



OECD Employment Outlook



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OECD EMPLOYMENT OUTLOOK

JULY 2002



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD Employment Outlook

provides an annual assessment of labour market developments and prospects in Member countries. Each issue contains an overall analysis of the latest market trends and short-term forecasts, and examines key labour market developments. Reference statistics are included.

*The **OECD Employment Outlook** is the joint work of members of the Directorate for Education, Employment, Labour and Social Affairs, and is published on the responsibility of the Secretary-General. The assessments of countries' labour market prospects do not necessarily correspond to those of the national authorities concerned.*

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Table of contents

Editorial: Surveying the jobs horizon.....	7
Chapter 1. Recent labour market developments and prospects	13
Introduction	15
1. Recent developments and prospects.....	16
A. Economic outlook to the year 2003	16
B. Employment and unemployment.....	16
C. Compensation and labour costs	18
2. A better start for youths?.....	20
A. Introduction	20
B. Trends in the youth labour market	20
C. Public spending on youth labour market measures	29
D. Developments in youth labour market policies	31
Conclusions	43
Annex 1.A. Recent initiatives in youth labour market programmes	49
Annex 1.B. Trends in youth and prime-age employment and unemployment.....	53
Bibliography	58
Chapter 2. Women at work: who are they and how are they faring?	61
Introduction	63
Main findings	64
1. The gender gap in employment.....	66
A. A headcount measure.....	66
B. Accounting for hours worked.....	68
2. Women at work: who are they?	70
A. Age and cohort effects.....	70
B. Employment rates by gender and educational attainment	71
C. Employment rates by gender and presence of children.....	76
D. The combined effect of education and presence of children on female employment	79
E. A dynamic view: the accumulation of employment experience	81
3. Women at work: what do they do?	85
A. The occupational and sectoral segmentation of employment by gender	86
B. The vertical segregation of employment.....	94
4. Women at work: how much do they earn?.....	96
A. The unadjusted gender pay gap.....	96
B. A decomposition of the wage gap.....	101
C. The family wage gap	106
Conclusions	108
Annex 2.A. Definitions and data sources	114
Annex 2.B. Sources, definitions and methods of the decomposition of the gender and family wage gap	117
Bibliography	123
Chapter 3. Taking the measure of temporary employment	127
Introduction	129
Main findings	130
1. Trends and main features	131
A. Trends in the level of temporary employment.....	132
B. Characteristics of temporary workers and temporary jobs	137

2. Pay, access to fringe benefits and job satisfaction of temporary workers	141
A. Pay levels of temporary workers	141
B. Fringe benefits of temporary workers	144
C. Job satisfaction and working conditions	150
3. Career dynamics of temporary workers	153
A. Duration of temporary jobs and contracts	153
B. Human capital accumulation and training	156
C. Mobility of temporary workers	159
Conclusions	165
<i>Annex 3.A. Defining and measuring temporary employment</i>	<i>170</i>
<i>Annex 3.B. Job satisfaction and working conditions</i>	<i>180</i>
<i>Bibliography</i>	<i>183</i>
Chapter 4. The ins and outs of long-term unemployment	187
Introduction	189
Main findings	189
1. Analysis	191
A. The extent of long-term unemployment	191
B. Long-term unemployment and long-term joblessness	192
C. Repeat spells of unemployment and alternative measures of long-term unemployment	196
2. Active labour market policies and long-term unemployment	210
A. Background	210
B. The scheduling of labour market policy interventions	211
C. Policy measures towards repeat unemployment	217
Conclusions	226
<i>Annex 4.A. Data for the Main Labour Status variable in Table 4.2</i>	<i>232</i>
<i>Annex 4.B. Labour market transitions in European Community Household Panel data....</i>	<i>233</i>
<i>Annex 4.C. The use of statistical profiling techniques in OECD Member countries.....</i>	<i>235</i>
<i>Bibliography</i>	<i>239</i>
Chapter 5. And the twain shall meet: cross-market effects of labour and product market policies	245
Introduction	247
Main findings	248
1. Effects of product market regulations on labour market outcomes	249
A. Employment	249
B. Industry wage premia	255
C. Insecurity	261
D. Inequality	269
2. Effects of labour market policies and institutions on product market outcomes	272
A. Innovation potential of manufacturing industries	273
B. Specialisation in high-R&D and high-wage industries	280
Conclusions	283
<i>Annex 5.A. Data definitions and sources</i>	<i>289</i>
<i>Annex 5.B. Econometric methods</i>	<i>294</i>
<i>Bibliography</i>	<i>295</i>
Statistical annex	301
Index of previous issues of the <i>OECD Employment Outlook</i>	333

In memoriam



NORMAN BOWERS
(1948-2002)

The untimely death of Norman Bowers deprived the OECD Secretariat of one of its most gifted and dedicated analysts, as well as one of its most colourful and best-liked personalities.

Since coming to the OECD from the US Bureau of Labor Statistics in 1984, Norman had made important contributions to the comparative analysis of a wide range of labour market issues with policy relevance. In particular, he set new standards of rigour for the collection and analysis of comparable labour market data for different countries, conducting path-breaking studies in topic areas as diverse as the school-to-work transition, job stability and employer-provided training. Much of this work was published in the *OECD Employment Outlook*. As editor of this publication from 1994 until his death, Norman worked tirelessly to ensure the quality and policy relevance of the *Employment Outlook*.

The family and friends of Norman Bowers have collaborated with the University of Missouri-Columbia, his *alma mater*, to establish a memorial scholarship fund. Full information about the Norman Bowers Scholarship Fund is available at <http://www.oecd.org/pdf/M00028000/M00028842.pdf> and from Paul Swaim: Tel.: +33 (01) 45 24 19 77; paul.swaim@oecd.org.

Editorial

Surveying the jobs horizon

Nearly a decade into the policy voyage launched by the OECD's Jobs Strategy, we should take a fix on where it has got to.

Policy makers – like navigators on a long voyage – should periodically check their bearings to verify that they are on course. Nearly a decade has now passed since the OECD proposed a comprehensive blueprint for labour market reform, the so-called Jobs Strategy. Since then, the OECD has worked closely with Member countries to identify the best ways to implement the Jobs Strategy, in each specific national context, and monitored the results. A reassessment of the policy priorities is therefore timely. As part of this process, OECD Employment and Labour Ministers will meet in 2003. This forum will allow ministers to compare labour market conditions and policy experiences in their countries, and assess the policy agenda in the coming decade. In anticipation of that event, this editorial offers a first survey of the jobs horizon.

Progress achieved under the Jobs Strategy

Some countries have travelled further than others. Unemployment has tended to fall most in countries adopting the recommended reforms...

The results to date of the Jobs Strategy are encouraging overall, although much unfinished business remains. Since it peaked in 1993, the OECD unemployment rate has been cut by 1¼ percentage points. This relatively modest improvement in the *average* labour market performance of OECD countries masks important differences across Member countries. While there was little change or even some worsening of performance in some countries (notably, Japan), a number of other countries registered marked improvements. Furthermore, OECD analyses suggest that the countries which have been most successful in reducing unemployment (*e.g.* Australia, Canada and some EU countries) or maintaining it at a low level (*e.g.* the United States) have – to a large extent – implemented policy reforms along the lines of the recommendations of the OECD Jobs Strategy in a comprehensive manner (*e.g.* pursuing reforms in both the labour and product markets, see Chapter 5).

... and business-sector jobs have expanded encouragingly.

Another positive feature of OECD labour market developments over the past decade or so is that much of the improvement in employment performance since 1993 is due to growth in business-sector hiring (for the OECD as a whole, over 47 million extra jobs were created in the business sector between 1993 and 2001). Of course, these trends reflect to some extent the strength of the recent cyclical expansion, but evidence suggests that this is also the result

of structural improvement in a number of countries. Reforms take time and political will, but experience shows that they work.

Unfinished business and new challenges

Such progress is no reason to slow down; countries should address persisting unemployment and labour inactivity, job retention and progression, as well as demographic and technological change...

... and also the quality of jobs, while taking care not to compromise other objectives.

These challenges imply renewed emphasis on certain Jobs Strategy recommendations, as set out below.

Because of the improvement in underlying labour market performance, it is tempting to conclude that the reform effort could be slackened. However, this would be ill-advised for several reasons. First, even allowing for the recent cyclical downturn in much of the OECD area, unemployment and long-term joblessness remain unacceptably high in many countries. Second, even in those countries having achieved significant improvements in overall performance, large pockets of inactivity (defined as persons of working age who are not in the labour force) remain to be addressed. In particular, employment-population ratios of older workers and low-skilled workers remain relatively low in most countries. Third, the considerable successes that have been registered in bringing more people into work in some countries, open up a new challenge, since some of the individuals “activated” by labour-market policies have difficulty remaining in employment and moving up job ladders. Finally, the need to adapt to population ageing and skill-biased technological change remains an important medium-to long-run challenge in many countries.

Concerns have also been expressed about the “quality” of the employment relationship – including perceptions of job insecurity, a rising incidence of non-standard forms of employment (short-term contracts, temporary jobs, casual employment, etc.) in some countries and an increased risk of in-work poverty. Although some commonly expressed fears are myths, a substantial number of workers may have difficulty obtaining stable jobs, potentially exposing themselves to recurrent spells of unemployment or joblessness (see Chapters 3 and 4) and compromising their access to the employer-provided training which often plays a crucial role in career advancement. The detailed analysis of temporary employment in Chapter 3 shows just how complicated these issues are and appropriate policy responses are far from obvious, since regulations establishing minimum standards for employment security may have adverse effects on other aspects of economic performance (Chapter 5).

To meet these challenges, it is essential that countries which have been lagging in the implementation of structural reforms finally move ahead. However, it may also be desirable to give certain Jobs Strategy recommendations increased priority or to pursue them somewhat differently. In this respect, the OECD Jobs Strategy is not written in tablets of stone. Policy recommendations in certain areas have been modified in light of country experiences and new research, and further course adjustments will be required as conditions evolve. Several of the areas where policy priorities or strategies appear ripe for some further refinement are reviewed below.

Policies to make work pay, by giving money to low-paid workers or reducing the cost of hiring them, have played a constructive role in getting people into work...

... alongside various forms of social support, and also a clear obligation to look for work, together with good advice and labour market support services.

Making work pay and activation policies

To help move benefit recipients into work, recent OECD research suggests that a “rights and responsibilities” approach is needed, which increases employment opportunities and the financial returns to working, but also obligates benefit recipients to actively search for work or take steps to improve their employability. Over the past few years, several countries have introduced schemes to “make work pay”. These schemes effectively operate as a subsidy to low-paid employment and are of two different types. Some schemes improve the financial incentive for welfare recipients to accept work, *e.g.* via in-work benefits and tax credits for low-paid workers and their families. Other schemes reduce the cost to the employer of hiring low-paid workers, *e.g.* through reduced social security contributions on low wages. In-work benefits and tax credits appear to have been relatively successful in improving incomes of the working poor, while cuts in payroll taxes appear to have been relatively successful in increasing employment of the target groups. However, these schemes must be financed by increased taxes elsewhere and/or cuts in public spending, which themselves might have negative effects on employment, and an overall evaluation of the employment effects of cuts in payroll taxes must take account of dead-weight and substitution effects. Nonetheless, the OECD position is that making work pay policies can play a constructive role as a component of an employment-oriented social policy (see the 2000 and 2001 editorials for more detailed discussions of these complex issues).

Not all people will be able to take full advantage of the better financial incentives that are offered by making work pay schemes unless a range of supporting social and labour market services are on offer. This includes schemes such as help with child-care costs, appropriate transport and work facilities for the disabled, training to improve job-search and job-readiness skills, etc. Moreover, the incentive to move off benefits and into a job will not be very strong if eligibility conditions for unemployment and social benefits with respect to work availability and job-search requirements are not enforced. These concerns have led to a number of policy initiatives by countries to “activate” the unemployed and other benefit recipients. These initiatives differ somewhat across countries, reflecting factors such as the particular benefit system targeted, national consensus on the conditions that can reasonably be imposed on benefit recipients, and traditions of labour market policy. However, a number of common principles underlie all of these activation strategies:

- First, they make receipt of benefits conditional on the benefit recipient demonstrating active job search and/or a willingness to take steps to improve employability.
- Second, they provide a range of re-employment services and advice to help the individuals in question find work or get ready for work.

- Third, they seek to maintain effective contact between the individual and the public employment service or related agency in order to provide timely services, monitor the individual's behaviour and apply financial sanctions in case of inappropriate behaviour.

But such “activation” measures cannot be simplistic and depend on good programme design.

The experience of those countries with significant activation initiatives suggests that these measures can help to lower unemployment and welfare dependency, especially in the context of buoyant labour demand. However, progress requires careful attention to good programme design – particularly to the co-ordination of passive and active measures and the strengthening of inter-agency co-operation in delivering these services. Cost-effectiveness is also critical in view of potentially large budgetary impacts. Furthermore, these programmes need to take account of the different opportunities and needs of the diverse population groups they serve. This issue of the *Employment Outlook* includes detailed appraisals of new programme initiatives for youths experiencing labour market difficulties (Chapter 1) and the long-term unemployed (Chapter 4) that document both the progress achieved and the needs still unmet. Among these unmet needs is better follow-up to activation measures. Recent reforms have succeeded in moving large numbers of persons into jobs, less so in building career paths for them. Much remains to be learned concerning the types of policies that could help overcome these problems.

Mobilising additional labour supply

A key task will be to meet long-term skill needs and mobilise additional labour supply...

The renewed prominence of mobilising additional labour supply as a policy goal may be the most striking recent change in discussions of employment policy. In part, this reflects the overall improvement in labour market conditions. The most recent upswing was characterised in many countries by skilled-labour shortages, especially in industries producing or making extensive use of information and communication technology (ICT). However, the challenges posed by population ageing and skill-biased technological change confirm the long-term importance of policies to better mobilise labour supply and ensure that the workforce has adequate skills.

... especially by raising employment rates for older workers, which requires pension and welfare reform, but also changes in attitude and behaviour among both workers and employers...

Population ageing means that, in the absence of any change in patterns of labour market participation, the labour force is likely to fall in relative, and even in a few countries perhaps in absolute, terms over the coming decades with major consequences for economic growth, public finance and living standards. This is why raising the employment rate for older workers is so critical. Some countries have started to tackle the problem, increasing the standard age of retirement or reining in early retirement schemes and welfare programmes that offer significant financial incentives favouring early exit from the labour market. Such reforms are crucial and need to be pursued energetically, but a broader approach is required that addresses public perceptions. Many workers in their 40s and 50s today

... and also mobilising more disabled people and women, especially women with children and with lower skills.

Higher skills are needed in a more technological economy, but shortfalls persist, partly because the lower-skilled receive less training. Another major challenge is to keep older workers employable...

... and while we know too little about what works in adult training, a key factor is to provide the right financial incentives to firms and workers – especially to retrain rather than retire.

think of early retirement as an *entitlement* and have not adjusted their expectations to the need to stay longer in work. Employers are also very reluctant to adapt their hiring, firing and skilling strategies to the looming situation of ageing workforces. Indeed, firms are prone to layoff older workers when adjusting employment in the face of economic difficulties. It is therefore essential to act on both the supply and demand sides of the equation.

Untapped labour supply potential also exists among other population groups, including women and disabled people of working-age. Chapter 2 analyses employment patterns for women in detail, showing that OECD countries differ greatly in the extent to which women work in paid employment. Most of the international differences in female employment rates reflect whether or not mothers and less educated women have employment rates similar to those of childless and better educated women. These patterns indicate that both work-family reconciliation measures (e.g. adequate child care, flexible working time and parental leave) and policies lowering overall barriers to employment, as well as those that affect low-skilled women, could make important contributions to aggregate labour supply in a considerable number of countries, while also expanding life-style choices and equality of opportunity.

The critical role of skill development

There is widespread agreement that the skills and competencies of the workforce need to be upgraded. One reason is skill-biased technological change. In particular, the rapid diffusion of ICT and the changes in work organisation that go with it are associated with higher demand for skilled labour. This shift in skill demands has worsened the employment and earnings prospects of unskilled and semi-skilled workers, thereby rendering the activation measures discussed above more difficult. Indeed, one of the key difficulties facing policy makers in this area is that too many workers still lack basic literacy skills. This is especially problematic because the unskilled typically receive much less on-the-job training than their skilled counterparts, thereby falling progressively further behind. Another factor at work is population ageing. To ensure that ageing does not impact negatively on growth and living standards, it is essential that the trend towards early retirement be reversed. This means that workers will have to remain employable throughout their career, implying a need for continuous adult learning.

Through what mechanisms should adult skills and competencies be upgraded? Unfortunately, this is an area where few rigorous evaluations exist of what works and what does not. What has become clear is the importance of a funding strategy that provides incentives to both employers and workers to invest in appropriate types of training. Removing the financial incentives to early retirement still found in many pension schemes would strengthen incentives to train older workers, by lengthening the expected period of time during

which new skills would be used on the job. Similarly, instituting well-functioning systems of recognition and certification of learning may help address some of the motivation problems of unskilled workers. A few countries are experimenting with creative initiatives, such as Individual Learning Accounts, and their experiences should be followed closely in order to identify the most promising ideas for meeting this challenge.

Towards a dynamic and inclusive labour market

Over time, the destination of this voyage has become clearer. It features: wider inclusion in the labour market; welfare support that does not discourage participation; and lifelong learning.

A prerequisite for successful navigation is to know one's destination. The reflections above indicate that labour market policies must be dynamic and inclusive. They must be policies that help the economy adjust to major demographic and technological developments by enabling a wide cross-section of the community, and not just those who are the most able-bodied or best educated, to participate in the world of work and to engage in a continuous renewal of job skills. One lesson learnt from the experience of the past 30 years is that policies which discourage labour force participation (e.g. early retirement or loosely administered disability/long-term sickness schemes) are ultimately unsustainable and may end up promoting rather than alleviating social exclusion. Another lesson is that success in the fight against unemployment and social exclusion requires renewed emphasis on a comprehensive lifelong learning strategy. In any event, the discussion about how best to adapt employment policies to 21st Century conditions is underway and next year's meeting of OECD Employment and Labour Ministers will contribute to this important reflection.

May 2002

Chapter 1

Recent labour market developments and prospects

Special Focus on: A Better Start for Youths?

The special section of this chapter describes trends in youth labour market outcomes and policies. Youth population shares in OECD countries reached a peak in the 1960s, 1970s or 1980s, and have everywhere fallen since then. In a slight majority of countries, young adult unemployment rates have fallen relative to prime-age adult rates since 1983, but trends are varied. Youths are staying longer in education, but in some countries study is often combined with participation in the labour market, and the conventionally-measured unemployment rate will often not be the most relevant indicator of labour market distress. One alternative indicator, the proportion of youths who are neither in education nor in employment, generally shows some trend improvement.

Frequently less than a fifth of public spending on active labour market programmes is in programmes targeted specifically at youths facing difficulties in the labour market, but partial data for EU countries suggest that up to two-fifths of participants in these programmes, including subsidised apprenticeships, are aged under 25. Strategies of early intervention and diverse pathways in education and training are described, and recent labour market policy experience is reviewed under headings of activation strategies; broadly-targeted employment programmes; dual systems; and “safety nets” for school leavers. New or greatly expanded youth programmes, introduced by a number of countries since the mid-1990s, have had a visible impact on youth unemployment rates in some cases. Youth labour market outcomes are sensitive to general economic conditions, but additional structural features that are often associated with good outcomes in international comparative terms include active public management of the transition-to-work process, involving youth unemployment benefits combined with activation measures and backed up by a “safety-net” approach, and early contact with the world of work through apprenticeships or student jobs.

INTRODUCTION.....	15
1. RECENT DEVELOPMENTS AND PROSPECTS.....	16
2. A BETTER START FOR YOUTHS?	20
CONCLUSIONS	43
<i>Annex I.A.</i> Recent initiatives in youth labour market programmes	49
<i>Annex I.B.</i> Trends in youth and prime-age employment and unemployment.....	53
BIBLIOGRAPHY	58

List of Boxes

1.1.	Demographic trends	21
1.2.	Broadly-targeted employment programmes for youths	38
1.3.	New Apprenticeships in Australia	41

List of Tables

1.1.	Growth of real GDP in OECD countries	15
1.2.	Employment and labour force growth in OECD countries.....	17
1.3.	Unemployment in OECD countries	18
1.4.	Business sector labour costs in OECD countries	19
1.5.	Young adults by labour force and educational attendance status, 2000	24
1.6a.	Young adults unemployment and non-employment rates, according to different definitions, 2000.	25
1.6b.	Males aged 20 to 24 unemployment and non-employment rates, according to different definitions, 2000	26
1.6c.	Females aged 20 to 24 unemployment and non-employment rates, according to different definitions, 2000	27
1.B.1.	Ratios of youth to prime-age adult unemployment rates	53
1.B.2.	Trends in employment/population ratios by age group	55

List of Charts

1.1.	Trends in youth share of total OECD working-age population, 1960-2020.....	21
1.2.	Young adults' employment and unemployment relative to prime-age adults'	22
1.3.	Incidence of long-term unemployment for teenagers and young adults	23
1.4.	Youths neither in employment nor in education, selected countries, 1983-2000	28
1.5.	Youth unemployment rates and public spending on youth labour market measures, 1985-1999	29
1.6.	Changes in youth unemployment rates and in public spending on youth labour market measures between 1989 and 1999, selected countries	30

Introduction

Despite the slow-down in real GDP growth that occurred in 2001, signs of recovery are on the horizon. The slow-down was particularly marked in North America and Asia while it was more moderate in Oceania and Europe (Table 1.1). In the latter, however, the

Table 1.1. **Growth of real GDP in OECD countries^{a, b}**

Annual percentage change

	Share in total OECD GDP 1995	Average 1989-1999	2000	2001	Projections	
					2002	2003
North America						
Canada	3.2	2.3	4.4	1.5	3.2	4.0
Mexico	3.0	3.3	6.9	-0.3	1.8	4.5
United States	35.4	3.0	4.1	1.2	2.5	3.5
Asia						
Japan	14.0	1.7	2.4	-0.4	-0.7	0.3
Korea	2.6	6.0	9.3	3.0	6.0	6.5
Europe						
Denmark	0.6	2.1	3.0	0.9	1.9	2.2
Finland	0.5	1.6	5.6	0.7	1.5	3.4
Norway	0.5	3.4	2.3	1.4	2.1	2.5
Sweden	0.8	1.5	3.6	1.2	2.1	3.2
Greece	0.6	1.9	4.1	4.1	3.5	4.2
Italy	5.5	1.5	2.9	1.8	1.5	2.8
Portugal	0.6	2.8	3.4	1.9	1.7	2.7
Spain	2.8	2.6	4.1	2.8	2.1	3.3
Czech Republic	0.6	..	2.9	3.6	3.0	3.7
Hungary	0.4	..	5.2	3.8	3.5	4.3
Poland	1.3	..	4.0	1.1	1.3	2.7
Slovak Republic	0.2	-6.8	2.2	3.3	4.0	4.1
Austria	0.8	2.5	3.0	1.0	1.2	2.8
Belgium	1.0	2.0	4.0	1.1	1.1	2.7
France	5.5	1.7	3.6	2.0	1.4	3.0
Germany ^c	8.0	2.3	3.0	0.6	0.7	2.5
Iceland	0.0	2.1	5.5	3.0	-0.8	2.3
Ireland	0.3	7.0	11.5	6.6	3.5	6.3
Luxembourg	0.1	5.4	7.5	5.1	2.7	6.8
Netherlands	1.5	3.0	3.5	1.1	1.4	2.6
Switzerland	0.8	0.9	3.0	1.3	1.0	2.3
Turkey	1.7	3.8	7.4	-7.4	1.8	3.5
United Kingdom	5.4	2.1	3.0	2.2	1.9	2.8
Oceania						
Australia	1.8	3.3	3.4	2.4	3.7	4.0
New Zealand	0.3	2.4	3.6	1.8	2.9	3.5
OECD Europe^d	39.7	2.2	3.6	1.3	1.5	2.9
EU	34.1	2.1	3.4	1.7	1.5	2.8
Total OECD^d	100.0	2.6	3.9	1.0	1.8	3.0

.. Data not available.

a) The OECD Secretariat's projection methods and underlying statistical concepts and sources are described in detail in "Sources and Methods: OECD Economic Outlook" which can be downloaded from the OECD Internet site (www.oecd.org/eco/out/source.htm).

b) Aggregates are computed on the basis of 1995 GDP weights expressed in 1995 purchasing power parities.

c) The average growth rate has been calculated by chaining on data for the whole of Germany to the corresponding data for western Germany prior to 1992.

d) Averages for 1989-1999 exclude the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: *OECD Economic Outlook*, No. 71, June 2002.

recovery seems to be delayed to the end of 2002. As a consequence, the gap in real GDP growth between Europe and North America that characterised the second half of the 1990s was closed in 2001 but is projected to open up again in 2002. Despite a slow-down of about 5 percentage points in 2001, Ireland was again the fastest growing OECD economy. By contrast, Japan, Mexico and especially Turkey experienced negative GDP growth.

Section 1 presents an overview of recent developments and prospects, with particular emphasis on labour markets. Section 2 focuses on developments within the youth labour market and documents some of the most important policy developments of recent years.

1. Recent developments and prospects

A. Economic outlook to the year 2003

As the causes of the recent slow-down fade away, real GDP growth seems to have bottomed-out at the end of 2001, making this recession one of the mildest of post-war history. In the OECD area, sustained real GDP growth is projected to be restored to 3% in 2003 – after a mere 1% registered in 2001 – with a pronounced recovery in North America, Oceania and Korea already in 2002. In the United States, rapid and forceful monetary intervention, together with fiscal expansion, helped bring about renewed growth. In the European Union, and particularly in the Euro area, output stagnated in the second half of 2001 and there have not been many signs of quick recovery yet. Indeed, as household confidence and spending remain low, economic activity is projected to remain sluggish in the first half of 2002 in most European countries. In Japan, activity is expected to stop contracting in the second half of 2002, as a result of a buoyant export performance and – after a protracted period of fall in inventories – stockbuilding prospects. Nonetheless, growth is not expected to recover in the near future.

B. Employment and unemployment

As a result of the activity slow-down, employment growth was significantly lower in 2001 than in the previous year and is expected to decrease further in 2002 (Table 1.2). The overall pace of employment growth in the OECD area is indeed projected to be back to earlier trend rates only in 2003. Spain again experienced the fastest employment growth in 2001 (3.7%), although it was almost 2 percentage points slower than the year before. Following strong employment performance in 2000, Ireland and Luxembourg also remained among the top performers in 2001, with net job growth rates exceeding 2.5%. New Zealand also joined this group, recording the strongest acceleration among the OECD countries (almost 1 percentage point). For the first time since the early 1990s, Europe outperformed North America in 2001 as regards to employment growth, essentially due to employment stagnation in the United States. However, this gap is expected to be closed soon due to protracted slow-down in Europe and early recovery in Canada and Mexico, while the United States are not expected to be back to positive employment growth until 2003, despite the early upturn in GDP growth. Japan and Poland experienced significant employment contraction in 2001 (with losses in employment greater or equal to 0.5%), which is projected to continue in the near future.

Unemployment increased by 0.3 percentage point (or 1.5 million persons) in the OECD area in 2001, reflecting the slow-down in economic activity (Table 1.3). The

Table 1.2. **Employment and labour force growth in OECD countries^a**

Annual percentage change

	Employment						Labour force					
	Level 2000 (000s)	Average 1989-1999	2000	2001	Projections		Level 2000 (000s)	Average 1989-1999	2000	2001	Projections	
					2002	2003					2002	2003
North America												
Canada	14 911	1.1	2.6	1.1	1.6	1.7	16 001	1.1	1.8	1.5	2.1	1.3
Mexico	19 308	2.8	4.6	0.7	1.5	2.7	19 742	2.8	4.2	1.0	1.8	2.5
United States	135 219	1.3	1.3	-0.1	-0.4	1.4	140 872	1.2	1.1	0.7	0.4	1.1
Asia												
Japan	64 458	0.5	-0.2	-0.5	-1.5	-0.4	67 660	0.8	-0.2	-0.2	-0.7	-0.3
Korea	21 061	1.5	3.8	1.4	1.8	2.0	21 950	1.8	1.5	1.1	1.3	1.7
Europe												
Denmark	2 726	0.3	0.7	0.4	0.2	0.4	2 851	0.1	0.2	0.2	0.2	0.2
Finland	2 326	-0.9	1.7	1.4	0.6	1.3	2 580	-0.1	1.2	0.6	0.9	1.2
Norway	2 269	1.0	0.5	0.4	0.5	0.6	2 350	0.8	0.7	0.5	0.5	0.5
Sweden	4 157	-0.9	2.2	2.0	0.2	0.7	4 360	-0.5	1.2	1.3	0.4	0.5
Greece	3 898	0.6	-0.3	-0.1	0.3	0.8	4 391	1.1	-1.2	-1.0	0.3	0.4
Italy	20 874	-0.1	1.9	2.0	1.5	2.0	23 369	0.0	0.9	0.8	0.9	1.9
Portugal	4 877	1.0	1.8	1.6	0.8	1.4	5 081	0.9	1.4	1.7	1.1	1.3
Spain	15 370	1.4	5.5	3.7	1.2	1.8	17 344	1.3	3.7	2.7	1.4	1.5
Czech Republic	4 676	..	-0.7	0.7	-0.4	0.0	5 130	..	-0.6	0.0	0.0	0.0
Hungary	3 784	..	0.9	0.3	0.1	0.2	4 047	..	0.3	-0.5	0.1	0.1
Poland	14 526	..	-1.6	-2.2	-1.3	0.2	17 311	..	1.0	0.4	0.3	0.1
Slovak Republic	..	..	..	..	..	..	..	..	..	..	..	..
Austria	4 019	0.4	0.5	0.2	-0.5	0.8	4 217	0.6	-0.2	0.4	0.2	0.3
Belgium	3 970	0.4	1.6	1.1	0.2	0.5	4 263	0.5	-0.3	0.8	0.3	0.5
France	24 139	0.5	2.5	1.5	0.4	0.8	26 643	0.6	0.9	0.7	1.0	0.6
Germany ^b	38 706	0.7	1.6	0.2	-0.3	0.5	41 839	0.7	0.8	0.1	0.2	0.3
Iceland	139	0.8	1.5	0.7	-0.4	1.0	141	0.8	1.0	0.8	0.6	1.1
Ireland	1 692	3.8	4.7	2.9	1.0	2.0	1 768	2.7	3.3	2.5	2.0	2.0
Luxembourg	183	1.1	2.8	2.6	0.9	1.5	188	1.3	2.5	2.5	1.3	1.7
Netherlands	6 959	2.2	2.3	1.9	0.7	0.5	7 146	1.8	1.7	1.5	1.2	1.0
Switzerland	3 910	0.4	1.0	1.8	0.5	0.9	3 982	0.6	0.3	1.6	1.0	0.7
Turkey	21 078	1.6	-3.8	-0.3	0.3	2.0	22 529	1.5	-4.9	1.8	1.2	1.3
United Kingdom	27 938	0.2	1.0	0.8	0.3	0.6	29 572	0.2	0.5	0.4	0.5	0.5
Oceania												
Australia	9 097	1.2	3.0	1.0	1.4	1.8	9 707	1.4	2.3	1.5	1.2	1.5
New Zealand	1 779	1.8	1.6	2.5	1.4	1.3	1 892	1.7	0.7	1.8	1.8	0.9
OECD Europe^c	212 215	1.1	1.0	0.9	0.3	1.0	231 102	1.2	0.4	0.8	0.7	0.8
EU	161 833	1.1	2.0	1.3	0.4	0.9	175 612	1.2	1.0	0.8	0.7	0.8
Total OECD^c	478 046	1.2	1.3	0.4	0.0	1.1	508 926	1.2	0.8	0.7	0.6	0.9

.. Data not available.

a) See note a) to Table 1.1.

b) The average growth rate has been calculated by chaining on data for the whole of Germany to the corresponding data for western Germany prior to 1992.

c) Averages for 1989-1999 exclude the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: OECD Economic Outlook, No. 71, June 2002.

unemployment rate reached 6.4%, with almost 33 million persons unemployed, and is projected to increase further to 6.9% (that is, over 35 million people) in 2002, while a moderate reduction is expected in 2003. In Europe, however, the unemployment rate remained on a descending path in 2001, as a result of sluggish growth of the labour force (cf. Table 1.2), although unemployment is projected to increase moderately in 2002, as in most non-European OECD countries. Australia, Greece, Italy, Korea and the Slovak Republic are the only countries where unemployment is projected to decrease in 2002. Nevertheless, Greece and the Slovak Republic – as well as Poland and Spain – will continue

Table 1.3. **Unemployment in OECD countries^a**

	Percentage of labour force					Millions				
	Average 1989-1999	2000	2001	Projections		Average 1989-1999	2000	2001	Projections	
				2002	2003				2002	2003
North America										
Canada	9.4	6.8	7.2	7.6	7.2	1.4	1.1	1.2	1.3	1.2
Mexico	3.6	2.2	2.5	2.7	2.5	0.6	0.4	0.5	0.6	0.5
United States	5.7	4.0	4.8	5.6	5.3	7.5	5.7	6.8	7.9	7.6
Asia										
Japan	3.0	4.7	5.0	5.8	6.0	2.0	3.2	3.4	3.9	4.0
Korea	3.1	4.1	3.7	3.3	3.0	0.6	0.9	0.8	0.7	0.7
Europe										
Denmark	6.9	4.4	4.3	4.3	4.2	0.2	0.1	0.1	0.1	0.1
Finland	11.1	9.8	9.1	9.4	9.3	0.3	0.3	0.2	0.2	0.2
Norway	4.8	3.4	3.6	3.6	3.5	0.1	0.1	0.1	0.1	0.1
Sweden	5.8	4.7	4.0	4.2	4.0	0.2	0.2	0.2	0.2	0.2
Greece	9.3	11.2	10.4	10.3	10.0	0.4	0.5	0.5	0.5	0.4
Italy	10.6	10.7	9.6	9.1	9.0	2.4	2.5	2.3	2.2	2.2
Portugal	5.6	4.0	4.1	4.4	4.3	0.3	0.2	0.2	0.2	0.2
Spain	16.2	11.4	10.5	10.7	10.5	2.5	2.0	1.9	1.9	1.9
Czech Republic	..	8.9	8.2	8.6	8.6	..	0.5	0.4	0.4	0.4
Hungary	0.0	6.5	5.7	5.8	5.7	..	0.3	0.2	0.2	0.2
Poland	0.0	16.1	18.2	19.6	19.5	..	2.8	3.2	3.4	3.4
Slovak Republic	0.0	18.8	19.3	19.1	18.6	..	..	..	..	..
Austria	5.0	4.7	4.9	5.6	5.1	0.2	0.2	0.2	0.2	0.2
Belgium	8.4	6.9	6.6	6.7	6.7	0.3	0.3	0.3	0.3	0.3
France	10.9	9.4	8.7	9.2	9.0	2.8	2.5	2.3	2.5	2.5
Germany	7.6	7.5	7.4	7.8	7.6	3.0	3.1	3.1	3.3	3.2
Iceland	3.2	1.4	1.5	2.5	2.6	0.0	0.0	0.0	0.0	0.0
Ireland	12.3	4.3	3.9	4.9	4.9	0.2	0.1	0.1	0.1	0.1
Luxembourg	2.4	2.6	2.6	2.9	3.1	0.0	0.0	0.0	0.0	0.0
Netherlands	5.9	2.6	2.2	2.7	3.2	0.4	0.2	0.2	0.2	0.2
Switzerland	3.1	2.0	1.9	2.5	2.2	0.1	0.1	0.1	0.1	0.1
Turkey	7.6	6.4	8.4	9.2	8.6	1.6	1.5	1.9	2.1	2.0
United Kingdom	7.7	5.5	5.1	5.3	5.3	2.2	1.6	1.5	1.6	1.6
Oceania										
Australia	8.3	6.3	6.8	6.6	6.3	0.7	0.6	0.7	0.7	0.6
New Zealand	7.9	6.0	5.3	5.7	5.3	0.1	0.1	0.1	0.1	0.1
OECD Europe^b	8.9	8.3	8.2	8.6	8.4	20.0	19.4	19.4	20.4	20.2
EU	9.2	7.8	7.4	7.6	7.5	15.4	13.8	13.0	13.5	13.4
Total OECD^b	6.8	6.1	6.4	6.9	6.7	32.9	31.4	32.9	35.6	34.9

.. Data not available.

a) See note a) to Table 1.1.

b) Averages for 1989-1999 exclude the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: OECD Economic Outlook, No. 71, June 2002.

to have double-digit unemployment rates in 2003. The OECD projections indicate also a sharp increase in the unemployment rate in the United States to about 5.6% in 2002, while in Japan unemployment is projected to reach 6% in 2003, its highest level of the last fifty years.

C. Compensation and labour costs

In the OECD area, the growth in *compensation per employee* slowed moderately in 2001 (Table 1.4). Furthermore, its growth is projected to decrease more markedly in 2002 (by about 1 percentage point). However, these figures hide wide cross-country variation. Slower growth in compensation per employee in North America and Asia in 2001 contrasts with the acceleration

Table 1.4. **Business sector labour costs in OECD countries^{a, b}**

Percentage changes from previous period

	Compensation per employee					Unit labour costs				
	Average 1989-1999	2000	2001	Projections		Average 1989-1999	2000	2001	Projections	
				2002	2003				2002	2003
North America										
Canada	3.3	3.1	2.1	2.5	3.3	1.9	1.0	1.8	0.8	0.8
Mexico	20.0	11.5	9.3	6.5	6.0	19.8	8.5	10.2	6.4	4.1
United States	3.6	5.6	5.1	3.1	3.5	2.0	3.1	4.1	-0.1	1.4
Asia										
Japan	1.2	0.5	-0.1	-1.3	-1.1	0.0	-2.1	0.0	-2.0	-1.7
Korea	10.0	7.1	5.8	6.0	6.3	4.9	1.5	4.2	1.7	1.6
Europe										
Denmark	3.5	4.0	4.5	4.2	4.2	1.2	1.1	3.6	1.9	1.8
Finland	3.7	4.5	4.0	4.0	3.9	0.5	0.4	5.7	2.3	1.4
Norway	4.1	4.2	4.8	5.0	5.0	1.9	2.7	4.0	3.3	2.7
Sweden	5.0	7.5	5.0	4.6	4.5	2.1	6.8	4.3	2.0	1.6
Greece	10.9	5.3	6.3	5.6	5.5	9.3	0.4	1.6	2.0	1.7
Italy	4.6	2.7	3.0	2.7	2.3	2.8	1.6	2.8	2.7	1.1
Portugal	10.9	5.3	5.4	4.3	4.2	8.9	3.3	5.1	3.2	2.8
Spain	5.9	3.7	4.8	3.2	3.2	4.4	2.6	4.4	1.7	1.4
Czech Republic	..	7.2	7.5	7.3	7.7	11.2	3.2	4.2	3.5	3.6
Hungary	..	12.8	15.0	10.5	7.9	5.5	8.0	10.8	6.7	3.5
Poland	..	9.7	7.5	5.3	4.5	21.4	3.1	3.5	2.2	1.7
Slovak Republic	..	..	..	..	..	..	..	..	..	..
Austria	3.6	2.8	3.1	2.4	2.8	1.1	-0.1	2.4	0.5	0.5
Belgium	3.9	3.5	2.9	3.8	3.1	2.2	0.6	2.8	2.7	0.5
France	2.1	1.6	2.1	2.4	2.4	0.7	0.6	1.6	1.0	0.0
Germany ^c	2.6	1.3	1.6	2.6	2.6	0.9	-0.1	1.3	1.6	0.5
Iceland	7.3	6.8	7.7	7.0	4.9	5.8	2.3	4.9	7.5	3.5
Ireland	3.7	8.6	7.9	6.6	5.5	0.4	1.5	3.9	3.8	1.0
Luxembourg	4.2	5.0	5.2	3.5	3.9	..	..	..	..	..
Netherlands	2.8	4.9	4.5	4.9	4.1	1.6	3.6	5.5	4.0	1.7
Switzerland	3.1	1.4	3.1	2.4	2.0	2.9	-0.5	3.5	1.8	0.4
Turkey	..	..	..	..	..	..	..	..	..	..
United Kingdom	5.2	3.4	5.2	4.0	4.2	3.7	1.3	3.5	2.2	1.8
Oceania										
Australia	3.6	3.6	4.4	3.7	3.7	1.4	3.2	3.0	1.1	1.1
New Zealand	1.5	3.5	3.6	3.5	3.5	1.0	1.1	3.8	2.2	1.1
OECD Europe^{d, e}	4.0	3.2	3.7	3.4	3.3	2.3	1.4	2.9	2.1	1.1
EU	4.0	2.8	3.3	3.2	3.1	2.3	1.2	2.7	2.0	1.0
Total OECD less high-inflation countries^{d, e, f}	3.3	3.6	3.5	2.4	2.6	1.8	1.5	2.8	0.5	0.7
Total OECD^{d, e}	4.1	4.1	3.9	2.8	2.9	2.5	1.8	3.1	0.8	0.9

.. Data not available.

a) See note a) to Table 1.1.

b) Aggregates are computed on the basis of 1995 GDP weights expressed in 1995 purchasing power parities.

c) The average growth rate has been calculated by chaining on data for the whole of Germany to the corresponding data for western Germany prior to 1992.

d) Averages for 1989-1999 exclude the Czech Republic, Hungary, Poland and the Slovak Republic.

e) Countries shown.

f) High inflation countries are defined as countries which had 10% or more inflation in terms of GDP deflator on average between 1989 and 1999 on the basis of historical data. Consequently, the Czech Republic, Greece, Hungary, Korea, Mexico, Poland, the Slovak Republic and Turkey are excluded from the aggregate.

Source: OECD Economic Outlook, No. 71, June 2002.

in Europe and Oceania. However, some slowing is predicted in these latter areas during the next two years. In 2001, with respect to the previous year, the growth of *unit labour costs* sped up significantly in all OECD countries except Australia, where it was practically stable, and Sweden, where it slowed significantly. Nevertheless, in almost all the countries where the

acceleration took place, the growth in unit labour costs is projected to slow in 2002 (Germany, Greece and Iceland being the few exceptions) and slow further in 2003 in most countries.

2. A better start for youths?

A. Introduction

Youth unemployment has been a major challenge to labour market policy for many years. In most OECD countries, the youth unemployment rate has remained twice or more the adult rate. In response, governments have given special policy attention to youth unemployment and the topic has also been examined intensively by the OECD.¹

On the face of it, a number of factors operating in the 1980s and 1990s should have worked to improve the relative situation of young people in the labour market.² They included:

- The favourable economic situation in the late 1990s – youth employment is particularly sensitive to the cycle.
- The falling share of youths in the population of working age (see Box 1.1).
- The longer time spent in education by young people, resulting in higher average educational attainments relative to earlier cohorts.
- The increased demand for ICT skills.
- The delaying of the age when young women have their first child, facilitating their participation in paid employment.
- The increased attention given to disadvantaged/inactive youths in many national labour market policies, and the introduction of a number of innovative policies to assist them.

