

16 On this point, see also O'Leary N. et al., 2005, 'Accounting for differences in labour market outcomes in Great Britain: a regional analysis using the Labour Force Survey', *IZA Discussion Paper* no. 1501. The authors highlight two main problems in under-performing regions connected to inactivity. First, under-performing Northern UK regions appear to be structurally disadvantaged relative to more prosperous Southern regions. The most likely source of this disadvantage is the dramatic decline in employment that took place in these regions during the 1980s and 1990s, as large numbers of jobs in both heavy industries and manufacturing were lost in a relatively short space of time. As a result of these changes, individuals living in under-performing regions are much less likely to be in employment and much more likely to be *economically inactive* than otherwise identical individuals living in more successful regions. Second, and no less importantly, under-performing regions tend to have much higher incidences of reported ill health, which are in turn associated with both lower employment propensities and *higher inactivity propensities* in all regions.

17 Unemployment rates below 15% are characteristic of all European regions except those in Poland, Southern Italy, the Eastern Länder in Germany, part of Macedonia in Greece, Extremadura and Andalucia in Spain, the French overseas territories, most of Slovakia and the region of Bruxelles-Capitale.

18 The R-square between inactivity and unemployment rates is almost 0.27 for this group of regions.

around 1.5 percentage points in the period 2000 to 2004.

The long-term decline in inactivity rates since the 1980s is accompanied at any point in time by relatively large flows into and out of inactivity. Increasing labour force participation and the mobilisation of labour resources to deal with the demographic challenge means both a reduction in the flows into inactivity and an increase in the outflows. Indeed, while for the young the key challenge is to facilitate entry into the labour market, for older generations it is important to delay their exit from the labour market.

Between 2003 and 2004, around 9.5% of the inactive population moved into employment, while a further 4.2% entered the labour force either by becoming an active job seeker or by becoming immediately available for work - or both, i.e. they become "unemployed". At the same time, 3% of the employed and 21.6% of the unemployed left the labour force. While employed people tend to leave the labour market for several different reasons, the main reason why the unemployed leave is because they stop searching for a job since they believe there is none available.

It is important to remember that, from a definitional point of view, there is a 'grey' or indistinct area between 'unemployment' and 'inactivity'. This is because the conventional definition of the unemployed requires those without a job to have been actively looking for work in the four weeks prior to the survey and to be willing and available to work in the following two weeks. But if the respondent fails to meet any of these criteria, then they would be classified as inactive even if they have been actively looking for work and are willing to work, but are not immediately available to start work within two weeks. Alternatively, inactive people may be willing to work and available to start immediately, but are not looking for work, say, because they do not believe that there is any available. In 2004, more than 8% of the inactive population in the EU-25 was registered at a PEO and 14% of the inactive population (23% for those aged 25-54) were willing to work, according to the LFS.

The economically inactive population is a very diverse group and therefore effective targeting is crucial in order to encourage their labour market participation. Demographic characteristics, reasons for inactivity, work experience, skill levels and individual preferences for work are all key aspects that need to be taken into account. Therefore, a personalised approach is essential to promote labour market participation. Policies aimed at activating individuals who are currently out of the labour force should also take into account how long they have been out: over 40% of the inactive population of working age (15-64 year-olds) have never been in employment, a further 23% have been without a job for the previous 8 years and only around 15% of the inactive population were without a job for less than 2 years. This means that policies that prevent people from dropping out of the labour market can often be more effective than those trying to 're-activate' people, since the majority of inactive people do not have recent work experience, if any at all.

Furthermore, the level and composition of inactivity also varies markedly between countries according to institutional factors, such as the design of the benefit and retirement systems, schooling and education systems, the overall labour market performance and the like. Given the diversity of the inactive population, it is difficult to envisage a set of policies that can be equally effective in the whole EU. Nevertheless the chapter identified a few key issues that apply to varying degrees in the various Member States.

The first one is the **level and relevance of skills**: while the *incidence* of inactivity is higher among the low-skilled – at EU level the inactivity rate for the low-skilled population aged 15-64 is 47%, compared to 24.5% for the medium-skilled and 13.1 % for the high-skilled – the *composition* of the inactive population is often characterised by a larger share of medium-skilled individuals. This means that if inactivity is to be reduced substantially, it is also important to consider the problems of the higher-skilled. Not only is it necessary to have an adequate *level* of skills, but also the *relevant* ones to be able to respond to the changing requirements of the labour market: the problem of skill mismatch needs to be addressed and training offered in the context of active labour market policies (ALMPs) should take into consideration the local demand for skills. A considerable proportion of the inactive population – 37% of the working age population – undertakes education or training, but often it does not lead to any formal qualification and therefore has a more limited value in helping to find a job.