Against this background, this section asks:

- Were youth labour markets showing signs of longer-term improvement before the current recession began?
- Are there reasons to expect that the current recession will bear relatively heavily on young people?
- Is there evidence that the most recent labour market initiatives for youths are bearing fruit?

The section first compares the situation of the 1990s with that of the 1980s and then documents a number of the policy developments of recent years. Sub-section B discusses medium- and short-term trends in the youth labour market. Sub-section C examines public spending on youth labour market programmes, while Sub-section D highlights some trends and recent initiatives in labour market policies for young people. The final section draws some conclusions.

B. Trends in the youth labour market

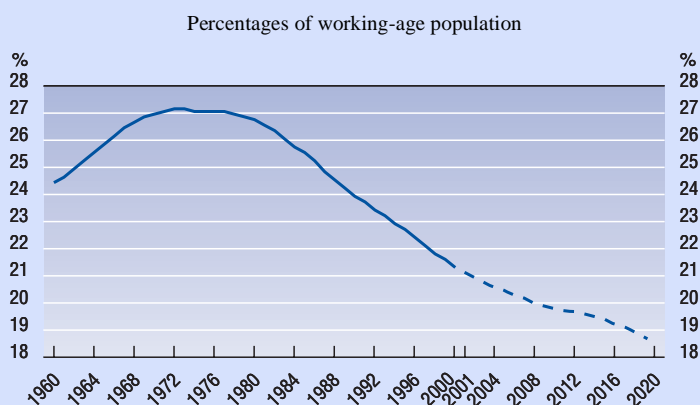
This sub-section examines unemployment and employment rates for teenagers (up to 19 years old) and young adults (ages 20 to 24). Owing to the high participation rates of teenagers in education, it may be appropriate to focus attention on labour market indicators for the young adults group, or to examine data only for non-students.³ Charts 1.2 and 1.3 show some basic comparisons between the periods 1983-1990 and 1993-2000. These were both periods of cyclical upswing in the OECD area, and they allow the inclusion of the maximum number of countries on a reasonably consistent basis.⁴

Box 1.1. Demographic trends

The proportion of young people aged 15 to 24 in the total OECD population of working age, 15 to 64, has fallen by a quarter since the 1970s (Chart 1.1), and in some countries large further falls are projected over the next two decades. Peak years for the youth population relative to the prime-age (25 to 54 years old) population occurred in the 1970s in the United States, Mexico, Turkey, France and many smaller countries, but they range from the 1960s (Japan, the Czech Republic, Denmark, Finland, the Netherlands and Sweden) to the 1980s (Austria, Germany, Greece, Italy, Spain and the United Kingdom). Falls since the peak, through to 2000, have exceeded 40% in Canada, Japan, Korea and a few European countries.

In the 1980s, a large number of studies examined the effect of so-called “generational crowding” on entry to youth labour markets. OECD (1986, Chapter 5) summarised 18 such studies and concluded “there is considerable agreement among these studies that members of a large cohort experience higher relative unemployment and/or lower relative earnings on entering the labour force”. Shimer (2001), however, recently found, in comparing US states, that youth unemployment rates are lower where youth cohorts are large: he suggests that businesses are attracted into and expand in areas with large youth cohorts, leading to a general fall in unemployment in such areas. Within Europe, it could be argued that such a mechanism has benefited Ireland in the 1990s.

Chart 1.1. Trends in youth share of total OECD working-age population,^a 1960-2020^b

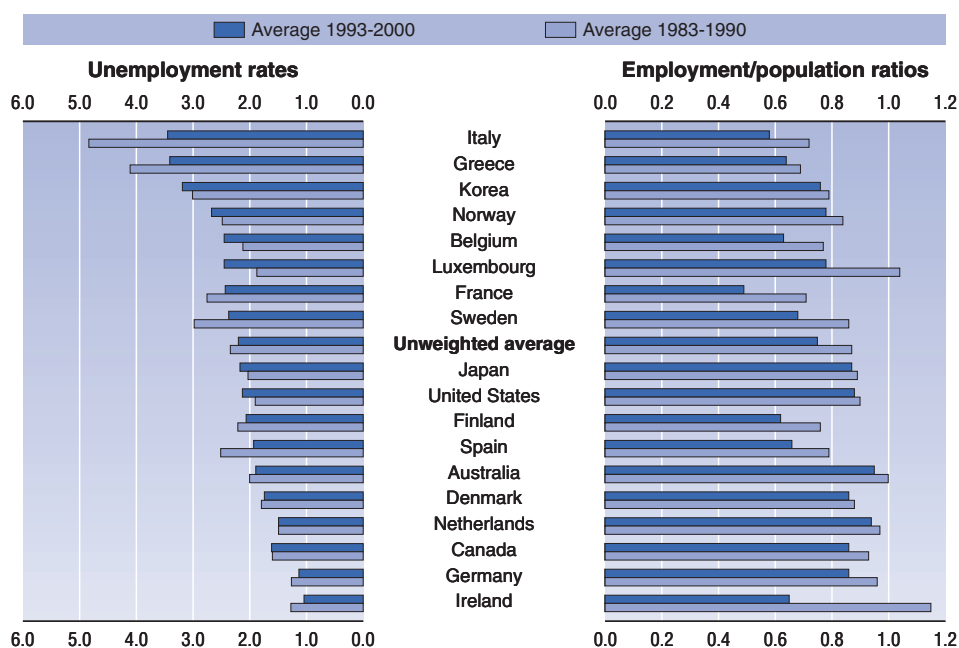


a) Weighted average of all OECD Member countries. For each country, the figures refer to the population aged 15 to 24 divided by the population aged 15 to 64.

b) From 2001 onward, data refer to projections.

Source: United Nations population estimates and projections provided to the OECD Secretariat.

The unemployment rate of young adults, relative to that of adults aged between 25 and 54, has fallen in slightly more countries than it has risen. However the employment/population ratio of young adults, relative to that of adults aged between 25 and 54, has fallen in nearly all countries (Chart 1.2). Detailed data for youth unemployment rates (Annex Table 1.B.1) show a relatively erratic picture. The weighted average unemployment rates of teenagers and young adults, relative to those of prime-age workers, have

Chart 1.2. **Young adults' employment and unemployment relative to prime-age adults^{a, b}**

a) Unemployment rates and employment/population ratios for persons aged 20-24 as a ratio of those aged 25-54.

b) Countries in decreasing order of relative young adults unemployment rates, 1993-2000 average.

Source: OECD (2001), *Labour Force Statistics, 1980-2000*, Part III.

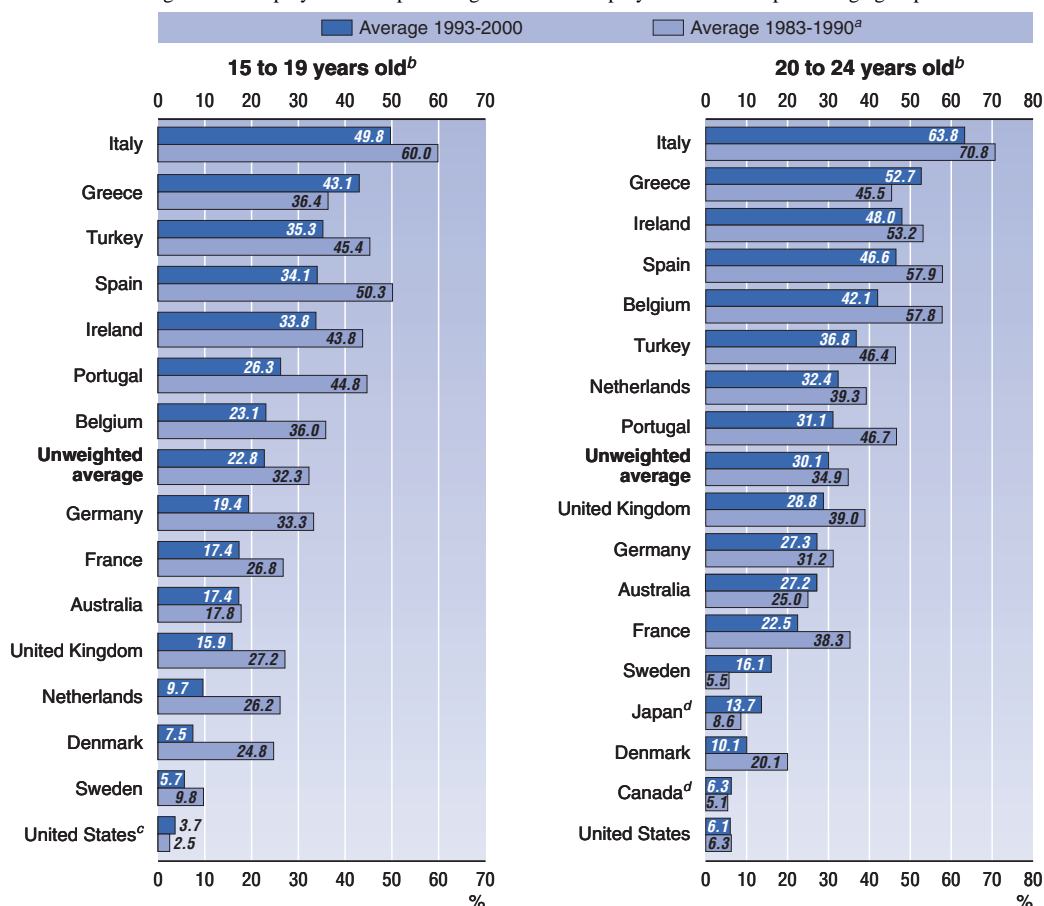
both fallen since 1983, yet unweighted median values have hardly changed, and some of the countries for which the data begin only in 1993 show a worsening trend for teenagers.⁵ The incidence of long-term unemployment among unemployed youths has fallen in almost all countries, and in the few where it has risen the magnitude of the increase is small (Chart 1.3), whereas there has been no such trend for adults (see Chapter 4 for detailed analysis of long-term unemployment). This may suggest that the concentration of disadvantage has fallen.⁶ Detailed data for youth employment rates (Annex Table 1.B.2) confirm that, despite some cyclical recovery after 1993, young adult employment rates usually declined comparing 1993 with 1983 (years near the trough of the economic cycle, in most cases) or comparing 2000 with 1990 (years near the peak).

Charts 1.2 and 1.3 take no account of youth participation in education. The importance of this factor is illustrated by Table 1.5, which shows a breakdown of the young adult population by both labour force status and participation in education. There are large overlaps between participation in education and the labour market in some countries – for example, in some countries many unemployed youths are also students. Student unemployment is not always a major problem as, in many cases, students seek work with low hours to provide a secondary income, and in practice policies do not usually seek to influence the level of student unemployment.⁷ Thus, labour force status data which take no account of participation in education may give a misleading impression of youth labour market outcomes, particularly in relation to policy objectives.

Table 1.6a shows various summary indicators for the scale of young adult labour market problems in different countries. The first two data columns show that convention-

Chart 1.3. **Incidence of long-term unemployment for teenagers and young adults**

Long-term unemployment as a percentage of total unemployment in the respective age group



a) For Portugal, average is calculated over 1986-1990; for Turkey, average is calculated for 1988-1990.

b) Countries in decreasing order of the incidence of long-term unemployment for the respective age group, 1993-2000 average.

c) 16 to 19 years old.

d) 15 to 24 years old.

Source: OECD Secretariat database on unemployment duration.

ally-measured youth unemployment rates, very high in some countries, can become much lower when youth unemployment is expressed as a percentage of the youth population. Comparing the first with the third column shows that when attention is restricted to non-students, the unemployment rate is increased in some countries (*e.g.* France and Germany) and lowered in others (*e.g.* the Netherlands and Norway). Comparing the fourth column with the seventh, or the fifth with the eighth, shows what happens when non-employment (*i.e.* labour force inactivity as well as unemployment) is used as an indicator. Female labour force inactivity does not necessarily indicate labour market distress, and for this purpose it may be better to focus on males (Table 1.6b). Here youth unemployment/population ratios are higher, but non-employment/population ratios are lower, than in both-sex data. The proportions of all male young adults who are neither in employment nor in education vary widely, from 5% in Denmark and the Netherlands to over 20% in Italy, Poland, the Slovak Republic and Turkey.

Table 1.5. **Young adults^a by labour force and educational attendance status, 2000**

Share of young adults population, percentage

	Employed				Unemployed				Not in labour force				Total		
	Attending education	Not attending education	Total	Share attending education	Attending education	Not attending education	Total	Share attending education	Attending education	Not attending education	Total	Share attending education	Attending education	Not attending education	Total
Australia	24.1	50.9	74.9	32.1	2.0	6.1	8.1	25.0	9.8	7.2	17.0	57.4	35.9	64.1	100.0
Austria	3.8	62.2	66.0	5.8	0.5	3.7	4.2	11.1	21.4	8.3	29.8	72.0	25.8	74.2	100.0
Belgium	7.1	45.6	52.6	13.4	1.9	6.2	8.1	23.4	33.6	5.6	39.3	85.7	42.6	57.4	100.0
Canada	17.7	47.1	64.9	27.3	1.3	7.1	8.4	15.9	19.5	7.2	26.7	73.1	38.6	61.4	100.0
Czech Republic	0.5	60.0	60.4	0.8	0.1	10.0	10.2	1.2	19.1	10.3	29.4	65.0	19.7	80.3	100.0
Denmark	35.3	38.6	73.8	47.8	3.4	1.7	5.1	66.4	16.2	4.9	21.0	76.8	54.8	45.2	100.0
Finland	19.1	30.8	49.9	38.2	5.6	7.5	13.2	42.9	28.0	9.0	37.0	75.7	52.7	47.3	100.0
France	9.0	31.7	40.7	22.1	1.1	9.4	10.5	10.1	44.1	4.7	48.8	90.4	54.1	45.9	100.0
Germany	17.0	49.0	66.0	25.8	0.3	5.8	6.1	4.8	16.8	11.1	27.9	60.1	34.1	65.9	100.0
Greece	4.6	41.5	46.2	10.1	1.5	15.2	16.7	9.0	28.6	8.6	37.2	76.9	34.8	65.2	100.0
Hungary	4.8	45.6	50.4	9.6	0.5	6.1	6.6	7.6	27.0	15.9	42.9	62.9	32.3	67.7	100.0
Ireland	6.2	63.6	69.8	8.8	0.4	3.3	3.6	9.7	20.2	6.4	26.6	76.0	26.7	73.3	100.0
Italy	3.3	35.1	38.4	8.6	2.4	13.6	16.0	15.3	32.2	13.3	45.5	70.7	38.0	62.0	100.0
Japan ^b	9.1	29.2	38.3	23.7	0.4	3.7	4.2	10.6	52.5	5.0	57.6	91.3	62.1	37.9	100.0
Mexico	4.6	55.2	59.8	7.7	0.3	2.1	2.4	12.5	12.7	25.1	37.8	33.7	17.6	82.4	100.0
Netherlands	33.4	44.1	77.5	43.1	1.8	1.8	3.5	50.1	13.7	5.2	18.9	72.4	48.9	51.1	100.0
New Zealand	1.5	65.3	66.8	2.2	0.0	9.0	9.0	0.0	9.8	14.5	24.3	40.4	11.3	88.7	100.0
Norway	15.8	50.3	66.1	23.9	2.6	3.3	5.8	43.7	23.4	4.7	28.1	83.1	41.7	58.3	100.0
Poland	3.9	34.3	38.2	10.2	2.4	20.6	23.0	10.4	28.6	10.2	38.8	73.8	34.9	65.1	100.0
Portugal	7.6	53.5	61.0	12.4	0.7	5.0	5.7	12.0	27.1	6.2	33.3	81.5	35.4	64.6	100.0
Slovak Republic	0.3	48.8	49.1	0.7	0.1	20.1	20.2	0.4	17.7	13.0	30.6	57.7	18.1	81.9	100.0
Spain	6.1	39.9	46.0	13.3	4.4	10.8	15.2	29.0	34.8	3.9	38.7	89.9	45.4	54.6	100.0
Sweden	10.0	47.2	57.3	17.5	0.4	5.4	5.9	7.6	31.6	5.3	36.9	85.8	42.1	57.9	100.0
Switzerland	22.2	56.7	78.9	28.2	0.5	2.6	3.1	15.3	14.7	3.3	18.0	81.8	37.4	62.6	100.0
Turkey	1.9	40.7	42.6	4.5	0.5	8.3	8.7	5.7	10.3	38.4	48.6	21.1	12.7	87.3	100.0
United Kingdom	14.9	53.1	68.0	21.9	1.4	5.6	7.0	20.0	15.2	9.7	25.0	61.0	31.5	68.5	100.0
United States	20.0	53.1	73.1	27.4	1.0	4.0	5.1	19.9	11.5	10.4	21.9	52.5	32.5	67.5	100.0
Average	11.3	47.1	58.4	18.0	1.4	7.3	8.7	17.8	23.0	9.9	32.9	69.2	35.6	64.4	100.0
Median	7.6	47.2	60.4	13.4	1.0	6.1	7.0	12.0	20.2	8.3	30.6	73.1	35.4	64.6	100.0

a) Persons aged 20 to 24 years old.

b) Data refer to persons aged 15 to 24 years old.

Source: OECD Secretariat database on labour market status by educational participation.

Table 1.6a. **Young adults^a unemployment and non-employment rates, according to different definitions, 2000**

	Unemployment					Non employment		
	Total		Non student			Total	Non student	
	Percentage of labour force	Percentage of population	Percentage of non-student labour force	Percentage of non-student population	Percentage of total population	Percentage of population	Percentage of non-student population	Percentage of total population
Australia	9.7	8.1	10.6	9.4	6.1	25.1	20.7	13.3
Austria	6.0	4.2	5.7	5.0	3.7	34.0	16.3	12.1
Belgium	13.3	8.1	12.0	10.8	6.2	47.4	20.6	11.8
Canada	11.5	8.4	13.0	11.5	7.1	35.1	23.2	14.3
Czech Republic	14.4	10.2	14.3	12.5	10.0	39.6	25.3	20.3
Denmark	6.5	5.1	4.3	3.8	1.7	26.2	14.6	6.6
Finland	20.9	13.2	19.6	15.9	7.5	50.1	34.9	16.5
France	20.5	10.5	22.9	20.6	9.4	59.3	30.8	14.1
Germany	8.5	6.1	10.6	8.8	5.8	34.0	25.7	16.9
Greece	26.5	16.7	26.7	23.2	15.2	53.8	36.4	23.7
Hungary	11.6	6.6	11.9	9.1	6.1	49.6	32.6	22.1
Ireland	4.9	3.6	4.9	4.4	3.3	30.2	13.2	9.7
Italy	29.5	16.0	27.9	21.9	13.6	61.6	43.4	26.9
Japan ^b	9.9	4.2	11.4	9.9	3.7	61.7	23.1	8.8
Mexico	3.8	2.4	3.6	2.5	2.1	40.2	33.0	27.2
Netherlands	4.3	3.5	3.8	3.4	1.8	22.5	13.7	7.0
New Zealand	11.8	9.0	12.1	10.1	9.0	33.2	26.4	23.4
Norway	8.1	5.8	6.2	5.7	3.3	33.9	13.8	8.0
Poland	37.5	23.0	37.5	31.6	20.6	61.8	47.3	30.8
Portugal	8.5	5.7	8.5	7.7	5.0	39.0	17.2	11.1
Slovak Republic	29.2	20.2	29.2	24.6	20.1	50.9	40.4	33.1
Spain	24.9	15.2	21.3	19.8	10.8	54.0	27.0	14.7
Sweden	9.3	5.9	10.3	9.4	5.4	42.7	18.5	10.7
Switzerland	3.8	3.1	4.4	4.2	2.6	21.1	9.5	5.9
Turkey	17.0	8.7	16.9	9.4	8.3	57.4	53.4	46.6
United Kingdom	9.4	7.0	9.6	8.2	5.6	32.0	22.5	15.4
United States	6.5	5.1	7.1	6.0	4.0	26.9	21.4	14.4
Average	13.6	8.7	13.6	11.5	7.3	41.6	26.1	17.2
Median	9.9	7.0	11.4	9.4	6.1	39.6	23.2	14.4

a) Persons aged 20 to 24 years old.

b) Data refer to persons aged 15 to 24 years old.

Source: See Table 1.5. Figures in this panel can be calculated from those shown in Table 1.5.

Table 1.6b. **Males aged 20 to 24 unemployment and non-employment rates, according to different definitions, 2000**

	Unemployment					Non employment		
	Total		Non student			Total	Non student	
	Percentage of labour force	Percentage of population	Percentage of non-student labour force	Percentage of non-student population	Percentage of total population	Percentage of population	Percentage of non-student population	Percentage of total population
Australia	10.2	8.9	11.6	11.0	7.2	21.6	16.1	10.5
Austria	7.5	5.4	7.4	6.6	5.1	33.1	17.8	13.8
Belgium	11.0	7.2	9.9	9.3	5.5	41.7	15.3	9.1
Canada	13.7	10.4	15.0	13.9	9.0	34.3	21.1	13.5
Czech Republic	15.2	12.1	15.1	14.7	12.0	32.3	17.3	14.1
Denmark	6.2	5.3	4.1	3.8	1.9	20.8	10.5	5.2
Finland	21.8	14.2	20.7	17.1	9.1	49.3	34.8	18.5
France	18.6	10.3	20.4	19.3	9.4	54.8	24.6	11.9
Germany	9.6	7.3	11.9	10.5	7.1	31.0	21.7	14.6
Greece	20.8	14.3	21.0	19.6	13.4	45.5	26.1	17.8
Hungary	13.7	8.8	14.2	12.2	8.4	44.9	26.3	18.1
Ireland	4.4	3.5	4.3	4.1	3.2	24.4	8.7	6.7
Italy	26.9	15.8	26.0	21.5	14.0	56.9	38.9	25.4
Japan ^a	11.7	4.9	13.6	12.5	4.4	63.1	20.6	7.3
Mexico	3.6	3.0	3.4	3.3	2.7	19.0	7.4	6.0
Netherlands	4.2	3.5	3.4	3.2	1.5	20.3	9.4	4.6
New Zealand	12.2	10.1	12.5	11.5	10.1	27.4	19.0	16.7
Norway	8.7	6.9	6.7	6.5	4.3	28.0	10.5	7.1
Poland	36.0	23.3	35.0	31.5	20.7	58.7	41.4	27.2
Portugal	6.7	4.9	7.1	6.7	4.6	31.8	12.2	8.3
Slovak Republic	32.5	24.5	32.7	29.6	24.5	49.1	39.1	32.4
Spain	18.3	12.0	15.8	15.1	8.9	46.4	19.4	11.5
Sweden	10.0	6.7	10.9	10.0	6.3	39.7	18.1	11.4
Switzerland	5.0	4.2	5.8	5.7	3.5	20.4	8.5	5.2
Turkey	17.5	12.7	17.5	14.6	12.2	39.9	31.4	26.4
United Kingdom	10.8	8.8	11.1	10.5	7.3	27.4	16.0	11.1
United States	7.1	5.8	7.5	6.9	4.7	23.2	15.2	10.5
Average	13.5	9.4	13.5	12.3	8.2	36.5	20.3	13.5
Median	11.0	8.8	11.9	11.0	7.2	33.1	18.1	11.5

a) Data refer to men aged 15 to 24 years old.

Source: See Table 1.5.

Table 1.6c. **Females aged 20 to 24 unemployment and non-employment rates, according to different definitions, 2000**

	Unemployment					Non employment		
	Total		Non student			Total	Non student	
	Percentage of labour force	Percentage of population	Percentage of non-student labour force	Percentage of non-student population	Percentage of total population	Percentage of population	Percentage of non-student population	Percentage of total population
Australia	9.2	7.2	9.5	7.8	4.9	28.7	25.6	16.2
Austria	4.4	3.0	3.8	3.3	2.4	34.9	14.6	10.3
Belgium	16.1	9.0	14.5	12.5	6.9	53.2	26.4	14.5
Canada	9.0	6.3	10.5	8.8	5.1	36.0	25.7	15.0
Czech Republic	13.3	8.1	13.3	10.2	8.1	47.1	33.9	26.9
Denmark	6.7	5.0	4.5	3.8	1.6	31.1	19.1	7.9
Finland	19.8	12.1	18.0	14.3	5.9	51.0	35.0	14.4
France	22.7	10.7	26.2	22.0	9.5	63.7	37.8	16.3
Germany	7.1	4.8	9.0	6.9	4.4	37.2	30.2	19.4
Greece	32.7	18.8	33.3	26.7	16.7	61.3	46.4	29.1
Hungary	9.0	4.6	8.8	5.9	4.0	54.1	38.9	26.0
Ireland	5.5	3.7	5.5	4.8	3.3	36.1	18.1	12.7
Italy	32.6	16.3	30.4	22.5	13.2	66.4	48.6	28.5
Japan ^a	8.0	3.5	9.2	7.6	3.1	60.4	25.2	10.3
Mexico	4.2	1.8	4.0	1.9	1.5	58.9	55.1	45.8
Netherlands	4.5	3.6	4.3	3.7	2.0	24.6	17.6	9.5
New Zealand	11.3	7.8	11.6	8.7	7.8	39.1	33.8	30.2
Norway	7.4	4.8	5.2	4.5	2.2	40.2	18.4	9.0
Poland	39.2	22.7	40.3	31.7	20.5	64.8	53.0	34.2
Portugal	10.6	6.4	10.3	8.8	5.4	46.0	22.8	13.9
Slovak Republic	25.0	15.8	24.9	19.3	15.6	52.6	41.8	33.8
Spain	32.8	18.6	28.8	25.7	12.8	61.9	36.4	18.1
Sweden	8.5	5.0	9.6	8.6	4.5	46.0	18.9	9.9
Switzerland	2.4	1.9	2.9	2.7	1.7	21.9	10.4	6.6
Turkey	16.1	5.2	15.5	5.2	4.7	73.1	71.8	64.8
United Kingdom	7.6	5.2	7.6	5.9	4.0	36.7	29.2	19.8
United States	5.8	4.3	6.6	5.1	3.4	30.7	27.8	18.3
Average	13.8	8.0	13.6	10.7	6.5	46.6	31.9	20.8
Median	9.0	5.2	9.6	7.8	4.7	46.0	29.2	16.3

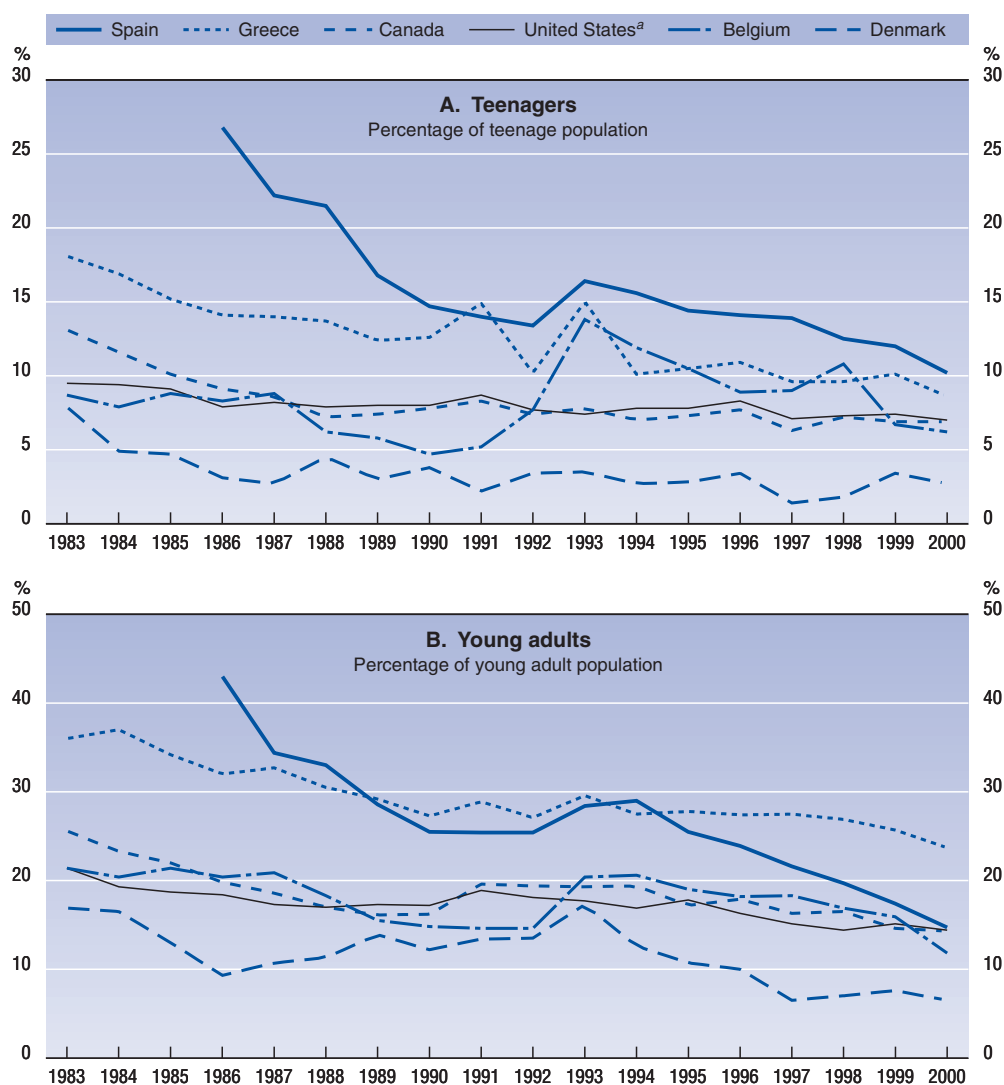
a) Data refer to women aged 15 to 24 years old.

Source: See Table 1.5.

These proportions appear to have been trending downwards in most cases (Chart 1.4).⁸ Trends in the “augmented” employment/population ratio, defined as the proportion of the age group concerned who are either in employment or in education (or both) have therefore tended to be upwards. It could be argued that youths are staying longer in education through lack of employment opportunities, rather than by choice. However in terms of the dimensions documented in this sub-section, it generally seems youth labour market outcomes have improved slightly since 1983.

Several previous analyses have suggested that youth employment prospects are particularly sensitive to the cycle. OECD (1996) found that, in percentage-point terms, youth unemployment rates tend to rise slightly more than adult rates do during a recession.

Chart 1.4. **Youths neither in employment nor in education, selected countries, 1983-2000**



a) Teenagers aged 16 to 19 years.

Source: Chained estimates using OECD Secretariat databases on labour market status by educational participation.

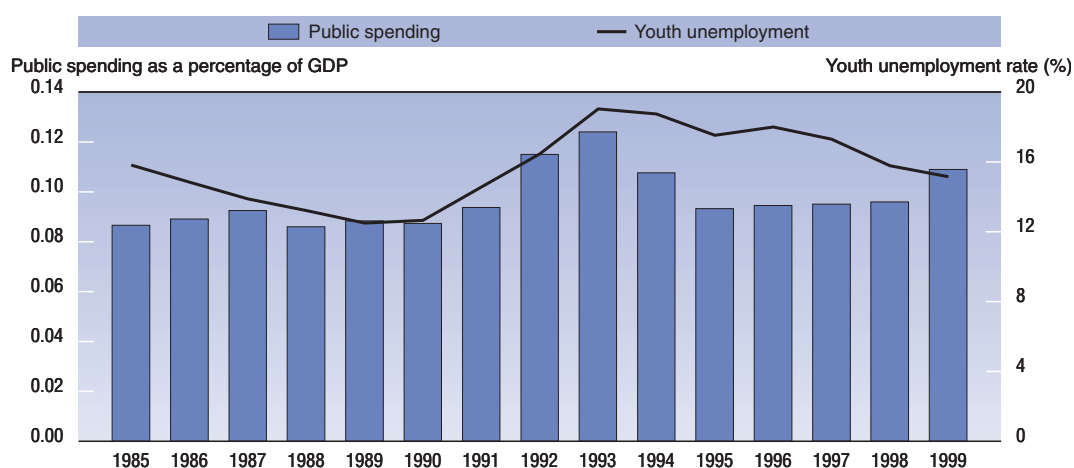
However, since youth unemployment rates are much higher to start with, this finding also suggests that the youth share in total unemployment or the relative youth unemployment rate fall in a recession. The historical evidence shows that ratios of youth to adult unemployment rates rose sharply during the 1973 to 1977 recessionary period, and fell during the recovery period of 1977 to 1979.⁹ However, as from the 1980s these ratios showed little cyclical tendency and, as shown in Annex Table 1.B.1, they were often relatively low in the recession year of 1993.

C. Public spending on youth labour market measures

In the OECD database on labour market programme expenditure (see Table H in the Statistical Annex of this volume), youth measures account for on average 13% of total spending on active labour market measures. For the past 15 years, spending on youth measures has averaged 0.1% of GDP or less (Chart 1.5),¹⁰ remaining well above this level in some OECD European countries, but well below it in Japan and the United States. High-spending countries include France, Italy, Finland, and the United Kingdom which in 1999 spent 0.41%, 0.25%, 0.20% and 0.15% of GDP respectively on youth measures. The first three of these countries have rather high youth unemployment rates, as shown in Table 1.6.

The OECD youth labour market measures category refers to measures that are targeted on youths.¹¹ Data on the actual ages of participants in many training, employment incentive (*i.e.* hiring subsidy), job creation and business start-up measures – including measures which are not explicitly targeted on youths – are available for most EU countries and Norway from Eurostat (2002). In these countries, in 1999, youth measures as defined by the OECD accounted for nearly 20% of active spending. However Secretariat estimates (based on the programmes for which data for participants by age are available) suggest

Chart 1.5. Youth unemployment rates^a and public spending on youth labour market measures, 1985-1999^b



a) Youth unemployment refers to persons aged 15 to 24 years (16 to 24 in the United States).

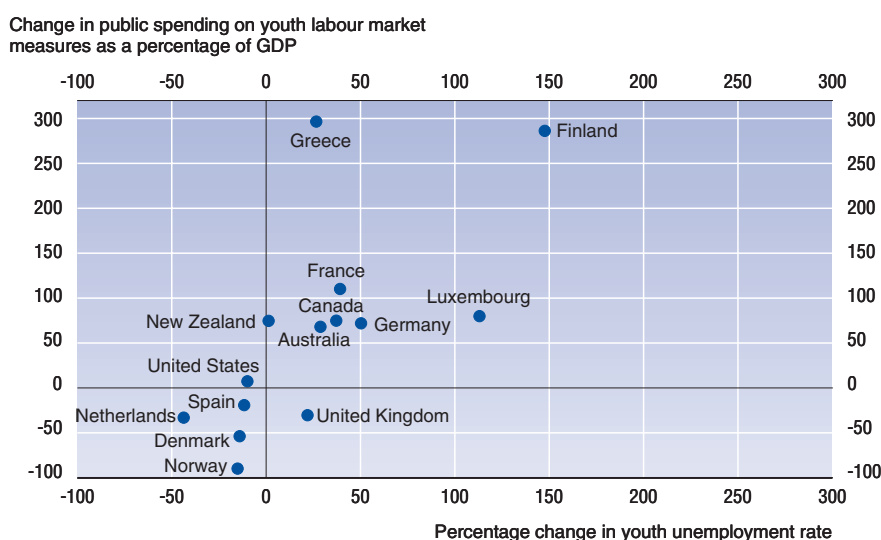
b) Unweighted averages. Some missing data have been estimated by the Secretariat. The OECD Member countries included are Australia, Canada, Denmark, Finland, France, Germany, Greece, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, United Kingdom and United States.

Source: OECD Secretariat database on labour market programmes and OECD (2001), *Labour Force Statistics, 1980-2000*.

that nearly 40% of all programme participants on a stock basis were aged under 25. Nearly all participants in apprenticeship support programmes, except for one programme in Finland, and about 30% of participants in both general training and employment incentives were youths. By contrast, only 19% of participants in job creation programmes and 10% of participants in business start-up programmes were youths. The youth share was relatively large in general training programmes in Belgium, Italy (where training-and-work contracts appear under this heading, rather than apprenticeship or employment incentives), and Spain; in employment incentives in Greece; in job creation measures in France and the Netherlands; and (although the youth share was still only about a quarter) in business start-up measures in Greece and Spain. In the United Kingdom, the total number of participants in employment incentive and job creation measures was low, but those concerned were all youths in the New Deal for Young People.

With few exceptions, between 1989 and 1999 countries increased (New Zealand, France, Australia, Germany, Canada, Greece, Luxembourg and Finland) or decreased (Norway, Spain, the Netherlands, Denmark) spending on youth measures relative to GDP in the same direction as the change in the youth unemployment rate (Chart 1.6). Any correlation or lack of correlation can only be approximately captured, given the conceptual problems in defining “youth measures”. However, a systematic correlation could arise because higher youth unemployment increases spending, either automatically (*e.g.* because long-term unemployed youths are entitled to training) or as a discretionary policy response. To reconcile this observation with the idea that active labour market policies can reduce unemployment, it can be noted that the full impact of new policies develops

Chart 1.6. **Changes in youth unemployment rates and in public spending on youth labour market measures between 1989 and 1999, selected countries^a**



a) Youth refers to ages 15 to 24 (16 to 24 in the United States). Some missing data have been estimated by the OECD Secretariat. Sweden is omitted from this chart because in the mid-1990s public spending shifted sharply away from measures explicitly targeted on youths, and towards youth participation in general programmes. As a percentage of GDP, spending in the OECD category of youth labour market measure fell over the period shown but the Swedish Labour Market Board estimates that total spending on youths, including those in general programmes, more than doubled.

Source: OECD Secretariat database on labour market programmes and OECD (2001), *Labour Force Statistics, 1980-2000*.

over a number of years, effective labour market policies do not necessarily involve high spending, and high rates of participation in measures may be helpful in a depressed labour market but counterproductive once unemployment has fallen (so that observations combining high spending with low unemployment should not arise).

OECD average data in Chart 1.5 show that spending declined slightly in the late 1980s, and increased quite sharply in the recession of the early 1990s through to 1993. This increase reflected a number of new or sharply expanded programmes: youth training and job creation (Landcare and Environmental Action) programmes in Australia, expanded municipal job training in Denmark, youth training and job creation (CES) measures in France, the Youth Work Guarantee in the Netherlands, an expansion of apprenticeship support and other training (co-financed by the European Social Fund) in Portugal, and Youth Practice (six months of work experience for 18- to 25-year-olds, in the private or public sectors, with attractive conditions for employers) in Sweden. Towards the mid-1990s spending on youth labour market measures fell slightly but then, breaking with the earlier cyclical tendency, it held steady after 1995 and increased in 1999. This reflected a further round of new or sharply expanded youth programmes: New Apprenticeships in Australia (which is also open to adults), the Youth Employment Strategy in Canada, the *Emplois Jeunes* programme in France, the JUMP programme in Germany, and the New Deal and Work-Based Training for the Young in the United Kingdom (where spending had fallen considerably in the early 1990s).

D. Developments in youth labour market policies

This sub-section examines labour market policies for young people under six sub-headings: early intervention policies for disadvantaged youths; diverse pathways in education and training; activation measures improving employability and mobilising labour supply; large-scale job creation and promotion; dual systems providing a bridge between school and work; and safety nets. Other institutional factors that could have a significant impact on the youth labour market such as minimum wages, measures to reduce labour costs, and employment protection will not be covered.¹² However, these factors may influence the nature of the problem and the type of measures that need to be adopted. Apprenticeship contracts carrying exemption from minimum wage requirements, direct job creation measures, hiring subsidies and relaxed conditions for temporary contracts can bypass or offset the effect of high wage costs or employment protection. Tight benefit eligibility conditions and jobseeker “activation” measures, by contrast, can offset the impact of benefit disincentives. High-quality education and training, and other measures, notably labour market information, career guidance and matching services, are necessary regardless of the institutional background.

Age is not the only or necessarily the best criterion for targeting labour market policies. Since “youth” policies are often primarily concerned with the process of transition from education to work, some measures, such as career counselling, may tend to be targeted on entrants and re-entrants to the labour market (in the case of people already unemployed, those without a recent work history) rather than on a particular age group.

Early intervention policies for disadvantaged youths

Less-educated youths are more likely to be disadvantaged in the labour market. The evidence from the evaluation literature suggests that the biggest pay-off for disadvantaged youths come from *early* and *sustained* interventions (Martin and Grubb, 2001; Heckman

and Lochner, 2000; Garces *et al.*, 2000). Such interventions should begin before children enter the compulsory schooling system, and they should be followed by intensive efforts to boost their performance in primary and secondary schooling and reduce drop-out rates.

Diverse pathways in education and training

Pathways through upper secondary and tertiary education and vocational training need to accommodate a wide variety of student needs and interests. Post-school programmes providing alternative routes for those who do not complete upper secondary education meet with varying degrees of success. In the United States, these programmes often allow high school drop-outs to complete their high school education, while in other countries they more often lead to distinct vocational qualifications. Keeping education options open for nearly all teenagers, as Norway has done by introducing an entitlement to three-year secondary education, helps in implementing the “youth guarantee” and “safety net” strategies described below. The proportion of young people finishing secondary education in OECD countries has continued to increase, but often less than half of them continue on to university study. Several policy trends in the 1990s increased the flexibility and diversity of the options available (OECD, 2000b):

- A broadening of vocational programmes and qualifications (*e.g.* a broad construction programme rather than separate programmes in carpentry, painting and brick-laying).
- The creation of links between general and vocational education, and the combination of work-based learning with continuing school education (*e.g.* vocational options within upper secondary education, more general education content within vocational education, and the modularisation of the general education and vocational training courses, making it possible to combine modules from both).
- The creation of some pathways from secondary vocational education into tertiary education, both “double qualifying” pathways (qualifying the person to either start work with technical expertise or continue into tertiary education) in Austria, the Czech Republic and Hungary, and supplementary examinations and courses taken in parallel with or after vocational training qualifications, in Australia, Austria, Switzerland and Norway.

However, courses which meet the needs of less successful students may suffer loss of prestige; vocational training with increased generic education content may suffer from loss of focus and interest among employers who continue to demand specialised skills; and arrangements which grant qualifications for multiple individual modules of education or training may tempt some young people to leave education with only partial skills. Thus, reforms must strike a balance between creating more diversity, and ensuring that youth options and the qualifications they provide remain clearly defined.

A wide variety of models exist for school-based workplace experience, ranging from unpaid work experience organised through the school to arrangements that associate schooling with regular half-day, or one-trimester-per-year, paid work. There is some evidence that school-based workplace experience has a positive impact on later labour market outcomes: some studies also suggest relatively good outcomes for students who take unorganised part-time or holiday jobs. And as is well-known, youth outcomes are generally good in countries where a substantial proportion of young people enter work through apprenticeships. The common ingredient in these arrangements is the benefit derived from contact with the world of work during education and training.

Activation strategies to mobilise labour supply

Since the mid-1980s, labour market policies have placed more emphasis on the interaction between passive and active measures. “Welfare to work” and “activation” strategies, appealing to so-called “mutual obligation” principles, have increasingly been applied. Young people have often been the earliest and the prime target group for such policies:

- The **Nordic** countries have attempted for many years to implement a “youth guarantee”. Under such guarantees, the government commits itself to offer youths in a defined target group – which may be all who are registered unemployed and claiming unemployment insurance (UI) or social assistance benefits, or all who are not in education or employment in the years shortly after leaving school (perhaps after some maximum time unemployed) – a place in an education, training or work programme. In 1984, Sweden introduced “the first genuine youth guarantee”, and by 1985 Norway also had a *de facto* guarantee. Some difficulties were encountered in implementing these guarantees at first and also in maintaining them through the recession of the early 1990s, but youth cohort sizes were falling and by the mid-1990s places to implement these guarantees were generally available, facilitating a shift to more directive policies that require youths to participate in either education or the labour market. Norway’s guarantee was extended to 20- to 24-year-olds in 1995 (Hummeluhr, 1997). In 1996 Denmark withdrew the right to receive UI benefits or social assistance benefits¹³ for young people after six months of unemployment: beyond this point, young people who do not find work can generally only enter training and further education programmes with an allowance equal to only half the UI-benefit level. Finland withdrew the right to labour market support (assistance benefit) for teenagers in 1996 and for all young people under 25 without a vocational qualification, unless they are in a labour market measure or vocational training, in 1998.¹⁴ Sweden’s 1997 Act on Municipal Responsibility for Young People specified that municipalities should offer training or employment opportunities within 90 days, and empowered municipalities to lower or refuse assistance if the individual did not participate (Hanesch *et al.*, 2001).
- In the **Netherlands**, following experimental programmes introduced in 1987, the Youth Work Guarantee Act of 1992 guaranteed a job for up to two years to all young people aged under 21 and to school leavers (those with no work experience) aged up to 27. As from 1998 the Youth Work Guarantee has been assimilated into a general activation scheme, WIW, and there is currently a general guarantee for youths aged up to 23.
- In October 1996, **Ireland** required people aged 18 and 19 who had been unemployed for more than six months to register with the placement service FAS. In late 1998, young people unemployed for more than six months were required under Ireland’s National Action Plan to take up a job or training or risk loss of benefit (OECD, 2000a, Chapter 4). This approach was gradually extended to adults unemployed for 12 months, later reduced to 9 months (OECD, 2001b, p. 81ff).
- The **United Kingdom**’s New Deal programme, which requires six months’ participation in a programme if no other options can be found, was implemented nationwide for people aged 18 to 24 and unemployed for six months in Spring 1998; the New Deal for workers aged 25 and over was implemented nationwide for people unemployed for more than 18 months in Spring 2001.

- **Australia's** Mutual Obligation policy as from July 2002 requires 18- to 49-year-olds to undertake an additional activity¹⁵ after 6 months on unemployment benefits and for 6 months of every 12 months that they stay on unemployment benefits. This policy was applied to 18- to 24-year-olds from 1998, and was first extended to ages up to 34 in 1999 and to ages up to 49 in 2001.

The European Union's Employment Strategy, defined in 1997, calls for offers of assistance to be made before 6 months of unemployment in the case of youths and 12 months in the case of adults. EU countries with major programmes for youths that come into play before or at six months include Austria, Belgium, Denmark, Germany, Italy, Portugal, Spain and the United Kingdom. Sweden uses a shorter period (90 days), and youth activation in Finland, for those without a vocational qualification, starts immediately. Several non-EU countries (Australia, New Zealand and Norway) also target programmes on young or younger unemployed after six months. Opinion surveys in Australia have reported greater public support for applying activity requirements to young people than to older workers (OECD, 2001c), and this is probably true elsewhere. This may reflect a belief that the long-term costs of scarring by unemployment are greater for young workers at the beginning of their careers than for prime-age or older workers. However, the empirical evidence in support of "scarring" effects from youth unemployment is mixed.¹⁶

Many evaluation studies of individual youth labour market measures have reported that they have little impact (Martin and Grubb, 2001).¹⁷ However, broader activation strategies quite often seem to have a positive impact on exit rates from unemployment, even among youths. In Australia, when Mutual Obligation requirements were applied to youths who had been unemployed for six months, rates of exit from unemployment around this duration increased (Richardson, 2002). In Denmark, when a different set of obligations was applied to youths who had been unemployed for six months, rates of exit from unemployment into ordinary employment or education increased by 50% for those in the 24th to 28th week of unemployment, and by smaller proportions in earlier and later weeks (AM, 2000). The UK New Deal for Young People is also reported to have significantly increased outflows to employment among young males, with most of this effect coming from the employer wage subsidy and enhanced job search (Van Reenen, 2001).

Studies of exit rates from unemployment often count relatively short spells of employment or breaks in unemployment as exits. However, even when measures have an impact on this basis, their full impact may be disappointing if many people after leaving unemployment soon return. This problem was already evident in the Nordic countries' youth guarantee strategies of the 1980s (Hummeluhr, 1997). More recently in France, it has been estimated that participation in the *Nouveau Départ* (New Start) programme in 2000, by youths who have been unemployed for six months, increased the probability that the spell would be interrupted within the next four months by about 5 percentage points but reduced the chances that the person would be unemployed at the end of the next four months by only 1 percentage point, which was not statistically significant (results for adult long-term unemployed and social assistance beneficiaries were more positive) (DARES, 2001). In the United Kingdom although the New Deal for Young People has sharply reduced unemployment for its target youth group registered unemployed for over six months, total registered unemployment fell at similar rates for youths and other age groups through to October 2000 (EESC, 2001). Programme participation that on a short-term individual basis appears to only temporarily interrupt the unemployment spell might however change jobseeker expectations, improving outcomes in later months and years.

Assessment of the aggregate impact of policy measures requires careful attention to questions of statistical definition. Danish authorities point to data from administrative registers which show that the total number of unemployed of all ages more than halved (from about 13% in early 1994 to 6% by late 1998) as Denmark's activation strategy was implemented: on this basis, youth unemployment fell even more rapidly and is now very low.¹⁸ However, according to standardised labour force survey statistics, the fall in the aggregate unemployment rate was smaller (from 8.9% to 5.2%, according to OECD *Quarterly Labour Force Statistics*) and the youth unemployment rate in the year 2000 was still about 7%. Danish authorities consider that the administrative registers for 1994 included a rather large number of unemployed people who were not fully available for work (AM, 1999, p. 54). A second major reason for the different statistical trends, particularly in the case of youths, is illustrated in Table 1.5: two-thirds of all unemployed young adults in Denmark (ages 15 to 24) are students. Student unemployment tends to be high in countries where student employment is high. Because it usually involves a search for part-time work by people who are often not registered as unemployed or eligible for unemployment benefits (in Denmark, most students receive student benefits instead), active labour market policies for the unemployed usually have little relevance for student unemployment. From this point of view, the youth unemployment "problem" and trends in outcomes should be assessed in terms of non-student unemployment. This issue is important only for certain countries: the student share in youth unemployment is over a half in Denmark, Finland, the Netherlands and Norway, over a third in Australia, Canada, Switzerland and the United States, and a quarter or more in Belgium, Spain and the United Kingdom, but in all other OECD countries it is below one sixth.¹⁹ Three countries with youth activation strategies (Denmark, Ireland, and the Netherlands) had the lowest levels of non-student youth unemployment in 2000 with Norway not far behind. However outcomes in Australia, Finland and the United Kingdom were only average.²⁰

Even where activation strategies work well, they can be expensive. Unemployed youths relatively often qualify for benefits and total spending on active policies is a rather high proportion of GDP in the three countries with very good youth unemployment performance cited above. Particularly when spending is high, policy assessments need to consider how far any reduction in open unemployment has come at the cost of an increase in "hidden" or "disguised" unemployment. This may include not only participation in job-creation programmes but also unproductive or excessively lengthy participation in education and training, even if quantification of this concept remains difficult and controversial. It may be possible to limit costs if, faced with an activity obligation, some young unemployed people find an unsubsidised job instead and relatively few enter expensive job-creation options.²¹ Also, success in reducing unemployment does in the long term reduce the cost of active labour market policies. Norway has high-coverage, long-duration UI benefits, for which youths often qualify if unemployed, yet nevertheless succeeds in keeping unemployment low with only moderately high active spending. This is plausibly a more successful outcome than one which involves very high spending.

Large-scale employment programmes

Most evaluation studies emphasise that broadly targeted programmes are relatively ineffective, and recommend specific targeting in order to reduce dead-weight and substitution effects. However, programmes need to be implemented on a relatively large scale if they are to guarantee a job or another type of programme place to all unemployed youths or implement an activation strategy under which all long-term unemployed are required to

participate in a programme. Programmes also need to be implemented on a large scale when they aim to increase total employment directly. In France, a youth unemployment rate of 28% in 1997 4th quarter fell to 19% by 2000 4th quarter, and in Belgium, a youth unemployment rate of 21% in 1999 4th quarter fell to 17% just a year later (seasonally adjusted standardised rates). Both of these rapid falls occurred when large-scale youth employment programmes were implemented.²²

France's New Services, Youth Jobs (*Nouveaux Services, Emplois Jeunes*, NSEJ) (see Box 1.2) programme has taken in 350 000 participants over the four years to end 2001, at an annual cost of about €4 billion. The jobs created were subsidised for five years to ensure that participants did not return rapidly to unemployment. The programme design also specified that the subsidised jobs should meet emerging and unmet social needs. The latter idea was commonly interpreted in terms of access to new technology, assistance for people with handicaps, and improvement of the environment, local heritage and security in public spaces. Owing to the large size of the programme and the long duration of participation, NSEJ is extremely expensive. It remains debatable whether the new service activities are always valuable enough to justify the level of spending on them and if there is not a continuing social need to reallocate the often rather well-educated participants to more productive employments.²³

Many of the NSEJ jobs were created in 1998, the first full year of the programme, so that the five-year subsidy periods will end in 2003. About 10% to 20% of participants each year have left before the end of their contracts (in some cases, to take up a regular job with the same employer), but nearly half of those hired in 1998, as well as replacement hires, are likely to be affected by the ending of subsidies.²⁴ In some cases NSEJ activities have become commercially viable or public sector employers, recognising the utility of the new activities, will be willing to finance them without further subsidies.²⁵ However, the impending end of subsidies has provoked much discussion and in June 2001 the government announced a wide-ranging plan for the "consolidation" of the youth jobs, with three main components:

- Measures promoting transitions to another job, including regular jobs with public sector employers. These measures include: additional training; certification of professional work experience; help with preparing for public sector entrance examinations; modifications to traditional criteria for entering public sector jobs at both national and local levels, giving credit for NSEJ work experience; and a personal action plan for young people who enter the labour market after NSEJ participation.
- Exceptional public sector hiring programmes: state employers (the state education system, the police force and ministry of justice) will continue their NSEJ activities with new five-year fixed-term contracts. Local governments are generally expected to hire a large proportion of their lower-skilled NSEJ participants at the lowest level of the regular civil service scale.
- Subsidy extensions: some local governments (in disadvantaged regions and urban areas) and non-profit employers, were invited to apply for a further three years of subsidies at reduced rates, to support the continuation of NSEJ activities which are not financially viable but are recognised as being socially useful.²⁶

The government expects in general terms that a "professional outlet" will be offered to all NSEJ participants and it seems possible that relatively few of them will become unemployed. Declining subsidy levels will encourage transfers out of activities of uncertain social utility, but the NSEJ participation will often have been a route into a permanent

employment in the public sector²⁷ or jobs subsidised for long periods by government. It would be difficult for any programme with this feature to maintain a high rate of hires beyond its start-up years,²⁸ so the impact of the NSEJ on labour market outcome indicators is liable to decline.

In Belgium, unemployed school leavers generally qualify after 6 to 12 months for (fairly low) unemployment benefits, but the First Job Agreement (*Convention de premier emploi*, CPE) programme (see Box 1.2), although partly inspired by youth “activation” strategies in neighbouring countries, has not emphasised jobseeker obligations (Nicaise, 2001). The CPE is a quota obligation for private sector firms with 50 or more employees: 3% of their labour force must be hired from young jobseekers with a CPE. There are no restrictions on the educational level, former work experience and duration of unemployment of the young person in question. However social security contributions are, subject to further conditions, reduced when the CPE concerns a less-qualified young person or when any CPE is followed by hiring with an indefinite contract. As a result – and despite the fact that employer non-respect of the quota has so far rarely been sanctioned – employers have an incentive to hire on a CPE basis and, if possible, exceed the 3% quota. In regions with labour shortages, the definition of eligible youth is broadened, and employers have generally been able to meet the hiring quota.

Corresponding to the 3% quota imposed on private sector employers, Belgium has a 1.5% quota for hiring of unemployed youths with CPEs by public sector organisations (although the teaching profession is exempted) and the non-profit sector. Part of the quota is met via federal-local collaborative projects in the areas of assistance for young and handicapped people and urban renewal and security, similar to the NSEJ programme in France, but on a smaller scale. Overall, the Belgian CPE programme has recorded a large number of hires of young people at much lower cost than the French NSEJ programme, but deadweight is probably considerable (*i.e.* many of the recorded CPE hires would have occurred anyway). Again, the CPE has not been particularly successful at targeting less-qualified youth: 34% of CPE hires were (in the first year of operation) less-qualified, but this is below the less-qualified share in the stock of youth unemployment.²⁹

Many youth programmes involve some subsidised employment, but primarily aim to assist transitions from school or unemployment into unsubsidised work by providing work experience, often combined with training. Korea’s Internship Programme (described in Box 1.2) is mainly targeted at college graduates (a choice which may reflect social pressure arising from the relatively high unemployment rates of more educated youths), and aims to tackle employers’ reluctance to hire educated youths who lack work experience. Canada’s Youth Employment Strategy (YES) was launched in 1994 and expanded in the latter 1990s. Internships supported by employer wage subsidies each year provide 40 000 out-of-school, unemployed, or underemployed youths, aged 15 to 30, with work experience. The YES also provides community service projects for youths who face greater barriers to entering the labour market, summer jobs for students, and career information (www.youth.gc.ca). Germany’s JUMP programme, launched in 1998 and implemented in 1999 and 2000, combines short-term programmes targeted on unemployed youths, apprenticeship support targeted on young people who have failed to find an apprenticeship place, and a safety net approach aiming to guide young people who have lost contact with the authorities back to qualification and employment. From mid-1999 JUMP programmes had about 80 000 participants on a stock basis, about half in wage subsidy and job creation measures and half in education and training, including

Box 1.2. Broadly-targeted employment programmes for youths

1. The First Job Agreement (CPE) in Belgium

Overview

After discussions with labour and management, the Belgium government adopted a bill to fight youth unemployment in November 1999. The programme is widely called the “Rosetta Plan”. The bill contains a hiring obligation on employers and financial incentives that ensure targeting of the least qualified individuals. This programme is a successor to the earlier *Stage des Jeunes* which operated since 1984 and also implied an employer obligation to recruit young jobseekers.

Programme design

The First Job Agreement (CPE) is targeted first on youths who left school less than six months previously, then on other youths aged under 25 and lastly on other youths aged under 30. A “cascading system” allows employers to hire from the first category only, or the first two, or all three categories, depending on the level of labour shortage in the regional labour market (currently, in no region is recruitment restricted to the first category). Since September 2001, workers aged over 45 who have been on benefits for a year or more can also be hired. The employment contract may be for regular work (full-time or part-time, but at least half-time), half-time work combined with training, or an apprenticeship.

Quota requirements

Private sector employers with 50 or more employees are obliged to employ young workers with a CPE in numbers equivalent to the 3% of their workforce. In the public and non-profit sectors the quota is 1.5%. In case of shortfall, a fine of €75 per youth and per day is applied. CPEs are valid for 12 months, which can be increased to 24 or 36 months for work-and-training and apprenticeship contracts.

Financing and participants

For CPE regular work contracts, employers can pay 90% of usual collectively bargained wage rates, on condition that the remaining 10% is spent on training (although this option has been relatively little used). For each CPE employee with low qualifications (less than upper secondary education) employer social security contributions are reduced by € 495.79 per quarter provided the 3% quota is respected, raised to € 1 115.25 per quarter for each such employee if over 5% of the employer’s workforce has a CPE. Finally if, upon termination of the CPE, the employer hires the person concerned on an indefinite duration contract and the hire increases the firm’s total personnel, employer social security contributions are reduced by 10% of the gross wage for a year. More than 70 000 CPE contracts were signed in the first 18 months (starting April 2000), 40% of them by those with low qualifications. Federal spending (mainly reductions in social security contributions) on the programme was expected to attain €100 million per year.

2. Nouveaux Services, Emplois Jeunes (NSEJ) in France

Overview

In September 1997, the French government introduced the NSEJ scheme to create 350 000 jobs in the public and non-profit sectors for young people. Its objective is to

Box 1.2. Broadly-targeted employment programmes for youths (cont.)

youth unemployment and at the same time promote innovative development of the service sector, which traditionally has been weak in France. It offers wage subsidies of five years' duration for the creation of new socially-oriented jobs meeting needs not covered by the commercial or administrative sectors.

Eligibility

The jobs created must not enter into competition with activities already performed by the commercial or non-profit making private sectors, nor must they supplant existing employment. To qualify for employment under this plan, young people must be under 26, or under 30 if they have had no job lasting four consecutive months and thus have never qualified for unemployment insurance benefits.

Financing and participants

The state pays a subsidy of 80% of the legal minimum wage (SMIC) and related social security contributions. Employers quite often pay participants more than the SMIC. With a total annual subsidy near €15 000 for a full-time job, spending was €0.3 billion permitting the creation of 50 000 jobs in 1997, rising to €1.5 billion in 1998 and about €4 billion annually, financing a stock in place of about 250 000 jobs, from 2000 to 2003. By end 2001, 350 000 people had been hired in these jobs. Through to mid-2001, 82 000 jobs were created in the non-profit sector (in fields such as sports, culture, the environment and community services), 64 000 in local authorities, 34 000 in public and semi-state bodies, 70 000 in the state education system (mainly educational assistants), 25 000 in the national police force (principally security officers) and 2 000 in the administration of justice. An additional 10 000 posts will be created in 2002.

3. Government-supported Internship Programme in Korea***Background***

As the employment situation for youths worsened in the wake of an economic crisis of 1997, increasing unemployment among college graduates was much discussed in the media. The Korean government set up this temporary employment special measure, which began in 1999, to provide young unemployed with work experience in industrial sites.

Target group and subsidy

The programme targets unemployed youths aged between 18 and 30, and who have a level of education at high school or above. Companies affiliated to the Employment Insurance System which hire unemployed youths as interns receive a subsidy of 500 000 KRW (about €400 and a third of an average full-time wage) per person per month for three months. Companies which continue to employ these youths after the first three months this time receive the wage subsidy for an additional three months.

Spending and participants

In 2000 about 56 600 unemployed young people benefited from this programme at a cost of 110 billion KRW. The proportion of completers who were subsequently hired was 50% in 1999 and 83% in 2000 (Ministry of Labour, 2001). By 2002 this programme was being run down, but a new Job Experience programme for students who are still in school was expected to have 35 000 participants.

apprenticeship pre-qualification and qualification measures (Dietrich, 2001). The number of participants in the employment options was probably over 10% of the number of non-student unemployed youths in the economy – less than in Belgian and French programmes but more than in the UK New Deal.

In 1999, about 200 000 youths in France, 300 000 in Italy and 500 000 in Spain, among less than 2 million employees aged under 25 years in each country, were benefiting from hiring subsidies (often reduced social security contributions) (Eurostat, 2002). Large employment incentive programmes are broadly targeted (from 2001, all conversions of temporary contracts into indefinite contracts for people aged up to 30 can qualify in Spain), and their employment effects may primarily result from their effect in reducing labour costs and/or facilitating hiring with a temporary contract.

Dual systems providing a bridge between school and work

In most OECD countries, youths are educated at school and then enter the labour market so that the transition from school to work is “sequential”. Countries with no tradition of vocational orientation within their secondary education system and where the formal labour market is difficult to enter can experience high enrolment rates in tertiary schooling, leading to credential inflation or over-education with relatively high unemployment rates among highly-educated young people (Van der Velden and Wolbers, 2001; O’Higgins, 2001). For example in Italy, Greece, Mexico, Spain and Turkey, unemployment rates of highly-educated youths are above those of low-educated youths, in contrast to most other countries (OECD, 2000b).

The alternative is a “dual” system in which youths pass from school into apprenticeships, during which they continue to spend one or two days a week in education institutions: typical examples are Austria, Denmark, Germany and Switzerland where a quarter or more of all employed aged 15 to 24 are apprentices (Bowers *et al.*, 1999, Table 21; OECD, 2001a, Table E3.1). Countries with a dual system generally have relatively low youth unemployment rates. As shown in Table 1.5, not only low youth unemployment/population ratios but also high youth employment/population ratios (themselves reflecting the importance of apprenticeships) contribute to this outcome. The benefits of apprenticeship systems have induced many countries to set up apprenticeship programmes with public funding. However, the apprenticeship systems in Austria and Germany are built upon several mutually dependent features. Apprentice wages are low (initially about one-third of adult rates, rising to one-half in the final year), which makes apprenticeships attractive to employers. Apprenticeship qualifications have value in the labour market, which makes apprenticeships attractive to young people and their parents. And the institutional basis of support for these systems is provided by strong and comprehensive industrial employer associations and industrial unions, which define apprenticeship qualifications and seek to maintain their value in the labour market. None of these features can easily be created in isolation or primarily through government funding.³⁰ Thus the more deregulated markets (with little sector-wide employer co-ordination) in countries such as the United Kingdom and the United States have constrained efforts to promote apprenticeships (Bowers *et al.*, 1999).

Most countries have some tradition of apprenticeship in limited sectors of the economy (*e.g.* parts of manufacturing industry and trade work such as plumbing). About 10% to 20% of employees aged 15 to 24 are apprentices in France, Italy³¹ and the Netherlands, and often between 5% and 10% in other OECD countries. Efforts to build upon this base

are continuing. Australia has succeeded in rapidly expanding work-and-training arrangements since 1995 (Box 1.3). Factors behind this rapid expansion have been the National Training Awards which predefined the wage structure for apprenticeships and shorter-duration (often one-year) traineeships; the removal of age limits and the extension of traineeships to most industries and occupations where they previously hardly existed; and incentive payments with an effective system of marketing and practical assistance for employers who hire on an apprenticeship and traineeship basis. Labour market outcomes

Box 1.3. **New Apprenticeships in Australia**

Overview

Australia has a traditional system of four-year apprenticeships in areas such as manufacturing, construction and public utilities. In 1985, a system of shorter-duration traineeships was created: these were initially mainly for 15- to 19-year-olds in service and white-collar areas, but they subsequently evolved to cover older age groups and most industries. In 1996, the annual number of traineeship starts overtook the number of traditional apprenticeship starts and a new government amalgamated both streams. By 1999, the total stock of apprenticeships and traineeships in progress was roughly double its level just four years earlier. NCVER (2001a) was able to report that Australia, with about 2.1% of the working-age population (295 000 persons) in New Apprenticeship training as of December 2000, ranked fourth in the world, behind Austria, Switzerland and Germany, on this measure of training coverage.

Characteristics of the new system

Few restrictions: There are few occupational restrictions, and no age restrictions, on New Apprenticeships. The number of traineeships in non-trade occupations (managers and professionals, clerical and salaries workers, production and transport workers, and labourers) grew eightfold from 1995 to 1999, and the proportion of apprentices and trainees who are aged over 25 grew from probably less than 10% to about 50% by 2000. School students can also start a part-time apprenticeship while completing their school qualifications. The duration of contracts is flexible (*e.g.* from one year to four years), as is the vocational qualification level finally achieved (from Certificate I to diploma).

Training and qualification: Qualifications are “competency” based, allowing trainees to finish sooner if they can demonstrate that they have acquired required skills. Employers are encouraged to put existing employees into apprenticeships and a system of Recognition of Prior Learning (RPL) permits accelerated completion of training. Off-the-job training is delivered by public and private Registered Training Organisations, which also issue qualifications.

Wages and labour cost: Wages generally reflect the time the employee spends in off-the-job training. The employer receives incentive payments which total perhaps 6% or 7% of an apprenticeship wage at minimum rates (OECD, 2001c, Annex B).

Promotion: Government-financed New Apprenticeship Centres – financed according to the number of training agreements they register, and which pass 3-month and later benchmarks – administer the incentive payments, market the programme locally to employers and advise and assist them with all stages in the process of hiring an apprentice.

for individuals who complete a New Apprenticeship are good: over 90% of New Apprentices who successfully completed the off-the-job component in 1999 were retained in employment or had found a new job by May 2000, and 93% of those who completed a New Apprenticeship in 2000 were in an unsubsidised job three months later (NCVER, 2001*a* and *b*). However, drop-out rates from the relatively newer and shorter-duration traineeships – often motivated by trainee dissatisfaction with wages, training content or workplace relations – are high. Fears have been expressed that flexible National Training Packages allow individual employers to choose quite narrow options which do not lead to truly portable qualifications, and that incentive payments are sometimes delivered for entirely on-the-job training which is often of poor quality (EWRSBE, 2000). Employment rates for completers, although high, may not exceed those of non-trainees with similar job tenures and further research on the value of these qualifications in the labour market is needed (OECD, 2001*c*).³²

France, Norway and Ireland provide further examples of apprenticeship reforms that have resulted in a genuine increase of apprenticeship opportunities for young people (Bowers *et al.*, 1999). In France, legal reforms in 1987 extended apprenticeship to diplomas beyond the traditional certificate of vocational competence (CAP), and although progress was slow in the early 1990s, after 1993/94 the number of apprentices increased by 50% over four years. Norway's reform in 1994 integrated apprenticeships into the pathways through upper secondary education, and broadened their content in terms of general and vocational education. Ireland's reform in 1996 aimed to provide broad-based training during the initial stages, but combined this with a modular approach for the development of specialist skills, assessed in terms of achievement of standards rather than time spent in the programme, and intended to allow on-going up-dating of skills.

Even in countries where apprenticeship is a major pathway, it should not be seen as the only answer (OECD, 2000*b*). Indeed, certain weaknesses of this approach can be seen in Austria and Germany.³³ Policy has often focused on guaranteeing apprenticeship places,³⁴ but such a guarantee remains less comprehensive than the “youth guarantees” now operating in Nordic and some other countries. Although youth unemployment rates in Austria and Germany are relatively low, the non-student non-employment rates of young male adults are slightly above OECD average or median levels because non-student inactivity is relatively high.³⁵ This could reflect the fact that social assistance benefits are not always granted to unemployed youths: if they were easily available, there is a risk that they would compete with apprenticeship wage levels.

Safety nets for school leavers

One further dimension of youth labour market policy is a “safety-net” approach. Most youth labour market programmes tackle unemployment and/or create employment, and will not generally make contact with youths who have left education but remain inactive in the labour market. “Safety nets” typically aim to identify recent school leavers who are not employed, yet are not registered with the public employment service, for further tracking and assistance. Nordic countries provide a broad range of general and vocational programmes in school, and here safety-net interventions often get early school leavers back into school so that they can complete upper secondary education (OECD, 2000*b*).

Networking at local level between different actors, particularly schools, social assistance services, the public employment service, municipalities and staff of specialist youth outreach programmes, can help put effective safety nets into place. One example of an

outreach programmes is TRACE in France, created in 1998, which aims to achieve stable employment for young people who left education with little or no qualifications, with many participants entering three years or more after leaving school. Participants have personal contact with a counsellor every fortnight and usually receive multiple services, possibly including emergency financial and health care assistance, renewed eligibility for publicly-funded training, and supported part-time work contracts (Defauquet, 2000). Another example is Youthreach in Ireland, which started in 1989. Its primary objective is to deliver general education, vocational training and work experience to unqualified early school leavers, but the programme includes sub-programmes for special needs such as psychological and crime awareness counselling. Increasing job opportunities in the Irish labour market (even for the unskilled) have recently led to difficulties in retaining participants, but a positive outcome of this has been that a place can now generally be offered to any person who is identified – through contacts between Ireland’s 78 Youthreach centres and other local actors – as needing it.

Australia’s Jobs Pathway Programme (JPP), for 15- to 19-year olds planning to make the transition from school to work and its Job Placement, Employment and Training (JPET) programme for 15- to 21-year-olds who are at risk of homelessness, refugees or ex-offenders, similarly aim to prevent people from “falling through the cracks”, or pick them up if this has happened. As in the Nordic countries, there is now a reasonable chance that assistance will reach disadvantaged youths aged under 20.

It is relatively difficult to maintain contact with youths in later years so as to establish effective safety-net programmes for those aged 20 and more. In about one-third of OECD countries, 5% to 10% of males aged 20 to 24 are neither in education nor in the labour market and are inactive (rather than unemployed), suggesting that there may be an unmet need for policies in this area.³⁶

Conclusions

Over the past two decades there has been on average some decline, or at least stability, in the ratio of youth unemployment rates to adult rates, and the long-term share in youth unemployment has fallen in virtually all countries. However, cross-country and time-series statistics for youth labour market problems are sensitive to the use of unemployment or non-employment (the sum of unemployment and inactivity) as the numerator, the denominator chosen when calculating rates, the treatment of labour force participants who are still studying, and the average time elapsed since the youths in question left education or entered the labour market. Thus, the employment/population ratio of youths has tended to fall, but the employment/population ratio augmented to include youths in education has tended to rise. Ratios of youth to adult unemployment fell during the recession of the early 1990s, suggesting that youth unemployment is not particularly sensitive to the economic cycle in relative terms, although it remains sensitive in absolute terms and youth employment rates are markedly cyclical.

Spending on youth labour market programmes varies greatly between countries. On the whole it varies in the same direction as youth unemployment rates, but in the late-1990s expansion a number of OECD countries broke with cyclical trends by maintaining and even expanding these programmes. Policy efforts directed at young adults in countries such as Belgium, Denmark, France, Ireland, the Netherlands and Sweden seem to deserve some credit for recent declines in their relative unemployment rates,

and a few OECD countries with relatively comprehensive “youth guarantees”, which provide programme places to all youths after six months of unemployment or less, now have particularly low levels of non-student unemployment and non-employment. However, such “activation” strategies may be relatively expensive and some countries using similar strategies (Australia, Finland, and the United Kingdom) still have only average youth labour market outcomes.

Large-scale employment programmes in Belgium and France probably had a considerable impact on the youth labour market in the late 1990s. But in the French programme, the long-run cost of each hiring has been very high owing to the five-year duration of initial contracts and efforts to avoid returning participants to unemployment after this, which limit the flow of new places that can be offered now that the launch phase of the programme has passed. The Belgium CPE programme achieves many recorded hires of youths at much lower direct cost, through an ingenious system of quotas and indirect incentives applied to private sector employers. Employment incentive programmes in many other countries also try to promote hiring, through reductions in labour costs and relaxed conditions for temporary contracts, hoping that work experience and training will assist the transition-to-work process and increase the participant’s employability.

Many countries have public programmes to promote apprenticeships. Apprenticeships need to be made attractive to individual employers and employees, but to make them a really distinct option and labour market pathway, objectives such as external monitoring of qualifications (to maintain their general value in the labour market) and the delivery of general education during the apprenticeship (as a long-term public good) need to be emphasised. Even in countries where apprenticeship is a major pathway into the labour market, operating on the whole without direct government subsidies, it should not be seen as the only answer: apprenticeship systems in Austria and Germany appear to keep youth unemployment rates relatively low, but not youth inactivity rates.

“Safety-net” measures, aiming to identify and engage with recent school leavers who are inactive in the labour market or only have precarious jobs, are an important complement to conventional transition pathways and “guarantee” strategies, which often only reach people who are registered with the public employment service and/or receiving benefits. These safety-net strategies generally have been most successful for under-20s: young adults who withdraw both from education and the labour market may be more difficult to engage. Factors which might help here are variety in the education and labour market options open to youths, and access to unemployment benefits combined with activation measures which encourage and reward entry to the labour market.

Notes

1. The transition from initial education to working life has been the subject of a thematic review (OECD, 2000b), which stressed the importance of high proportions of young people completing a full upper secondary education with a recognised qualification for either work, tertiary study, or both. A review of current trends on the transition from education to working life was prepared for the 1999 Conference, “Preparing Youth for the 21st Century”, organised jointly by the US Departments of Labor and Education and the OECD (OECD, 1999).
2. Despite apparently favourable circumstances, neither Bowers *et al.* (1999) nor Blanchflower and Freeman (2000) saw much general improvement in the youth labour market in the OECD area in the 1990s. They noted that the proportion of youths in employment had tended to decline relative to adults, that their earnings were at best stagnant compared with those of adults, and that labour market problems remained highly concentrated among a disadvantaged group of young people. They also warned that youth employment prospects were particularly strongly influenced by the economic cycle.
3. Teenage labour force participation is affected by compulsory school and child labour laws: US labour force data relate to ages 16 and over rather than 15 and over for this reason. Data for young adults (aged 20 to 24 years) are still affected by wide variations, across countries and through time, in ages of exit from education. Data by year after exit from education, or data on flows and transitions, might be considered more comparable but it has to be kept in mind that these involve additional conceptual and comparability issues (*e.g.* in some countries, many youths spend a year in the labour market before going to university).
4. The choice of 1983 is dictated partly by the availability of comparable data: the European Union Labour Force Survey was substantially revised and harmonised in 1983.
5. Note that the decline in the proportion of youths who are in the labour force and the increase in the proportion of labour force participants who only recently left education will tend to increase youth unemployment rates, other things being equal.
6. The average incidence of long-term unemployment for all age groups rose slightly between 1990 and 2000 (see the statistical annexes at the end of the volume). Since people cannot be long-term unemployed during their first year in the labour market, falls in the incidence of long-term unemployment for youths might result from later entry to the labour market as well as increased turnover (perhaps associated with temporary contracts) in some countries (see Chapter 3). Employment and unemployment rates of the least-well-educated group of young people relative to others could be also used as indicator of the concentration of disadvantage, but need careful interpretation since numbers in the least-well-educated group have often fallen greatly.
7. Australian Bureau of Statistics publications present unemployed youth looking for full-time work (rather than any work) as a principal labour force indicator. In some countries student unemployment data are considered unreliable, *e.g.* it is claimed that some students erroneously report being immediately available for work, or combining full-time study with a search for full-time work.
8. Except for the six countries shown in Chart 1.4, it is currently difficult to build up a reasonably consistent time-series for the period since 1983 by splicing together existing data across the changes in definitions and reporting practices, as regards educational attendance, which occurred in the 1980s and 1990s. OECD (1996, Table 4.8) however shows that, between 1984 and 1994, the 14-country-average or median proportion of the population neither in education nor in employment declined sharply for women aged 18 and 22 and for men aged 18, but rose somewhat for men aged 22. Bowers *et al.* (1999, Table 9) show a large fall for all 22-year-olds by 1997, when economies were emerging from recession.
9. Data for the ratio of youth to adult unemployment rates from 1973 to 1990 are available for 13 countries from tables in OECD (1985) and OECD (1994). The 13-country average ratio was already high, 3.5, in 1973, and it rose to a peak value of 3.6 in 1977 and then declined (although in France, Spain and the United Kingdom the ratio in 1990 remained higher than in 1973). The high level in 1973 and the peak in 1977 could plausibly be related to the peak in the youth share of the population which occurred (on average) around these years (see Box 1.1), as much as to cyclical factors.
10. Chart 1.5 somewhat overstates the average level of spending on youth measures since Belgium and Japan, where since 1985 relatively few ALMPs have appeared in this category, are not included.

11. In the OECD labour market spending database, youth measures include apprenticeship support even if there is no explicit age limit, and measures where the upper age limit for participation is above 24 or which can exceptionally be extended to adults may be included. The youth classification can only be approximate, as illustrated by Australia's New Apprenticeships and Work for the Dole programmes: both now have many participants aged over 24 but only the latter has been taken out of the youth programme category.
12. Van der Velden and Wolbers (2001) score EU countries on a number of dimensions of their educational institutions (*e.g.* vocational specificity, dual education system) and broader labour market policies (wage bargaining structure, employment protection). They identify the overall unemployment rate, the level of employment protection, and the presence of a dual educational system as main determinants of youth unemployment rates, in cross-country comparison. Abowd *et al.* (2000) is an example of research that finds a large impact of minimum wages on youth employment. Only the cost of minimum wage employment, and not the minimum wage in itself, is liable to have a negative impact: thus in France measures which reduced the employer cost of minimum-wage employment by 13% as from 1997 are thought to have favourably affected total employment and raised the share of low-qualified workers in private-sector employment (CERC, 2001). Schröder (2001) identifies three youth "transition regimes" characterised by the use of broad and large-scale programmes, work experience programmes, or certified occupational training programmes respectively, associated with distinctive patterns of labour regulation and links from education to the labour market.
13. The most common activation measures in Denmark are job training in both private and public sectors, "pool" jobs in public service areas, and educational offers (Bredgaard and Jorgensen, 2000).
14. Räisänen and Skog (1998) state for Finland "As a rule, a person under 25 who has no basic vocational qualification cannot qualify for labour market support". This does not constitute a comprehensive youth guarantee, since a young worker with a vocational qualification or entitlement to UI may not receive an offer of a programme place.
15. In Australia, unemployed people can meet Mutual Obligation requirements by participating in part-time paid work (minimum 8 hours per week); Work for the Dole (a work experience programme, 12 to 15 hours per week for six months); several types of voluntary work including the Green Corps programme; training and education courses; specialised assistance programmes (including JPP and JPET, see Annex 1.A); and Intensive Assistance (which provides individualised job preparation, support and career counselling) (OECD, 2001c).
16. Ponthieux (1997) finds that youths who entered the labour market in 1995 received much lower wages than those who had entered in 1991 because labour market conditions had deteriorated. Holm *et al.* (2001) study the employment careers of teachers, engineers and unskilled workers in Denmark over a 17-year period and report that fluctuating demand for their qualifications had a significant effect upon their unemployment risk at time of entry to the labour market, but this effect was not permanent.
17. White (2000) interprets the evidence as showing that in Europe welfare-to-work programmes for the unemployed do work (the only country with many negative reports being Sweden) and that outcomes are just as positive for youths as for adults, in contrast to US findings. Heckman *et al.* (1999), after a comprehensive review, find no consistent pattern in the European evidence. In contrast to US evaluations, European ones have not generally used random assignment techniques, and the selection mechanisms and incentive effect of the programmes may differ because targeting in Europe is more often based upon receipt of income support.
18. The number of unemployed (UI beneficiaries plus unemployed social assistance beneficiaries, as defined by Statistics Denmark) aged 16 to 24 years fell by 79%, from over 60 000 early in 1994 to about 13 000 in August 2001.
19. Some student unemployed will have no income other than from unemployment benefits and be seeking full-time work, having a student status only because they have been referred to an education or training measure by the public employment service (PES). However, probably relatively few student unemployed in the countries with high levels of student unemployment are in this situation. OECD (2000b, Appendix 4) notes that 81% of all teenage unemployed in Norway in 1996 were seeking part-time work and reported education as their principal activity. Among all young people aged 15 to 24 who described themselves as students in 1997, 59% reported a regular job or casual work as their main source of income in Denmark and over 40% in Germany, the Netherlands and the United Kingdom: very few reported unemployment benefits as the main source (Bowers *et al.*, 1999, Table 5).
20. In Australia non-student youth unemployment fell by a third from 1997 to 2000, considerably more than overall unemployment, and the Mutual Obligation strategy may have contributed to this outcome.

21. Van Oorschot (2001) remarks that the participation rate in full-time programmes, relative to the total target group of activation policies, is very small, giving several examples (*e.g.* “in 1988 about 7 000 young unemployed participated in the TW-GWJ [youth guarantee], while nationally about 45 000 met the criteria”). Similarly, relatively few young people subject to Mutual Obligation requirements in Australia enter the Work for the Dole programme and in practice most of its participants are older long-term unemployed (OECD, 2001c, pp. 211-212).
22. The large fall in youth unemployment in France after 1997 occurred despite the abolition of national service obligations for young men. A cyclical upswing, targeted reductions in social security contributions for low-paid jobs (see CERC, 2001) and the introduction of the 35-hour week with incentives for firms that increased employment have contributed to the fall as well as the NSEJ programme.
23. NSEJ jobs were relatively popular and, with few effective constraints on employer behaviour, many were taken by people with more education than required for them, while younger and less qualified youth and those without previous work experience often failed to benefit. One difficulty in managing the programme has been that, given the innovative content of the jobs, they cannot easily provide experience and qualifications that are widely recognised by outside employers (Simonin, 2001).
24. At the outset, NSEJ educational assistant jobs were expected to be limited in duration. In contrast, NSEJ security agents working with the police were expected to train for, and apply to join, the regular police service (Simonin, 2001). In sectors other than education and police, by September 2001 75 000 participants had left and 160 000 remained: 54% of those who had started in 1998 were still participating. NSEJ leavers were employed in 64% of cases: 30% of those in employment were in a private enterprise, and many others had been hired by non-profit bodies (DARES, 2002).
25. For example the ANPE (public placement agency) when hiring NSEJ workers undertook that “Insofar as experience confirms that these activities are useful, this agency will do whatever is necessary to make them permanent” (www.emploisjeunes-idf.org/html/resj/instruction/anpe.html).
26. Employers can apply for subsidies to extend NSEJ jobs for three years beyond their initial five-year term. Subsidy levels over these years were expected to be on average 50% lower (under the “specific assistance” measure for local government) or 30% lower (under the “multiyear agreement” measure for non-profit employers) than during the initial five years. In the case of activities which are already partially self-financing a “consolidated saving” measure can provide additional subsidies equivalent to one more year at the initial rate, conditional on a prior agreement to spread remaining subsidy payments and new payments over the remainder of the eight-year period. For a synthesis of all the main consolidation measures, see www.clcbe.com/crea/nsej/synthese_plangvt_0601.html.
27. Gournac (2000) already affirmed, as regards NSEJ security agents, that the NSEJ programme had merely shifted the timing of the annual flow of public sector recruitment to the police force.
28. In its June 2001 statement, the government announced the creation of 10 000 new NSEJ jobs in 2002, much down on 1998 when over 100 000 new jobs were created, although some replacement hires in pre-existing NSEJ jobs should also arise.
29. Partial data for Flanders however suggest that CPE hirings were a relatively high share of all hirings of less-qualified youth (Nicaise, 2001).
30. Although the Austrian and German apprenticeship systems are not essentially dependent on government funding, duration is legally regulated (such that apprenticeships last 3 years or more in 90% of cases) and in many regions they fulfil the requirements of compulsory school attendance (Steedman, 2001).
31. In Italy, according to administrative data around half of all young employees are in an apprenticeship programme or a training-and-work contract, which reduce the cost of labour for the employer, but the proportion describing themselves as apprentices in the labour force survey is much lower.
32. A recent comparative study of Modern Apprenticeships in the United Kingdom by Steedman (2001) notes similar issues there.
33. O’Higgins (2001) analyses the German dual system at some length, noting a range of strengths and weaknesses. Apprenticeships teach specific skills and set an individual’s career pattern early in his/her life and it can be argued that specific training that smoothes the initial transition to work leaves workers ill-equipped for labour market shocks later in life.
34. In the German JUMP programme for youth, launched in 1998 and implemented in 1999, four of the five “main lines” were improvement in the supply of apprenticeship places; preparation of young people for apprenticeship; the offer of apprenticeship training in enterprise-external training organisations; and continued training for youths who have already finished apprenticeship training (Dietrich, 2001). In Austria, youth measures mostly focus on apprenticeships (see Annex 1.A and European Commission, 2000).
35. Non-student inactivity as a percentage of the population can be calculated from Table 1.6 as the difference between the eighth and the fifth data columns. The availability of unemployment benefits to groups with marginal labour force attachment probably increases reported unemployment while reducing reported

inactivity (ECHP data, tabulated in Chapter 4, suggest that this applies to the long-term unemployed in Belgium and Ireland). In Austria and Germany social assistance benefits are subsidiary to family support, which means that instead of granting benefits the authorities can require parents to support their children (and *vice versa*) even if they do not live in the same household. In 1998, 4% of 18- to 24-year-olds received social assistance in Germany, compared with 15% to 21% in Denmark, Finland and Sweden (Puide and Minas, 2001).