Apart from improving the *level* and *quality* of skills supplied by the workforce, policies should aim at raising the demand for skills and tackle problems such as low-skill equilibrium, for example supporting R&D: this might not only increase productivity and promote the development of a knowledge society, but also increase labour market participation.

A second key issue is **disability**, even if the incidence of disability as it emerges from labour market surveys is likely to be mediated by cultural traits. Further-

more, the classification of disabled people can also depend on institutional factors, such as the design of the benefit system, whereby a very generous level of disability benefits and/or a very stringent or deficient unemployment benefit system may artificially inflate the number of those that are classified as out of the labour force because of disability. However, definitional problems apart, the incidence of illness or disability in the inactive population varies between 18% for men and 11% for women, and 40% of people who are inactive due to illness or disability in the EU-25 are to be found in the UK and PL alone. From the chapter it also emerges that more than 15% of people that are inactive because of disability are in fact willing to work, only 16% of those who face work restrictions are provided with some assistance to work and almost 44% of the non-working people with long-standing health problems or disabilities and facing work restrictions consider that they would need some form of assistance to work. It is therefore clear that there is scope for increasing the labour market participation of disabled people by promoting equal opportunity policies and by offering assistance to work for those in need.

Family and personal responsibilities are a key factor in explaining labour force participation especially for *women*, whereby a quarter of inactive women are out of the labour force because of family or personal responsibilities. In this respect, it should be stressed that the definition of inactivity due to family responsibilities depends to a large extent on the exclusion of household production from the definition of employment[19] and policies addressed at increasing the employment rate of women or men with family responsibilities should take into consideration an appropriate life-work balance and individual choice. However, it is still the case that 20% of women and around 35% of men who are out of the labour force because of family responsibilities are willing to work and their entry into the labour force could be facilitated by the provision of adequate and affordable care facilities for children, the elderly and the disabled. The figures presented also illustrate that the importance of family responsibilities as a reason of inactivity has decreased in the past 10 years especially for women. This could be due to a number of reasons, including better public care facilities, higher incomes so that more people can afford private care facilities, lower fertility rate or changes in social or cultural norms that affect the way people answer the relevant survey questions.

Retirement is still an important reason for inactivity among older workers, and in the EU-25 almost 60% of inactive people aged 55-64 fall into this category. However, a sustained growth in longevity means that people have greater opportunities to fulfil their potential over a longer lifespan. Furthermore, for the economy as a whole, the increase in participation and employment rates of older workers is crucial for using the full potential of labour supply to sustain economic growth, tax revenues and social protection systems, including adequate pensions, in the face of expected reductions in the population of working age. Analysis presented in the 2003 Employment in Europe report highlights the key factors that should be taken into consideration to design effective active ageing strategies including: financial incentives to discourage early retirement and to make sure that work pays; access to training and lifelong learning strategies and effective active labour market policies; and good working conditions conducive to job retention, in particular in relation to health and safety, flexible working arrangements (including part-time and career breaks) and care services. Obviously, incentives for older workers to remain in the labour force must be reflected in real prospects for employment.

Education or training is the main reason for inactivity among younger people – around 85% of whom are inactive for this reason - and just over 20% of those aged 25-34 are also inactive because of education or training. Although there are potentially conflicting demands between greater labour market participation and efforts to raise human capital through a reduction in early school leaving and longer participation in education, it is clear that youth inactivity does not need to be a cause of policy concern, at least for the majority of younger people who are undertaking education or training. However, a number of individuals in education or training would prefer to work and appropriate support should be given in the transition between education and the labour market: policies such as those envisaged in the European Youth Pact (and described in chapter 1) should be implemented to improve social and vocational integration and fuller utilisation of the human potential embodied by European youth. For those over 25, participation in education and training as the main reason for inactivity is rather limited (amounting to less than 5%), increasing with the level of qualifications.

19 For an analysis of the extent to which marketisation of household production could explain the EU-US job gap, see for example Freeman R., 2003, *Can marketisation of household production explain the EU-US jobs gap puzzle?*, paper presented at the DEMPATEM Conference in Seville, 18 October 2003.

Finally, there is a relatively small but significant proportion – around 4.5% - of the inactive population that are out of the labour force simply because they believe that there is no work available. This percentage has increased substantially in the past 10 years and it is inversely correlated with the level of skills. For this group of inactive people, their withdrawal from the labour market is due to the functioning of the labour market, either because of imperfect information or lack of demand.