36. “Safety-net” programmes for youths are particularly needed where conventional institutional contact is lacking, *i.e.* for those who are neither employed nor in education, nor registered unemployed nor receiving income support such as social assistance. The labour force survey measure “neither in education nor in the labour market” gives only a rough indication of the size of this group.

Annex 1.A

Recent initiatives in youth labour market programmes

This annex summarises recent youth labour market initiatives and related policies. They are placed under the broad headings of *Active Labour Market Programmes* (ALMPs) and *Policies to help the transition from school to work*, although this classification is difficult to apply rigidly.

ALMPs for youths

	Background and objective	Target groups	Major contents	Timing, budget, etc.
Austria				
Special programme for the creation of apprenticeships	To reduce shortage of apprenticeships.	Youths aged under 25.	A subsidy is granted to firms. For girls and disadvantaged youths, subsidy is higher (8 000 ATS instead of 6 000).	Started in 1996.
"Safety-net" scheme for youths	To reduce shortage of apprenticeships and youth unemployment.	Unemployed youths.	This programme provides vocational training and special assistance to youths who are seeking an apprenticeship, but who have not been able to find one.	Started in November 1998. Budget for 2000: 250 million ATS (€20 million).
Australia				
Mutual Obligation	To ensure that unemployed people actively seek work and give something back to the community supporting them.	Youths aged 18 to 24, who had been receiving Newstart or Youth Allowance for 6 months: now extended up to age 49.	Requires participation for a minimum number of hours in one or more options, which may be part-time work, voluntary work, community work experience or various specialised programmes. Non-compliance is sanctioned by a reduction of benefits.	Initiated in July 1998, latest extension in July 2002.
Belgium				
First Job Agreement (<i>Convention de premier emploi</i> , CPE, known as the "Rosetta Plan")	To help youths find work.	Youth under 25 (under 30 in regions with labour shortage).	See Box 1.2.	Started in April 2000. By January 2002, 86 000 youths had participated.
Denmark				
Special Youth Package	To create incentives to enter formally qualifying education or training programmes and prevent long-term unemployment.	Youths aged 18 to 24 who have been on unemployment benefits for 6 months.	Participants without formal education or training are offered education or training of at least 18 months duration with an allowance at 50% of the UI level.	Started in 1996 for youths who had not completed formal education or training. Extended to all unemployed youths aged 18 to 24 in 1999.

	Background and objective	Target groups	Major contents	Timing, budget, etc.
Finland				
Rehabilitative Work Experience	To help hard-core long-term unemployed.	Young job-seekers after 8.5 to 12 months of unemployment.	Work experience with labour market support (income support) for 4 months. Participation is mandatory for youths under age 25. Requires co-operation between employment office and municipalities.	Started in September 2001.
France				
New services, Youth Jobs (<i>Nouveaux Services, Emplois Jeunes</i> , NSEJ)	To reduce youth unemployment through creating new jobs in the service sector.	Youths aged 18 to 25, up to 29 if they never worked enough to qualify for UI, or are disabled.	See Box 1.2.	Started in September 1997, with 336 000 participant entries by August 2001.
TRACE (<i>Trajets d'accès à l'emploi</i>)	To encourage entry into lasting employment, in a process that can last up to 18 months.	Youths aged under 25 with great difficulties.	Construction of a job-entry path (training, job search, etc.) using intensive and personalised support (with a single mentor). Income support is provided during the process.	Started in July 1998 with 131 200 participant entries by August 2001.
Germany				
Immediate action programme to reduce youth unemployment (JUMP)	To reduce youth unemployment: designed to supplement regular ALMP measures.	Includes youths who may not qualify for regular measures: looking for an apprenticeship place without success, unemployed or without qualification or employment.	Education and training, support for the creation of apprenticeship places, hiring subsidies, job creation schemes, and social and mentoring support.	Started in January 1999, with 260 000 participant entries and 80 000 current stock by end 2000. Annual budget of € 1 billion, co-financed by the European Social Fund.
Italy				
Job Grants Programme	To reduce youth unemployment in the South or other problem areas.	Youths aged 21 to 32 registered as unemployed over 30 months.	Training and work experience, up to maximum 12 months in SMEs (less than 100 employees).	Started from 1998. The social security fund is responsible for this programme.
Japan				
Employment Support Measures for New Graduates	To help new graduates find employment.	High school and college graduates, and those yet to find employment.	PES plays a role as an intermediary, and provides services such as Job Fair, information, counselling and placement services, and occupational training.	In 2000, 183 Job Fairs for high school graduates and 288 for college graduates.
Korea				
Government-supported Internship Programme	To help increase employability of young people.	Unemployed high school graduates and college graduates aged 18 to 30.	See Box 1.2.	In 2000, 56 600 participants with a budget of 110 billion KRW (€100 million).

	Background and objective	Target groups	Major contents	Timing, budget, etc.
Netherlands				
Individual Action Plan	Under the Jobseekers Employment Act (WIW) and Unemployment Benefits Act.	Unemployed youths up to age 23.	Local authority, in co-operation with employment services, provides a programme tailored to individual needs. Youths who are unemployed for over 12 months could be offered a subsidised job.	Based on the Act of WIW in 1998.
Sweden				
Municipal Youth Programme	Introduced to solve dramatic increase of youth unemployment in the mid-1990s.	Youths under age 20.	Municipality should offer workplace practice or similar activities within 100 days of unemployment and until the youth reaches age 20.	Started in 1995. 13 000 participants for an average duration of 4.5 months in 2000.
Youth Guarantee	To reduce long-term unemployment.	Long-term unemployed youths aged 20 to 24 receiving unemployment benefits or social assistance.	Maximum duration of 12 months. Provides individualised service based on an individual action plan.	Started in 1998 and to be operated till the end of 2002.
Change of Generations	To help long-term unemployed youths get a job.	Youths aged 19 unemployed for 3 months, adults up to 35 unemployed for 12 months, and older workers aged at least 63 years.	Compensation is paid for a maximum two years to older workers leaving employment, and the employer must replace the older workers with the target groups.	Implemented in 1998 to 2000. Costs are paid by the state (3/4) and firm (1/4).
United Kingdom				
New Deal for Young People	To reduce youth long-term unemployment as part of a "Welfare to Work" strategy.	Youths aged 18 to 24 who have been unemployed for 6 months or more.	Stresses local partnerships, and the role of the personal adviser. After a period of personal counselling, participants must spend 6 months in education or employment measures.	Started in 1998, with 730 000 participant entries and 80 000 current stock in November 2001.

Policies to help the transition from school to work

	Background and objective	Target groups	Major contents	Timing, budget, etc.
Australia				
Jobs Pathway Programme (JPP)	To help young people who have left school recently or plan to leave school in the near future.	Youths aged 15 to 19.	JPP provides information on local job market, employer expectations, career options, and assistance raising levels of motivation and self-esteem.	Introduced in 1995. Provided assistance to 70 000 youths at a cost of \$22 million in 2000/01. Service providers are contracted.
Job Placement, Employment and Training Programme (JPET)	To help young people who face multiple barriers.	Youths aged 15 to 21 years who are at risk of homelessness, refugees, or formerly in care or ex-offenders.	On-going training for basic life and employment skills, and support with personal (e.g. substance abuse, financial, legal and cultural) issues.	Expanded through the latter 1990s after pilot programme in 1992. Cost \$18 million in 2000/01, with 136 service providers.
Belgium				
Youth Plan +	To reduce long-term unemployment and help low-skilled youths find work.	Youths aged under 25 who left school less than 3 months ago without upper secondary certificate.	Four stages: Initial analysis, Integration agreement (including job search, training, etc.), Monthly monitoring, and Final evaluation.	In 2001, the programme's budget was €25 million and about 30 000 youths participated.
Luxembourg				
Temporary Work Experience Contract (CAT)	Help youths to achieve a smooth transition to work.	Youths under 30 registered with PES for at least one month.	Three-month contract renewable up to 12 months. Allowances at the level of a minimum wage for unskilled workers, 50% reimbursement for employers in the private sector, 95% in public sector.	A reform is under way to improve monitoring, reduce the period to 9 months, and strengthen the role of the mentor.
Netherlands				
Youth Counter	To help youths who drop out of school, and have difficulty to find jobs.	Youths who drop out of school.	Comprehensive approach combining education, work, income and care.	This pilot is going to be operated from 2002.
Regional Registration and Co-ordination Act (RMC)	To prevent youths dropping out of school system early.	Youths who leave school.	The Act establishes a register of information on school leavers.	
United Kingdom				
Connexions	To help teenagers' personal development (not transition to work).	Teenagers aged 13 to 19.	Provides integrated advice, guidance, and personal development opportunities.	Started in 2000.

Annex 1.B

Trends in youth and prime-age employment and unemployment

Table 1.B.1. Ratios of youth^a to prime-age adult^b unemployment rates

		1983	1989	1990	1993	1999	2000
Australia	Teenagers/prime age	3.1	3.2	3.2	2.7	3.1	3.3
	Young adults/prime age	2.0	1.8	2.1	1.9	2.0	1.9
Austria	Teenagers/prime age	..	..	..	..	1.5	1.6
	Young adults/prime age	..	..	..	..	1.2	1.4
Belgium	Teenagers/prime age	3.4	3.0	3.3	4.4	3.8	4.6
	Young adults/prime age	2.3	1.9	2.1	2.4	2.9	2.3
Canada	Teenagers/prime age	2.2	1.9	1.9	1.9	2.8	2.8
	Young adults/prime age	1.8	1.4	1.5	1.5	1.7	1.8
Czech Republic	Teenagers/prime age	..	..	..	3.5	4.2	4.3
	Young adults/prime age	..	..	..	1.8	1.8	1.8
Denmark	Teenagers/prime age	2.6	1.2	1.1	0.9	2.1	1.7
	Young adults/prime age	2.2	1.8	1.7	1.8	2.5	1.6
Finland	Teenagers/prime age	3.8	6.9	7.1	2.9	3.7	3.8
	Young adults/prime age	2.1	2.7	3.1	2.1	2.0	2.1
France	Teenagers/prime age	5.0	2.2	2.4	2.7	2.5	2.4
	Young adults/prime age	3.0	2.3	2.4	2.5	2.5	2.2
Germany	Teenagers/prime age	1.4	1.2	1.0	0.7	0.9	0.9
	Young adults/prime age	1.7	1.0	0.9	1.1	1.1	1.1
Greece	Teenagers/prime age	4.1	4.7	4.9	4.9	4.2	3.9
	Young adults/prime age	3.7	4.5	4.4	3.7	3.0	2.9
Hungary	Teenagers/prime age	..	..	..	3.2	3.8	4.2
	Young adults/prime age	..	..	..	1.6	1.7	1.8
Iceland^c	Teenagers/prime age	..	..	..	3.0	4.2	4.0
	Young adults/prime age	..	..	..	1.9	2.5	1.8
Ireland	Teenagers/prime age	2.2	2.0	2.1	2.3	2.1	2.5
	Young adults/prime age	1.3	1.2	1.1	1.6	1.4	1.2
Italy	Teenagers/prime age	8.3	5.1	5.3	4.7	4.3	4.5
	Young adults/prime age	5.6	4.0	4.0	3.8	3.3	3.4
Japan	Teenagers/prime age	2.8	4.0	4.0	3.5	3.2	3.0
	Young adults/prime age	1.9	2.2	2.2	2.3	2.2	2.1
Korea	Teenagers/prime age	3.5	3.8	4.9	5.4	3.4	3.7
	Young adults/prime age	2.7	3.1	3.3	4.1	2.2	2.5
Luxembourg	Teenagers/prime age	4.1	5.2	6.3	5.8	5.9	4.3
	Young adults/prime age	2.1	1.5	2.0	1.3	2.9	3.0
Mexico	Teenagers/prime age	..	..	..	2.2	2.0	3.3
	Young adults/prime age	..	..	..	2.1	1.8	2.6
Netherlands	Teenagers/prime age	3.3	2.2	2.0	2.4	4.1	3.4
	Young adults/prime age	1.8	1.4	1.3	1.7	1.4	1.4
New Zealand	Teenagers/prime age	..	3.0	2.9	2.8	3.1	3.8
	Young adults/prime age	..	2.2	1.9	1.9	2.1	2.3
Norway^c	Teenagers/prime age	5.0	4.2	3.8	3.6	5.8	6.3
	Young adults/prime age	2.8	2.4	2.3	2.4	3.0	2.7

Table 1.B.1. Ratios of youth^a to prime-age adult^b unemployment rates (cont.)

		1983	1989	1990	1993	1999	2000
Poland	Teenagers/prime age	..	..	..	2.7	3.9	2.9
	Young adults/prime age	..	..	..	2.3	2.7	2.5
Portugal	Teenagers/prime age	..	2.9	2.9	3.1	2.2	3.4
	Young adults/prime age	..	3.0	2.7	2.6	2.2	2.2
Slovak Republic	Teenagers/prime age	..	..	..	..	4.2	3.8
	Young adults/prime age	..	..	..	..	1.9	1.8
Spain^c	Teenagers/prime age	4.1	2.4	2.4	2.3	2.5	2.6
	Young adults/prime age	2.8	2.3	2.3	2.0	1.9	1.9
Sweden^c	Teenagers/prime age	6.4	4.6	5.6	3.5	2.9	3.6
	Young adults/prime age	2.9	2.8	2.6	2.8	2.0	1.9
Switzerland^d	Teenagers/prime age	..	..	2.7	2.0	2.0	2.8
	Young adults/prime age	..	..	1.6	1.9	2.2	1.7
Turkey	Teenagers/prime age	..	2.8	2.9	2.6	2.2	2.2
	Young adults/prime age	..	2.9	3.1	3.3	2.9	3.0
United Kingdom^c	Teenagers/prime age	..	1.7	2.0	2.2	3.2	3.5
	Young adults/prime age	..	1.6	1.6	1.9	2.0	2.1
United States^c	Teenagers/prime age	2.8	3.6	3.4	3.3	4.4	4.3
	Young adults/prime age	1.8	2.0	1.9	1.8	2.3	2.3
Weighted average^e (varying countries)	Teenagers/prime age	3.6	3.0	3.1	2.5	2.4	2.5
	Young adults/prime age	2.3	2.3	2.2	2.0	2.1	2.1
Unweighted average^f (18 countries)	Teenagers/prime age	3.8	3.4	3.6	3.2	3.4	3.4
	Young adults/prime age	2.5	2.2	2.3	2.3	2.2	2.1
Unweighted median^f (18 countries)	Teenagers/prime age	3.4	3.4	3.4	3.1	3.3	3.5
	Young adults/prime age	2.2	2.1	2.2	2.1	2.2	2.1

.. Data not available.

a) Teenagers refer to persons aged 15 to 19 (16 to 19 for countries concerned by footnote c) and young adults to persons aged 20 to 24. Youth is used for the sum of teenagers plus young adults.

b) Prime age refers to persons aged 25 to 54.

c) Teenagers refer to persons aged 16 to 19.

d) 1990 data for Switzerland refer to 1991.

e) Weighted average of non-missing data shown in the table (in 1999 and 2000, all OECD countries). 1990 weighted average for OECD includes 1991 data for Switzerland.

f) Average and median for the 18 countries having non-missing data in 1983.

Source: OECD (2001), *Labour Force Statistics, 1980-2000*, Part III. For Austria, Belgium, Denmark, Greece, Italy, Luxembourg, Netherlands and Portugal, data are from the European Union Labour Force Survey. Data from Switzerland are from the Swiss Labour Force Survey, and were supplied directly by national authorities.

Table 1.B.2. **Trends in employment/population ratios by age group^a**

		Percentages					
		1983	1989	1990	1993	1999	2000
Australia	Teenagers	44.6	50.4	47.9	39.6	45.8	47.4
	Young adults	68.4	76.8	74.7	67.7	72.4	73.5
	Prime age	68.5	75.7	75.8	72.8	75.3	76.5
	Working age	61.3	68.1	67.9	64.1	67.7	69.1
Austria	Teenagers	..	..	..	..	39.5	38.4
	Young adults	..	..	..	..	70.3	67.4
	Prime age	..	..	..	..	81.3	81.6
	Working age	..	..	..	..	68.2	67.9
Belgium	Teenagers	12.6	7.1	7.0	5.1	6.7	7.4
	Young adults	54.4	51.8	51.9	48.3	44.0	52.6
	Prime age	67.3	70.8	71.7	73.6	76.4	77.9
	Working age	53.1	53.8	54.4	56.0	58.9	60.9
Canada	Teenagers	41.3	51.6	50.2	41.2	41.1	43.4
	Young adults	66.2	73.6	71.2	65.1	68.1	69.1
	Prime age	71.5	78.2	78.0	74.9	79.2	79.9
	Working age	63.7	70.7	70.3	66.5	70.1	71.1
Czech Republic	Teenagers	..	..	..	31.3	14.0	9.9
	Young adults	..	..	..	65.9	60.5	60.7
	Prime age	..	..	..	86.3	81.9	81.6
	Working age	..	..	..	69.0	65.9	65.2
Denmark	Teenagers	38.2	59.9	58.4	56.8	59.9	59.0
	Young adults	69.5	72.9	71.3	63.4	71.5	73.9
	Prime age	82.0	83.9	84.0	80.8	84.4	84.3
	Working age	70.2	75.3	75.4	72.4	76.5	76.4
Finland	Teenagers	28.8	34.4	34.1	16.1	22.4	23.2
	Young adults	65.8	67.8	67.5	44.6	55.4	56.7
	Prime age	85.9	88.4	87.9	74.9	80.3	80.9
	Working age	71.4	74.2	74.1	60.5	66.0	66.9
France	Teenagers	13.4	10.0	9.3	5.9	6.1	6.8
	Young adults	60.6	52.2	49.6	40.6	36.7	40.7
	Prime age	76.9	76.9	77.4	77.0	77.0	78.3
	Working age	61.3	59.7	59.9	59.0	59.8	61.1
Germany	Teenagers	37.6	37.1	35.7	33.4	29.8	30.2
	Young adults	66.1	70.8	70.4	67.9	67.0	68.0
	Prime age	71.4	72.7	73.6	76.8	79.0	80.2
	Working age	61.3	63.5	64.1	65.1	65.4	66.3
Greece	Teenagers	21.1	15.1	14.8	11.5	9.0	9.1
	Young adults	47.7	46.9	47.8	44.3	45.2	44.9
	Prime age	64.5	68.4	68.5	67.8	70.0	70.2
	Working age	54.9	55.2	54.8	53.5	55.4	55.9
Hungary	Teenagers	..	..	..	13.9	10.4	8.9
	Young adults	..	..	..	57.0	54.9	53.1
	Prime age	..	..	..	72.6	72.3	73.0
	Working age	..	..	..	..	55.7	56.4
Iceland ^b	Teenagers	..	..	..	36.4	52.1	56.4
	Young adults	..	..	..	68.7	79.2	80.5
	Prime age	..	..	..	87.0	90.9	90.6
	Working age	..	..	..	78.2	84.2	84.6
Ireland	Teenagers	28.3	20.2	21.1	15.6	25.8	27.2
	Young adults	68.7	64.0	66.5	56.3	68.9	69.8
	Prime age	56.6	57.4	60.0	60.9	73.2	75.3
	Working age	51.9	50.0	52.1	50.9	62.5	64.5
Italy	Teenagers	20.4	17.4	16.8	14.7	9.4	10.3
	Young adults	50.3	49.0	49.9	42.3	38.9	39.4
	Prime age	67.0	67.5	68.0	66.4	66.9	67.7
	Working age	54.0	53.3	53.9	51.8	52.5	53.4
Japan	Teenagers	17.7	15.9	16.9	16.9	15.5	15.4
	Young adults	68.6	70.0	70.7	71.3	66.3	66.5
	Prime age	76.6	78.7	79.6	79.8	78.7	78.6
	Working age	67.4	67.7	68.6	69.5	68.9	68.9

Table 1.B.2. **Trends in employment/population ratios by age group^a** (cont.)

		Percentages					
		1983	1989	1990	1993	1999	2000
Korea	Teenagers	19.4	13.9	13.2	12.0	9.0	10.4
	Young adults	54.8	58.2	58.9	56.1	50.4	51.9
	Prime age	69.2	72.8	73.2	73.3	70.4	72.4
	Working age	..	60.6	61.2	62.3	59.7	61.6
Luxembourg	Teenagers	39.1	24.8	14.6	17.2	10.5	9.7
	Young adults	73.3	72.0	66.1	68.1	50.0	52.9
	Prime age	67.2	70.9	71.8	73.3	76.7	78.2
	Working age	58.6	59.3	59.1	60.9	61.6	62.7
Mexico	Teenagers	..	..	..	44.8	42.1	40.9
	Young adults	..	..	..	60.3	60.9	59.8
	Prime age	..	..	..	65.1	67.8	68.3
	Working age	..	..	..	59.3	61.2	60.9
Netherlands	Teenagers	16.5	31.7	35.2	36.4	49.8	58.6
	Young adults	60.4	66.8	68.4	67.8	75.0	77.9
	Prime age	62.0	69.0	70.6	73.6	80.6	81.7
	Working age	51.6	59.1	61.1	63.5	70.9	72.9
New Zealand	Teenagers	..	47.6	47.7	39.2	43.5	44.4
	Young adults	..	69.9	69.9	67.0	66.4	65.8
	Prime age	..	76.7	76.2	74.9	77.6	78.6
	Working age	..	67.4	67.3	66.0	70.0	70.7
Norway^b	Teenagers	41.2	39.1	37.0	30.1	43.9	43.9
	Young adults	69.3	68.4	65.8	60.1	68.3	69.1
	Prime age	82.3	83.1	82.3	80.6	85.5	85.3
	Working age	73.5	74.0	73.1	71.3	78.0	77.9
Poland	Teenagers	..	..	..	12.1	3.8	6.6
	Young adults	..	..	..	50.6	42.3	41.7
	Prime age	..	..	..	74.4	73.7	70.9
	Working age	..	..	..	58.9	57.5	55.0
Portugal	Teenagers	..	41.2	41.2	27.0	22.6	21.3
	Young adults	..	66.5	66.6	58.9	61.2	59.6
	Prime age	..	76.3	76.9	79.0	80.8	81.9
	Working age	..	65.1	65.5	64.3	67.4	68.1
Slovak Republic	Teenagers	..	..	..	..	8.7	6.5
	Young adults	..	..	..	..	51.0	49.0
	Prime age	..	..	..	..	76.1	74.7
	Working age	..	..	..	..	57.8	56.4
Spain^b	Teenagers	22.8	26.1	25.6	17.5	17.5	18.5
	Young adults	47.8	48.2	49.1	38.5	45.3	47.4
	Prime age	56.1	59.6	61.1	58.4	65.6	67.8
	Working age	48.4	50.1	51.1	47.1	53.8	56.1
Sweden^b	Teenagers	41.6	48.7	47.7	24.0	26.3	28.6
	Young adults	76.8	80.4	79.8	56.1	57.3	59.7
	Prime age	88.9	91.6	91.6	83.2	82.6	83.8
	Working age	78.9	82.9	83.1	72.6	72.9	74.2
Switzerland^c	Teenagers	..	..	54.5	54.2	52.3	51.2
	Young adults	..	..	82.2	79.5	77.6	78.9
	Prime age	..	..	84.5	83.2	85.2	85.4
	Working age	..	..	78.2	77.3	78.4	78.3
Turkey	Teenagers	..	42.6	42.2	34.5	33.9	31.0
	Young adults	..	51.2	51.1	45.3	46.0	42.4
	Prime age	..	62.6	61.6	58.0	58.5	56.2
	Working age	..	55.4	54.5	50.2	51.0	48.2
United Kingdom^b	Teenagers	..	65.1	62.7	48.3	52.2	53.0
	Young adults	..	75.5	75.4	65.8	67.8	68.6
	Prime age	..	78.3	79.1	76.3	79.7	80.4
	Working age	..	72.0	72.5	68.3	71.7	72.4
United States^b	Teenagers	41.5	47.5	45.3	41.7	44.7	45.4
	Young adults	66.0	71.9	70.9	68.9	71.7	72.4
	Prime age	73.7	79.9	79.7	78.5	81.4	81.5
	Working age	66.0	72.5	72.2	71.2	73.9	74.1

Table 1.B.2. **Trends in employment/population ratios by age group^a** (cont.)

		Percentages					
		1983	1989	1990	1993	1999	2000
Weighted average^d (varying countries)	Teenagers	29.2	33.0	32.3	29.7	30.3	30.5
	Young adults	63.0	65.4	65.2	60.3	60.0	60.4
	Prime age	72.3	75.5	75.9	74.4	75.9	76.2
	Working age	62.8	65.5	65.8	64.0	65.4	65.7
Unweighted average^e (18 countries)	Teenagers	29.2	30.6	29.5	24.2	26.3	27.5
	Young adults	63.0	64.5	63.9	57.1	58.5	60.4
	Prime age	71.5	74.7	75.3	73.7	76.8	77.8
	Working age	61.6	63.9	64.2	62.1	65.3	66.3
Unweighted median^e (18 countries)	Teenagers	28.6	28.9	29.9	17.4	24.1	25.2
	Young adults	66.0	68.1	67.0	58.2	61.8	63.1
	Prime age	70.3	74.3	74.7	74.3	77.8	78.4
	Working age	61.3	62.1	62.7	62.9	65.7	66.6

.. Data not available.

a) *Teenagers* refer to persons aged 15 to 19 (16 to 19 for countries concerned by footnote b), *young adults* to persons aged 20 to 24, *prime age* to persons aged 25 to 54 and *working age* to persons aged 15 to 64 (16 to 64 for countries concerned by footnote b).

b) *Teenagers* refer to persons aged 16 to 19 and *working age* to persons aged 16 to 64.

c) 1990 data for Switzerland refer to 1991.

d) Weighted average of non-missing data shown in the table (in 1999 and 2000, all OECD countries). 1990 weighted average for OECD includes 1991 data for Switzerland.

e) Average and median for the 18 countries having non-missing data in 1983.

Source: OECD (2001), *Labour Force Statistics, 1980-2000*, Part III. For Austria, Belgium, Denmark, Greece, Italy, Luxembourg, Netherlands and Portugal, data are from the European Union Labour Force Survey. Data from Switzerland are from the Swiss Labour Force Survey, and were supplied directly by national authorities.

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Chapter 2

Women at work: who are they and how are they faring?

This chapter analyses the diverse labour market experiences of women in OECD countries using comparable and detailed data on the structure of employment and earnings by gender. It begins by documenting the evolution of the gender gap in employment rates, taking account of differences in working time and how women's participation in paid employment varies with age, education and family situation. Gender differences in occupation and sector of employment, as well as in pay, are then analysed for wage and salary workers.

Despite the sometimes strong employment gains of women in recent decades, a substantial employment gap remains in many OECD countries. Occupational and sectoral segmentation also remains strong and appears to result in an under-utilisation of women's cognitive and leadership skills. Women continue to earn less than men, even after controlling for characteristics thought to influence productivity. The gender gap in employment is smaller in countries where less educated women are more integrated into the labour market, but occupational segmentation tends to be greater and the aggregate pay gap larger. Less educated women and mothers of two or more children are considerably less likely to be in employment than are women with a tertiary qualification or without children. Once in employment, these women are more concentrated in a few, female-dominated occupations. In most countries, there is no evidence of a wage penalty attached to motherhood, but their total earnings are considerably lower than those of childless women, because mothers more often work part time. These findings suggest that policies to facilitate the participation of women in paid employment should address both family-work reconciliation and the special difficulties faced by low-skilled women.

INTRODUCTION.....	63
MAIN FINDINGS.....	64
1. THE GENDER GAP IN EMPLOYMENT.....	66
2. WOMEN AT WORK: WHO ARE THEY?	70
3. WOMEN AT WORK: WHAT DO THEY DO?	85
4. WOMEN AT WORK: HOW MUCH DO THEY EARN?.....	96
CONCLUSIONS	108
<i>Annex 2.A. Definitions and data sources</i>	<i>114</i>
<i>Annex 2.B. Sources, definitions and methods of the decomposition of the gender and family wage gap ..</i>	<i>117</i>
BIBLIOGRAPHY	123

List of Boxes

2.1. Facts and perceptions concerning the utilisation of one's skills on the job	93
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List of Tables

2.1. Women and part-time work, 2000	69
2.2. Women's employment rates and the gender employment gap by educational attainment, 2000	74
2.3. Female share by educational attainment and age, 2000	75
2.4. Women's employment rates and the gender employment gap by presence of children, 2000	77
2.5. Part-time work, by gender and presence of children, 2000	78
2.6. Combined effects of the presence of children and educational attainment on women's employment	80
2.7. Employment transitions by gender	82
2.8. Continuity in employment status by gender, presence of children and educational attainment	84
2.9. Year-to-year changes in labour force status following child births	85
2.10. Female employment by occupation and sector, 1998-2000, OECD averages	86
2.11. Occupational concentration of women and men, 2000	89
2.12. Gender differences in the occupational distribution of employment by age, presence of children and education, 2000	91
2.13. Women in managerial occupations and in jobs with a supervisory role	95
2.14. Career progress over five years by gender	96
2.15. Gender wage ratio, 1998	97
2.16. The narrowing of the gender wage gap since the early 1980s, selected OECD countries	99
2.17. Employment rates, occupational segregation and the gender wage gap	106
2.B.1. Results of estimations of wage regressions	119
2.B.2. Decomposition of cross-country differences in the gender wage gap	120
2.B.3. Decomposition of cross-country differences in the family wage gap	121
2.B.4. Decomposition of the wage gaps for the benchmark country	122

List of Charts

2.1. The narrowing of the gender employment gap	67
2.2. The age-employment profile of women	72
2.3. Occupational segregation by gender and women's employment, 2000	90
2.4. The gender gap in monthly earnings, 1998	99
2.5. The gender wage gap and women's employment	100
2.6. A decomposition of the gender wage gap	102
2.7. The gender wage gap adjusted for the effect of the wage structure	104
2.8. A decomposition of the family gap in monthly earnings	107

Introduction

One of the most profound labour market developments in OECD countries over the post-war period has been the continued progress made by women. Female participation and employment have expanded considerably and the wage gap relative to men has narrowed virtually everywhere. These developments reflect changes in the labour supply behaviour of women, who are more and more educated and a growing proportion of whom remain in the labour market throughout their working lives and combine paid work with raising children. The outsourcing of traditional female household activities to the labour market has eased women's transition from the home to the labour market, while at the same time creating new work opportunities for them. Furthermore, the accommodation of a wider range of labour market participation patterns has led to diversified employment and working-time arrangements. A variety of forces have driven such developments: changes in family patterns and household formation that increasingly highlight the importance of women's earnings in household income; increasing aspirations of women for the independence and fulfilment that paid employment can bring as well as for further progress towards gender equity; and the realisation by governments that raising female employment rates can be an important policy goal, not least, in the interest of providing a sounder base for funding social protection systems in the context of an ageing society. The structure of employment has also changed in a way that has favoured women, with a shift of employment from agriculture and manufacturing towards services, where women are over-represented.

Alongside such evidence of progress, however, there remain concerns that women still have not attained equality with men and that their productivity potential is not used at its best: unemployment rates are higher for women than for men in most OECD countries; there is continuing gender differentiation in job opportunities, pay and working-time arrangements; and a continuation of the belief that care work is mainly the responsibility of women, wherever it is performed. Furthermore, the improvements in female employment performance are by no means uniform for all women.

This chapter examines the diversity in the labour market experience of women across countries, based on a set of comparable and detailed data on the structure of employment and earnings by gender. The analysis concentrates on gender differences in employment, the organisation and characteristics of jobs and their remuneration, leaving aside the examination of unemployment or inactivity. It goes beyond the simple observation of aggregate gender differences in the labour market with a view to identifying the groups of women on which the gender disadvantage is concentrated. Employment and earnings patterns of men as well as of women are examined in order to test the hypothesis that the success of women over recent years has been partly fuelled by deterioration in the labour market conditions for men.

The key personal dimensions along which the analysis is conducted are age, education and the family situation. Contrasting the employment experience of women belonging to different age groups offers an indirect measure of the evolution of opportunities, constraints, preferences and outcomes over time, as well as over the life-cycle, even in the

absence of long time-series data. A focus on education flows naturally from its role as a key determinant of individual labour performance and social well-being. As for the family situation, the presence of children is a crucial variable when observing both employment and earnings patterns, in line with recent studies that have pointed to the existence of a “family gap” – *i.e.* employment and pay gaps between mothers and childless women.

The chapter starts by documenting the evolution of the aggregate gender gap in employment rates over the past two decades. The analysis then looks more closely into the gender gap in employment for a recent year: taking account of differences in working time and of different age, education and family situation groups of women and men. When comparing employment patterns for individuals belonging to different age groups, the examination of cross-sectional data for a recent year is combined with a cross-cohort analysis of the life-cycle evolution of employment. Longitudinal data are also used to assess differences in how rapidly labour market experience accumulates by gender and other factors, like the presence of children and education. The analysis then restricts its attention to wage and salary workers to examine the two other main ways in which gender differences manifest themselves within employment: patterns of occupational and sectoral segmentation, both horizontal and vertical; and differences in pay. The gender pay gap is explored by means of a decomposition method. This provides insights into the relative importance of gender differences in human capital endowments, job characteristics and the wage structure in accounting for pay inequality between women and men. The same technique is then used to explore the impact of motherhood on female wages.

Main findings

- The narrowing of the gender gap in employment has continued throughout the 1980s and the 1990s. In some countries, the gap has closed due to a massive entry or re-entry into the labour market of women of all ages, whereas in others cross-cohort changes are concentrated around child-rearing age, as a growing proportion of women combine paid work with raising children. Employment gains for women in Greece, Italy and Spain, however, have not been sizeable enough to generate an appreciable narrowing of the gender gap in employment.
- As a consequence, in 2000, the gender employment gap was largest in Greece, Italy and Spain, together with Mexico. The gender gap in employment is lowest in Sweden and the other Nordic countries. Even these relatively low differentials understate women’s presence in Nordic labour markets given their high employment rates for men.
- Comparisons of headcount measures of employment by gender overstate the degree of women’s presence in employment in all countries, as they take no account of the higher incidence of part-time employment for women. On average in OECD countries, 26% of women and less than 7% of men work part time. The incidence of part-time work is by far the highest in the Netherlands, and is lowest in eastern European countries, Greece and Korea.
- Employment rates are generally much higher, and the gender gap lower, among women with a tertiary qualification than among low-educated women. Higher education is likely to give women access to more interesting and well-paid occupations, making paid employment more attractive and formal child-care arrangements more affordable. Japan and Korea are exceptions in that employment

rates of women with a tertiary qualification are similar to or lower than the rates of low-educated women.

- The balance in educational attainment between women and men is more and more equal across both sexes, not to say favouring women in several OECD countries, suggesting that women are increasingly well positioned for successful labour force participation. Important differences remain, however, in the fields of study typically undertaken by men and women. To a large degree, the educational choices of young women are still directed at fields that are less well paid on the labour market.
- The impact of parenthood on employment rates works in opposite directions for women and men: while women's workrates generally decrease as the number of children raises, men's increase. Furthermore, parenthood increases the incidence of part-time work among mothers, particularly those with a tertiary qualification.
- The available evidence on movements into and out of employment and transitions between full-time and part-time work confirms that women spend less and more discontinuous time in employment than men, especially if they have children or if they have a low level of educational attainment. Career breaks or reductions in time worked are particularly frequent immediately after child birth. The negative impact of child birth on employment appears to be particularly strong in Germany and the United Kingdom.
- The distribution of employment by occupation or sector is still very much gender-segmented. Women are over-represented in clerical occupations, sales jobs and the life-science/health and teaching professions, whereas they remain under-represented in managerial and top administrative occupations, as well as in manual and production jobs. The large majority of both women and men are concentrated in a small number of occupations that tend to be either female or male dominated. Furthermore, the degree of occupational segmentation tends to be higher, the higher is the degree of women's presence in the labour market.
- There are some signs of falling occupational segmentation among younger workers, as the younger generations appear to be more occupationally integrated than the older ones. On the other hand, workers with a low level of educational attainment and with children tend to be more occupationally segregated than highly educated and childless workers, respectively.
- The gender wage gap has narrowed over the past two or three decades in virtually all OECD countries, but women still earn, on average, 16% less than men per hour worked. When account is also taken of the fact that women work fewer hours than men, they appear to be earning considerably less than men. Gender differences in observable characteristics that influence productivity, such as education, potential experience and job tenure, account for little of the remaining gender gap in wages.
- Cross-country differences in the overall wage structure and women's employment rates provide important proximate explanations of much of the variation in the gender wage gap: in a few countries, notably the United Kingdom, the wage gap would be considerably lower if the wage structure were as compressed as in the OECD average; and larger wage gaps are found in countries where less educated and less skilled women are more integrated into the labour market. However, it is difficult to identify the most important economic and social factors underlying these associations.

- Except for a few countries, there is little evidence of an hourly wage penalty attached to motherhood (*i.e.* the so-called “family gap”). However, in some countries, mothers earn considerably less than their childless peers when account is taken of the fact that they work fewer hours.

1. The gender gap in employment

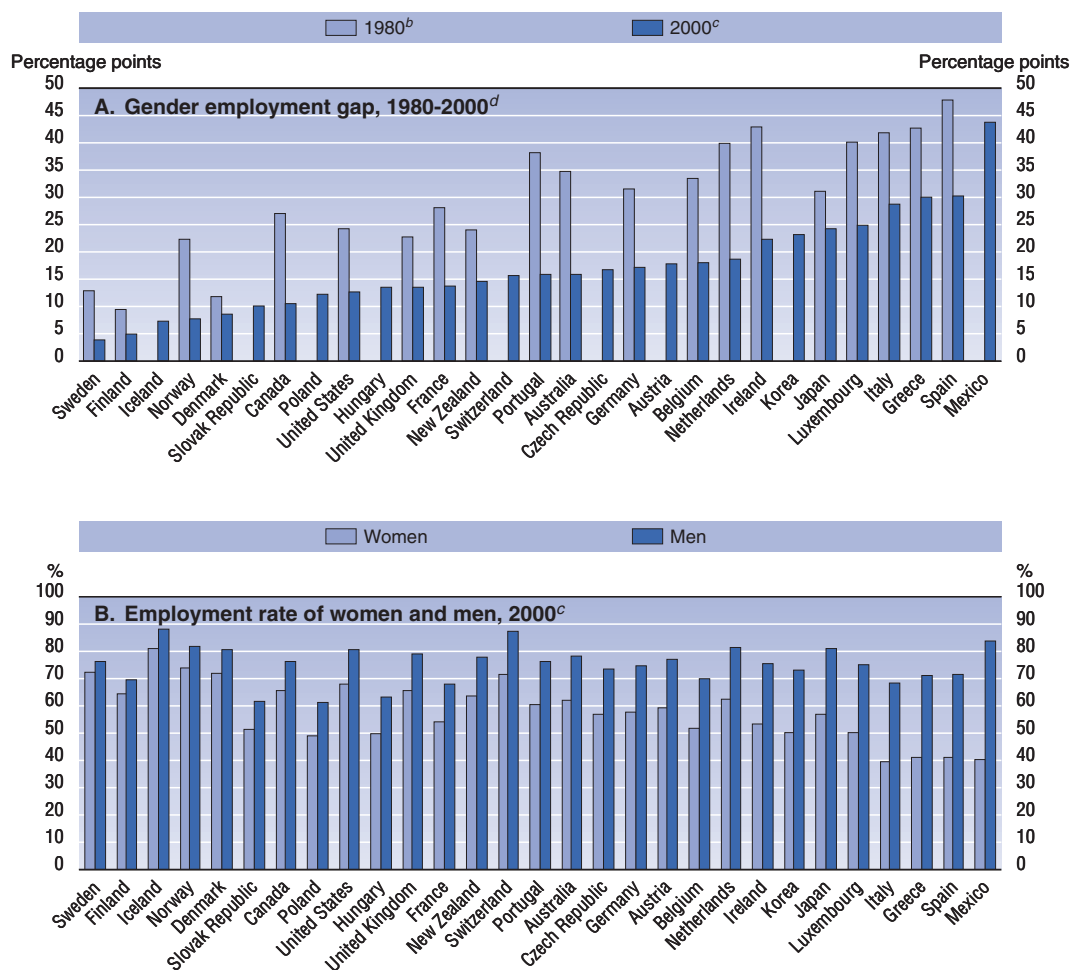
A. A headcount measure

A common feature of labour markets across all OECD countries has been the narrowing of the gender gap in employment over the past three or four decades as a result of, on the one hand, employment gains for women and, on the other, reductions for men. Panel A of Chart 2.1 shows the evolution of the employment gap (calculated as the difference between the employment rates of men and women) since 1980. In Ireland, the Netherlands and Portugal, the gap has narrowed by more than 20 percentage points from a relatively high level, whereas little improvement has been recorded in Denmark, Finland and Japan. This latter picture applies in two very different contexts: that of an already quite small employment gap at the beginning of the 1980s in Denmark and Finland and that of a persistently high differential in Japan. Also in Greece, Italy and Spain, employment gains for women over the past two decades have not been large enough to generate an appreciable closing of the gap by 2000. Information on the gender employment gap in 1980 for eastern European countries is not available, but it is likely that the situation in these countries was very different from that of the other OECD countries: the employment gender gap was probably smaller, or in any case not much larger, than in 2000. The planned economy required a large workforce, and the State encouraged women’s participation through family-related supports and benefits. The transition has changed the labour market landscape in the region enormously and weakened job security for both women and men, although women have tended to lose somewhat more than men in almost every dimension of labour market activity (UNICEF, 1999).

The narrowing of the gender gap in employment is almost entirely due to a closing of the gender difference in labour force participation rates, rather than to variations in the incidence of unemployment. It reflects a variety of socio-cultural, institutional and economic factors, and countries vary in the timing and degree to which these factors have come into play. First, the increase in female participation rates reflects changing social norms, life styles and family patterns. In some countries, women’s accession to the labour market was mainly completed in the 1960s and 1970s, whereas in others it is a more recent phenomenon. The Nordic countries are a notable example of countries belonging to the first group.¹ A more pronounced closing of the gap over the 1980s and 1990s in countries like Ireland, the Netherlands and Portugal, on the other hand, reflects a later emergence of these new societal values. Second, structural changes in the economy, with the shift of employment from agriculture and manufacturing towards services, where female employment is concentrated, is another major factor that has favoured the employment of women over men. Of course, the causal relationship between increased employment in the service sector and rising female activity rates runs in both directions. Finally, institutional changes in the labour market, in particular favouring part-time employment, have also played a major role, generally reflecting the commitment of governments to raise either overall or specifically female employment rates. In the Netherlands, for example, most of

Chart 2.1. **The narrowing of the gender employment gap^a**

Persons aged 15 to 64 years



a) Countries are ranked by increasing gap in employment in 2000.

b) 1981 for Ireland; 1983 for Belgium, Denmark, Greece and Luxembourg; 1984 for the United Kingdom; 1986 for New Zealand.

c) 1999 for Austria.

d) Percentage point difference between the employment rates for men and for women.

Source: See Annex 2.A.

the increase in employment rates was made possible through the creation of a huge new part-time workforce. The introduction of a separate taxation system in Sweden in the early 1970s is another example of a reform that has encouraged women's entry into the labour market. However, it is also true that the relationship between institutional changes and increased female participation is bi-directional: the entry of women into the labour market is encouraged by greater availability of more flexible working-time arrangements, but higher female participation also generates greater demand for such institutional changes.

In 2000, the smallest employment gap is found in Sweden, followed by the other Nordic countries. At the opposite end of the ranking are Italy, Greece, Spain and Mexico. Panel B of Chart 2.1 sheds light on the level of the employment gap in 2000. The small

employment gap in the Nordic countries (excluding Finland) and in Switzerland understates the degree of women's presence in the labour market, given the high levels of employment rates for *both* men and women in these countries. The assessment of the female employment situation in Italy, Greece and Spain, on the other hand, is aggravated by the fact that male employment rates are relatively low. Indeed, the low rate of employment of working-age women in these countries is a product of both gender relations and the overall employment system. Policy action aimed at raising overall employment is therefore likely to benefit women disproportionately, since most of job creation is likely to occur in services, where women are over-represented.

B. Accounting for hours worked

In the present circumstances – in which the responsibilities for child-rearing and other unpaid household work are still unequally shared among partners (OECD, 2001*b*) – part-time work is the preferred working arrangement for many women because it makes it easier to reconcile family responsibilities with employment. As a consequence, comparisons of headcount measures of employment by gender understate the size of the gender gap in employment, as they take no account of the higher incidence of part-time employment among women.

On average in OECD countries, 26% of women and less than 7% of men work part time (Table 2.1, first two columns). The incidence of part-time work is by far the highest in the Netherlands, where 57% of employed women hold part-time jobs. Australia, Norway, Switzerland and the United Kingdom follow with a share of part-time work in total female employment of over 40%. By contrast, less than one in ten women in eastern European countries, Greece and Korea work part time.

Looking at overall employment rates and the incidence of part-time work jointly, there is no consistent association between the two: above-average female employment rates can co-exist with either a high incidence of part-time work (*e.g.* in some Nordic countries, Switzerland and the United Kingdom) or a low one (as in the Czech Republic, Finland and the United States), and *vice versa* (*e.g.* Japan and Korea record similarly low female employment rates but in the former the incidence of part-time work among women is relatively high whereas it is low in the latter). Differences in the incidence of part-time work may relate, on the one hand, to regulatory frameworks and labour market organisation, with working-time regulations, wage structures, fiscal incentives, and child-care systems playing important roles, and, on the other, to gender relations and societal values. Bosch (2001) suggests that a high level of part-time work among women may be a transitional phase between the single male breadwinner model and men's and women's integration into the labour market on an equal footing, at least in terms of volume. This might explain why the part-time share in Scandinavian countries may already have peaked at the high level of around 25%, since there are now signs of a fall in the incidence of part-time work among women (OECD, 1998*a*). However, in the Netherlands – a late starter in terms of integrating women into the labour market – a new model of labour force participation seems to be emerging, as the very high part-time share may persist as a consequence of preferences and social norms, which have been accommodated by regulatory arrangements. Notably, since July 2000, many employees have a *right* to change their working hours, with employers being given a veto power only if they can show that it is impractical or solvency-threatening (OECD, *forthcoming*).

The last three columns of Table 2.1 show the female share in total employment and, separately, in part-time and full-time employment. On average, around three-fourths of all

Table 2.1. **Women and part-time work, 2000**

Persons aged 15 to 64 years

	Incidence of part-time work ^a		Female share ^b		
	Women	Men	Full-time work	Part-time work	Total
Australia	44.6	12.6	33.1	73.6	43.9
Austria	24.3	2.3	37.9	89.2	44.1
Belgium	34.4	6.9	35.1	79.4	42.3
Canada	27.0	9.8	41.0	70.3	46.2
Czech Republic	5.0	1.1	42.7	77.4	44.0
Denmark	23.9	8.6	42.4	71.2	46.9
Finland	13.5	6.6	45.7	64.9	47.6
France	24.8	5.3	39.2	79.2	44.9
Germany	33.7	4.4	35.2	85.8	43.9
Greece	9.2	2.9	36.4	66.5	38.0
Hungary	5.1	1.6	53.3	79.7	51.8
Iceland	32.1	8.5	40.1	77.4	47.4
Ireland	32.9	7.5	33.6	75.6	41.2
Italy	23.4	5.5	32.3	71.3	37.0
Japan	39.4	11.8	20.1	69.7	40.8
Korea	9.1	4.5	39.8	58.6	41.0
Luxembourg	28.4	1.9	32.2	90.5	39.4
Mexico	25.6	7.1	22.4	65.1	34.2
Netherlands	57.1	13.0	27.1	76.8	42.9
New Zealand (2001)	35.4	10.6	37.7	73.6	45.6
Norway	42.5	9.7	35.7	79.1	46.7
Poland	17.9	8.8	32.3	61.7	44.9
Portugal	12.6	3.0	42.7	77.9	45.3
Slovak Republic	2.4	0.8	49.9	74.5	50.8
Spain	16.4	2.5	33.8	79.5	37.3
Sweden	22.6	7.6	43.8	73.3	48.2
Switzerland	45.8	8.4	31.9	81.2	44.1
United Kingdom	40.2	7.6	34.6	81.3	44.9
United States (1999)	19.4	7.3	43.1	69.7	46.6
OECD unweighted average^c	25.8	6.5	37.1	75.0	43.9

a) Percentage of women (men) working part time in total female (male) employment.

b) Percentage of women in total employment by category.

c) For above countries only.

Sources and definitions: See Annex 2.A.

part-time jobs are occupied by women. There is some variation across countries, but the female share in part-time work is higher than 60% in all countries except Korea, where it is 59%. In Austria, Germany, Luxembourg, Switzerland and the United Kingdom, women occupy more than four in five part-time jobs. Women account for a much lower share of total full-time work: only in 9 out of 29 countries is this share above 40%.

Part-time employment may offer workers the opportunity to find a balance between the time they want to devote to work and the time they wish to devote to other activities. It also allows workers (and *de facto* especially women) to combine employment with the needs of family life in the absence of adequate and affordable childcare institutions. However, part-time work also carries with it several disadvantages for workers. Part-time jobs are more likely to be found in lower-paid occupations that offer more limited opportunities for career advancement than full-time jobs (OECD, 1999). As a consequence, many women who seek part-time work end up “underemployed” as in order to find part-time work they have to accept less remunerative and less qualified work. Part-time workers are also more likely to hold temporary jobs and to have reduced access to job-related training and occupational benefits. Furthermore, there is some debate as to how much of

the recent expansion of part-time work has been really meeting women's need to accommodate their family responsibilities or has been demand-driven (see OECD, 1998a).

2. Women at work: who are they?

A. Age and cohort effects

The global evolution of female employment rates cannot be fully understood without looking further into the employment rates of different age, education and family-situation groups. Chart 2.2 examines the life-cycle evolution of employment rates for different cohorts of women using so-called “synthetic cohort” data for selected age groups (for further explanations, see footnote *a* to the chart). Chart 2.2 also presents cross-sectional data on employment rates by age and gender for a recent year. The juxtaposition of cross-sectional and cross-cohort data on female employment rates by age highlights the fact that the points making up the cross-sectional age profile reflect an amalgam of the different life-cycle courses of successive cohorts of women.

Beginning with the cross-sectional profiles of employment for women and men, it emerges that the age-employment profile for women closely follows that for men in Denmark, Norway and Sweden. This is not the case in the other countries considered. With few exceptions (Mexico and Turkey), young women start off with employment rates that are not far below those of their male counterparts but the gap opens up for the age groups between 25 and 54 years, although the situation varies a lot across countries. Four broad patterns are observed:

- A curve with a left-hand peak is found in Belgium, Ireland, Luxembourg, Spain and, albeit less pronounced, in the Netherlands. This pattern reflects a situation where many women either withdraw permanently from employment after marriage or child birth or confine their subsequent paid employment to intermittent episodes. It is also the result of a “generation effect” whereby women belonging to older cohorts have lower participation rates than younger women.
- Two peaks separated by a trough around child-rearing age, as in Australia, Japan, Korea and New Zealand. This pattern may be generated where the presence of young children is a major barrier to employment but women return to work when their children get older.
- A curve with a long flat portion, usually between ages 25 and 50, as observed in Austria, Canada, France, Germany, Greece, Italy, Mexico, Portugal, Switzerland, Turkey and the United States. In this situation, there is no major variation in the participation rates for women at different stages of family building, either because employment is often combined with rearing children or because few women enter the labour market, irrespective of their family situation.
- Finally, there is the peculiar situation of eastern European countries and Finland that display a curve with one peak to the right: participation rates are higher (and unemployment rates lower) for the age groups between 35 and 49 years. In the former planned countries, this is the result of increased barriers for women to participate in the labour market during the transition period, partly due to the cutback in family-related assistance and benefits supporting female employment under the previous system (Eurostat, 2000), which appear to have disproportionately affected younger age groups.

Finally, for the older age group of individuals aged 55 to 64 years, two patterns are observed: one where the gap in favour of men remains high due to generational effects and the effect of retirement policies allowing women to retire earlier than men, and the other where the gap closes considerably.

Turning attention to the synthetic cohort data, the following features are worth noting:

- Inter-generation differences in employment patterns are very marked in Ireland and the Netherlands. Fifteen years ago, the employment rates of women born in 1936-40, 1946-50 and 1956-60, respectively, were about 30 percentage points lower than those of women of the same age today. In both countries, the shape of the life-cycle employment profiles for the cohorts of women born after 1936-40 suggests a massive entry or re-entry into employment of women well above school-leaving age. In Belgium, Germany, Luxembourg and Portugal, the same pattern is observed, but it is less pronounced.
- Denmark, France, Greece, Italy and New Zealand display very little cross-cohort variation in employment rates. The stability of Greece and Italy is striking, given their very low overall employment rates at the beginning of the period analysed.
- In Australia, Canada, Japan, Korea, Norway, the United Kingdom and the United States, cross-cohort changes are concentrated around child-rearing age, as the trough becomes less and less apparent over successive cohorts.
- Finally, the picture for Sweden stands out. Although the older generations of women (aged 55 to 64 years in 2000) were working in smaller numbers during their child-rearing years than younger women today, the life-cycle employment profiles of women aged 45 to 54 today lie above those for women of younger generations. This is the result of decreasing participation rates and higher unemployment rates in the 1990s.

B. Employment rates by gender and educational attainment

Further elements towards the understanding of female employment patterns are gathered in Table 2.2, focusing on female employment rates and the gender employment gap by level of educational attainment. It does so for the prime-age population, aged 25 to 54 years, where the gender employment gap is generally more pronounced and the presence of children likely to be a key factor in determining variation of employment rates.

In all countries except Japan and Korea, employment rates are much higher, and the gender gap lower, among women with a tertiary qualification than among low-educated women.² Higher education is likely to give women access to more interesting and better paid occupations, also increasing the opportunity cost of choosing not to work in order to care for children. There is probably also a self-selection effect, whereby the women who are most interested to work will spend more time and effort to obtain higher qualifications than women who are less interested, unless the latter use the educational system to further their personal cultural interests or as a marriage market (Hakim, 1996). In Japan and Korea, the employment rates of women with a tertiary qualification are similar to or lower than those of low-educated women. In these countries, women of all educational levels typically work full time after leaving school, until their marriage or child birth, and re-enter the labour force when their children get older (albeit, in Japan at least, only to work part time). This life-cycle pattern reflects cultural attitudes towards child rearing, but also

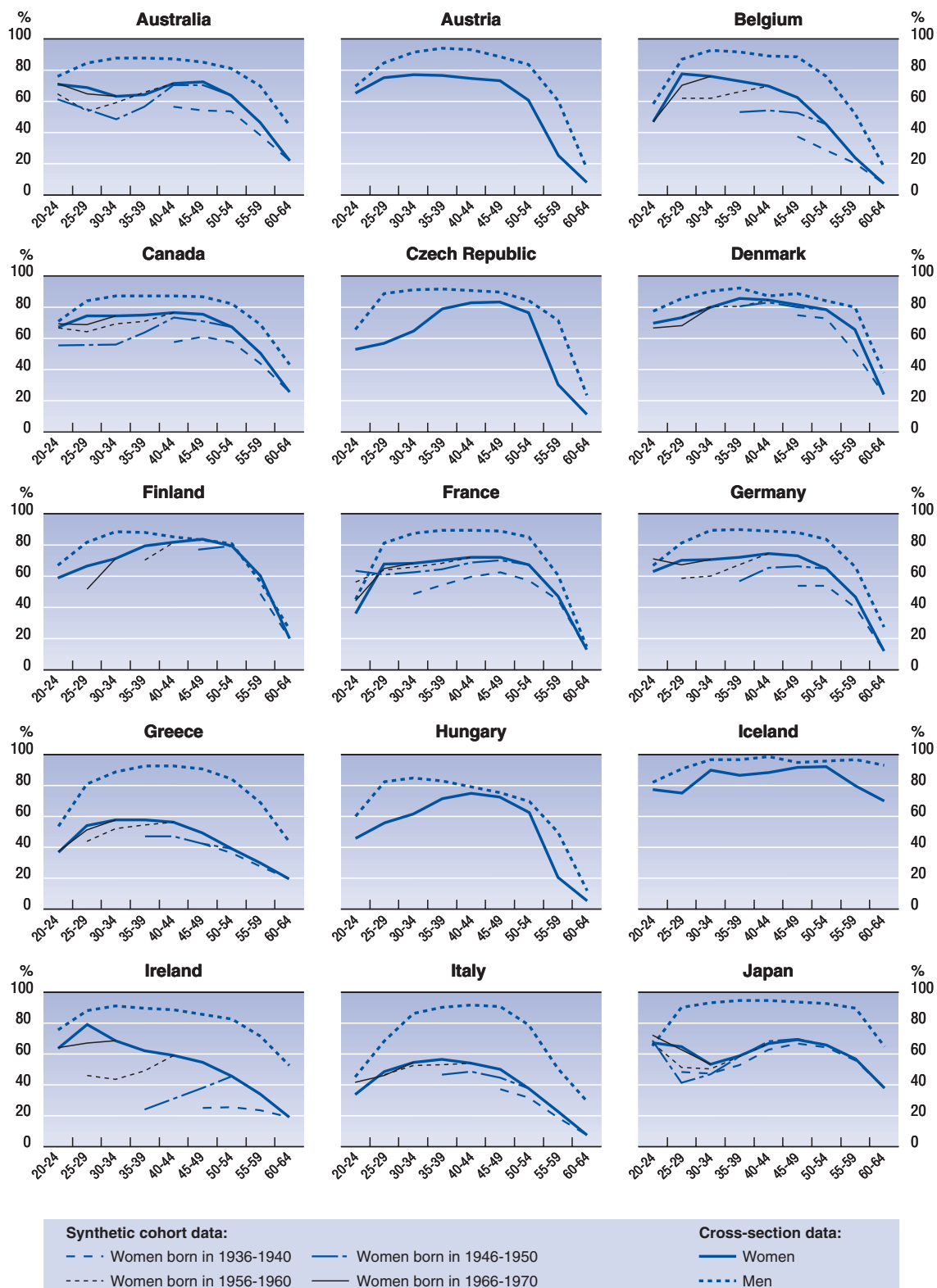
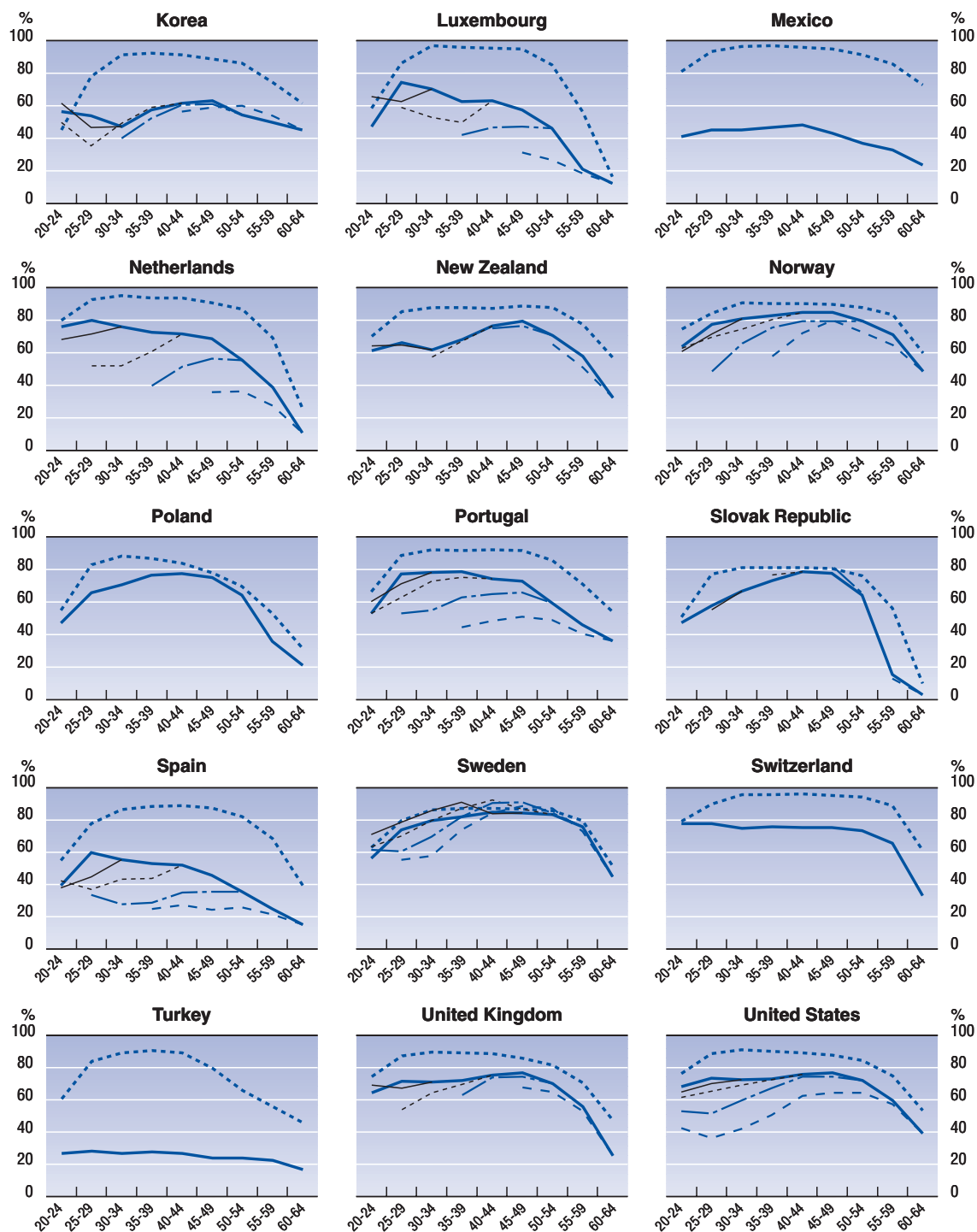
Chart 2.2. **The age-employment profile of women**Cross-cohort comparisons of employment rates by age^a

Chart 2.2. **The age-employment profile of women** (cont.)

Cross-cohort comparisons of employment rates by age^a



a) The chart combines cross-sectional data by age and gender for the year 2000 with “synthetic cohort” data for women belonging to selected age cohorts. In the absence of longitudinal data that follow the same women over the life-cycle, synthetic cohort data were constructed by combining cross-sectional data at five-year intervals. This allowed the employment rates of four cohorts of women to be followed over time, despite being unable to follow individual members of these cohorts.

Source: OECD, *Labour Force Statistics, 1980-2000*, Part III; European Union Labour Force Survey (data supplied by Eurostat).

Table 2.2. **Women's employment rates and the gender employment gap by educational attainment, 2000**

Persons aged 25 to 54 years

	Total		Less than upper secondary education		University/tertiary education	
	Employment rate	Gender gap ^a	Employment rate	Gender gap ^a	Employment rate	Gender gap ^a
Australia	66.8	20.0	58.1	21.5	79.9	11.5
Austria	73.5	16.2	61.6	17.6	86.5	9.2
Belgium	67.8	20.1	47.4	32.3	86.7	8.6
Canada	74.0	11.8	52.0	20.8	79.8	9.2
Czech Republic	73.7	15.6	60.5	5.4	82.8	13.3
Denmark	80.5	7.7	68.2	9.2	88.7	4.5
Finland	77.6	7.0	69.5	8.3	84.8	8.0
France	69.6	17.7	56.5	23.6	83.1	8.5
Germany	71.1	16.3	55.4	20.9	83.4	10.5
Greece	52.6	35.9	42.1	45.5	78.4	12.4
Hungary	61.7	16.0	41.3	14.9	78.9	14.7
Iceland	87.4	8.6	86.0	10.5	95.2	3.7
Ireland	53.1	29.0	33.7	39.5	79.9	13.3
Italy	50.7	33.9	35.8	46.8	78.7	12.4
Japan (1999)	62.7	31.6	62.6	25.7	62.7	33.5
Korea	56.3	31.8	64.8	20.3	55.0	34.9
Luxembourg	63.0	29.8	55.4	33.6	79.4	14.0
Netherlands	70.9	21.4	53.4	32.8	86.6	8.8
New Zealand (2001)	70.6	17.0	54.8	21.2	78.7	10.7
Norway	81.5	7.1	63.8	14.6	87.3	4.9
Poland	72.0	9.6	53.6	13.4	92.0	1.5
Portugal	73.9	16.4	71.5	19.7	93.0	2.6
Slovak Republic	64.8	13.7	40.9	5.3	82.5	11.1
Spain	50.6	34.8	38.1	45.1	74.0	14.8
Sweden	81.7	4.1	65.4	14.5	87.8	4.3
Switzerland (2001)	76.8	18.5	70.3	19.8	85.6	12.0
United Kingdom	73.1	14.4	49.7	17.3	86.4	8.0
United States (1999)	74.1	14.8	49.7	26.5	81.9	11.6
OECD unweighted average^b	69.0	18.6	55.8	22.4	82.1	11.2

a) Percentage point difference between the employment rates for men and for women.

b) For above countries only.

Source: See Annex 2.A.

the limited career opportunities available to women: in Japan, while virtually all men enter firms on the management track, only 10% of women, or 50% of female university graduates, are offered this opportunity (Rebick, 1999).

The data in Table 2.2 also show that cross-country variation in employment rates is much higher among prime-age women with less than upper secondary education than among highly qualified women. In particular, Irish, Italian and Spanish low-educated women have employment rates well below 40%, which translate into an employment gap of about 40 percentage points, compared to both men with the same level of educational attainment and to women with a tertiary education. The integration of low-educated women in the labour market is thus far from complete in these countries.

The gender gap in educational attainment is narrowing, or even reversing, in the OECD area. Women account for less than 45% of persons aged 55 to 64 years holding at least an upper secondary qualification, but their share increases to 48 and 51% respectively for the age groups 35 to 54 years and 25 to 34 years (Table 2.3). In transition countries, widespread and relatively equitable access to education is a positive inheritance from their communist past. In these countries, as well as in Finland, Norway, Sweden and

Table 2.3. **Female share by educational attainment and age, 2000**

Percentage of women in the total population in each category

	At least upper secondary education				Tertiary education			
	25-34	35-54	55-64	Total	25-34	35-54	55-64	Total
Australia	47.6	43.6	38.6	44.3	56.0	52.1	45.7	52.6
Austria	47.9	45.3	42.7	45.7	50.3	39.0	25.1	40.2
Belgium	51.4	50.4	46.7	50.3	53.7	50.4	43.3	50.7
Canada	50.6	50.7	49.6	50.5	51.6	49.1	47.1	49.6
Czech Republic	48.5	47.0	46.2	47.3	49.2	40.5	41.7	43.1
Denmark	51.4	47.9	41.8	47.8	55.4	53.1	38.3	51.7
Finland	50.8	50.6	51.1	50.7	59.5	53.9	47.6	54.6
France	50.2	48.0	44.3	48.3	54.0	50.8	46.5	51.6
Germany	48.4	47.1	43.6	46.7	45.8	39.1	29.3	38.7
Greece	52.2	49.3	42.6	49.5	55.2	42.9	30.3	46.0
Hungary	63.8	53.4	54.7	57.4	69.5	61.7	49.2	62.3
Iceland	51.1	42.8	40.2	45.0	55.9	50.5	44.8	51.9
Ireland	54.1	53.7	52.8	53.7	52.0	48.1	44.9	49.4
Italy	52.0	48.3	42.2	49.1	55.3	46.9	39.9	48.7
Japan (1999)	50.8	50.2	48.8	50.2	50.7	44.0	45.5	34.2
Korea	48.9	41.3	25.1	43.4	44.6	30.9	15.6	36.5
Luxembourg	49.1	45.3	39.9	45.7	47.4	42.2	29.3	42.4
Netherlands	50.8	46.8	40.3	47.1	50.5	41.8	37.5	43.9
New Zealand (2001)	52.0	50.1	46.8	50.2	49.0	46.5	42.0	47.3
Norway	49.8	48.8	47.5	48.9	55.2	48.9	43.8	50.4
Poland	52.2	51.0	53.2	51.7	62.8	58.0	57.3	59.4
Portugal	55.7	52.8	44.6	53.5	60.5	57.6	50.6	58.1
Slovak Republic	60.9	51.4	49.6	54.9	58.8	53.9	44.2	54.5
Spain	52.9	47.9	38.0	49.2	55.0	46.2	33.4	48.9
Sweden	48.9	50.9	50.7	50.2	53.1	53.8	51.3	53.2
Switzerland (2001)	50.6	46.1	44.3	46.9	34.6	32.4	20.8	31.1
United Kingdom	49.2	47.6	34.5	46.5	46.8	47.0	36.2	45.6
United States (1999)	51.5	51.2	52.1	51.4	53.4	50.0	45.0	50.3
OECD unweighted average^a	51.6	48.5	44.7	49.1	53.1	47.5	40.2	48.1

a) For above countries only.

Source: See Annex 2.A.

the United States, the education gap in favour of men has been negligible or even negative and quite stable across all of the age cohorts currently in the labour force.

The closing of the gender education gap is even more visible for tertiary education.³ In the oldest cohort, men outnumber women among persons with tertiary education by a substantial number in most countries. In 22 of the 28 countries for which data are available the opposite is true for the younger generation aged 25 to 34 years. Among this age group, Hungary, Poland and Portugal record a gender gap of over 10 percentage points in *favour* of women, whereas Switzerland is the only country with a gap of over 15 percentage points in favour of men. The countries where the proportion of women holding a tertiary degree has increased the most (by at least 20 percentage points) are Austria, Greece, Hungary, Korea and Spain.

The observation that the balance in educational attainment between women and men is more and more equal across both sexes, not to say favouring women, in all OECD countries, suggests that women are increasingly better positioned for successful labour force participation. Important gender differences remain, however, in the fields of study typically undertaken by men and women at tertiary level (Eurostat, 2001, OECD, 2001a). To a large degree, the educational choices of young women are still directed at the fields

of health and welfare (especially the more practical/technical/occupationally-specific programmes) and of the humanities, arts and education. Although increasing numbers of women are studying traditionally male fields, such as mathematics/computer science, life and physical sciences and engineering/applied sciences, they are still far from equal representation.⁴ These differences in the content of schooling appear to be important for explaining the differing fortunes of women and men in the labour market, including some part of the female-male wage gap.⁵

It is not clear why women choose different fields of study than men, despite the apparently disadvantageous impact on their career prospects, nor whether and how policy should address this issue. Brown and Corcoran (1997) put forward three possible explanations. On the one hand, it is possible that some majors provide training and skills that enhance students' productivity as workers. If this were the case, encouraging more young women to undertake "profitable" fields of study could be an effective way to reduce the male-female wage gap. On the other hand, students' choices of fields of study may reflect their underlying abilities and preferences. To the extent that this is true, steering women into traditionally male majors may be undesirable and do little to reduce the gender wage gap. Similarly, if women stay out of "male" fields because the labour market rewards men more than women for these fields, either in terms of hiring opportunities or wages, equalising the distribution of study programmes without also promoting equal opportunities in employment would do little to equalise men's and women's wages.

The available evidence suggests that women and men do not differ in many of their underlying abilities,⁶ but they do differ in their attitudes towards work, with a large share of them continuing to attach importance to traditional gender roles. As a result, Hakim (1996) emphasises the role of preferences as important determinants of work-lifestyle choices and behaviour in prosperous modern societies. In particular, she notes that women are heterogeneous in their preferences towards how best to manage the conflict between family and employment and not all those who obtain qualifications will be seeking a career, as distinct from reasonably interesting and well-paid jobs, whenever they decide to work. The choice of field of study is a first, clear indication of such work-lifestyle preferences. While recognising the utility of preference theory in emphasising values, attitudes and personal preferences as potentially important determinants of women's labour market behaviour, it must be noted that this behaviour is influenced by learned cultural and social values that may be thought to discriminate against women (and sometimes against men) by stereotyping certain work and life styles as "male" or "female". While women may rarely be offered work in particular occupations, because they do not have the appropriate education, their educational choices may be dictated, at least in part, by their expectations that these types of employment opportunities are not available to them, as well as by gender stereotypes that are prevalent in society.

C. Employment rates by gender and presence of children

The impact of parenthood on employment rates works in opposite directions for women and men: while women's workrates generally decrease, men's increase, in line with the traditional model of specialisation of gender roles within the household. As a consequence, the gender gap in employment widens dramatically as the number of children increases (Table 2.4): the average gender employment gap in the OECD area being of

Table 2.4. **Women's employment rates and the gender employment gap by presence of children, 2000**
Persons aged 25 to 54 years

	Total		No children		One child		Two or more children	
	Employment rate	Gender gap ^a	Employment rate	Gender gap ^a	Employment rate	Gender gap ^a	Employment rate	Gender gap ^a
Australia	66.8	20.0	68.4	16.1	55.3	33.3	43.2	47.5
Austria	73.5	16.2	76.0	10.5	75.6	18.5	65.7	29.0
Belgium	67.8	20.1	65.6	17.4	71.8	23.5	69.3	24.7
Canada	74.0	11.8	76.5	6.0	74.9	14.9	68.2	23.6
Czech Republic	73.7	15.6	80.8	5.4	72.3	21.2	59.4	33.5
Denmark (1998)	80.5	7.7	78.5	7.7	88.1	3.5	77.2	12.9
Finland (1997)	77.6	7.0	79.2	0.1	78.5	11.8	73.5	19.7
France	69.6	17.7	73.5	9.6	74.1	18.7	58.8	32.9
Germany	71.1	16.3	77.3	7.2	70.4	21.2	56.3	35.6
Greece	52.6	35.9	53.1	31.1	53.9	40.3	50.3	45.4
Hungary	61.7	16.0	..	..	..	..	..	..
Iceland	87.4	8.6	89.1	..	89.3	..	80.8	..
Ireland	53.1	29.0	65.8	14.1	51.0	33.2	40.8	43.2
Italy	50.7	33.9	52.8	26.2	52.1	40.9	42.4	49.9
Japan (1999)	62.7	31.6	..	..	..	..	..	..
Korea	56.3	31.8	..	..	..	..	..	..
Luxembourg	63.0	29.8	68.7	21.3	65.8	30.4	50.1	46.1
Netherlands	70.9	21.4	75.3	15.6	69.9	24.3	63.3	30.8
New Zealand (2001)	70.6	17.0	80.7	5.7	66.9	20.2	58.9	30.9
Norway	81.5	7.1	82.9	5.9	83.3	..	78.0	..
Poland	72.0	9.6	..	..	..	..	..	..
Portugal	73.9	16.4	72.6	13.4	78.5	16.6	70.3	24.8
Slovak Republic	64.8	13.7	..	..	..	..	..	..
Spain	50.6	34.8	54.6	26.0	47.6	44.7	43.3	48.6
Sweden	81.7	4.1	81.9	-0.4	80.6	9.8	81.8	9.4
Switzerland (2001)	76.8	18.5	84.3	9.4	75.5	19.7	65.5	32.5
United Kingdom	73.1	14.4	79.9	5.4	72.9	17.1	62.3	28.2
United States (1999)	74.1	14.8	78.6	7.2	75.6	17.4	64.7	29.0
OECD unweighted average^b	69.0	18.6	73.7	11.8	70.6	22.9	61.9	32.3

.. Data not available.

a) Percentage point difference between the employment rates for men and for women.

b) For above countries only.

Sources and definitions: See Annex 2.A.

12 percentage points for childless persons but of 32 points for persons with two or more children. Other notable patterns include:

- In Australia, Ireland and New Zealand, having one child under 15 years of age has a significant dampening effect on mothers' employment rates, of 10 percentage points or more. By contrast, in Belgium, Denmark, and Portugal, the employment rate is actually higher for women with one child than for childless women by at least five points.
- The negative impact on women's employment is more visible when there is more than one child.⁷ Workrates of mothers of at least two children are systematically lower than those of only one, with the notable exceptions of Belgium and Sweden where the presence of children has no impact on the female employment rate (however, if the observation is restricted to the age group of 25 to 34 years, where it is more likely that there are young children, employment rates do decrease with the number of children).
- The impact of two or more children is particularly pronounced in Australia, the Czech Republic, Germany, Ireland and New Zealand, as the employment rate of

mothers of two or more children is more than 20 percentage points lower than that of childless women. Besides in Belgium and Sweden, it is negligible in Denmark, Greece, Norway and Portugal.

- The negative impact of motherhood on employment does not imply that employment rates of women without children are high in all countries: they range from a low of just 53% in Italy to a maximum of 89% in Iceland. Furthermore, some of the countries with low overall female employment rates (Greece, Italy, Spain) do not display an above-average size of the impact of parenthood on employment rates. Accordingly, cross-national differences in employment rates of women are *not* only due to variation in the extent of labour market integration of mothers.

Parenthood is also associated with a higher incidence of part-time work among mothers, especially if there are two or more children, whereas it reduces the already low incidence of part-time work for men⁸ (Table 2.5). In the Netherlands, the large majority – over 80% – of mothers of two or more children work part time. In Australia, Germany, Switzerland and the United Kingdom, this share is also very high, 60% or more.

Table 2.5. **Part-time work, by gender and presence of children, 2000**

Percentage of persons working part time in total employment by category,
workers aged 25 to 54 years

	Women				Men		
	No children	One child	Two or more children	Total	No children	With children	Total
Australia	40.8	54.1	63.1	41.8	8.0	5.5	6.9
Austria	17.4	33.6	43.7	26.7	2.1	1.7	1.9
Belgium	29.2	34.7	46.1	34.7	6.5	5.1	5.9
Canada	17.0	22.9	30.7	21.4	5.2	3.2	4.3
Czech Republic	2.6	4.5	7.5	4.0	1.0	0.4	0.7
Denmark (1998)	18.5	13.3	16.2	16.6	..	..	3.7
Finland (1997)	7.5	8.6	13.6	9.2	..	..	3.7
France	20.0	23.7	31.8	23.7	5.2	3.6	4.4
Germany	24.0	45.3	60.2	35.2	4.2	2.3	3.4
Greece	8.4	9.7	11.2	9.2	2.8	2.5	2.7
Hungary	..	..	..	4.9	..	..	1.2
Iceland	..	..	..	28.4	..	..	3.3
Ireland	16.6	37.2	46.4	29.7	4.3	3.6	4.0
Italy	20.0	27.2	34.4	24.1	5.5	4.5	5.1
Japan	..	..	..	38.4	..	..	6.2
Korea	..	..	..	8.7	..	..	3.3
Luxembourg	19.9	32.7	48.1	29.0	1.4	1.6	1.5
Netherlands	38.3	72.6	82.7	55.9	6.2	4.6	5.5
New Zealand (2001)	20.6	37.6	50.8	32.4	5.9	5.3	5.6
Norway	24.7	33.5	41.1	31.8	5.0	..	5.0
Poland	..	..	..	15.1	..	..	5.8
Portugal	11.5	10.5	11.3	11.2	2.7	1.3	2.0
Slovak Republic	..	..	..	2.3	..	..	0.8
Spain	13.7	17.4	18.6	15.3	2.6	1.2	1.9
Sweden	14.6	16.7	22.2	17.9	5.2	3.4	4.3
Switzerland (2001)	34.2	58.0	66.5	47.1	6.1	3.6	4.9
United Kingdom	23.7	46.6	62.8	38.6	4.1	3.2	3.7
United States (1999)	10.1	15.8	23.6	14.6	3.5	1.8	2.7
OECD unweighted average^a	18.7	28.7	36.6	23.2	4.2	2.9	3.6

.. Data not available.

a) For above countries only.

Sources and definitions: See Annex 2.A.

The strongly negative impact of children on women's employment in many OECD countries should not be allowed to obscure the importance of low educational attainment as a barrier to employment. Indeed, employment rates of mothers of two or more children are in most cases higher than for women with less than upper secondary education, irrespective of whether they have children or not. While the recent policy debate has tended to focus on work-family reconciliation policies, increased attention may need to be paid to expanding employment opportunities and reducing supply-side constraints on the participation of low-educated women. On the other hand, the difficulties of combining work and family in some countries may discourage labour market entry of women, especially those with low-earnings potential, who expect to become mothers or they may be manifesting themselves in low fertility rates (for a discussion of the relationship between fertility and employment, see OECD, 2001*b*), suggesting that reconciliation policies must remain a policy priority. In order to inform better policy design on this issue, Section 2.D focuses on the combined effect of education and the presence of children on female employment rates.

D. The combined effect of education and presence of children on female employment

Table 2.6 compares the relative frequencies of different employment statuses for women with different family situations and levels of educational attainment. The two panels of Table 2.6 represent two different ways of looking at the same picture and must be seen in combination: Panel A focuses on the impact of motherhood on female employment patterns at two different levels of educational attainment, whereas Panel B focuses on the impact of raising the level of education, from less than upper secondary to tertiary, on employment rates for women with and without children.

Panel A shows that the impact of motherhood on female employment patterns has both an employment-rate and a working-time effect. Mothers are less likely to be employed, and in particular full-time employed, than childless women. This occurs at any level of educational attainment, with the only notable exception of Portugal. However, while at low levels of educational attainment motherhood has only limited influence on the frequency of part-time work, the substitution of part-time for full-time work is generally more important than the employment effect for women with a tertiary qualification. On average, having children reduces the employment rate by about 8 percentage points, irrespective of educational attainment, and increases the frequency of part-time work by only 2 percentage points for women with less than upper secondary education and by 11 percentage points for women with higher education. This average pattern hides important differences across countries. At a low qualification level, the working-time effect makes up for more than one half of the total reduction in full-time employment in Austria, Belgium, Greece, the Netherlands and the United States, whereas it is virtually absent or even has opposite sign in most other countries. At a high level of educational attainment, the frequency of part-time work is more than 15 percentage points greater for mothers than for childless women in Austria, Germany, the Netherlands, Switzerland and the United Kingdom, whereas it remains virtually unchanged in the Czech Republic, Greece, Portugal and Spain.

Cross-country variation in the impact of children on the employment status of their mothers may be due to differences in the coverage and cost of formal child-care systems for young children. Furthermore, variation in the impact of motherhood at different education levels is likely to reflect differences in the ability to afford child-care. Nevertheless, part of the observed cross-country variation may also be ascribed to differences in

Table 2.6. **Combined effects of the presence of children and educational attainment on women's employment**

Women aged 25 to 54 years

Panel A. Effect of the presence of children

Percentage point difference in the frequency of each category between women with children and women without children

	Less than upper secondary education			University/tertiary education		
	Non-employed	Part time	Full time	Non-employed	Part time	Full time
Australia	21.3	-3.5	-17.8	4.0	9.9	-13.9
Austria	4.0	4.4	-8.5	10.8	16.9	-27.7
Belgium	-0.8	3.6	-2.8	0.1	8.9	-9.0
Canada	3.0	1.4	-4.4	6.9	7.2	-14.2
Czech Republic	19.4	-0.6	-18.8	21.3	1.9	-23.2
France	13.6	0.1	-13.7	4.4	7.6	-12.1
Germany	17.2	3.8	-21.0	10.8	17.3	-28.1
Greece	0.6	1.2	-1.9	-0.6	1.8	-1.2
Italy	6.0	1.5	-7.5	2.7	4.5	-7.2
Luxembourg	5.5	2.0	-7.5	14.5	7.6	-22.1
Netherlands	5.5	8.6	-14.2	7.5	35.5	-43.0
Portugal	-3.4	-0.6	4.0	-2.0	1.0	1.0
Spain	4.1	1.4	-5.5	9.2	-0.3	-8.9
Sweden	5.5	1.9	-7.5	-2.2	5.1	-2.9
Switzerland	11.5	1.9	-13.5	19.4	26.4	-45.8
United Kingdom	18.2	1.8	-20.0	10.5	21.2	-31.7
United States	1.0	1.6	-2.8	10.9	7.7	-18.7
OECD unweighted average^a	7.8	1.8	-9.6	7.5	10.6	-18.2

Panel B. Effect of increasing the level of educational attainment

Percentage point difference in the frequency of each category between women with tertiary education and women with less than upper secondary education

	Without children			With children		
	Non-employed	Part time	Full time	Non-employed	Part time	Full time
Australia	-19.8	-3.7	23.5	-37.1	9.7	27.4
Austria	-28.4	-8.7	37.1	-21.6	3.7	17.9
Belgium	-37.6	9.0	28.6	-36.8	14.3	22.5
Canada	-30.2	1.5	28.7	-26.3	7.3	19.0
Czech Republic	-25.1	1.6	23.5	-23.1	4.0	19.1
France	-22.5	-1.7	24.2	-31.6	5.9	25.7
Germany	-24.8	-9.0	33.8	-31.1	4.4	26.7
Greece	-37.1	10.8	26.3	-38.4	11.4	26.9
Italy	-47.4	25.0	22.3	-50.7	28.0	22.7
Luxembourg	-30.7	1.1	29.6	-21.7	6.6	15.1
Netherlands	-34.0	-9.7	43.6	-32.0	17.2	14.8
Portugal	-24.9	7.0	17.9	-23.4	8.6	14.8
Spain	-43.5	-0.9	44.4	-38.3	-2.6	40.9
Sweden	-16.2	-6.5	22.7	-23.9	-3.3	27.2
Switzerland	-22.1	-12.1	34.2	-14.2	12.3	1.9
United Kingdom	-32.8	-13.3	46.1	-40.4	6.1	34.3
United States	-36.5	1.2	35.6	-26.7	7.2	19.7
OECD unweighted average^a	-30.2	-0.5	30.7	-30.4	8.3	22.2

a) For above countries only.