Apart from this group of 'discouraged' workers, recent research referred to in this chapter shows that several categories of the inactive have tendencies to work similar to those of the unemployed. It suggests that the potential labour supply extends well beyond the conventionally defined unemployed and the inactive population constitutes a sizeable part of it. Furthermore, it is not necessarily the case that this potential labour supply faces only supply-side constraints, such as high reservation wages, low skills or disadvantageous individual characteristics. Indeed, the fact that inactivity is not merely a supply-side problem is also shown by the fact that it tends to be correlated with unemployment. An effective response to the need for increased mobilisation of the workforce should therefore consist of a comprehensive set of policies that combine Active Labour Market Policies with other approaches aimed at supporting job creation and work opportunities.

Table 73 – Prevalence of long-standing health problem or disability (LSHPD), EU Member States, 2002

		BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LT	LU	HU	MT	NL	AT	PT	SI	SK	FI	SE	UK
Total		18.4	20.2	19.9	11.2	23.7	10.3	8.7	24.6	11.0	6.6	12.2	8.4	11.7	11.3	8.5	25.4	12.8	20.1	19.5	8.2	32.2	19.9	27.2
Females		17.9	21.1	21.1	10.3	24.2	10.6	8.0	24.8	10.5	6.3	11.1	8.5	9.6	11.3	7.3	26.4	11.6	21.6	19.1	8.2	33.6	21.7	27.8
Males		18.9	19.2	18.8	12.2	23.1	9.9	9.4	24.3	11.6	7.0	13.4	8.3	13.7	11.3	9.7	24.5	14.0	18.5	19.9	8.1	30.7	18.2	26.7
By marital status and gender																								
Females	Single	12.6	11.4	15.2	6.8	15.8	5.4	5.6	19.9	7.6	4.4	4.9	6.8	6.1	3.5	7.2	21.4	7.3	12.7	9.8	4.5	23.9	16.5	20.7
	Married	18.8	22.0	22.3	10.2	26.5	11.5	8.5	25.1	11.2	6.5	11.6	7.3	9.2	12.6	7.1	25.8	12.0	23.8	23.7	8.8	37.0	24.3	28.7
	Widowed	30.1	42.6	36.4	22.0	46.7	25.9	19.2	45.4	24.0	14.7	36.7	18.8	29.3	24.4	19.0	47.1	26.8	46.8	37.3	10.3	60.5	28.3	48.4
	Divorced	31.8	27.5	32.6	17.2	28.2	15.6	11.9	38.6	20.8	10.3	20.7	12.0	15.8	15.7	4.3	43.9	17.4	23.4	29.6	19.8	43.8	32.4	37.1
Males	Single	15.2	13.7	15.6	8.4	16.3	5.5	7.9	18.7	9.8	5.3	9.1	7.2	7.5	6.0	6.5	17.9	9.9	14.1	13.5	5.7	22.9	14.9	21.1
	Married	20.1	20.7	19.4	13.7	26.6	12.3	10.1	27.7	12.4	7.9	14.9	7.5	16.0	13.1	11.2	27.8	16.2	20.3	24.9	9.2	35.3	21.1	29.0
	Widowed	35.5	36.8	38.5	24.9	46.0	24.5	18.6	43.2	22.1	16.5	24.4	24.3	26.4	30.0	17.6	40.5	22.5	36.1	44.4	12.5	53.8	34.5	44.7
	Divorced	33.9	31.1	31.4	19.2	31.3	15.8	16.4	32.9	23.7	9.2	21.9	18.4	21.0	20.4	16.6	37.2	18.9	33.2	30.6	22.3	42.3	24.1	35.3
Total	Single	14.1	12.7	15.4	7.7	16.1	5.5	6.9	19.3	8.8	4.9	7.1	7.0	6.9	4.9	6.8	19.4	8.8	13.5	11.8	5.2	23.4	15.6	20.9
	Married	19.4	21.3	20.8	11.9	26.6	11.9	9.3	26.4	11.8	7.2	13.2	7.4	12.6	12.8	9.1	26.8	14.0	22.1	24.3	9.0	36.2	22.7	28.9
	Widowed	31.5	41.6	37.0	22.6	46.5	25.7	19.1	44.9	23.5	15.0	34.5	19.6	28.7	25.4	18.5	45.4	25.9	44.9	38.6	11.2	59.1	30.0	47.5
	Divorced	32.6	28.9	32.1	18.1	29.3	15.7	13.5	36.2	21.9	9.8	21.0	14.2	18.3	17.5	10.1	41.0	18.0	26.1	30.0	20.2	43.2	28.7	36.3
By age and gender																								
Females	16-24	5.4	7.2	10.8	3.2	9.1	2.5	2.4	12.7	4.6	1.9	2.1	1.9	2.5	1.2	1.7	15.6	4.3	7.5	4.4	1.4	17.3	11.3	16.0
	25-29	9.4	9.3	15.8	4.2	11.1	2.9	3.9	16.3	5.4	2.3	2.4	2.6	6.6	2.0	4.5	18.5	6.2	9.4	4.7	2.5	20.6	15.8	18.1
	30-34	11.8	11.4	11.5	5.2	15.8	4.2	4.4	18.3	7.9	3.1	3.9	2.1	4.2	3.4	5.4	20.0	6.7	12.0	9.5	4.5	22.8	18.9	19.2
	35-39	17.4	12.9	17.9	6.8	21.2	5.8	5.8	21.7	8.9	3.9	7.4	6.5	5.6	3.9	4.1	20.9	7.1	15.9	11.6	5.5	27.8	21.9	21.0
	40-44	18.2	19.2	23.0	8.2	13.5	8.1	6.9	24.5	9.5	5.1	11.9	6.2	9.4	10.0	6.8	28.2	9.8	20.4	20.7	8.9	30.9	25.1	25.6