Source: See Annex 2.A.

women's preferences and in social norms regarding the appropriateness and desirability of women working when they have young children. As was stressed in OECD (2001b), the two factors are closely inter-related, in that a developed system of child care must be viewed both as an outcome of women's integration in the labour market and as a catalyst for changing cultural gender roles.

Panel B looks at the impact of different educational attainment levels on employment for women with and without children. The effect of increasing the level of education, from less than upper secondary to tertiary, on both full-time and total employment is always positive, regardless of the presence of children. On average, employment rates of both mothers and childless women increase to a similar extent – by about 30 percentage points – when comparing women with tertiary education to women with less than upper secondary education. It is, rather, the composition of the increase in employment that is affected by the presence of children, as highly-educated mothers opt for part-time work more often than their childless peers (with the sole exception of Spain). This difference might reflect the higher hourly wages available to more educated mothers, who may consider themselves better able to “afford” part-time work. The observation that higher educational attainment significantly increases women’s employment, whether or not they have children, lends support to the policy conclusion that family-friendly policies are not the only relevant policy area for governments wishing to raise female employment rates. Expanding employment opportunities for low-educated women appears to be at least as important.

E. A dynamic view: the accumulation of employment experience

It is not only weekly working hours that differ for men and women but also the total time worked over the life-cycle. The observation of cross-sectional information on employment hides movements into and out of activity and transitions between full-time and part-time work in the labour market experience of individuals. Understanding how labour market experience accumulates is important for policy purposes since work interruptions may impede human capital formation and thereby productivity and wages.⁹ Labour market experience for women is likely to be shorter, on average, than for men insofar as it is interrupted by child birth and looking after children. Cross-national evidence on the *actual* labour market experiences of individuals is, however, scarce, given the lack of longitudinal data spanning a sufficiently long period to cover the working life of individuals. However, longitudinal data covering only a few years may still be useful to gather an insight into how rapidly labour market experience accumulates in relation to gender and other factors like the presence of children and education. The analysis in this section uses five waves from the European Community Household Panel (ECHP) for European Union countries and a slightly longer observation period from other panel datasets for Canada, Germany, the United Kingdom and the United States (see Annex 2.A for details on the data used).

Table 2.7 is a transition table showing, for women and men separately, movements between the working-time status of employed individuals in a given year and their labour force and working time status 4 or 5-7 years later. The following features are common across all countries: of those who are working full-time at the beginning of the period, men are more likely than women to be still working full-time at the end of the period; conversely, of those who start as part-time workers, women have a higher propensity to remain in this state than men; men leaving full-time employment end up more often without a job than with a part-time job, whereas this is not always the case for women. In general, part-time work seems to be a more volatile state than full-time work since it changes more often into either non-employment or full-time work. However, this is not true in the case of Dutch women working part time, who are more likely to continue working part time than are full-time workers to remain in full-time employment. By contrast, in France

Table 2.7. **Employment transitions by gender**Percentage of persons aged 20 to 50 years in the starting year
by employment status in the final year

Employment status in the starting year	Women			Men		
	Employed, full time	Employed, part time	Not working	Employed, full time	Employed, part time	Not working
A. Transitions over 5 years (1994-98)						
Belgium						
Employed, full time	82	11	8	96	..	..
Employed, part time	21	65	15	..	..	..
Denmark						
Employed, full time	83	7	10	95	..	..
Employed, part time	46	38	17	59	..	24
France						
Employed, full time	80	6	14	92	1	7
Employed, part time	26	39	35	47	32	22
Greece						
Employed, full time	74	7	19	94	2	4
Employed, part time	37	35	28	70	27	..
Ireland						
Employed, full time	71	19	10	94	3	3
Employed, part time	18	63	20	46	37	..
Italy						
Employed, full time	80	7	13	92	1	7
Employed, part time	32	50	18	55	28	17
Netherlands						
Employed, full time	64	28	8	96	2	2
Employed, part time	16	71	14	61	26	13
Portugal						
Employed, full time	83	6	11	95	1	5
Employed, part time	51	39	11	80	..	..
Spain						
Employed, full time	78	4	17	92	1	6
Employed, part time	29	34	37	72	9	19
Germany						
Employed, full time	81	9	11	91	2	7
Employed, part time	24	64	12	52	38	..
United Kingdom						
Employed, full time	79	12	9	95	1	4
Employed, part time	28	56	16	70	..	..
Unweighted average						
Employed, full time	78	10	12	94	2	5
Employed, part time	30	50	20	61	28	19
B. Transitions over 6 or 8 years^a						
Canada (1993-98)						
Employed, full time	75	17	8	89	7	4
Employed, part time	46	38	16	67	23	10
Germany (1991-98)						
Employed, full time	62	17	21	89	7	5
Employed, part time	24	57	19	74	15	11
United Kingdom (1991-98)						
Employed, full time	58	15	26	79	3	18
Employed, part time	32	40	28	58	5	37
United States (1990-97)						
Employed, full time	73	17	10	86	7	7
Employed, part time	43	38	19	66	16	18

.. Less than 10 observations.

a) An individual is classified as "employed full time" in a given year if he/she has worked at least 1 560 hours (30 hours per week on average) and "employed part time" if he/she has worked between 52 and 1 560 hours (between 1 and 30 hours per week).

Sources and definitions: See Annex 2.A.

and Spain, more than one in three women working part time at the beginning of the period are no longer working 4 years later, whereas in Portugal half the women working part time in 1994 are working full-time in 1998.

When a longer period is observed, of six years for Canada and eight years for Germany, the United Kingdom and the United States, the transition patterns are consistent with those noted above, even if part-time employment is defined differently, to include both part-year, full-time workers and full-year, part-time workers. Transitions for women, especially towards non-employment, become more apparent for Germany and the United Kingdom, the two countries for which data are available for both observation periods. Canada and the United States display very similar transition patterns, although for Canada transitions towards non-employment are less frequent. In both countries, almost half the women working part time in the initial year are working full-time at the end of the period.

The information presented in Table 2.7 does not say anything about what happens within the observed period, nor does it relate labour market transitions to the presence of children or the level of educational attainment, two factors that affect the probability of women of being employed. Table 2.8 shows the individuals who have been continuously employed over a five- or eight-year period as a share of those who have been employed at least one year during the observation period, by presence of children under 15 years of age and educational attainment. A distinction between time spent in full-time and part-time employment is also made for women. The findings in this table are largely consistent with the employment patterns observed using the cross-sectional data, but add an insight into the extent to which employment is a lasting experience or rather a short or intermittent episode for different groups of women and men.

Irrespective of gender and presence of children, individuals with less than upper secondary education are less likely to be continuously employed than those with a tertiary qualification, particularly so in Ireland and Spain. Low-educated women are also less likely than high-educated women to be continuously in full-time employment, with the notable exception of Italian women. The fact that, once in employment, a large proportion of low-educated women in Italy are continuously employed over five years is not at odds with the results shown in Table 2.2, according to which employment rates for this group of women in Italy are very low: it simply means that a large share of women with less than upper secondary education never work. By contrast, more low-educated women in Ireland and Spain work periodically, but confine their paid employment to intermittent episodes.

At both levels of educational attainment, generally a larger share of men with children than of childless men are continuously employed, whereas the pattern for women is less clear-cut. Children have a negative impact on the probability of staying continuously in employment for low-educated women, whereas for women with a tertiary qualification they can have either a negative or a positive impact. In general, highly educated women appear to combine work and family by reducing their working time rather than by exiting employment.¹⁰ Portugal is an exception, as the share of mothers continuously in part-time employment is lower and in full-time employment slightly higher than for non-mothers. The extent to which the presence of children affects women's labour market experience becomes more visible when a longer period, of six-eight years, is observed for Canada, Germany and the United States. In all three countries, mothers are considerably less likely to be continuously employed, especially full-time employed, than childless women. The negative impact of children on the probability of staying in employment is particularly strong in Germany, irrespective of the level of educational attainment.

Table 2.8. **Continuity in employment status by gender, presence of children and educational attainment**

Persons in each category, as a percentage of persons aged 20 to 50 years in the starting year, who have been employed at least one year during the period

	Women						Men	
	Without children			With children			Without children	With children
	Continuously employed	Continuously full time	Continuously part time	Continuously employed	Continuously full time	Continuously part time	Continuously employed	Continuously employed
A. Less than upper secondary education								
<i>5-year period (1994-98)</i>								
Belgium	63	38	14	51	30	9	86	89
Denmark	62	47	6	39	31	1	79	77
France	63	48	7	47	35	5	75	74
Germany	72	50	6	52	19	20	67	86
Greece	47	35	1	37	27	0	77	86
Ireland	38	16	9	16	6	5	67	72
Italy	62	52	3	55	36	4	71	82
Netherlands	73	35	25	43	3	28	65	84
Portugal	65	54	1	60	54	1	77	92
Spain	38	32	2	26	16	3	62	66
United Kingdom	76	43	14	54	15	20	82	80
Unweighted average	60	41	8	44	25	9	73	81
<i>6- or 8-year period^a</i>								
Canada (1993-98)	56	26	7	42	11	6	74	82
Germany (1991-98)	61	25	10	31	5	12	65	84
United States (1990-97)	51	22	3	38	12	0	58	66
B. University/tertiary education								
<i>5-year period (1994-98)</i>								
Belgium	87	64	9	88	51	13	89	96
Denmark	78	64	4	83	64	5	85	89
France	79	60	8	70	49	6	79	87
Germany	89	60	9	61	28	16	87	98
Greece	67	44	4	69	37	6	77	91
Ireland	81	49	8	78	32	7	87	98
Italy	67	33	11	83	35	22	79	98
Netherlands	85	48	14	77	8	31	90	94
Portugal	90	64	10	94	67	5	81	84
Spain	55	43	2	70	53	3	64	89
United Kingdom	81	66	4	70	27	13	85	86
Unweighted average	78	54	8	77	41	12	82	92
<i>6- or 8-year period^a</i>								
Canada (1993-98)	80	41	4	70	21	9	85	90
Germany (1991-98)	66	26	8	37	1	12	82	95
United States (1990-97)	73	33	2	60	15	6	78	83

a) An individual is classified as "employed full time" in a given year if he/she has worked at least 1 560 hours (30 hours per week on average), "employed part time" if he/she has worked between 52 and 1 560 hours (between 1 and 30 hours per week).

Source: See Annex 2.A.

The impact of children on the employment experience of mothers likely varies with the children's age, and is probably strongest when they are youngest. Table 2.9 shows the share of child births that are associated with year-to-year reductions in employment, either labour force exits or reductions in working time (*i.e.* switches from full-time to part-time employment). In Germany and the United Kingdom, one in four women who have had a child have withdrawn from employment the year following the birth, whereas in the Netherlands an even higher share of child births – almost 30% – is associated with a switch from full-time to part-time employment. In France, Greece and Spain, the share of

Table 2.9. **Year-to-year changes in labour force status following child births**

	Percentages ^a	
	Child births associated with an exit from employment	Child births associated with a reduction in working hours
Austria	(23)	..
Belgium	(11)	12
Canada	13	9
Denmark	(7)	(6)
France	22	(10)
Germany	25	21
Greece	24	(9)
Ireland	(18)	20
Italy	17	(8)
Netherlands	19	29
Portugal	10	(9)
Spain	20	..
United Kingdom	25	19
United States	16	10

.. Less than 10 observations.

(Estimates based on less than 30 observations).

a) Percentage of women having worked and had a child during the year preceding the annual interview who appear to have withdrawn from employment or to have switched from full-time to part-time work at the time of the next annual interview.

Sources and definitions: See Annex 2.A.

child births that are followed by an exit from employment is also quite high, 20% or more, and in Germany, Ireland and the United Kingdom reductions in working hours following child births are also quite frequent. The impact of child birth on the continuity of employment may be related to, on the one hand, the effectiveness of family-friendly policies in allowing the reconciliation of work and family life and, on the other hand, the coverage and duration of maternity and parental leave arrangements. For example, parental leave in Germany, mostly taken by mothers, lasts until the child is 3 years of age, with a flat-rate payment for 2 years.¹¹ Women who take up this long leave are likely to declare themselves inactive rather than “normally working”, despite still having a job, and they will therefore appear as exiting employment.

In sum, the available evidence on the accumulation of employment experience confirms the expectation that women spend less and more discontinuous time in employment than men, especially if they have children and/or if they have a low level of educational attainment. This pattern becomes more visible, the longer the period of observation. Career breaks or reductions in time worked are particularly frequent immediately after child birth.

3. Women at work: what do they do?

In examining women's status on the labour market, it is important to go beyond considering their employment rates to also consider the types of jobs they have. The remainder of this chapter analyses various job characteristics of employed women and men. The analysis is limited to wage and salary employees, leaving aside self-employed and unpaid family workers. This is done for two reasons: *i*) data for wage and salary employees are more widely available and generally more reliable than for the self-employed, notably as far as wages are concerned; and *ii*) the motives and mechanisms underlying participation, employment, job characteristics and rewards of women and men may differ according to status of

employment and, therefore, gender comparisons of job characteristics for wage and salary workers are more easily interpreted than are gender comparisons for all workers.¹²

A. The occupational and sectoral segmentation of employment by gender

This section examines the occupations and sectors in which women and men are employed. While participation and employment rates of women and men are converging, some studies (Anker, 1998, Rubery and Fagan, 1993) have shown that the distribution of employment by occupation or sector is still very much gender-segmented. The occupational or sectoral distribution of employment by gender can be measured in various ways, each of which provides a different perspective (Anker, 1998). Simple descriptive statistics can be used to measure the extent to which women and men are over or under-represented in occupations (ratio of the percentage female in an occupation to the average percentage female for the labour force as a whole) or are concentrated in a limited number of

Table 2.10. **Female employment by occupation and sector, 1998-2000, OECD averages**

Panel A. ISCO-88 major and sub-major occupation groups^a

	Average female share ^b (%)	Female representation ratio ^c		
		OECD average	> = 1 (nr of countries)	< 1 (nr of countries)
100 – Legislators, senior officials and managers	30	0.7	0	24
110 – Legislators, senior officials and managers	32	0.7	2	21
120 – Corporate managers	29	0.6	1	22
130 – General managers	35	0.8	2	20
200 – Professionals	48	1.1	18	6
210 – Physical, mathematical and engineering science professionals	16	0.3	0	23
220 – Life science and health professionals	64	1.4	18	5
230 – Teaching professionals	65	1.4	23	0
240 – Other professionals	48	1.1	16	7
300 – Technicians and associate professionals	54	1.2	21	3
310 – Physical and engineering science associate professionals	21	0.5	0	23
320 – Life science and health associate professionals	83	1.8	23	0
330 – Teaching associate professionals	76	1.7	19	3
340 – Other associate professionals	56	1.2	18	5
400 – Clerks	69	1.5	24	0
410 – Office clerks	67	1.5	23	0
420 – Customer service clerks	77	1.7	23	0
500 – Service workers and shop and market sales workers	69	1.5	24	0
510 – Personal and protective service workers	66	1.5	22	1
520 – Models, salespersons and demonstrators	73	1.6	23	0
600 – Skilled agricultural and fishery workers	27	0.6	2	22
610 – Skilled agricultural and fishery workers	27	0.6	2	22
700 – Craft and related trades workers	12	0.3	0	24
710 – Extraction and building trades workers	3	0.1	0	23
720 – Metal, machinery and related trades workers	4	0.1	0	23
730 – Precision, handicraft, craft printing and related trades workers	31	0.7	2	21
740 – Other craft and related trades workers	43	1.0	8	15
800 – Plant and machine operators and assemblers	19	0.4	0	24
810 – Stationary-plant and related operators	13	0.3	0	23
820 – Machine operators and assemblers	35	0.8	4	19
830 – Drivers and mobile plant operators	4	0.1	0	23
900 – Elementary occupations	52	1.2	20	4
910 – Sales and services elementary occupations	68	1.5	23	0
920 – Agricultural, fishery and related labourers	37	0.8	8	12
930 – Labourers in mining, construction, manufacturing and transport	28	0.6	1	22

occupations (*e.g.* percentage female in the top-ten occupations). Studies of gender segregation have tended to focus on indices of inequality – one of the most commonly used is the so-called “dissimilarity index” – or on the extent to which the labour force can be divided into gender-dominated and gender-integrated occupations. The analysis in this and the next section discusses a selection of these measures, based on recent, relatively detailed and internationally harmonised data,¹³ in order to draw a broad-brush picture of how occupations and sectors are distributed across the sexes, both horizontally and vertically. It then examines the occupational distribution of women by different age, education and family situation groups.

Table 2.10 examines the distribution of women across aggregated occupations and sectors by presenting the OECD average of the degree of representation of women within each occupational and sectoral group and, relative to their share in total wage and salary employees, of their over- or under-representation. The classification used for occupations is the two-digit

Table 2.10. **Female employment by occupation and sector, 1998-2000, OECD averages** (*cont.*)

Panel B. Sectors and sub-sectors^d

	Average female share ^b (%)	Female representation ratio ^c		
		OECD average	>= 1 (nr of countries)	< 1 (nr of countries)
Goods-producing sectors and utilities	23	0.5	0	24
Agriculture, hunting and forestry	29	0.7	3	21
Mining and quarrying	13	0.3	1	23
Manufacturing	30	0.7	1	23
Electricity, gas and water supply	18	0.4	0	24
Construction	8	0.2	0	24
Service sectors	52	1.2	24	0
Producer services	45	1.1	18	6
Business and professional	43	1.0	10	14
Financial services	51	1.2	19	5
Insurance services	51	1.2	21	3
Real estate	46	1.1	15	9
Distributive services	40	0.9	6	18
Retail trade	52	1.2	23	1
Wholesale trade	32	0.7	1	23
Transportation	20	0.5	0	24
Communication	37	0.9	5	19
Personal services	57	1.3	24	0
Hotels and restaurants	56	1.3	24	0
Recreation and amusement	44	1.0	18	6
Domestic services	88	2.1	24	0
Other personal services	62	1.4	19	5
Social services	63	1.5	24	0
Government proper	43	1.0	12	12
Health services	77	1.8	24	0
Education	66	1.6	24	0
Miscellaneous	50	1.2	14	10

a) Average values for the years 1998-2000, except 2000 values for Canada and New Zealand. The following countries are included in the calculations: EU countries, Canada (only in the major occupational groups), Czech Republic, Hungary, Iceland, New Zealand (without the occupation 130: General Managers, 330: Teaching associate professionals and 920: Agricultural, fishery and related labourers), Norway, Poland, Slovak Republic and Switzerland.

b) The female share is calculated as the share of women over the total workforce in the occupational group or sector.

c) The representation ratio is calculated as the female share in the occupational group or sector divided by the female share in total wage and salary employment. A value of the ratio of less than 1.0 indicates that women are under-represented in a relative sense; a value greater than 1.0 indicates that women are over-represented.

d) Values for 1998. The following countries are included in the calculations: EU countries, Australia, Czech Republic, Hungary, Mexico, New Zealand, Norway, Switzerland and United States.

Sources and definitions: See Annex 2.A.

ISCO-88 (COM), that divides occupations into 26 sub-major groups. For sectors, the classification scheme corresponds to that used in OECD (2000), which divides employment into five goods-producing sectors and utilities and four service sectors, divided into 16 sub-sectors.¹⁴

On average for the OECD countries for which data are available on a harmonised basis, women are over-represented in 11 occupational groups and under-represented in 15, with very little variation across countries. Clerical occupations, sales jobs and the life-science/health and teaching professions (both at the level of professionals proper or technicians and associate professionals) are highly feminised. Within the elementary occupations, women are over-represented in the sales and services occupations. By contrast, the female representation ratio is less than one in all three sub-major groups of the administrative and managerial occupations (Major group of “Legislators, senior officials and managers”), and among physical, mathematical and engineering science professionals. Manual and production jobs are also predominantly male. As for the representation of women across sectors, they are largely under-represented in the goods-producing sector whereas they are over-represented in services. There is quite a lot of variation, though, across sub-sectors and across countries. In more than half the countries, women are over-represented in financial, insurance and real estate services and under-represented in distributive services. The presence of women in the government sector varies across countries: they are over-represented in half the countries and under-represented in the other half.

Levels of occupational or sectoral segmentation by gender based on very aggregated data may obscure the full extent of gender segmentation if women and men work in different detailed occupations or sub-sectors. Table 2.11 uses occupational information at the most detailed level available to analyse the extent to which employed women and men are concentrated in a small number of occupations. In the OECD area, the vast majority of the female workforce – at least three quarters – is concentrated in just 19 out of 114 occupations. These 19 occupations tend to be strongly female-dominated, with women representing 70% of total employment on average. Large numbers of women, across all OECD countries, are found working as salespersons, domestic helpers and cleaners, secretaries, personal care and related workers. Slightly lower down in terms of female concentration ranking are primary and secondary school teachers. On average, three quarters of male wage and salary employees are employed in 30 out of 114 occupations, in which the male share of employment averages 73%. Drivers, construction workers, mechanics and, at a higher skill level, physical and engineering science technicians are typical occupations for men in most of the countries examined. Architects, engineers and finance and sales professions are other professional profiles that occupy large numbers of men in virtually all countries.

Measuring occupational concentration by these simple counts of occupations suggests that women are much more concentrated into a few occupations than men. However, this is misleading because the national occupational classifications tend to divide typically male production occupations into finer sub-categories than typically female service occupations. For example, the typically female occupation “housekeeping and restaurant service workers” includes many more workers than the male-dominated occupation “miners, shot-fires, stone-cutters and carvers”. As a consequence, the simple count of occupations overstates the difference between occupational concentrations of men and women. This is why Table 2.11 also reports counts of occupations that are adjusted for differences in the share of each occupation in the total workforce. This indicator is based on the extreme assumption that the share of each occupation in the total workforce is an indicator of the heterogeneity of jobs associated with each occupation. The picture that emerges based on this alternative indicator is very different:

Table 2.11. **Occupational concentration of women and men, 2000**

Occupations that employ at least 75% of wage and salary employees, by gender

	Women			Men			Total number of occupations ^d
	Count of occupations ^a	Average female share ^b	Adjusted count of occupations ^c	Count of occupations ^a	Average male share ^b	Adjusted count of occupations ^c	
Australia	24	66	55	38	72	64	81
Austria	17	74	49	29	77	55	115
Belgium	16	66	47	25	76	55	115
Canada	32	68	67	53	71	66	139
Czech Republic	27	73	48	31	73	53	115
Denmark	19	67	54	31	72	55	115
Finland	21	77	51	29	75	56	115
France	17	68	51	31	73	51	115
Germany	20	70	52	32	71	56	115
Greece	14	69	46	29	74	62	115
Hungary	23	71	50	29	72	55	115
Iceland	18	77	44	29	74	50	115
Ireland	17	72	52	28	70	58	115
Italy	19	59	53	30	72	65	115
Luxembourg	13	65	48	26	81	60	115
Netherlands	21	65	52	31	72	58	115
New Zealand (2001)	17	74	48	28	70	49	96
Norway	16	73	53	30	75	51	115
Poland	20	74	48	29	77	53	115
Portugal	16	72	49	27	71	56	115
Slovak Republic	24	73	49	28	74	52	115
Spain	15	64	46	30	75	58	115
Sweden	20	75	53	31	71	52	115
Switzerland	20	66	52	31	75	58	115
United Kingdom	17	69	54	29	70	57	115
United States (1999)	21	65	54	26	68	56	107
OECD unweighted average^e	19	70	51	30	73	56	114

a) Minimum number of occupations accounting for at least 75% of total female (male) employment, obtained by ranking occupations according to their female (male) employment, from highest to lowest.

b) Average female (male) share in the occupations that employ at least 75% of female (male) wage and salary employees.

c) Each occupation has been assigned a standardisation factor, which is proportional to the share of the total workforce in each occupation. The standardisation factors are constructed in such a way that they sum to the total number of occupations in the national classification. Hence, they can be higher, lower or equal to one. They are calculated as follows: $S_i = (w_i/W) * OCC_{tot}$, where w_i = wage and salary employment in occupation i ; W = total wage and salary employment; OCC_{tot} = total number of occupations in the national classification. The adjusted count of occupations is the minimum sum of standardisation factors accounting for at least 75% of total female (male) employment, obtained by ranking occupations according to their female (male) employment divided by their corresponding standardisation factor, from highest to lowest.

d) Total number of occupations included in the national occupational classification. See also Annex 2.A.

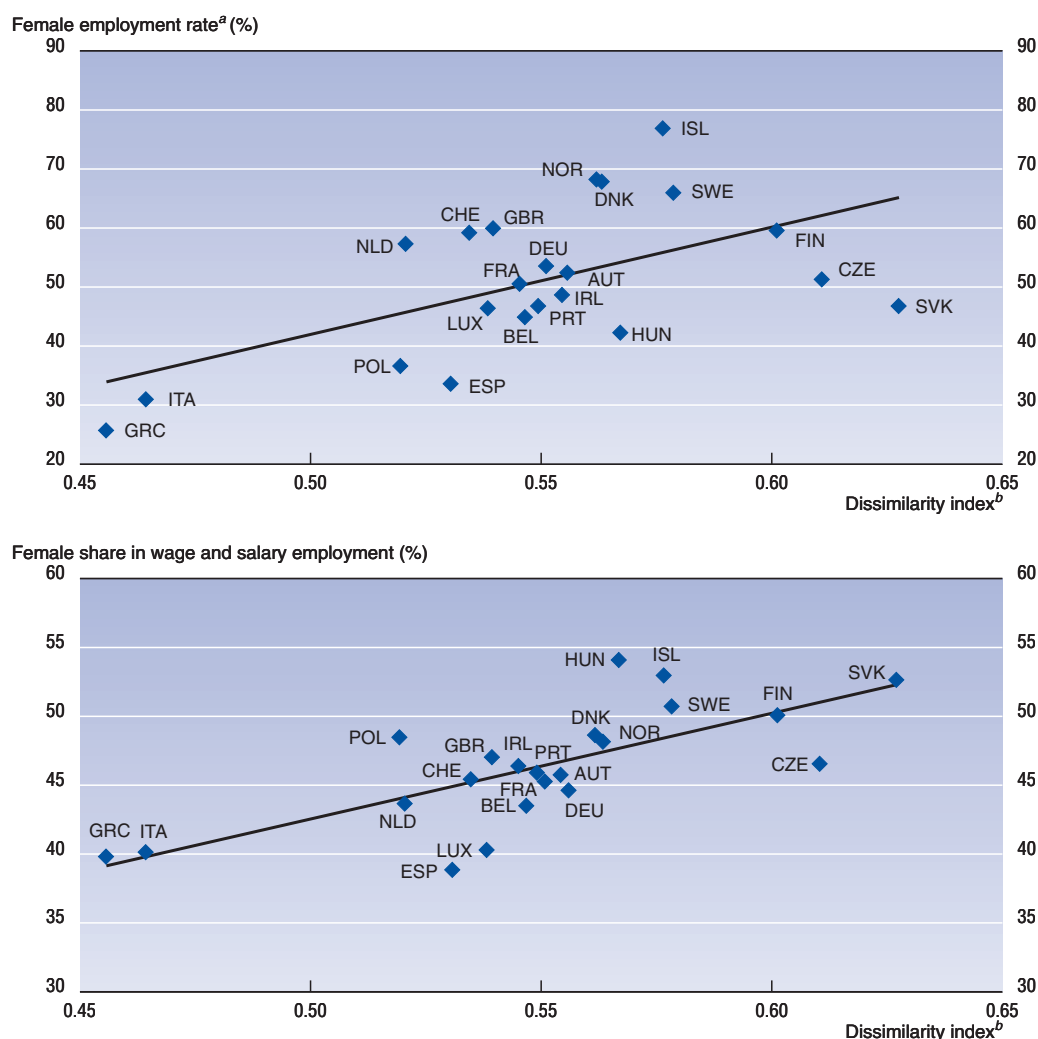
e) For above countries only.

Sources and definitions: See Annex 2.A.

gender differences in terms of occupational concentration are very limited, with women appearing to be less concentrated than men in Scandinavian countries and Canada. Only in Australia, Greece, Italy, Luxembourg and Spain do women appear to be employed in far fewer occupations than men. Admittedly, given its extreme assumptions, this indicator understates the difference in occupational concentration between men and women.

The same detailed data used in Table 2.11 have been used to construct the dissimilarity index¹⁵ that is plotted in Chart 2.3 against the overall female employment rate (calculated for wage and salary employees only) and the female share in wage and salary employment. The relationship between the dissimilarity index and either the female employment rate or the female share in wage and salary employment is positive. The dissimilarity index is very low in Greece and Italy, where relatively few women are employed. Conversely, the Slovak Republic, the Czech Republic and the Scandinavian

Chart 2.3. Occupational segregation by gender and women's employment, 2000



a) Women in wage and salary employment divided by the female population aged 15 to 64 years.

b) Dissimilarity index calculated for the occupations at the 3-digit level of the ISCO-88 (COM). The index has a minimum value of 0 – no segregation; same percentage female and male in each occupation – and a maximum value of 1 – complete segregation; each occupation is completely female or completely male. For the definition of the dissimilarity index, see Footnote 15 in the text.

Sources and definitions: See Annex 2.A.

countries, with among the highest rates of female employment, are also found to have the highest levels of gender segregation. This finding is in line with well-established findings in the literature on this subject (Anker, 1998).

The fact that high employment rates in the Nordic countries have not led to a better integration of women and men into occupations may be viewed as a paradox. One might expect that as women enter employment in increasing numbers, the diversity of their labour market experience should increase. Furthermore, along with higher women's labour force commitment, equity laws should become increasingly important and employers' opinions towards women workers more positive. On the other hand, the rise in the

labour force participation of women involves a reorganisation of work so that tasks that women traditionally performed at home have been transferred to the labour market. Many women moving into the labour market have taken up jobs in healthcare, social care and education, thus producing services that are similar to those produced at home.

Signs of falling occupational segregation are observed when comparing the dissimilarity index for workers in the age group of 25 to 34 years to that for older workers (Table 2.12). The younger generations appear to be more occupationally integrated than the older ones in all countries except Austria, Belgium, Germany, Greece, Italy and Spain (in the latter three countries, though, the dissimilarity index for the overall workforce is relatively low). The generation gap in occupational segmentation is particularly pronounced in Ireland, Korea, the United Kingdom and the United States. On the other hand, the division of the labour market into a female and a male segment is more pronounced for the low-educated and for women and men with children. The explanation for the

Table 2.12. **Gender differences in the occupational distribution of employment by age, presence of children and education, 2000**

	Relative dissimilarity indices ^a		
	By age ^b	By presence of children ^b	By education ^b
Australia ^c	99	102	139
Austria	103	113	134
Belgium	100	111	171
Czech Republic	94	110	109
Denmark	92	..	119
Finland	93	..	115
France	95	110	135
Germany	100	115	125
Greece	100	117	195
Hungary	95	..	152
Iceland	92	..	156
Ireland	88	120	..
Italy	108	106	139
Korea ^c	71	..	131
Luxembourg	95	119	217
Netherlands	99	116	182
New Zealand ^c (2001)	94	114	..
Norway	91	..	134
Poland	92	..	149
Portugal	96	107	186
Slovak Republic	94	..	136
Spain	101	102	136
Sweden	90	102	138
Switzerland ^c	99	96	120
United Kingdom	83	123	116
United States ^d (1999)	86	124	183
OECD unweighted average^e	94	111	145

.. Data not available.

a) Ratio of the dissimilarity indices (DI) for the two groups indicated below multiplied by 100. A relative index greater than 100 indicates greater occupational segregation by gender for the group in the numerator than for the group in the denominator. DIs have been calculated over the population of wage and salary employees based on 26 sub-major occupational groups of ISCO-88 (excluding the Armed Forces). For the definition of DI, see Footnote 15 in the text.

b) By age: ratio of DI for the age group 25 to 34 years to DI for the age group 35 to 64 years; by presence of children: ratio of DI for employees with children to DI for employees without children; by education: ratio of DI for employees with less than upper secondary education to DI for employees with a tertiary qualification.

c) For Australia (age and presence of children), Korea, New Zealand, Sweden and Switzerland (presence of children) the dissimilarity indices are calculated based on 9 major groups of occupations (digit-1 level).

d) For the United States, the indices are calculated based on 19 groups of occupations (2-digit level of SOC).

e) For above countries only.

Sources and definitions: See Annex 2.A.

former observation is rather intuitive, as low-skilled occupations in the bottom rung of the occupational classification are more clearly gender-stereotyped than medium- or high-skilled occupations. Low-educated women and men are more likely to make gender-typed choices of occupations than the highly educated, and, as a consequence, it may be particularly difficult for women (or men) to break into typical male- (or female-) dominated jobs, even should they desire to. This rigidity adds another dimension to the labour market penalty attached to low education for both women and men, besides higher unemployment and lower employment rates. It also explains why the younger generations, who are better educated, appear to be more occupationally integrated than the older ones.

The reason why parents are more occupationally gender-segregated than childless workers is less obvious. In general, differences in the occupational distribution of mothers and non-mothers account for more of the difference in the dissimilarity index for parents and non-parents than differences in the distribution of jobs for fathers and non-fathers (data not shown). Compared to childless women, women with children are found more often among “service workers and shop and market sales workers”, where women are over-represented, and less often in the managerial major group, where women are under-represented. Similarly, fathers tend to reinforce their representation ratio in those occupations where men are already over-represented, and *vice versa*.

These results need to be considered in the light of the other findings discussed earlier in the chapter as well as the theoretical and empirical literature on the subject. As was shown above, women with children are more likely to be in part-time jobs than childless women. To the extent that part-time jobs are more likely to be feminised and less evenly distributed across the occupational spectrum (OECD, 1999), this partly explains why mothers are more occupationally segregated than childless women. Furthermore, family responsibilities of mothers and the limited availability of adequate child-care facilities may reduce the effort that they can put into market work and they may choose, as a result, less-demanding jobs that are compatible with a family life (Becker, 1985) and/or where the wage penalty due to interruptions of their market work in the event of childcare is minimised (Polacheck, 1981). Mothers therefore apply a filter in their occupational choices that limits the types of jobs they can take. There can also be a discrimination effect, whereby some employers prefer not to hire mothers if they think that they are less committed or motivated for work than childless women.

The appropriate policy stance towards occupational segmentation by gender depends on its causes. A number of competing theories attempt to explain occupational sex segregation. Neo-classical or human capital theories focus on supply-side factors (*i.e.* heterogeneous endowments, constraints and preferences of workers), or demand-side factors (*i.e.* employers’ preferences that are determined by a rational investment behaviour). These theories highlight the role played by differences in personal preferences and the human capital accumulated by men and women and, in terms of policy, stress the need to address factors such as education, training and family-work reconciliation policies. By contrast, labour market segregation and gender theories tend to assign a prominent role to discrimination as a prime determinant of the occupational segregation of women. According to these views, policy should try to promote equal opportunity and affirmative action, as well as consciousness-raising policies to remove gender stereotypes and prejudices. In the absence of such policies, gender segmentation may result in lower pay¹⁶ and fewer career options for women (OECD, 1998b) and increase labour market rigidity. Occupational segmentation by gender appears also to result in an under-utilisation of women’s cognitive skills (Box 2.1).

Box 2.1. **Facts and perceptions concerning the utilisation of one's skills on the job**

The indicators presented in the table below, which have been derived from a variety of surveys, look at the job content for women compared to that for men from a different angle, that of the extent of utilisation of their skills on the job and of individual perceptions about the complexity of their work tasks.

In spite of educational attainment levels that are similar for women and men or even in favour of women, white-collar women engage in writing and reading at work less frequently and/or with less variety than white-collar men in all the countries examined. Furthermore, fewer women than men declare that they are carrying out complex tasks in their jobs. This is of concern to the extent that individuals who engage in informal learning at work through reading and writing have more opportunities to maintain and enhance their foundation skills than people who do not use their skills regularly.

Work tasks may be perceived as too onerous or too light according to personal taste and expectations as well as relative to one's skills and qualifications, and if women's expectations towards their jobs are lower than men's, they may not think that their skills are under-utilised. More women than men, however, feel that the demands imposed on them by their jobs are too low relative to their skills; and, conversely, fewer women than men think they are too high. True, the picture becomes a bit blurred at this stage: in six of the fourteen countries for which the information is available, women appear to believe that the demands imposed on them by their jobs are too high relative to their skills, without there being any evidence of their writing or reading engagement at work being higher than for men or for women in other countries, nor literacy skills or educational attainment levels being any lower. What is more, women are less prone than men to feel that they have the skills or qualifications to do a more demanding job than the one they occupy (indicator 7). This last subjective indicator may reflect both one's perceptions about the adequacy of one's skills and qualifications for the job's demands as well as one's aspirations for a more demanding job. For example, a worker can feel that the demands imposed on her/him match his/her skills, and still feel that he/she can do a more demanding job.

The picture that emerges from this table is one where the skill requirements of many men's jobs are higher than women's. Even if women are aware of this, they do not appear to feel that they could or would like to do a more demanding job. Does this imply that women's satisfaction on the job is different from that of men's? A number of studies for Great Britain and the United States (Blanchflower and Oswald, 1999, Brown and Mc Intosh, 1998, Clark, 1997) show that women are indeed more satisfied with their jobs than men. Clark (1997) suggests that this paradox may be explained by the possibility that women's labour-market expectations are more than being met. Based on evidence on work orientations from the 1997 International Social Survey Program, however, Sousa-Poza and Sousa-Poza (2000) show that in most countries there is no such gender/job-satisfaction paradox. Men display higher levels of job-satisfaction than women in all countries except the United Kingdom and the United States, although the differences are small (but statistically significant). Consistent results are found on the basis of the European Community Household Panel: among the 12 countries for which data are available, women appear to be significantly more satisfied with their job than men (at conventional statistical level) only in the United Kingdom.

Box 2.1. Facts and perceptions concerning the utilisation of one's skills on the job (cont.)

Indicators of the extent of utilisation of skills in the job, female workers aged 20 to 64 years

Ratio of women to men, men = 100

	Cross-country median value	Share of countries with index >= 100
1. Reading index score ^a	82	0/19
2. Writing index score ^a	76	0/19
3. Percentage of workers carrying out complex tasks ^b	81	0/19
4. Percentage of workers carrying out monotonous tasks ^c	100	8/14
5. Percentage of workers who think the demands imposed on them by their job are too high relative to their skills ^d	94	6/14
6. Percentage of workers who think the demands imposed on them by their job are too low relative to their skills ^d	117	11/14
7. Percentage of workers who feel they have the skills or qualifications to do a more demanding job than the one they occupy	96	2/12

a) Index score for engagement in reading and writing at work for white-collars. Given six different types of texts – reports, letters, schemas, manuals, invoices and instructions – the reading index records how many of these texts and how often the respondent said that she/he reads during the week. The writing index is constructed in the same way based on four kinds of writing activities in the workplace: letters and memos, reports, financial documents and specifications. Thus, the indices reflect both variety and frequency. Someone with a writing index may either read more frequently and/or have a greater variety of literacy experiences each week.

b) Percentage of workers answering yes to “generally, does your main paid job involve, or not, complex tasks?”.

c) Percentage of workers answering yes to “generally, does your main paid job involve, or not, monotonous tasks?”.

d) “How well do you think your skills match the demands imposed on you by your job?” (“Too high, match, too low”).

Source: Indicators 1 and 2: International Literacy Survey (IALS); indicators 3 to 6: Third European Survey of Working Conditions 2000; indicator 7: European Community Household Panel (ECHP), fifth wave.

B. The vertical segregation of employment

If women are more likely to be in work than ever before, is there any evidence that they are moving up the occupational hierarchy as well? And, if yes, which groups of women are more likely to be found in managerial positions? Table 2.10 showed that, on average in OECD countries, women are under-represented in the top administrative and managerial occupations. The first four columns of Table 2.13 add country-specific information on each of the three sub-major groups of occupations included in this category. The more detailed picture drawn in this table still displays a high degree of similarity across countries in the structure of female occupational representation. With very few exceptions – *i.e.* “legislators and senior officials” in the United Kingdom, “corporate managers” in Ireland, “general managers” in Austria and Belgium – women are under-represented in all three sub-major groups, and considerably so in Italy. These results, however, need to be interpreted with great caution, as cross-national comparability of occupations in Major group 1 of ISCO-88 (COM) is particularly susceptible to national differences of definitions. In particular, the definition of managers in the United Kingdom (and probably also in Ireland) is looser than in other countries (Elias and Mc Knight, 2001).¹⁷

However, occupations with a supervisory role may also be found within other groups of occupations but the level of occupational disaggregation available does not reveal such underlying vertical gender segregation. To overcome this problem, the last two columns of

Table 2.13. **Women in managerial occupations and in jobs with a supervisory role**
Female representation ratios^a

	ISCO-88 sub-major occupation groups within "Legislators, senior officials and managers"				Jobs with a supervisory role ^b	
	110 – Legislators and senior officials	120 – Corporate managers	130 – General managers	Total	Great supervisory role	Some supervisory role
Austria	0.5	0.6	1.4	0.7	0.6	0.7
Belgium	0.7	0.6	1.1	0.7	0.6	0.7
Canada	..	..	..	0.8	0.6	0.9
Czech Republic	0.5	0.7	0.6	0.6	0.1	0.8
Denmark	0.4	0.4	1.0	0.5	0.5	1.3
Finland	0.8	0.6	0.4	0.6	0.6	1.1
France	0.7	0.7	1.0	0.7	0.7	0.9
Germany	0.5	0.5	0.9	0.5	0.5	0.7
Greece	0.5	0.6	0.6	0.6	0.4	0.9
Hungary	0.8	0.8	0.7	0.8	0.7	1.2
Iceland	0.6	0.7	0.4	0.6	..	..
Ireland	0.9	1.0	0.7	0.9	0.7	1.0
Italy	0.4	0.3	0.4	0.3	0.5	0.9
Luxembourg	0.5	0.4	0.7	0.5	..	..
Netherlands	0.5	0.4	0.8	0.5	0.5	0.7
New Zealand	1.0	0.8	..	0.8	..	..
Norway	0.9	0.5	0.6	0.5	..	..
Poland	0.5	0.7	0.9	0.8	0.6	0.9
Portugal	0.5	0.6	0.7	0.6	0.6	1.0
Slovak Republic	0.9	0.7	0.9	0.8	..	..
Spain	0.7	0.4	0.6	0.5	0.6	0.8
Sweden	0.7	0.6	0.7	0.6	..	..
Switzerland	0.7	0.2	0.6	0.5	0.7	0.9
United Kingdom	1.1	0.7	0.7	0.7	0.8	1.0
OECD unweighted average^c	0.7	0.6	0.7	0.6	0.6	0.9

.. Data non available.

a) For the definition of the female representation ratio, see note c), Table 2.10.

b) Information on the degree of supervisory role in the job is taken from the ECHP for Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain and United Kingdom. For the remaining countries, the information is derived from the IALS. In the ECHP, great supervisory role corresponds to "supervisory role with a say on the pay and promotion of staff", and some supervisory role corresponds to "supervisory role and no say on the promotion of staff". In the IALS interviews, no definition of great and some supervisory role was provided to respondents. The results based on the two different surveys, therefore, may not be fully comparable.

c) For above countries only.

Source: For the ISCO-88 data: European Labour Force Survey (see Annex 2.A); for the degree of supervisory role: European Community Household Panel (ECHP) and OECD, International Adult Literacy Survey (IALS), 1994-97.

Table 2.13 measure the vertical distribution of jobs based on an alternative indicator, that is the degree of supervisory role in the job. Also in this case, though, comparability across countries is limited as two different data sources have been used, using slightly different notions of degree of supervisory role (see footnote to the table). In all countries women appear to be under-represented in jobs with great supervisory role. Among European Union countries, for which the data are more comparable, the representation ratio is closest to 1 in the United Kingdom, whereas it is below 0.5 in Greece.

There are two hypotheses to explain why women are under-represented at higher job levels relative to men. The "glass ceiling" argument is that women have less chance of being promoted to higher job levels than men even if both women and men are in jobs that offer promotion opportunities. Social attitudes and cultural biases are regarded as major factors discriminating against women and holding them back from attaining higher-level jobs. Another constraint for women to achieve high-level positions, especially if these involve long hours, frequent travels and relocation, is the disproportionate responsibility they still have for raising children and performing household tasks. Table 2.14, however,

Table 2.14. **Career progress over five years by gender**Percentage of workers^a whose supervisory responsibilities increased between 1994 and 1998

	Women			Men		
	With children	Without children	Total	With children	Without children	Total
Belgium	10	18	14	24	19	21
Denmark	19	15	17	24	20	22
France	16	14	15	23	17	20
Greece	7	7	7	15	9	12
Ireland	18	16	17	21	20	21
Italy	14	12	13	20	15	17
Netherlands	6	12	10	22	18	20
Portugal	9	9	9	8	9	8
Spain	16	11	13	24	16	20
United Kingdom	21	25	23	27	26	26
Unweighted average	14	14	14	21	17	19

a) Persons aged 20 to 50 years who were employed and had no or only some supervisory role in the starting year.

Source: See Annex 2.A.

does not display a lower promotion probability for mothers compared to childless women, whereas it confirms that there are differences in career mobility between women and men. The apparent absence of a motherhood effect on the career mobility of women could reflect a more subtle constraint affecting women without family responsibilities, which is that they may nevertheless be seen by their employers as potential mothers and, as a consequence, they are unwilling to invest as much in their future careers. Furthermore, a closer analysis of the data in Table 2.14 suggests that the hypothesis of a penalty attached to motherhood in terms of career mobility cannot be ruled out. In fact, if fathers display more career mobility than childless men because promotions are more likely to occur during the child-rearing ages, the fact that mothers are no more likely than childless women to step up to jobs with greater supervisory role implies that they are actually penalised.

The second hypothesis to explain why women have less promotion probability than men, called the “dead-end explanation”, states that women are promoted to higher hierarchical levels less frequently because they are in jobs that offer fewer opportunities for promotion. The fact that women and men are distributed across different occupations and sectors lends plausibility to this second hypothesis, but the available evidence does not allow any further investigation of this issue.

4. Women at work: how much do they earn?

A. The unadjusted gender pay gap

The other main way in which gender differences manifest themselves within employment are differences in pay. Table 2.15 shows the unadjusted ratio of gross hourly earnings of women relative to men for a recent year and carries out a sensitivity analysis of its measurement based on alternative measures (*i.e.* the ratio of mean and of median hourly earnings, and the ratios at the break-points for the bottom and top quintiles of the earnings distributions) and populations (*i.e.* full-time only and all wage and salary employees). Cross-country comparability is somewhat limited by the fact that hourly earnings are calculated on the basis of slightly different definitions of wages and hours worked across

Table 2.15. **Gender wage ratio, 1998**

Unadjusted indicators^a of wage and salary employees aged 20 to 64 years^b

	Hourly earnings, full-time wage and salary employees				Hourly earnings, all wage and salary employees			
	Ratio of means	Ratio of medians	Ratio of the 20th percentiles	Ratio of the 80th percentiles	Ratio of means	Ratio of medians	Ratio of the 20th percentiles	Ratio of the 80th percentiles
Australia (2000)	91	92	96	87	89	90	96	85
Austria	79	80	76	80	79	79	76	80
Belgium	91	94	91	91	93	93	91	92
Canada (2000)	82	81	81	86	81	78	81	81
Denmark	89	93	96	87	89	92	95	88
Finland	82	87	92	77	82	87	92	77
France	87	93	89	89	89	93	90	91
Germany	80	83	80	80	81	83	78	80
Greece	80	80	84	82	87	82	85	88
Ireland	81	81	80	83	79	76	75	82
Italy	85	91	90	87	91	93	91	93
Netherlands	80	86	85	80	79	87	86	81
New Zealand (2001)	86	91	92	85	84	87	93	83
Portugal	92	85	89	95	95	85	89	98
Spain	88	93	86	95	86	88	84	91
Sweden (2000)	86	90	92	84	83	88	91	81
Switzerland (2001)	76	79	74	78	78	80	74	77
United Kingdom	80	85	85	80	75	79	79	76
United States (1999)	79	79	83	78	78	76	82	78
OECD unweighted average^c	84	86	86	85	84	85	86	84

a) Percentage ratios of female to male wage.

b) Australia, Canada, New Zealand, Sweden: 18-64 years and Switzerland: 15 to 64 years.

c) For above countries only.

Sources and definitions: See Annex 2.A.

countries: in some cases (*e.g.* the ECHP countries) overtime pay and/or bonuses are included, in other cases (*e.g.* Canada and Sweden) they are not; hours worked normally refer to usual hours, including overtime, but in the case of Sweden they relate to contractual hours. These differences affect the gender pay gap only to the extent that they are gender-biased.¹⁸ Furthermore, there may be some measurement errors due to the fact that the available information on earnings has been derived from household surveys (except for Sweden), where the risk of mis- or under-reporting by the interviewees is quite high; however, there appears to be no reason to expect systematic differences by country in the extent of gender bias in this phenomenon.

No matter how the gender wage gap is measured, women's hourly earnings are below those received by men in all countries. On average, hourly rates of pay for women are 84% of men's wages, corresponding to a wage gap of 16%, either when measured for full-time workers only or for all workers, including part-timers. In both cases, the wage gap at the median is slightly lower. The measure of the wage gap based on the median rather than the average is more robust, since the former is not affected by extreme values at both ends of the earnings' distribution. Based on this measure, the wage gap between men and women working full-time appears narrowest – at 6% – in Belgium, followed by Australia, Denmark, France, Italy, Spain and Sweden, whereas it is largest – at 21% – in Switzerland and the United States.

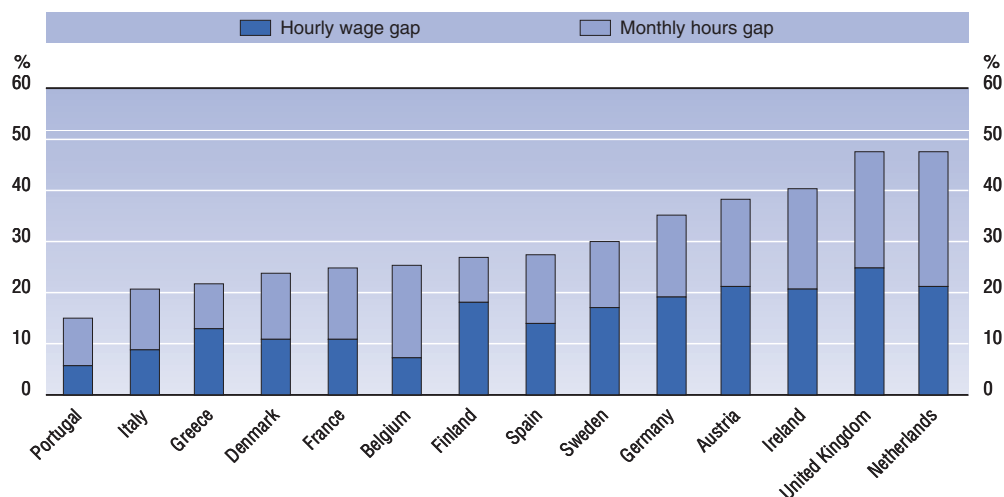
Because a large fraction of the female workforce holds part-time jobs, especially in the Netherlands and Switzerland, looking at full-time workers only is a potentially serious omission. The hourly pay gap estimated on the basis of median wages for all workers,

both full-time and part-time, is 4-5 percentage points higher than that estimated for full-time workers in Ireland, New Zealand, Spain and the United Kingdom, reflecting lower hourly wages for part-time workers, most of whom are women. In the remaining countries, however, there is little difference between the two measures of median wage gap. Particularly, in the two high part-time economies, the Netherlands and Switzerland, the median wage gap is even slightly lower when measured over all workers than over full-time workers only. This finding suggests that women in part-time jobs are not subject to an additional pay penalty in many OECD countries, perhaps thanks to recent changes in pay setting such as the collective bargaining initiatives in the Netherlands to equalise pay in full- and part-time jobs. The lack of a part-time effect for most countries could, however, also relate to the bias introduced by calculating hourly earnings on the basis of actual hours worked, rather than contractual hours. As men and full-timers are more likely to work overtime hours than part-timers, the hourly earnings measure will be biased downward most for full-time men, causing the gender wage gap to be under-estimated to a greater extent when part-time workers are included in the calculations.

Table 2.15 presents two additional measures of the wage gap: the ratio of gross hourly earnings of women's to men's at the 20th and 80th percentiles of the female and male earnings distributions. The gender pay gap is significantly smaller at the 20th than at the 80th percentile in Nordic and English-speaking countries, particularly Finland and Denmark, and Australia and New Zealand, respectively. Conversely, for approximately half of the countries considered there appears to be either no clear difference or a greater female disadvantage in the bottom part of the earnings distribution than in the top part. The gender wage gap in Portugal and Spain is 6 and 9 percentage points greater at the 20th than at the 80th percentile of the earnings' distribution. This result could, however, partly reflect measurement error introduced by the self-declared nature of the available data, at least in part. If top earners – presumably for the majority men – have greater propensity to under-report their earnings than low or middle earners, the male-female wage gap at the 80th percentile is likely to be under-estimated.

Although the hourly wage can be thought of as the “true” price of labour, thus representing the most appropriate basis for the calculation of the gender pay gap, total weekly, monthly or annual earnings provide a better idea of how much women “take home” compared to men. Chart 2.4 shows the gender gap of monthly earnings for all workers, including part-timers, by adding to the gender hourly pay gap the gender gap in hours worked. As women are more likely to work part-time than men, and, once in full-time work (*i.e.* 30 hours of work per week or more), they work, on average, shorter hours than men (OECD, 1999), they earn considerably less, on a monthly basis, than men. In the Netherlands and the United Kingdom women earn just over half of what men earn.

As for the gender gap in employment rates, the size of the remaining gender pay gap is the result of different wage developments for women and men and may reflect different stages of development in gender equality. Table 2.16 shows changes of the gender wage gap over the past two decades for a small selection of OECD countries. Over the 15-20 year periods analysed, the wage gap fell by between 14 and 38%, indicating substantial progress. The wage gap decreased most in the United States and France, whereas the figures for Sweden and Canada display less rapid movement. The strong narrowing of the gender wage gap in the United States is all the more remarkable as it occurred against the background of rising wage inequality, which Blau and Kahn (1997) find to have a positive correlation with the gender pay gap. Using their own expression, American women

Chart 2.4. **The gender gap in monthly earnings, 1998**The contribution of hourly wages and hours worked^a

a) Percentage difference between male and female average hourly wages and hours worked per month.

Source: See Annex 2.A.

have been “swimming upstream”, mainly thanks to improvements in their relative qualifications that were sufficient to counterbalance changes in the wage structure that worked against women. By contrast, in Sweden, much of the narrowing of the wage gap had already been accomplished in the 1970s. The relative stagnation of the gender pay gap in Nordic countries, in particular Denmark, has been attributed by Datta Gupta *et al.* (2001) to unfavourable wage structure effects that more than wiped out any gains that Danish women have made in their human capital over the period.¹⁹

A reduction of the gender pay gap, however, is not always a favourable development for women. Relative wage growth of women, in fact, may be strongly influenced by changes in workforce composition. The experience of transition countries,

Table 2.16. **The narrowing of the gender wage gap since the early 1980s, selected OECD countries**

Gender wage gap (initial year = 100)

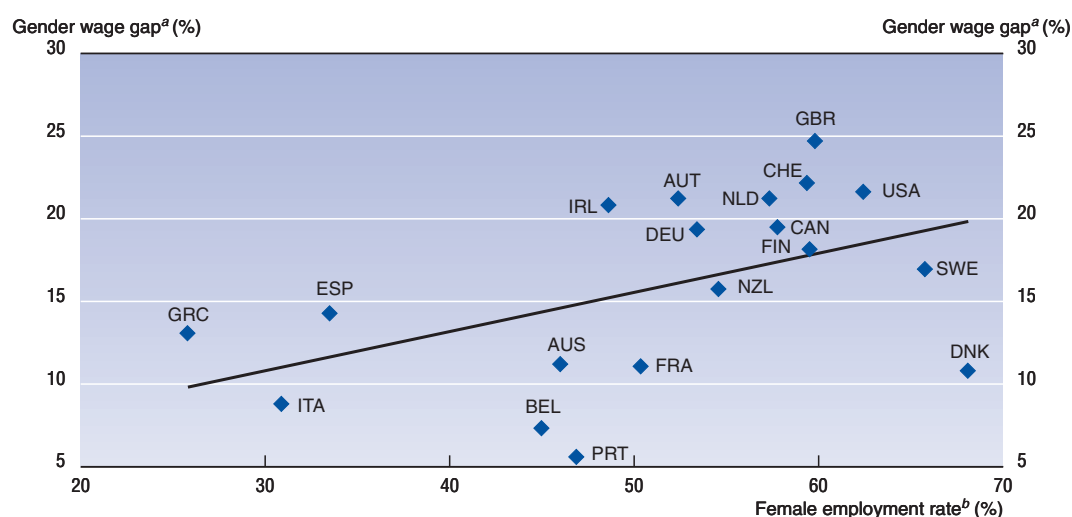
	Period	Index
Australia	1984-2001	82
Canada	1980-1999	85
France	1980-1999	66
Japan	1980-2000	81
Korea	1977-1997	70
Portugal	1975-1999	70
Sweden	1975-1995	86
United Kingdom	1980-2000	70
United States	1979-1999	62

Sources and definitions: See Annex 2.A.

where employment losses during the transition period have hit less skilled women particularly hard, illustrates this possibility. For example, Hunt (2002) attributes almost half the narrowing of the gender wage gap in East Germany to exits from employment of low-skilled workers who were disproportionately women. International comparisons also confirm that differences in the composition of the female workforce have an important effect on the gender wage gap. Chart 2.5 displays a positive relationship between the female employment rate and the gender wage gap across countries. As in the case of the positive relationship between occupational segmentation by gender and the degree of women's presence in the workforce (*cf.* Chart 2.3), the association between low employment rates and lower-than-average wage gaps may be viewed as a paradox: one would expect more women to be encouraged to enter employment if there is gender equality in pay and, in turn, pay equity regulations and practices to become increasingly important as more women enter the labour force. However, the apparent paradox is easily resolved. The evidence presented earlier in this chapter has shown that cross-country differences in female employment rates are mainly accounted for by the degree of integration of less educated, lower-paid women into employment. In countries where a higher proportion of low-educated women are employed, the gender pay gap will tend to be wider, all other things being equal. Composition effects are therefore important for explaining cross-country differences in the gender pay gap. The analysis in the remainder of this section further investigates this issue using decomposition techniques. As the relationship between female employment rates and the gender pay gap could reflect a tendency for increases in the supply of labour from women to depress their wages, the analysis will also control for differences in relative wages by gender and skill level.²⁰

Chart 2.5. **The gender wage gap and women's employment**

Persons aged 20 to 64 years



a) Percentage difference between male and female average hourly wages.

b) Percentage share of women in wage and salary employment.

Sources and definitions: See Annex 2.A.

B. A decomposition of the wage gap

Possible sources of pay inequality between women and men are differences in human capital endowments and productivity-relevant characteristics (*e.g.* age, education and employment experience, but also less easily observed characteristics like motivation to work and effort); differences in jobs held; and differences in pay “all other things equal”. Identifying these different components is important for policy purposes. In particular, differences in pay “all other things equal” reflect pay discrimination and are subject to being redressed through conventional legislation on equal pay, as well as through the forces of competition (Becker, 1957). The analysis that follows tries to identify the different components of the gender wage gap through the methods devised by Oaxaca (1973) and by Juhn *et al.* (1991). In reality, it is very difficult to determine when the condition “all other things equal” is met on the basis of the available information, since only a small portion of the many characteristics that affect the wage paid can be observed, and women and men often perform very different jobs.²¹ As a consequence, the type of analysis performed here can only suggest upper and lower bounds to the different components, corresponding to different assumptions on the role played by labour market discrimination, once the effect of differences in observed human capital endowments and productive characteristics is taken into account.

The first step in the decomposition of the gender wage gap is to identify the contribution of observed endowments and productive characteristics. To do this, one needs to know how much the labour market “pays” for such endowments and characteristics. Different approaches exist in the literature on how to estimate these remuneration rates. Here, following Blau and Kahn (1996, 1997), it is assumed that the best estimate can be obtained through the estimation of country-specific male wage regressions, where selectivity problems are minimised.²² Based on an OLS regression model and individual data, earnings functions for wage and salary male workers aged 20 to 64 years and working full-time (excluding apprentices) are estimated. A necessary condition to ensure cross-country comparability is to have the same specifications of wage regressions for all countries: for this reason, the analysis is restricted to 13 European countries only. Following the standard Mincerian specification, the natural logarithm of gross hourly wages is used as the dependent variable, while education, potential experience (age minus age of first entry into the labour market after leaving full-time schooling) and potential experience squared, together with controls for occupations, tenure, permanent contracts and public/private sector, are included in the model (Annex Table 2.B.1). These variables will be called “observed characteristics” hereafter, to distinguish them from unobserved characteristics (such as motivation or the difference between actual and potential experience), whose effect is reflected in the residual.

The estimated coefficients from the male regressions can be interpreted as the market price for the observed characteristics that would apply to both men and women in the absence of discrimination. The product of these coefficients and the average gender gaps in the corresponding variables leads to a simple decomposition of the differential between average hourly wages of men and women into a part due to gaps in observed characteristics and an unexplained residual (Oaxaca, 1973, Blinder, 1973, and Oaxaca and Ransom, 1999). The latter reflects gender differences in unobserved characteristics and/or discriminatory wage-setting practices that are unrelated to productive characteristics. Formally, this decomposition can be written as:

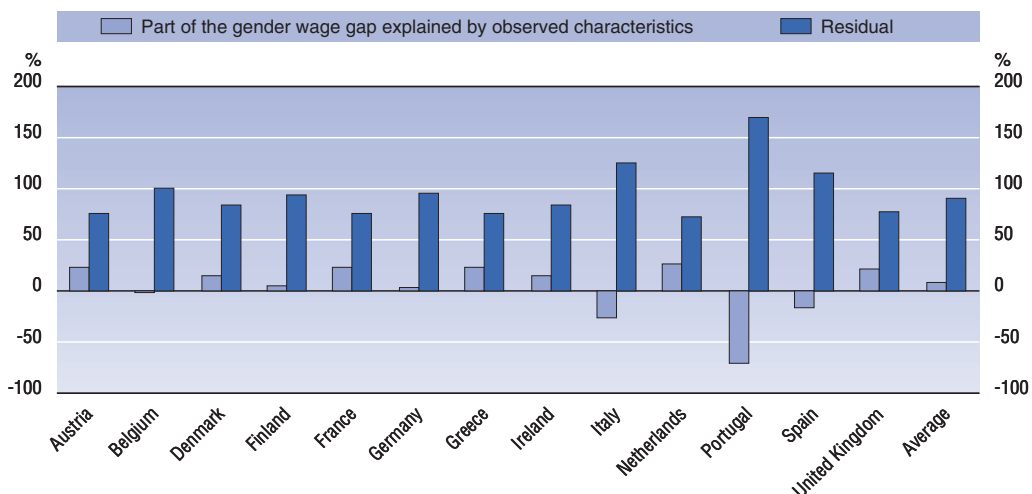
$$\Delta \log \bar{W}_i = \Delta \bar{X}_i \beta_i + \Delta \bar{\varepsilon}_i, \quad [1]$$

where i indexes countries, $\bar{\cdot}$ and Δ refer to country averages and gaps between men and women, respectively, W stands for gross hourly wages, X for the matrix of observable endowments and characteristics, β for the vector of estimated coefficients from the male regressions and ε for the residuals from these regressions (that is, difference between actual and predicted values, the latter computed using the estimated coefficients from the male wage regressions). As shown in Chart 2.6, even after gender differences in observed characteristics are controlled for, there remains a substantial gap between the hourly earnings of men and women. Indeed, on average, once the effects of education, tenure, potential experience and other observable characteristics are controlled for, gross hourly wages are still 15% greater for men than for women. These results must be interpreted with some caution, given the difficulty of measuring *actual* labour market experience, which is only partially circumvented through the inclusion of potential experience and actual tenure. The analysis in Section 2 suggests that potential experience overstates women's actual labour market experience, as women spend less and more discontinuous time in employment than men, especially if they have children or a low level of educational attainment. As a consequence, the use of estimated male returns to experience overestimates the female rate of return to experience, thereby inflating the unexplained part of the wage differential.²³

The components underlying Chart 2.6 cannot be fully compared across countries. In fact, each term of the decomposition is not only the result of gender gaps in observed and unobserved characteristics (or of discriminating wage-setting practices), but also reflects the structure of remuneration rates and wage premia, which differ across countries. Applying the decomposition method devised by Juhn, Murphy and Pierce (J-M-P hereafter,

Chart 2.6. **A decomposition of the gender wage gap^a**

Percentage of total hourly wage gap, persons aged 20 to 64 years



a) The gender wage gap (i.e., percentage difference between male and female average gross hourly wages) is decomposed as follows: $\Delta \log W_i = \Delta \bar{X}_i \beta_i + \Delta \bar{\varepsilon}_i$, where i indexes countries, $\bar{\cdot}$ and Δ refer to country averages and gaps between men and women respectively, W stands for gross hourly wages, X for the vector of observable endowments and characteristics, β for the vector of estimated coefficients from each country-specific male regression (see Annex Table 2.B.1), and ε for the unexplained residuals. For each country, the two bars represent the two terms on the right-hand side of the equation expressed as a percentage of the left-hand side term.

Sources and definitions: See Annexes 2.A and 2.B respectively.

Juhn *et al.*, 1991) in a cross-country perspective, this problem can be overcome by taking one country as a benchmark and evaluating gaps in observed characteristics using the wage structure of that specific country. This way, cross-country differences in the gender wage gap can be decomposed into *i*) a component due to cross-country differences in gender gaps in observed characteristics; *ii*) a component due to cross-country differences in market prices for these characteristics; and *iii*) a residual difference reflecting differences in pay discrimination and/or in unobserved characteristics. The residual difference can be further decomposed under the extreme hypothesis that it can be entirely ascribed to differences in unobserved characteristics and/or in their remuneration. In this case, cross-country differences in remuneration rates for unobserved characteristics are estimated by assuming that they are fully reflected by differences between male residual distributions (that is, a greater residual male wage dispersion reflects steeper returns to marketable characteristics),²⁴ and differences in gender gaps in unobservable characteristics are obtained by subtraction.

Formally, the J-M-P decomposition can be written as follows (see also Blau and Kahn, 1996):

$$\Delta \log \bar{W}_i - \Delta \log \bar{W}_k = \Delta \bar{X}_i (\beta_i - \beta_k) + (\Delta \bar{X}_i - \Delta \bar{X}_k) \beta_k + (\Delta \bar{\varepsilon}_i - \Delta \bar{\eta}_{ik}) + (\Delta \bar{\eta}_{ik} - \Delta \bar{\varepsilon}_k), [2]$$

where *i* and *k* index countries (with *k* denoting the benchmark country), $\bar{\cdot}$ and Δ refer to country averages and differences between men and women, respectively, *W* stands for gross hourly wages, *X* for the matrix of observable endowments and characteristics, β for the vector of estimated coefficients from the male regressions, ε for the residuals from these regressions and η for the “theoretical” residuals that would be obtained in country *i* if it had the same residual wage structure as country *k*. These “theoretical” residuals deserve some explanation: they are obtained calculating for each individual of country *i* the residual that an individual with the same ranking position with respect to the male distribution would have in the benchmark country *k*. Indeed, provided that the ranking of individuals reflects the distribution of unobserved characteristics, and that the distribution of unobserved characteristics in the male population is the same in all countries, cross-country differences between the residuals of individuals with the same ranking position reflect cross-country differences in remuneration rates for unobserved characteristics. Following this intuition, the first and third terms of the right-hand side of equation [2] represent the effect of cross-country differences in remuneration rates of observed and unobserved characteristics, respectively, for given gender gaps in characteristics. Conversely, the second and fourth terms represent the effect of cross-country differences in gender gaps in observed and unobserved characteristics, respectively, that would be obtained if country *i* had the same wage structure as country *k*.

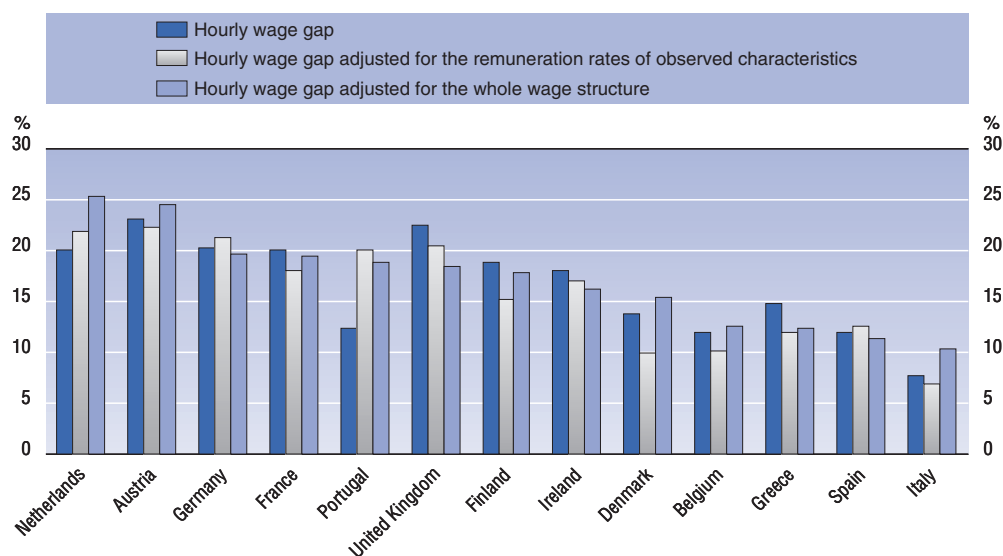
The choice of the benchmark country depends on the objectives of the analysis. In the pioneering work of Blau and Kahn (1996), the authors try to establish what the gender wage gap in OECD countries would be if they had the same wage structure as the United States. The choice of the United States as benchmark country then follows immediately. Conversely, Kidd and Shannon (1996), being concerned with a comparison of just two countries (Australia and Canada), decompose the wage gap of each country using the wage structure of the other. For the analysis in this chapter, the choice is less obvious. A somewhat natural approach is to compare each country with the cross-country average. Accordingly, a virtual “benchmark country” is constructed by pooling together observations from all 13 countries, with remuneration rates estimated from a pooled male wage regression that includes also country dummies in order to make the estimation meaningful

(cf. Annex Table 2.B.1 for estimation results). It must be noted that decomposition outcomes are only partially robust to the choice of the benchmark country (Blau and Kahn, 1996) and a different choice might lead to somewhat different results from those presented below. Similar problems arise as regard to the choice of the reference group for categorical variables (Oaxaca and Ransom, 1999).

Before proceeding further with the examination of the decomposition results, the reader deserves some guidance to their interpretation. On the basis of the available evidence, it is not possible to determine whether the residual term can be ascribed only to gender differences in unobserved characteristics and/or in their remuneration or rather to labour market discrimination.²⁵ However, comparing the full decomposition with one focussing on the first and second terms of equation [2] only, thus leaving the residual unexplained, provides estimates of upper and lower bounds to the effect of gender gaps in productive characteristics and the effect of the wage structure. This comparison is highlighted in Chart 2.7, which presents three different measures of the gender wage gap: *i*) the unadjusted wage gap, defined as the percentage difference between male and female average gross hourly wages; *ii*) the wage gap adjusted for cross-country differences in remuneration rates for observed characteristics, computed by subtracting the first term on the right-hand side of equation [2] from the unadjusted wage gap; and *iii*) the wage gap adjusted for cross-country differences in the whole wage structure, computed by subtracting both the first and third terms of the right-hand side of equation [2]. This way, the

Chart 2.7. **The gender wage gap adjusted for the effect of the wage structure^a**

Percentage difference between male and female average gross hourly wages, persons aged 20 to 64 years^b



a) The gender wage gap adjusted for cross-country differences in the remuneration rates of observed characteristics is obtained as follows: $\Delta \log W_i^{adjobs} = \Delta \log W_i - \Delta X_i(\beta_i - \beta_k)$, where i indexes countries, k denotes the benchmark country, $\bar{\cdot}$ and Δ refer to country averages and differences between men and women, respectively, W stands for gross hourly wages, X for the vectors of observed characteristics, and β for the vector of estimated coefficients from the male wage regressions (cf. Annex Table 2.B.1). The gender wage gap adjusted for cross-country differences in the whole wage structure is obtained as follows: $\Delta \log W_i^{adj} = \Delta \log W_i - \Delta X_i(\beta_i - \beta_k) - (\Delta \varepsilon_i - \Delta \bar{\eta}_{ik}) = \Delta X_i \beta_k + \Delta \bar{\eta}_{ik}$, where ε stands for the residuals from the male wage regressions (defined as the difference between actual and predicted values) and η for the theoretical residuals that would be obtained in country i if it had the same residual wage structure as country k .

b) Countries are ranked by decreasing hourly wage gap adjusted for the whole wage structure.

Sources and definitions: See Annexes 2.A and 2.B respectively.

difference between the middle and left-hand columns of Chart 2.7 gives a measure of the effect of the wage structure on the gender wage gap that takes account only of cross-country differences in prices for observed characteristics. Conversely, the difference between the right-hand and left-hand columns gives a measure of the contribution of the whole wage structure, based on the assumption that the entire residual reflects unobserved characteristics and their remuneration rates.

Chart 2.7 shows that the unadjusted gender wage gap would be substantially reduced or inflated for some of the countries analysed, if the structure of remuneration rates were similar to that of the average benchmark country. Particularly, in the United Kingdom, it would be between 2 and 4 percentage points smaller if this country had as compressed a wage structure as the benchmark country. By contrast, in the Netherlands, a narrower wage structure contributes to a smaller gender pay gap, moderating penalties due to the concentration of women into lower paid occupational groups.²⁶

Less dispersed wage structures, however, are not always favourable to women. For instance, women usually benefit from their large presence in the public sector because, on average, public sector hourly wages are higher than wages in the private sector, all other things equal. As a consequence, a narrower-than-average wage differential between the private and the public sector in Belgium, Denmark, Finland and the Netherlands (*cf.* Annex Table 2.B.1) contributes to a widening of the gender wage gap in these countries. This is particularly the case in Denmark, where the contribution of observed characteristics to the gender wage gap is positive mainly because wages in the public sector, where women are over-represented, are even slightly lower than in the private sector (*cf.* Annex Table 2.B.2). Similarly, given that working women in Portugal are on average more educated than men and in high-pay occupations, greater than average returns to education and dispersion in occupational premia significantly reduce the gender wage gap. Indeed, the gender wage gap in Portugal would be 8.6 percentage points greater if it had the same wage structure as the benchmark country. Overall, these results show that Blau and Kahn's finding that the more compressed the wage structure the smaller the gender wage gap (Blau and Kahn, 1996), while pertinent to the comparison between the United States and other countries, cannot be generalised.

Once adjusted for the effect of the wage structure, the gender wage gap appears to be smallest in Greece, Italy and Spain, that is those countries that have a particularly low female employment rate. Indeed, the cross-country correlations reported in Table 2.17 confirm that the positive relationship between the female employment rate and the gender wage gap remains, and is slightly stronger, after adjusting for cross-country differences in the wage structure. The decomposition of the gender wage gap allows investigating this relationship more deeply. As shown in Table 2.17, two components appear to be particularly correlated with the female employment rate: gender gaps in educational attainment and in unobserved characteristics.²⁷ Female wage and salary employees tend to be more educated than their male peers in countries where there are fewer women in employment. Similarly, the gaps in unobserved characteristics between men and women (computed assuming that all the residual is due to gaps in unobserved characteristics and their remuneration rates) tend to be smaller in these countries. This seems to confirm the hypothesis put forward earlier in this section that the relationship between the employment rate and the gender wage gap is, at least partially, the result of a simple composition effect. While in countries with low female employment rates women less endowed with marketable productive characteristics remain outside the labour market (unlike their male peers), in other

Table 2.17. **Employment rates, occupational segregation and the gender wage gap**
Simple correlations with gender wage gap components^a

	Employment rate ^b	Dissimilarity index ^c
Hourly wage gap ^d	0.58*	0.45
Hourly wage gap, adjusted for the whole wage structure ^e	0.62**	0.43
Gaps in observed characteristics ^e	0.28	-0.02
of which: Education	0.69**	0.28
Gaps in unobserved characteristics ^e	0.72**	0.73**

a) * and ** mean significant at the 5% and 1% level, respectively.

b) Women in wage and salary employment divided by the female population aged 15 to 64 years.

c) Dissimilarity index calculated for the occupations at the 3-digit level of the ISCO-88 (COM). See Chart 2.3.

d) Percentage difference between male and female average wages.

e) The gender wage gap adjusted for the whole wage structure is obtained as follows: $\Delta \log \bar{W}_i^{adj} = \Delta \bar{X}_i \beta_k + \Delta \bar{\eta}_{ik}$, where i indexes countries, k denotes the benchmark country, $\bar{\cdot}$ and Δ refer to country averages and differences between men and women respectively, X stands for the vectors of observed characteristics, β for the vector of estimated coefficients from the male wage regressions (cf. Annex Table 2.B.1), and η for the theoretical residuals (that is, the difference between actual and predicted values from the wage regressions) that would be obtained in country i if it had the same residual wage structure as country k . The first term on the right-hand side corresponds to the gap in observed characteristics, while the second term on the right-hand side to the gap in unobserved characteristics.

Sources and definitions: See Annexes 2.A and 2.B, respectively.

countries these women manage to get a foothold into employment, although with low pay, thereby widening the gender wage gap.

The correlations presented in Table 2.17 also shed some light on the possible relationship between occupational segmentation by gender and the wage gap. The occupational controls used in this decomposition analysis, based on 15 major groups, are probably far too aggregate to capture fully the effect of occupational segmentation on the gender wage gap. If there is a significant effect of occupational segmentation on the gender wage gap that cannot be captured by the available occupational controls, this effect should then show up in the gap in unobserved characteristics. Indeed, Table 2.17 shows that there is a strong cross-country correlation between gaps in unobserved characteristics and the dissimilarity index (computed on 115 occupational categories) that was used in Section 2 to quantify the extent of occupational segregation by gender.²⁸ Furthermore, consistently with this hypothesis, Table 2.17 displays no significant correlation between the dissimilarity index and the other components of the gender wage gap. This evidence suggests, on a somewhat tentative basis, that the same differences in unobserved characteristics or discriminating practices that are at the origin of occupational segregation by gender also explain cross-country differences in the residual gender wage gap that are not attributable to cross-country differences in the wage structure.

C. The family wage gap

In the earlier sections of this chapter, the presence of children has been shown to play an important role in determining the labour market situation of women. Mothers are less likely to be employed and, once in employment, they work fewer hours and appear to be more occupationally segregated than childless women. Is there an additional labour market “penalty” associated with motherhood in terms of pay? The remainder of this section tries to answer this question.

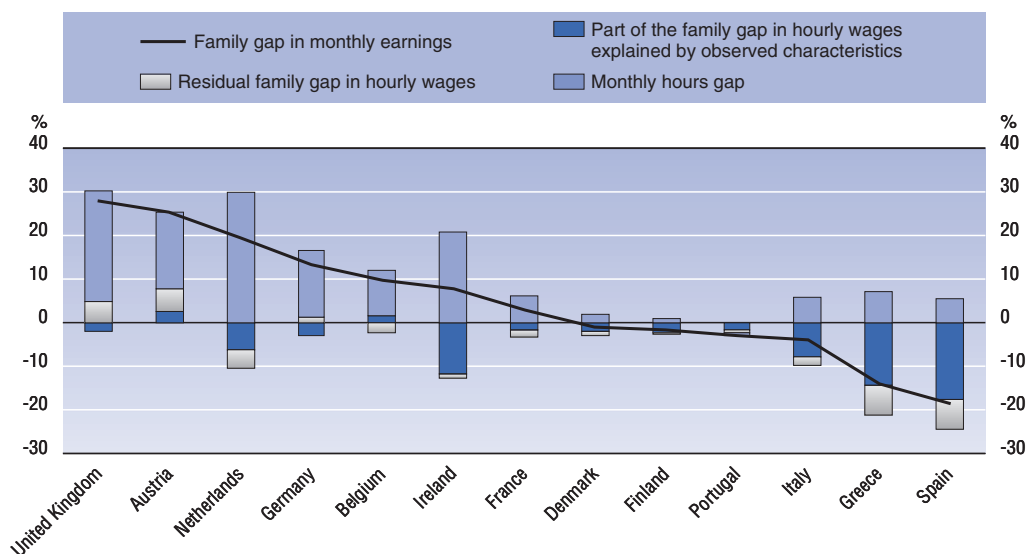
Three main theoretical explanations for a wage gap between childless women and women with children – *i.e.* the so-called family gap – have been put forward in the literature (see Waldfogel, 1995, and Section 3): *i)* there may be differences in life long accumulation of human capital reflected in actual labour market experience, job tenure, and

on-the-job training among women with and without children of the same age; *ii*) women with family responsibilities might prefer jobs that do not require overtime work or high work intensity; *iii*) mothers may be less motivated to work than childless women. There can also be a discrimination effect, whereby some employers offering high-pay jobs prefer not to hire mothers because they think that mothers are less committed to work or more costly than childless women.

In the analysis that follows, the family wage gap is defined as the average wage difference between childless women and mothers expressed as a percentage of the average wage of childless women. Similarly, the family gap in monthly earnings is defined as the average difference in monthly earnings between childless women and mothers expressed as a percentage of the average earnings of childless women. Chart 2.8 shows that monthly earnings of childless women are often higher than those of women with children (about 5% on average), although cross-country variation is quite large. As seen in Section 2, childless women spend on average considerably more time at work than women with children, mainly because women with children tend to work part-time more frequently. As a consequence, in countries where there is a substantial family gap in monthly earnings to the disadvantage of women with children (*e.g.* Austria, Belgium, Germany, Ireland, the Netherlands and the United Kingdom), the gap in hours worked is the main explanatory factor. Only in Austria and the United Kingdom, does there appear to be a family gap in gross hourly wages. In five countries (Greece, Ireland, Italy, the Netherlands and Spain), hourly wages for mothers are more than 10% higher than for women without children.

Chart 2.8. **A decomposition of the family gap in monthly earnings^{a, b}**

Women aged 20 to 54 years



a) Percentage difference between average gross monthly earnings of childless women and women with children.

b) The family gap in monthly earnings is decomposed as follows: $\Delta \log \bar{Y}_i = \Delta \bar{X}_i \beta_i + \Delta \bar{\varepsilon}_i + \Delta \log \bar{H}_i$, where i indexes countries, $\bar{\cdot}$ and Δ refer to country averages and gaps between childless women and mothers respectively, Y stands for gross monthly wages, X for the vector of observable endowments and characteristics, β for the vector of estimated coefficients from each country-specific male hourly-wage regression (see Annex Table 2.B.1), ε for the unexplained residuals, and H for hours worked per month.

Sources and definitions: See Annexes 2.A and 2.B respectively.

Once the effects of hours worked and observed characteristics are netted out, a substantial family wage gap in favour of childless women is still observed only in Austria and the United Kingdom (Chart 2.8). These gaps could reflect greater differences between actual and potential experience or lower effort for mothers than for childless women in these two countries. Alternatively, they might reflect discriminatory treatment by employers, not justified by motivation or work attachment. Overall, these findings on the family wage gap seem consistent with the existing literature, in which a significant impact of children on women's pay is generally found in the United Kingdom and the United States (see Korenman and Neumark, 1992, and Waldfogel, 1995, 1998) but little effect is found in countries of continental Europe (Harkness and Waldfogel, 1999, for Germany, Finland and Sweden, and Datta Gupta and Smith, 2002, for Denmark) with the notable exception of Austria (Gregoritsch *et al.*, 2000). The inclusion of actual instead of contractual hours, however, makes comparisons with some other studies (*e.g.* Waldfogel, 1995 and Datta Gupta and Smith, 2002) rather difficult.

A lack of evidence of a family wage gap based on the unadjusted data shown in Chart 2.8 may conceal a pay penalty associated to motherhood once the effects of differences in productive characteristics and of the wage structure are taken into account. Decomposing the family wage gap on the basis of the same methodology used above for the gender wage gap helps to clarify this issue. While the effect of the wage structure on the family wage gap is small in all countries, mothers appear to be better endowed with productive characteristics than childless women in most countries (see Annex Tables 2.B.3 and 2.B.4). This outcome likely reflects the fact that women with children are on average older, thereby with more experience and longer tenure, and more advanced in their career. This latter hypothesis is confirmed by a sensitivity analysis, where the decomposition has been implemented on smaller samples of women belonging to the narrower age groups (using age classes no wider than 10 years). In these cases, the contribution of observed and unobserved characteristics to the family gap becomes positive in most countries, especially as regards to gaps in occupations, suggesting that childless women tend to work in higher-pay occupations than mothers of the same age, thus confirming the findings of Section 3.

Overall these results show that women with children are not unambiguously at a disadvantage in terms of hourly wages. Nevertheless, a substantial total earnings gap exists in about half the countries examined because reconciling work and family results in mothers spending less time at work. Seen from this perspective, policies directed at facilitating and increasing labour market participation of mothers can also be effective in reducing the family gap in earnings.

Conclusions

The gender gap in employment has narrowed over the past two decades in all OECD countries, as more women pursued working careers. However, a substantial employment gap remains in many countries and it exceeds 25 percentage points in Greece, Italy, Mexico and Spain, where the share of women in employment is still only about 40%. Furthermore, these headcount measures of employment may overstate the progress achieved, since they take no account of the fact that many women work on a part-time basis. OECD labour markets also continue to be characterised by a strong gender segregation that appears to result in an under-utilisation of women's cognitive and leadership skills. Similarly, women continue to earn less than men, even after controlling for observable characteristics that influence productivity. International differences in the overall wage

structure and women's employment rates provide proximate explanations of the cross-country variation in the gender wage gap. In particular, larger wage gaps are found in countries where less educated and less skilled women are more integrated into the labour market. However, it is difficult to identify the most important economic and social factors underlying these associations.