Table 73 (cont.) – Prevalence of long-standing health problem or disability (LSHPD), EU Member States, 2002

		BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LT	LU	HU	MT	NL	AT	PT	SI	SK	FI	SE	UK
	45-49	23.1	25.3	25.1	10.9	26.0	10.4	8.6	28.4	13.1	6.8	13.1	11.6	12.8	17.4	7.5	28.7	13.6	24.8	24.6	11.2	34.5	24.9	29.7
	50-54	27.5	35.1	27.5	15.4	37.6	15.5	12.9	36.1	15.9	9.8	16.0	14.4	15.2	26.3	9.1	36.1	18.0	33.6	37.0	19.9	44.5	28.8	39.2
	55-59	31.6	40.0	31.7	20.9	46.7	22.1	17.2	39.9	22.0	12.8	28.4	24.6	18.3	28.6	14.5	42.5	24.7	44.9	39.6	18.5	52.5	31.2	46.4
	60-64	30.2	47.7	36.6	21.0	52.9	31.2	22.9	43.8	26.2	16.1	35.1	17.7	25.0	17.9	22.8	40.3	24.1	50.3	42.0	16.4	66.2	30.6	51.8
Males	16-24	7.0	9.4	12.3	3.8	9.8	2.7	3.4	11.1	5.3	2.4	4.4	2.2	4.1	1.5	3.7	11.8	6.2	8.5	7.0	2.1	14.3	9.7	15.6
	25-29	10.9	10.1	10.1	5.0	11.9	3.2	4.3	16.3	7.0	3.3	6.4	6.9	5.2	2.6	4.3	15.4	7.3	10.8	8.7	2.5	18.6	11.6	16.7
	30-34	15.0	10.0	11.9	6.3	15.5	4.1	5.8	19.1	7.6	3.3	5.3	4.4	9.1	3.7	4.8	14.9	10.0	12.0	10.5	3.6	21.7	14.5	19.0
	35-39	16.1	12.6	12.8	7.9	17.8	5.7	6.6	19.9	8.4	5.1	7.3	5.0	8.3	5.7	6.7	21.8	9.9	14.3	12.6	7.6	21.8	18.8	20.8
	40-44	20.2	15.7	17.3	9.9	23.8	7.5	8.4	26.8	10.7	5.8	13.5	7.2	12.1	10.3	7.5	26.0	11.3	16.5	16.6	7.3	25.9	19.7	24.1
	45-49	23.0	20.4	22.8	12.5	25.1	9.3	10.6	27.9	13.6	7.5	18.9	10.1	15.6	15.3	10.6	27.4	15.3	19.6	27.7	11.0	33.0	19.6	28.8
	50-54	26.1	30.3	24.6	17.0	35.8	14.6	15.0	34.8	17.6	11.0	19.0	11.5	24.1	24.5	16.2	34.3	23.3	27.0	35.5	15.8	41.1	23.5	36.0
	55-59	32.7	39.2	30.2	24.8	44.3	20.3	20.4	42.3	23.8	13.7	28.6	24.2	31.6	31.4	26.6	40.7	28.4	37.5	42.4	24.8	52.2	28.6	45.6
	60-64	34.1	44.5	33.2	27.7	52.3	29.0	27.1	40.7	32.7	17.0	33.6	20.1	30.9	24.5	17.3	45.1	26.5	43.7	40.8	18.3	65.7	29.1	54.4
Total	16-24	6.2	8.3	11.6	3.5	9.4	2.6	2.9	11.9	5.0	2.1	3.2	2.1	3.3	1.3	2.7	13.7	5.2	8.0	5.8	1.7	15.8	10.4	15.8
	25-29	10.2	9.7	13.0	4.6	11.5	3.1	4.1	16.3	6.2	2.8	4.3	4.8	5.9	2.3	4.4	17.0	6.8	10.1	6.7	2.5	19.6	13.7	17.4
	30-34	13.4	10.7	11.7	5.8	15.6	4.1	5.1	18.7	7.7	3.2	4.6	3.2	6.7	3.5	5.1	17.4	8.3	12.0	10.0	4.0	22.2	16.7	19.1
	35-39	16.7	12.8	15.2	7.3	19.6	5.8	6.2	20.8	8.7	4.5	7.3	5.8	7.0	4.8	5.3	21.3	8.5	15.1	12.1	6.5	24.7	20.3	20.9
	40-44	19.2	17.4	20.3	9.1	18.4	7.8	7.7	25.7	10.1	5.4	12.7	6.7	10.8	10.1	7.1	27.1	10.5	18.5	18.7	8.1	28.4	22.3	24.9
	45-49	23.0	22.8	23.9	11.7	25.6	9.9	9.6	28.2	13.4	7.1	16.0	10.9	14.2	16.4	9.1	28.0	14.5	22.2	26.3	11.1	33.7	22.2	29.3
	50-54	26.8	32.8	26.0	16.2	36.8	15.0	13.9	35.5	16.8	10.4	17.5	13.0	19.8	25.5	12.6	35.2	20.7	30.4	36.2	17.9	42.8	26.1	37.6
	55-59	32.1	39.6	31.0	22.9	45.7	21.2	18.8	41.1	22.9	13.2	28.5	24.4	25.3	29.9	20.3	41.6	26.5	41.4	41.0	21.4	52.3	29.9	46.0
	60-64	32.1	46.2	34.8	24.3	52.7	30.1	24.9	42.3	29.4	16.5	34.4	18.7	27.9	20.7	20.2	42.7	25.3	47.2	41.5	17.2	65.9	29.8	53.1

Table 73 (cont.) – Prevalence of long-standing health problem or disability (LSHPD), EU Member States, 2002

		BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LT	LU	HU	MT	NL	AT	PT	SI	SK	FI	SE	UK
By education and gender																								
Females	ISCED 0-2	26.4	31.3	29.8	12.1	30.6	16.4	11.3	31.5	16.3	8.7	20.6	13.6	13.5	19.2	8.3	32.5	14.3	25.7	29.3	14.8	41.4	22.4	39.8
	ISCED 3	14.3	19.0	19.0	10.6	22.6	5.9	4.1	22.3	7.2	3.4	6.7	7.1	7.6	8.4	2.1	22.8	11.2	9.3	16.7	6.8	33.0	24.1	23.4
	ISCED 4-6	10.1	14.2	15.3	8.0	23.2	5.1	3.1	17.6	7.1	2.7	4.5	7.2	4.2	4.6	4.1	22.1	8.7	9.0	9.8	2.7	28.0	18.2	20.3
Males	ISCED 0-2	27.2	24.0	23.8	12.5	25.6	14.4	13.2	30.2	17.7	9.3	21.9	13.2	19.3	18.9	11.3	31.4	17.2	20.9	27.6	12.9	37.0	19.9	42.1
	ISCED 3	15.2	19.1	17.8	14.0	22.1	6.4	4.9	23.1	6.9	4.2	10.7	6.8	12.3	9.1	2.8	23.2	13.8	8.4	18.4	7.6	29.0	20.1	25.2
	ISCED 4-6	10.8	14.4	15.2	9.4	23.1	5.7	3.6	16.5	7.4	3.5	7.2	6.8	7.6	6.5	5.0	18.2	11.9	9.0	13.4	3.5	26.3	13.7	19.4
All	ISCED 0-2	26.8	28.5	26.9	12.2	27.9	15.4	12.3	30.9	17.0	9.0	21.2	13.4	16.2	19.1	9.8	32.0	15.4	23.3	28.5	14.0	39.0	21.4	40.9
	ISCED 3	14.8	19.1	18.4	12.3	22.4	6.2	4.5	22.7	7.1	3.8	8.7	6.9	10.0	8.8	2.4	23.0	12.6	8.9	17.6	7.2	30.9	21.7	24.4
	ISCED 4-6	10.4	14.3	15.3	8.8	23.1	5.4	3.4	17.1	7.3	3.1	5.8	7.0	6.3	5.5	4.6	20.0	10.4	9.0	11.4	3.1	27.2	16.1	19.9
By activity and gender																								
Females	Employed	11.5	15.0	13.7	6.9	19.0	7.0	3.9	21.1	6.2	4.0	6.7	2.8	6.9	2.5	3.3	19.2	8.3	17.0	14.0	2.8	29.2	21.8	20.6
	Unemployed	23.3	26.5	18.1	14.0	22.1	5.6	4.9	27.5	9.2	3.8	13.7	6.1	7.8	5.6	5.1	34.2	15.9	22.1	18.9	5.0	28.2	21.7	26.9
	Inactive	25.3	30.1	44.6	15.4	33.3	14.6	12.5	30.3	16.4	8.5	18.1	19.2	12.8	21.4	9.6	40.1	17.0	29.9	28.0	17.2	48.4	21.5	43.6
Males	Employed	13.8	14.0	13.6	7.6	17.5	6.2	4.3	21.5	7.0	4.6	9.6	2.9	10.0	2.0	5.8	20.2	10.3	14.8	14.4	2.6	25.1	17.5	20.2
	Unemployed	21.6	29.7	21.5	17.2	27.1	8.0	7.6	25.8	10.7	6.2	27.1	6.2	11.2	3.4	9.7	30.6	17.9	20.3	30.7	5.5	24.2	19.9	28.7
	Inactive	32.4	36.4	45.7	27.1	37.5	22.5	28.7	33.1	30.1	13.9	29.6	24.3	27.7	31.9	26.7	48.6	28.0	33.3	32.8	25.7	55.5	20.4	58.1
All	Employed	12.8	14.5	13.6	7.3	18.3	6.5	4.2	21.3	6.7	4.4	8.3	2.9	8.7	2.3	5.0	19.8	9.4	15.8	14.2	2.7	27.1	19.5	20.4
	Unemployed	22.4	28.0	19.9	15.8	24.9	6.5	6.0	26.6	10.1	4.9	19.6	6.2	9.3	4.3	8.0	32.4	17.1	21.2	25.0	5.2	26.0	20.7	28.0
	Inactive	28.0	32.3	45.0	19.7	34.9	17.0	17.4	31.3	20.7	10.2	21.5	21.2	17.7	25.5	13.5	42.8	20.9	31.1	30.1	20.4	51.6	21.0	48.7

Source: Dupré D. and A. Karjalainen (2003) 'Employment of disabled people in Europe in 2002' in Statistics in Focus, theme 3 – 26/2003, Eurostat.

Table 74 – Inactivity and unemployment rates for the population aged 15+ by region at NUTS2 level, 2003

	Unemployment	Inactivity		Unemployment	Inactivity
European Union	**9.1**	**43.5**	Brandenburg	18.0	39.9
BE			Bremen	11.1	46.3
Bruxelles-Capitale	15.6	48.6	Hamburg	9.4	41.2
Prov. Antwerpen	6.4	48.2	Darmstadt	6.8	41.1
Prov. Limburg (B)	6.8	47.5	Gießen	7.4	42.7
Prov. Oost-Vlaanderen	5.5	46.1	Kassel	7.8	45.7
Prov. Vlaams Brabant	5.6	44.7	Mecklenburg-Vorpommern	20.1	41.1
Prov. West-Vlaanderen	4.2	47.7	Braunschweig	9.8	45.8
Prov. Brabant Wallon	7.9	46.3	Hannover	7.9	45.2
Prov. Hainaut	12.6	52.2	Lüneburg	7.9	43.8
Prov. Liège	11.2	50.3	Weser-Ems	8.2	44.0
Prov. Luxembourg (B)	6.7	48.8	Düsseldorf	8.9	46.3
Prov. Namur	9.5	49.3	Köln	7.9	46.1
CZ			Münster	8.5	46.3
Praha	4.2	37.6	Detmold	8.0	43.8
Střední Cechy	5.2	40.1	Arnsberg	9.9	46.5
Jihozápad	5.3	40.6	Koblenz	6.6	44.1
Severozápad	11.2	40.5	Trier	5.0	44.2
Severovýchod	6.5	40.8	Rheinhessen-Pfalz	6.4	43.6
Jihovýchod	7.2	42.0	Saarland	8.1	49.5
Střední Morava	8.7	41.7	Chemnitz	17.3	43.5
Moravskoslezko	14.8	42.1	Dresden	16.5	41.8
DK			Leipzig	19.4	41.5
Denmark	5.4	34.5	Dessau	21.3	42.3
DE			Halle	21.3	43.1
Stuttgart	5.7	39.7	Magdeburg	17.6	40.5
Karlsruhe	6.0	41.4	Schleswig-Holstein	8.7	41.9
Freiburg	5.1	39.7	Thüringen	16.1	41.9
Tübingen	5.5	40.3	**EE**		
Oberbayern	5.0	38.7	Estonia	10.0	41.3
Niederbayern	6.1	39.3	**EL**		
Oberpfalz	6.6	39.5	Anatoliki Makedonia. Thraki	10.3	52.6
Oberfranken	8.8	40.8	Kentriki Makedonia	10.1	51.8
Mittelfranken	7.4	41.3	Dytiki Makedonia	16.1	53.5
Unterfranken	6.3	41.0	Thessalia	9.7	51.6
Schwaben	5.8	39.4	Ipeiros	11.0	54.2
Berlin	17.5	41.2	Ionia Nisia	11.0	53.6

Table 74 (cont.) – Inactivity and unemployment rates for the population aged 15+ by region at NUTS2 level, 2003

	Unemployment	Inactivity		Unemployment	Inactivity
Dytiki Ellada	8.9	54.3	Alsace	7.0	41.6
Sterea Ellada	8.6	53.7	Franche-Comté	7.7	40.8
Peloponnisos	7.7	51.3	Pays de la Loire	8.1	40.7
Attiki	8.7	49.8	Bretagne	6.9	45.5
Voreio Aigaio	7.4	60.3	Poitou-Charentes	7.6	44.7
Notio Aigaio	10.9	48.8	Aquitaine	9.8	47.1
Kriti	6.8	47.1	Midi-Pyrénées	8.6	43.6
ES			Limousin	7.0	46.5
Galicia	12.6	47.5	Rhône-Alpes	7.5	43.3
Principado de Asturias	11.2	53.6	Auvergne	7.5	46.9
Cantabria	10.6	48.2	Languedoc-Roussillon	12.0	50.9
Pais Vasco	9.2	44.7	Provence-Alpes-Côte d'Azur	10.1	48.8
Comunidad Foral de Navarra	5.5	45.1	Corse	12.1	54.6
La Rioja	6.1	47.7	Guadeloupe (FR)	26.3	47.0
Aragón	6.3	48.5	Martinique (FR)	21.0	48.2
Comunidad de Madrid	7.2	44.1	Guyane (FR)	24.4	45.6
Castilla y León	11.0	50.4	Reunion (FR)	31.8	46.9
Castilla-la Mancha	9.8	49.6	**IE**		
Extremadura	17.4	49.9	Border, Midlands and Western	5.5	41.8
Cataluña	9.3	41.3	Southern and Eastern	4.5	39.1
Comunidad Valenciana	10.8	43.7	**IT**		
Illes Balears	9.3	39.6	Piemonte	4.8	48.2
Andalucia	18.6	48.0	Valle d'Aosta	4.1	44.6
Región de Murcia	10.6	44.9	Liguria	6.0	53.7
Ciudad Autónoma de Ceuta	9.1	51.9	Lombardia	3.6	46.4
Ciudad Autónoma de Melilla	9.1	52.4	Prov. Autonoma Bolzano-Bozen	2.0	40.0
Canarias	11.4	42.8	Provincia Autonoma Trento	2.9	47.6
FR			Veneto	3.4	46.8
Île de France	9.2	39.3	Friuli-Venezia Giulia	3.9	49.8
Champagne-Ardenne	8.8	42.9	Emilia-Romagna	3.0	45.9
Picardie	10.0	41.1	Toscana	4.7	49.8
Haute-Normandie	9.4	43.3	Umbria	5.2	52.4
Centre	6.4	43.8	Marche	3.8	49.0
Basse-Normandie	7.8	46.2	Lazio	8.7	50.5
Bourgogne	7.0	44.7	Abruzzo	5.4	53.7
Nord-Pas-de-Calais	12.5	47.2	Molise	12.3	55.3
Lorraine	9.7	46.2	Campania	20.3	55.5

Table 74 (cont.) – Inactivity and unemployment rates for the population aged 15+ by region at NUTS2 level, 2003

	Unemployment	Inactivity
Puglia	13.8	57.0
Basilicata	16.1	56.7
Calabria	23.4	55.1
Sicilia	20.1	57.4
Sardegna	16.9	52.9
CY		
Cyprus	4.1	36.8
LV		
Latvia	10.5	42.5
LT		
Lithuania	12.4	41.8
LU		
Luxembourg (Grand-Duché)	3.7	45.2
HU		
Közép-Magyarország	4.0	47.2
Közép-Dunántúl	4.6	45.7
Nyugat-Dunántúl	4.6	46.6
Dél-Dunántúl	7.9	52.4
Észak-Magyarország	9.7	53.8
Észak-Alföld	6.8	54.1
Dél-Alföld	6.5	53.7
MT		
Malta	7.6	50.0
NL		
Groningen	4.9	38.8
Friesland	4.2	37.5
Drenthe	3.8	36.9
Overijssel	3.6	35.9
Gelderland	3.3	34.6
Flevoland	4.1	28.8
Utrecht	3.5	31.6
Noord-Holland	3.8	34.0
Zuid-Holland	3.9	36.3
Zeeland	2.5	40.7
Noord-Brabant	3.5	34.5
Limburg (NL)	4.2	38.7
AT		
Burgenland	4.3	42.9
Niederösterreich	3.5	41.0
Wien	7.7	40.4
Kärnten	3.3	45.1
Steiermark	3.9	42.6
Oberösterreich	3.3	38.6
Salzburg	2.3	38.0
Tirol	2.5	39.6
Vorarlberg	4.0	39.3
PL		
Lódzkie	19.7	44.9
Mazowieckie	16.3	42.8
Malopolskie	18.0	43.4
Slaskie	20.2	49.4
Lubelskie	16.0	42.7
Podkarpackie	17.7	44.0
Swietokrzyskie	19.1	48.3
Podlaskie	17.8	44.4
Wielkopolskie	17.1	42.7
Zachodniopomorskie	25.5	47.1
Lubuskie	24.5	46.6
Dolnoslaskie	26.0	47.0
Opolskie	18.3	49.4
Kujawsko-Pomorskie	21.8	44.4
Warminsko-Mazurskie	23.9	46.1
Pomorskie	20.5	46.1
PT		
Norte	6.8	37.4
Centro	3.6	33.5
Lisboa	8.1	39.2
Alentejo	8.2	44.5
Algarve	6.1	40.3
Região Autónoma dos Açores	2.9	44.9
Região Autónoma da Madeira	3.4	41.0
SI		
Slovenia	6.7	43.5

Table 74 (cont.) – Inactivity and unemployment rates for the population aged 15+ by region at NUTS2 level, 2003

	Unemployment	Inactivity
SK		
Bratislavský	7.1	36.2
Západné Slovensko	15.9	40.3
Stredné Slovensko	20.5	39.9
Východné Slovensko	21.8	40.5
FI		
Itä-Suomi	12.3	45.6
Etelä-Suomi	7.5	35.8
Länsi-Suomi	9.4	41.6
Pohjois-Suomi	12.3	40.5
Åland	2.6	41.5
SE		
Stockholm	5.1	29.7
Östra Mellansverige	5.9	39.2
Sydsverige	6.8	41.3
Norra Mellansverige	7.3	44.2
Mellersta Norrland	5.6	45.8
Övre Norrland	6.8	45.0
Småland med öarna	4.4	37.0
Västsverige	4.9	34.7
UK		
Tees Valley and Durham	7.5	44.9
Northumberland, Tyne and Wear	5.6	41.1
Cumbria	4.9	38.9
Cheshire	3.3	37.6
Greater Manchester	5.0	38.6
Lancashire	4.3	36.9
Merseyside	6.5	42.4
East Riding, North Lincolnshire	5.9	39.3
North Yorkshire	2.7	36.2
South Yorkshire	5.7	39.5
West Yorkshire	5.2	37.9
Derbyshire and Nottinghamshire	4.7	39.4
Leicestershire, Rutland, Northants	4.0	33.8
Lincolnshire	4.3	38.6
Herefordshire, Worcestershire, Warks	3.8	36.7
Shropshire and Staffordshire	4.1	35.2
West Midlands	7.6	40.7
East Anglia	3.7	36.3
Bedfordshire, Hertfordshire	3.9	32.4
Essex	4.1	36.1
Inner London	8.8	36.5
Outer London	5.8	35.7
Berkshire. Bucks and Oxfordshire	3.9	28.6
Surrey, East and West Sussex	3.4	35.6
Hampshire and Isle of Wight	3.4	33.8
Kent	4.8	39.8
Gloucestershire, Wiltshire, North Somerset	3.2	33.5
Dorset and Somerset	3.1	39.0
Cornwall and Isles of Scilly	4.2	42.8
Devon	3.6	38.9
West Wales and The Valleys	4.9	44.7
East Wales	4.3	34.6
North Eastern Scotland	4.6	31.8
Eastern Scotland	4.9	36.6
South Western Scotland	7.0	39.3
Highlands and Islands	5.7	36.8
Northern Ireland	5.6	40.7

Source: Eurostat, LFS spring results.