These results suggest that some groups of women may confront especially difficult obstacles to achieving equal participation in the labour market. In this chapter, two factors have been shown to play a large role in determining the labour market situation of women: their level of education and whether they have children. Less educated women and mothers of two or more children are considerably less likely to be in employment than are women with a tertiary qualification or without children. There are, however, wide differences across OECD countries in the impact of education and motherhood on female employment patterns. The labour market integration of low-educated women is very low in Ireland, Italy and Spain, whereas in Japan and Korea employment rates do not vary with qualification level. The reduction in employment rates and/or the volume of hours worked associated with motherhood is especially pronounced in Australia, Germany, Ireland, the Netherlands, New Zealand, Switzerland and the United Kingdom, whereas employment rates in the Nordic countries are always well above average, irrespective of the presence of children.

The labour market "penalty" associated with low education and motherhood manifests itself in another way. The division of the labour market into a female and a male segment is more pronounced for less educated workers and for working parents, than for, respectively, workers with a tertiary qualification and workers without children. Whereas, for the low-educated, the tendency to be in gender-segregated occupations affects both women and men, differences in the occupational distribution of women with and without children account for most of the heightened occupational segmentation of parents versus non-parents. Except for a few countries, there is little evidence of an additional wage penalty attached to motherhood. Nevertheless, the total earnings of mothers are considerably smaller, all other things equal, than those of their childless peers because mothers tend to spend less time at work. The fact that child-rearing – as well as caring for elderly or disabled family members and other unpaid household work – is still considered to be mainly the responsibility of women appears to play a major role in the persistence of large gender differences in labour market outcomes. However, less educated and less skilled women also appear to face particular difficulties, whether or not they are raising children.

This is the summary picture that emerges from the chapter's assessment of how women are faring in the labour market. The empirical description and diagnosis offered here is not sufficient for generating policy prescriptions. However, it does provide an essential factual background and some orientation for the reassessment of policies to further gender equality. A good way to begin building the bridge to policy is to ask if the gender differences in labour market outcomes documented in this chapter are a problem and, if so, for whom?

Most obviously, these inequalities may be a problem for women. Today, women prepare for work and value having a career more than before. However, if women meet their increased aspirations for paid work by combining employment with continued responsibility for child care and housework, and if gender equality in the quality of employment is not guaranteed, then it can be questioned whether increased employment actually raises women's well-being. Much of the current focus in employment policy is on increasing

employment among women. Public policy should address remaining barriers to working faced by many women, notably, by providing an adequate work-family reconciliation package. However, policy initiatives to promote wider occupational choice and more equal wages may also be desirable.

Gender equality is not only a “women’s affair”; it is also a matter of household welfare. The implications of female non-employment and sub-employment for the well-being of their families is complex, because it depends on family structure and the degree of income sharing among household members. However, the increased risks of family dissolution and – in some OECD countries – high male unemployment highlight the importance of women’s earnings in households’ and children’s well-being. Governments cannot simply rely on the traditional family models, such as the breadwinner father and the caring mother, to assure household welfare. Without prejudging the life-course choices of women and their families, it is incumbent on governments to eliminate barriers to work confronting women that stem from inadequate work-family reconciliation policies or labour market discrimination.

The employment of women is also of vital importance for collective well-being. Women, who are more and more educated, constitute a valuable and apparently under-utilised labour reserve. Increasing women’s presence in the labour market, both quantitatively and qualitatively (*i.e.* in terms of the range of jobs that they hold), would provide a sounder base for funding welfare states in the context of an ageing society. Concerns are sometimes expressed that greater integration of women into paid employment would result in undesirably low fertility. However, recent experience suggests that there is no intrinsic incompatibility between promoting female participation in the labour market and ensuring that there are an acceptable number of births. Indeed, the decline in fertility rates has been particularly pronounced in several of the OECD countries where female employment rates remain the lowest (OECD, 2001*b*).

In the current policy debate, much of the attention has focused on public support to working mothers. A generous work-family reconciliation package is certainly indispensable, but it does not appear to be sufficient. The analysis in this chapter shows that the labour market penalty attached to low education is even higher for women than the penalty attached to motherhood. Less educated men are also disadvantaged in the labour market and part of the answer lies in improved education and training opportunities for low-skilled workers in general. However, women with low earnings potential may face additional barriers, potentially including even more limited employment opportunities, unfavourable treatment by tax and benefit schemes, and low expectations as to the possibility and benefits of combining work and family. A comprehensive approach to improving women’s employment opportunities is most likely to benefit women, households and society as a whole.

Notes

1. In fact, the relatively strong reduction of the employment gender gap in Sweden during 1980-2000 (as displayed in Chart 2.1) is entirely due to a sizeable reduction of employment rates for men rather than to employment gains for women.
2. Although unemployment is generally higher among women with less than upper secondary education, most of the employment gap between women at the two levels of educational attainment reflects different activity rates (see Table D of the Statistical Annex).
3. The picture is different at the level of advanced research qualifications. On average in OECD countries, nearly two-thirds of all graduates at this level are men (OECD, 2001a).
4. In 1999, in the OECD, women were awarded 83% and 67%, respectively, of tertiary qualifications in the technically-oriented (Type-B) and the more theoretical (Type-A) health and welfare programmes, and about 70% of tertiary qualifications in the humanities, arts and education. Women accounted for less than 22% of engineering, manufacturing and construction and only 31% of mathematics and computer science Type-A programme qualifications. On the other hand, the gender gap in advanced research qualifications can be observed in all fields of study and is even more pronounced in the humanities and medical sciences, the fields of study with the highest proportions of women among first level university graduates in all countries (OECD, 2001a).
5. Brown and Corcoran (1997), conducting a study on data for the United States, find that gender differences in field of study account for a significant part of the male-female wage gap among university graduates, but not among women and men with less schooling. They also find some evidence that the reward for taking male majors is larger for men than for women. However, controlling for gender dominance of field of study only explains a small fraction of the difference in earnings. Hecker (1998) estimates that the gap in earnings in the United States would be reduced by approximately one-third if women had the same distribution by age, degree level and field of study as men. Abbott, Finnie and Wannell (2000) look at the factors underlying the differentials in earnings growth rates for male and female Bachelor's graduates in Canada and find that they can be traced mainly to hours worked and job characteristics, the field of study playing only a minor role.
6. Test score results from the International Adult Literacy Survey (IALS) do not point to any significant difference between women and men in terms of any of the three literacy scales (document, prose and quantitative).
7. The impact of children on participation is likely to vary by age of child, but evidence on this is not shown here.
8. The incidence of part-time work among men has increased over the past ten years in some countries (*e.g.* Denmark, the Netherlands, the United Kingdom), but is mostly used by young men to combine work and study.
9. The role of skill depreciation in the relationship between work interruptions and subsequent wages has been explored in Edin and Gustavsson (2001), who conclude that a substantial part of the observed wage penalties for work interruptions are due to depreciation of skills. However, other explanations for the negative association between work interruptions and wages are also plausible, including various forms of signalling theories.
10. The share of highly-educated women who are continuously in part-time employment, as well as the share of those who, over the observation period, combine part-time and full-time work generally increase in the presence of children (the latter share can be calculated as the difference between the share of the continuously employed and the sum of the shares of the continuously full-time and continuously part-time employed).
11. Waldfogel *et al.* (1999) investigate the effects of family leave coverage on women's retention after child birth in Japan, the United Kingdom and the United States, countries characterised by very diverse maternity and child-care leave coverage. They find that family leave coverage has a very strong, positive effect on young women's retention with their firms after child birth. The wage effects of family leave policies are not explored in the paper, but the authors note that the direction of wage effects is unclear a priori. Maternity leave policies may result in lower pay for the women involved due to the loss in work experience, although such effects are likely to be small if the periods of leave are short. Conversely, if maternity

leave allows women to return to their previous employer, leave policies may protect women's wages by raising their levels of experience and tenure and by maintaining good matches.

12. In all OECD countries, women are less likely than men to be self-employed. In turn, they tend to carry out unpaid family work more often than men. Wage and salary employment, however, is the predominant form of work, for both women and men, in all countries. There are several possible reasons for the low share of women in self-employment. Women may have less access to credit, capital, land and materials, which may be necessary to start and maintain a business. Also, they may face time constraints because of their family responsibilities. Differences in cultural attitudes towards entrepreneurship, risk-taking and women's role in society may represent additional barriers faced by women.
13. There are major problems in comparing data on employment by occupation across countries. First, each country or group of countries applies a different system of occupational classification (see Annex 2.A for a description). Second, the occupational structure of the labour force differs across countries. Third, even when the countries follow the same occupational classification scheme, data may not be completely comparable as coding rules and procedures may differ. Detecting this source of variation in a systematic way is very difficult. For this reason, Elias (1997) concludes that comparisons between countries using the ISCO-88 occupational classification are likely to be reasonably reliable only if made at the sub-major group level (*i.e.* the 2-digit level).
14. This classification corresponds to 1 digit of the ISIC Rev. 3 classification (United Nations, 1990) for the goods-producing sectors and utilities and the Elfring's classification (Elfring, 1989) for the service sectors (see OECD, 2000, for details).
15. The dissimilarity index is calculated as follows: $ID = \frac{1}{2} \sum [F_i/F - M_i/M]$. Anker (1998) interprets this as "the sum of the minimum proportion of women plus the minimum proportion of men who would have to change their occupations in order for the proportion female to be identical in all occupations (and the same proportion of men in every occupation but with a different value)". The ID has a minimum value of 0 (no segregation; same percentage female and male in each occupation) and a maximum value of 1 (complete segregation; each occupation is completely female or completely male). Another index of inequality that is often used in the measurement of *changes over time* in occupational segregation by gender is the marginal matching index. For a definition and an explanation of this index, see Anker (1998).
16. There have been a large number of empirical studies of the impact of occupational segregation, measured in various ways, on the gender wage gap. Bayard *et al.* (1999), Macpherson and Hirsch (1995) and many others have explored the relationship between the female density in occupations and individual wages. Grimshaw and Rubery (1997) have explored the connection between occupational concentration and the gender pay gap. Reilly and Wirjanto (1999) have examined the effect of the proportion of women in the establishment on the male/female wage gap.
17. In attempting to establish the comparability of the mapping from national occupational classifications to ISCO-88 (COM) for European Union countries, Elias and Mc Knight (2001) note that "Managers are defined in most European countries in line with the ILO definition, as those 'who plan, direct and co-ordinate the policies and activities of enterprises or organisations, or their internal departments or sections'". In revising its national occupational classification the United Kingdom made a significant effort to "tighten" this definition of the managerial categories. However, it remains the case that a significantly larger proportion of occupations remains defined as managerial in the United Kingdom than in most other countries of the European Union. Second, the "owner-manager" is classified within this major group in some countries, or to the relevant occupation in which they work in other countries. This has caused significant problems with occupations that involve a significant proportion of managerial tasks, such as "shopkeeper".
18. For example, as men are more likely than women to work overtime hours, the gender pay ratio for Sweden, calculated on the basis of contractual hours, will be under-estimated compared to that of the other countries where overtime hours are taken into account.
19. In the mid-1970s, the Danish government tried to restrict public-sector wage growth in order to reduce wages in the public sector relative to wages in the private sector. Rosholm and Smith (1996) show that this policy not only succeeded in its stated objective, but also widened the gender wage gap because women are much more likely than men to work in the public sector.
20. According to this explanation, women and men are imperfect substitutes in the labour market and the gender differential is lower when women are in shorter supply relative to the level of the demand for women (Blau and Kahn, 2001).
21. For this latter reason, policy action in some countries (*i.e.* Australia) has focused on pay differences that exist across different occupations that are deemed to be of equal value or "comparable worth", whereas many other countries have promoted policies and procedures designed to combat job and promotion discrimination ("affirmative action").

22. It might be argued that the comparison of earnings of males and females should take account of the fact that the probability of having a wage and salaried job is not the same for women and men, using the 2-stage Heckman procedure. However, as argued by Manski (1989) and Blau and Kahn (1996, 1997), the 2-stage Heckman procedure may lead to large errors in the presence of mis-specification of the choice equation.
23. This problem is mitigated by the inclusion of actual tenure and occupations in the regressions, especially in countries where returns to tenure are substantial.
24. This latter assumption is also extreme. Indeed, different dispersions of the male wage residual across countries might reflect cross-country differences in the distribution of unobserved endowments rather than their remuneration rate. If this were the case, residual dispersions would not be informative for the purpose of identifying the remuneration rates for unobserved endowments.
25. Furthermore, it must be noted that although differences in observed productive characteristics are generally considered legitimate sources of earnings inequality, they could also reflect the adaptation of women to the biases of the labour market and/or to so-called “pre-market discrimination”, including cultural values and attitudes that discriminate against women. Even in this area, therefore, the distinction between discrimination, constraints and choice can be blurred.
26. See Annex 2.B for the supporting evidence. Note that the standard deviation of the estimated coefficients of occupations in the male wage regressions (Table 2.B.1) can be seen as a summary measure of dispersion in occupational wage premia. Conversely, women are more concentrated in occupations characterised by low wages in the average benchmark country when the decomposition shows a greater-than-average gap in occupations (evaluated at the remuneration rates of the benchmark country, Table 2.B.2).
27. Recall that the second term on the right-hand side of equation [2] – when restricted only to educational variables – represents the contribution of cross-country differences in gender gaps in education to the gender wage gap. Similarly, the fourth term on the right-hand side represents the impact of cross-country differences in gender gaps in unobserved characteristics on the gender wage gap.
28. More rigorously, if there is a significant effect of occupational segregation on the gender wage gap, this should result in a significant correlation between the dissimilarity index and the sum of the gap in unobserved characteristics and the observed occupational gaps (evaluated at the remuneration rates of the benchmark country). Indeed, this correlation is equal to 0.67 in this sample.

Annex 2.A

Definitions and data sources

Sections 1 and 2

The cross-sectional analysis of employment rates by gender, age, education and presence of children are based on data from household and labour force surveys. For EU countries (except Sweden), the Czech Republic, Hungary, Iceland, Poland and the Slovak Republic, the data were provided by Eurostat based on the *European Union Labour Force Survey*. For Australia, the source is the *Labour Force Survey* and the Transition from Education to Work supplement as provided by the Australian Bureau of Statistics. For the United States, data were estimated by the OECD based on microdata from the Outgoing Rotation Group file of the *Current Population Survey*. For the remaining countries, the data are issued from national labour force surveys as provided by the national authorities. Data are complemented by the *OECD Labour Force Statistics* and by data in OECD (2001a) whenever needed (e.g. for the time series data in Charts 2.1 and 2.2 and information on the incidence of part-time work in Japan). Employment rates by presence of children for Denmark and Finland were estimated by the OECD based on the 5th wave of the European Community Household Panel (ECHP).

Part-time work is defined in terms of usual weekly hours in the main job below 30 (35 in Australia) or, for workers whose usual hours of work vary, if they declare themselves to be part-time workers.

Children are individuals aged under 15 years of age, except for New Zealand and Sweden, where they are aged under 16 years of age. The presence of children is proxied by the presence of children in the respondents' household rather than in a particular family group within the household. Adults with children are those who are reference persons or spouses of the reference person whose household contains children. For Canada, on the other hand, information on women and men with children refers to parents proper, but it also only relates to the reference person in the household or his/her spouse. For New Zealand and Sweden, the data relate to the presence of children within the respondent's family group and children are own-children, foster-children and children to husband/wife/cohabitant who live in the same household as the respondent. Finally, in Australia, the presence of children refers to the children in the respondents' households and information on the relationship between the adults and the children is not given.

The longitudinal data on the accumulation of employment experience (Tables 2.7 to 2.9) and career progress by gender (Table 2.14) are OECD estimates based on data from five waves of the European Community Household Panel (ECHP), for European Union countries. Estimates for the longer observation period – six years for Canada and eight years for Germany, the United Kingdom and the United States – are based on data from the Cross-National Equivalent Files (CNEF), that incorporate data from the Canadian Survey of Labor and Income Dynamics (SLID), the German Socio-Economic Panel (GSOEP), the British Household Panel Survey (BHPS) and the United States Panel Study of Income Dynamics (PSID).

Section 3

The data are issued from household and labour force surveys that classify workers according to the job titles given by the survey respondent. For each country, the analysis draws on employment data that classify occupations at the one-, two- and three-digit levels of the relevant occupational classification.

For EU countries (except Sweden), the Czech Republic, Hungary, Iceland, Poland and the Slovak Republic, the data were provided by Eurostat based on the *European Union Labour Force Survey*, that classifies occupations according to the ISCO-88 (COM), which is the European Union variant of the new International Standard Classification of Occupations (ISCO-88).

For the United States, data were estimated by the OECD based on microdata from the Outgoing Rotation Group file of the *Current Population Survey*, that tabulates data for occupations according to the Census classification system, based on the 1980 SOC.

For Australia, Canada, Korea and New Zealand, the data are issued from national labour force surveys as provided by the national authorities. The following occupational classifications are used: for Australia, the Australian Standard Classification of Occupations (ASCO, 2nd edition); for Canada, the Standard Occupational Classification (SOC 91); for Korea, the Korean Standard Occupational Classification (KSOC); and for New Zealand, the New Zealand Standard Classification of Occupations 1995 (NZSCO95).

For each country or group of countries, the number of categories at the 1-, 2- and 3-digit levels of the occupational classifications, excluding the Armed Forces, is the following:

	1-digit	2-digit	3-digit
ISCO-88 (COM) – European countries	9 major groups	26 sub-major groups	115 minor groups
ASCO (2nd edition) – Australia	9 major groups	35 sub-major groups	81 minor groups
SOC (91) – Canada	10 broad groups	47 major groups	139 minor groups
KSOC – Korea	9 major groups	..	..
NZSCO95 – New Zealand	9 major groups	24 sub-major groups	96 minor groups
SOC – United States	23 major groups	107 minor groups	452 broad occupations

In Tables 2.10 and 2.13, only data for the countries that use a classification system compatible with ISCO-88 and for which establishing the correspondence was feasible with the data available have been shown. ISCO 88 was developed by the International Labour Office in Geneva during the mid-1980s with the aim to provide a basis for international comparisons of occupation statistics between Member countries and to provide a conceptual model for the development of national occupational classifications. The classification has been adopted, or is in the process of being adopted, by a large number of countries. The Australian ASCO and the NZSCO95 for New Zealand align closely with ISCO-88, whereas those for Canada and the United States do not. Statistics Canada, however, created the 10 broad occupational categories of ISCO-88 by grouping occupational groups at various digit levels of SOC 91.

Section 4.A

For information on earnings and hours worked, the data for European countries were estimated by the OECD using microdata from the 5th wave of the *European Community Household Panel* (ECHP) and relate to 1998. Hourly earnings refer to gross monthly earnings in the main job divided by 52/12 and then by usual weekly hours of work for employees working for at least 15 hours a week. Overtime pay and hours are included. N.B.: the definitions and data sources used in the decomposition of the gender and family wage gap in Sections 4.B and 4.C are described in Annex 2.B.

Australian data were derived from the August 2000 *Labour Force Survey* and the supplementary survey “Employee Earnings, Benefits and Trade Union Membership”. Average gross hourly earnings are calculated using total weekly earnings divided by actual hours worked.

The data for Canada were derived from the 2000 Labour Force Survey. Earnings refer to wages and salaries of employees in their main job, including bonuses but excluding overtime pay. Hourly earnings are adjusted by usual hours of work.

For New Zealand, the source is the New Zealand Income Survey which is run annually as a supplement to the *Household Labour Force Survey* in the June quarter. Data refer to the June 2001 quarter. Information on earnings includes actual and usual wages and salaries (including ordinary time, overtime and other income) for the main job and up to two other jobs. The earnings measure used in the tables is average usual hourly earnings from all wage and salary jobs.

For Sweden, the data were provided by Statistics Sweden based on the Statistics Yearbook of Salaries and Wages, 2000. The data come from five different sources, three of which pertain to the public sector and cover the entire population; the other two sources are based on enterprise sample surveys covering the private sector. The wages are gross wages and include agreed bonuses but exclude overtime and profit-sharing. In the public sector the hourly wages were calculated by dividing the monthly wage by 165, the average worked hours per month. In the private sector the hourly wages were calculated by dividing the total wage by contractual worked hours (overtime hours are excluded).

For Switzerland, hourly earnings were calculated by the Swiss Statistical Office based on the 2001 *Enquête de la Population Active* by dividing gross annual earnings by 52 and then by usual weekly hours of work.

Data for the United States were estimated by the OECD based on microdata from the Outgoing Rotation Group file of the *Current Population Survey*, 1999. Hourly earnings refer both to hourly earnings of employ-

ees paid by the hour or to usual weekly earnings of employees divided by their usual weekly hours of work. In all cases, the data refer to gross earnings.

Finally, the following definitions and sources have been used in Table 2.16:

- Australia: weekly earnings of full-time employees, all hours (including overtime). Source: *Survey of Average Weekly Earnings*, ABS.
- Canada: annual earnings for full-year, full-time workers, including net income from self-employment. Paid overtime is included. Source: *Income Trends in Canada*, 1980-1999, Statistics Canada.
- France: Annual earnings of full-time workers, net of social security contributions. Source: *Séries longues sur les salaires*, INSEE.
- Japan: gross monthly earnings of regular, full-time employees (including overtime pay plus 1/12th of annual bonuses). Source: OECD Earnings Database.
- Korea: gross monthly earnings of full-time workers. Source: OECD Earnings Database.
- Portugal: monthly earnings for full-time workers in all sectors except public administration and agriculture. Source: *Enquête par Classes de Rémunération* for 1975 and *Tableaux du Personnel* for the other years, national submission.
- Sweden: gross annual earnings of full-time, full-year workers. Source: OECD Earnings Database.
- United Kingdom: average gross weekly earnings of full-time employees whose pay for the survey period was unaffected by absence. Source: *New Earnings Survey*, ONS.
- United States: gross hourly earnings for all workers. Source: Mishel *et al.* (2001).

Annex 2.B

Sources, definitions and methods of the decomposition of the gender and family wage gap

All data used in the decompositions of the gender and family wage gap are individual data from the *European Community Household Panel* (ECHP), except when differently specified. In order to avoid excessive reduction in sample size due to missing values for covariates, instead of using the 5th wave of the ECHP as in the descriptive analysis of Section 4.A, the 4th wave was used for Austria, Ireland, Italy, the Netherlands, Spain, and the United Kingdom and the 3rd wave for Belgium, Denmark, Finland, France, Germany, Greece and Portugal.

Gross hourly wages are obtained as gross monthly earnings in the main job divided by 52/12 and then by usual weekly hours of work for employees working for at least 15 hours a week and not in education. Over-time pay and hours are included. Three levels of educational attainment have been considered (less than upper secondary education, upper secondary education and tertiary education). Potential experience is defined as age minus age of first entry into the labour market after leaving full-time schooling. Since data on the age at which individuals left full-time schooling are not available, this information is proxied by 5 plus an estimate of the years of education necessary in each country to attain each specific educational level as in *OECD, Education at a Glance*, 1997. Tenure is obtained as the difference between the current year and the year of start of the present job. Fifteen occupational groups have been considered, the choice being constrained by data availability. They correspond to an intermediate level of aggregation between 1 and 2 digits of the ISCO-88 (COM) classification. The list of occupations is as follows (with classification codes in parentheses): legislators, senior officials and managers (1); physical, mathematical, engineering, life science and health professionals (21 + 22); teaching professionals (23); other professionals (24); physical, mathematical, engineering, life science and health associate professionals (31 + 32); teaching and other associate professionals (33 + 34); clerks (4); personal and protective services workers (51); models, salespersons and demonstrators (52); skilled agricultural and fishery workers (6); metal, machinery, precision, handicraft printing and related trades workers (72 + 73); extraction and building trades workers, other craft and related trades workers (71 + 74); plant and machine operators and assemblers (8); sales and services elementary occupations (91); agricultural, fishery and related labourers, labourers in mining, construction, manufacturing and transport (92 + 93).

The decompositions undertaken in Section 4 involve two steps. In the first step, market prices for observed characteristics are estimated using male wage regressions. In the second step, a decomposition of cross-country differences in the gender or family wage gap is implemented using these price estimates. Although market prices are estimated on full-time individuals excluding outliers (see below), the decompositions of the gender wage gap and the family wage gap are implemented on all wage and salary employees of the specified age class, except apprentices and students.

Male wage regressions are based on individual data for wage and salary male workers aged 20 to 64 years and working full-time (excluding apprentices and students). Both country-specific and pooled specifications are estimated (the latter to be used as a benchmark). The natural logarithm of gross hourly wages is used as the dependent variable. Independent variables are education, potential experience, potential experience squared, occupations, tenure, type of contract and public/private sector. Potential experience is included as a continuous variable. Tenure is aggregated into five categories (0-1 years, 2-5 years, 6-9 years, 10-14 years and 15 or more years), and correspondingly four dummy variables are included in the regression (one excluded for identification purposes). The use of dummy variables for tenure reduces the “noise” due to the derivation of tenure as a difference between calendar years (for example, a person surveyed in January and hired in December of the previous year turns out to have greater tenure than a person hired in January and surveyed in December of the same year). Furthermore, two dummy variables are used for education, one for public/private sector job, one for the type of contract and fourteen for the occupational group (one category for each group is excluded for identification purposes). The reference group in the estimated equations is composed of legislators, senior officials and managers (ISCO-88 major group 1) in the private sector with tertiary education, tenure less or equal to 1 year, and without a permanent contract. The pooled specification includes country dummies as well.

To control for measurement error and avoid the estimates for market prices for observed characteristics being driven by specific outliers and influential observations, a two-step estimation procedure is implemented. First, country-specific equations are estimated with OLS. Then, DFITS and covariance ratio statistics are computed for each observation and all the specifications (including the pooled specification) are re-estimated after excluding those observations for which both statistics trespass their respective standard cut-off values (see Chatterjee and Hadi, 1988). Last-step regression results are presented in Table 2.B.1. Estimated coefficients for occupational groups are not presented, but the standard deviation of these coefficients is reported as a summary measure of the dispersion of occupational premia.

As discussed in Section 4, the J-M-P decomposition can be written as follows:

$$\Delta \log \bar{W}_i - \Delta \log \bar{W}_k = (\Delta \bar{X}_i - \Delta \bar{X}_k) \beta_k + \Delta \bar{X}_i (\beta_i - \beta_k) + (\Delta \bar{\eta}_{ik} - \Delta \bar{\epsilon}_k) + (\Delta \bar{\epsilon}_i - \Delta \bar{\eta}_{ik}), \quad [\text{B1}]$$

where i and k index countries (with k denoting the benchmark country), $\bar{\cdot}$ and Δ refer to country averages and differences between men and women, respectively, W stands for gross hourly wages, X for the matrix of observable endowments and characteristics, β for the vector of estimated coefficients from the male regressions, ϵ for the residuals from these regressions and η for the theoretical residuals that would be obtained in country i if it had the same residual wage structure as country k . The latter are obtained by calculating for each individual of country i the residual that an individual with the same ranking position with respect to the distribution of male full-time wage and salary employees would have in the benchmark country k . When the J-M-P decomposition is applied to the family gap, Δ refers to differences between childless women and mothers. Still, estimated coefficients from the male wage regressions are used as estimates for market prices and, consistently, the distribution of male full-time wage and salary employees is used as base for the computation of the theoretical residuals.

The effect of country fixed effects has been netted out from the wage gap in the benchmark country before implementing the decomposition described in equation [B1]. This way, the cross-country average of each term of the equation is approximately equal to zero. The first term on the right-hand side represents the contribution of cross-country differences in gaps in observed characteristics to the gender (or family) wage gap, netting out the effect of cross-country differences in market prices for these characteristics that is reflected in the second term. The sum of the third and the fourth term represents cross-country differences in the residual and is split into the effects of cross-country differences in unobserved characteristics (third term) and cross-country differences in their market prices (fourth term). Hence, the sum of the second and fourth terms represents the total effect of cross-country differences in the wage structure, for given gender gaps in characteristics. Conversely, the sum of the first and third terms represents cross-country differences in the gender (or family) wage gap adjusted for the whole wage structure. Consistent with this terminology, Tables 2.B.2 and 2.B.3 present full outcomes from the decomposition of the gender wage gap and the family wage gap respectively. Moreover, Table 2.B.4 presents the decomposition for the benchmark country for reference.

Table 2.B.1. Results of estimations of wage regressions

Dependent variable: log of gross hourly wages of full-time male wage and salary workers aged 20-64 years (excluding apprentices)^a

	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	United Kingdom	Benchmark ^b
Upper secondary education	-0.19**	-0.17**	-0.08**	-0.13**	-0.17**	-0.16**	-0.13**	-0.21**	-0.24**	-0.20**	-0.42**	-0.13**	-0.10**	-0.14**
Less than upper secondary education	-0.31**	-0.25**	-0.12**	-0.19**	-0.26**	-0.13**	-0.24**	-0.31**	-0.33**	-0.26**	-0.62**	-0.27**	-0.20**	-0.25**
Potential experience	0.02**	0.01**	0.02**	0.02**	0.02**	0.01	0.02**	0.03**	0.02**	0.03**	0.03**	0.02**	0.03**	0.02**
Potential exp. squared	-0.00**	-0.00	-0.00**	-0.00**	-0.00**	-0.00*	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
Tenure 2-5 years	0.06*	-0.00	0.02	0.06*	0.14**	0.05**	0.08**	0.08**	0.02	0.00	0.02	0.03	0.06**	0.05**
Tenure 6-9 years	0.05	0.12**	0.04	0.10**	0.19**	0.16**	0.11**	0.09**	0.07**	0.06**	0.03	0.14**	0.07**	0.10**
Tenure 10-14 years	0.11**	0.14**	0.08**	0.15**	0.19**	0.27**	0.18**	0.10*	0.08**	0.08**	0.05	0.14**	0.06	0.13**
Tenure 15+ years	0.15**	0.19**	0.07**	0.13**	0.29**	0.30**	0.25**	0.20**	0.12**	0.08**	0.15**	0.29**	0.08*	0.19**
Public sector	-0.08**	-0.01	-0.04**	0.02	0.10**	-0.05**	0.11**	0.13**	0.06**	0.01	0.16**	0.11**	0.09**	0.05**
Permanent contract	0.09**	0.05	0.08**	0.10**	0.04	0.07*	0.12**	0.10**	0.10**	0.16**	0.08**	0.13**	0.15**	0.12**
Standard deviation of the estimated coefficients of occupations ^c	0.20**	0.19**	0.15**	0.18**	0.23**	0.21**	0.13**	0.22**	0.16**	0.15**	0.34**	0.26**	0.24**	0.20**
Adjusted R-squared	0.434	0.482	0.495	0.476	0.551	0.369	0.472	0.570	0.516	0.497	0.605	0.596	0.416	0.457
Number of observations	1 509	1 074	1 235	1 564	1 881	2 499	1 364	1 134	2 309	2 219	2 049	2 457	1 887	23 181
Number of excluded outliers ^d	35	32	44	35	65	62	30	34	67	37	64	67	36	608

a) Each equation is estimated with OLS, including a constant and controls for 15 occupational groups, and excluding influential outliers. The reference group is composed of individuals in the private sector with tertiary education, tenure less or equal to 1 year, and without a permanent contract. *, ** denote significance at the 5% and 1% level, respectively.

b) Pooled regression that includes also country dummies. The adjusted R-squared refers to the within-country variance explained by the model. The excluded observations are those excluded in country-specific regressions.

c) The significance levels reported refer to the F-test on the joint significance of the coefficients of occupations.

d) Influential outliers excluded on the basis of the DFITS statistics and the Covariance Ratio statistics.

Source: Annex 2.A.

Table 2.B.2. **Decomposition of cross-country differences in the gender wage gap**
 Percentage-point difference from the gender wage gap in the benchmark country explained by each component^{a, b}

	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	United Kingdom
Gaps in observed characteristics	4.9	-2.0	-1.7	-2.6	2.8	1.5	0.7	1.7	-2.7	7.4	-0.9	-1.4	2.8
Education	1.7	-1.3	0.5	-0.4	0.4	1.9	-2.1	-0.4	-0.2	1.8	-0.6	-2.0	2.7
Potential experience	0.0	0.8	-1.0	-1.6	-0.5	-0.4	2.6	0.4	0.4	1.3	0.6	1.6	-1.7
Tenure	0.9	-0.1	-1.6	-1.7	0.3	0.3	0.7	1.4	-0.5	1.2	-0.4	0.2	-0.8
Occupations	2.1	-2.1	1.6	1.3	2.2	-0.2	-1.1	-1.1	-2.2	2.7	-0.7	-1.4	2.7
Public sector	0.3	0.3	-0.8	-0.5	0.1	-0.2	0.6	0.5	0.1	0.0	0.2	0.1	-0.2
Permanent contracts	-0.2	0.3	-0.5	0.2	0.2	0.1	0.1	0.9	-0.2	0.4	0.0	0.2	0.1
Market prices for observed characteristics	0.7	1.8	3.9	3.6	2.0	-0.8	2.9	1.1	0.7	-1.9	-7.7	-0.5	2.1
Education	0.0	-0.1	0.4	0.1	-0.1	-0.5	0.2	-0.2	0.1	-0.2	-2.7	-0.4	-0.3
Potential experience	0.7	0.4	0.0	-0.1	-0.1	-0.7	0.1	1.3	-0.1	1.2	-0.2	0.5	0.0
Tenure	-0.5	0.0	0.3	0.0	0.6	0.9	0.5	0.1	-0.2	-1.2	-0.1	0.9	-0.3
Occupations	-0.4	1.4	0.4	3.0	2.6	-2.0	2.2	0.5	1.1	-2.4	-3.7	-0.9	3.4
Public sector	0.9	0.5	2.7	0.7	-0.5	1.7	-0.1	-0.3	-0.1	0.6	-1.0	-0.6	-0.7
Permanent contracts	0.0	-0.3	0.1	-0.1	-0.3	-0.2	0.0	-0.2	0.0	0.2	-0.1	0.0	0.1
Residual	1.4	-3.9	-4.6	1.7	-0.9	3.5	-4.9	-0.8	-6.5	-1.6	4.8	-2.2	1.6
Gaps in unobservable characteristics ^c	3.6	-1.6	0.9	4.4	0.6	2.0	-4.4	-1.6	-3.0	1.9	3.6	-3.3	-0.5
Market prices for unobserved characteristics ^c	-2.2	-2.3	-5.5	-2.7	-1.4	1.5	-0.5	0.8	-3.5	-3.5	1.2	1.1	2.1
Hourly wage gap	7.0	-4.1	-2.3	2.8	3.9	4.3	-1.3	2.0	-8.5	3.9	-3.8	-4.1	6.5
Hourly wage gap adjusted for the wage structure ^d	8.5	-3.6	-0.8	1.8	3.4	3.6	-3.7	0.1	-5.7	9.3	2.7	-4.7	2.3
Wage structure ^e	-1.5	-0.4	-1.6	0.9	0.5	0.7	2.4	1.9	-2.8	-5.4	-6.5	0.6	4.2

a) The gender wage gap is defined as the difference between male and female average wages expressed as a percentage of average male wages. A positive figure indicates a positive contribution to the difference between the gender wage gap in the country under consideration and in the benchmark country.

b) Decomposition performed for all wage and salary employees aged 20 to 64 years.

c) Computed under the hypothesis that all the residual gap can be ascribed to gender differences in unobserved characteristics and/or in their remuneration.

d) Sum of the contributions due to cross-country differences in gender gaps in observed and unobserved characteristics.

e) Sum of the contributions due to cross-country differences in market prices for observed and unobserved characteristics.

Source: Annex 2.A.

Table 2.B.3. **Decomposition of cross-country differences in the family wage gap**
 Percentage-point difference from the family wage gap in the benchmark country explained by each component^{a, b}

	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	United Kingdom
Gaps in observed characteristics	6.9	5.5	2.5	2.1	3.7	-0.2	-9.0	-2.7	-4.4	-2.0	3.5	-9.1	5.6
Education	0.7	0.9	-1.7	-1.0	0.0	-1.0	-0.8	2.3	-0.3	-0.7	1.4	0.2	1.6
Potential experience	1.7	2.0	2.7	2.5	1.7	0.0	-1.1	-3.7	-0.8	0.4	-0.3	-3.1	-1.0
Tenure	2.1	0.7	1.9	1.1	1.8	0.6	-2.3	-1.4	-1.3	-0.2	0.1	-2.1	1.1
Occupations	1.4	1.3	-0.7	-0.4	-0.1	-0.4	-3.4	0.1	-1.6	-1.6	1.9	-2.1	3.3
Public sector	0.4	0.4	0.2	0.2	0.4	0.0	-0.6	0.1	-0.3	-0.1	0.3	-0.6	0.1
Permanent contracts	0.6	0.1	0.2	-0.3	0.1	0.6	-0.8	-0.1	-0.1	0.2	0.0	-1.4	0.5
Market prices for observed characteristics	1.1	1.6	0.9	1.1	0.1	2.6	-0.1	-3.4	2.1	1.2	0.2	-3.1	-2.2
Education	-0.1	0.0	1.4	0.5	0.0	0.4	0.1	0.4	-0.3	-0.1	0.0	0.0	-0.1
Potential experience	1.9	1.9	-0.2	1.1	0.2	1.0	0.1	-3.1	0.7	-0.4	-1.1	0.4	-1.7
Tenure	-0.3	-0.1	-1.1	-0.7	-0.1	0.0	-0.8	0.3	0.7	0.3	0.5	-1.3	-0.4
Occupations	-0.2	-0.3	0.3	0.0	-0.2	0.5	1.4	-0.6	1.1	1.2	0.7	-1.2	0.2
Public sector	0.0	-0.1	0.4	0.1	0.0	0.8	-1.0	-0.4	-0.1	0.3	0.0	-1.0	-0.2
Permanent contracts	-0.1	0.1	0.0	0.1	0.1	-0.1	0.0	0.1	0.1	0.0	0.1	-0.1	0.1
Residual	5.9	-1.6	-0.3	0.4	-1.0	1.8	-6.1	-0.6	-1.3	-3.5	0.0	-6.0	5.4
Gaps in unobservable characteristics ^c	4.5	-1.7	1.1	0.5	-1.0	1.8	-5.9	-0.2	-2.2	-3.5	1.5	-5.0	5.6
Market prices for unobserved characteristics ^c	1.3	0.1	-1.4	-0.1	0.1	0.1	-0.2	-0.4	0.9	0.0	-1.5	-1.0	-0.2
Hourly wage gap	13.8	5.5	3.1	3.5	2.9	4.2	-15.1	-6.7	-3.7	-4.3	3.7	-18.2	8.8
Hourly wage gap adjusted for the wage structure ^d	11.4	3.8	3.6	2.5	2.7	1.6	-14.9	-2.9	-6.6	-5.5	5.0	-14.1	11.2
Wage structure ^e	2.4	1.7	-0.5	1.0	0.2	2.7	-0.2	-3.8	2.9	1.3	-1.3	-4.1	-2.4

a) The family wage gap is defined as the difference between average wages of childless women and mothers expressed as a percentage of average wages of childless women. A positive figure indicates a positive contribution to the difference between the family wage gap in the country under consideration and in the benchmark country.

b) Decomposition performed for all female wage and salary employees aged 20 to 54 years.

c) Computed under the hypothesis that all the residual gap can be ascribed to differences in unobserved characteristics and/or in their remuneration.

d) Sum of the contributions due to cross-country differences in gaps in observed and unobserved characteristics.

e) Sum of the contributions due to cross-country differences in market prices for observed and unobserved characteristics.

Source: Annex 2.A.

Table 2.B.4. **Decomposition of the wage gaps for the benchmark country**

Part of the gaps explained by each component

	Gender wage gap ^a	Family wage gap ^b
Gaps in observed characteristics	0.0	-5.5
Education	-1.4	-1.2
Potential experience	1.2	-2.2
Tenure	1.1	-0.5
Occupations	-0.5	-1.0
Public sector	-0.7	-0.4
Permanent contracts	0.3	-0.2
Residual	16.1	-0.6
Hourly wage gap	16.1	-6.1

a) The gender wage gap is defined as the difference between male and female average wages expressed as a percentage of average male wages. The decomposition is performed for all wage and salary employees aged 20 to 64 years.

b) The family wage gap is defined as the difference between average wages of childless women and mothers expressed as a percentage of average wages of childless women. The decomposition is performed for all female wage and salary employees aged 20 to 54 years.

Source: Annex 2.A.

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Chapter 3

Taking the measure of temporary employment

Temporary employment has grown in a number of OECD countries during the past two decades and this growth has raised concerns that temporary jobs may be crowding out more stable forms of employment, becoming an additional source of insecurity for workers and increasing labour market dualism between workers finding stable career jobs and those failing to do so. This chapter sheds light on these issues by assembling harmonised data on temporary employment in OECD countries.

The share of temporary jobs in total employment is shown to have followed different trajectories in different OECD countries with the strong growth experienced in several European countries being a far from universal pattern. Temporary jobs are disproportionately filled by younger and less educated workers, but temporary workers are a diverse group who work in a wide range of occupations and sectors. Temporary jobs tend to pay less than permanent jobs and sometimes offer less access to paid vacations, sick leave, unemployment insurance and other fringe benefits, as well as less access to training. Temporary workers are also less satisfied with their jobs and more often report inflexible work schedules and monotonous work tasks. Despite the generally short duration of temporary jobs, temporary workers show considerable continuity in employment and between one-third and two-thirds of temporary workers move into a permanent job within two years, depending on the country considered. The other side of the coin is that up to one-fourth of temporary workers become unemployed, while even larger numbers remain in temporary jobs. Mobility into permanent jobs is lower for less educated workers and it cannot be excluded that a significant number of workers cycle among temporary jobs – possibly with intervening spells of unemployment – for an extended period of time. Policies to facilitate mobility from temporary into permanent jobs may be desirable for such workers.

INTRODUCTION.....	129
MAIN FINDINGS.....	130
1. TRENDS AND MAIN FEATURES.....	131
2. PAY, ACCESS TO FRINGE BENEFITS AND JOB SATISFACTION OF TEMPORARY WORKERS	141
3. CAREER DYNAMICS OF TEMPORARY WORKERS	153
CONCLUSIONS	165
<i>Annex 3.A.</i> Defining and measuring temporary employment.....	170
<i>Annex 3.B.</i> Job satisfaction and working conditions	180
BIBLIOGRAPHY	183

List of Boxes

3.1.	The special case of temporary agency workers	136
3.2.	Measuring working conditions	153
3.3.	Evidence from the literature on transitions from temporary to permanent jobs	160

List of Tables

3.1.	Components of temporary employment.....	134
3.2.	Contributions of temporary and permanent jobs to total employment growth, 1990-2000.....	135
3.3.	Incidence of temporary employment by individual and job characteristics, 2000	138
3.4.	Distribution of temporary employment by individual and job characteristics, 2000.....	139
3.5.	Wage determination principles applying to temporary employment.....	142
3.6.	Relative wages of temporary workers, 1997.....	143
3.7.	Multivariate estimates of the wage penalty for temporary work, 1997	144
3.8.	General conditions for entitlement to fringe benefits	146
3.9.	Relative job satisfaction of temporary workers, 1997	151
3.10.	Working conditions of temporary and permanent workers, 2000	152
3.11.	Job tenure of temporary and permanent workers, 2000.....	154
3.12.	Multivariate estimates of the determinants of being offered a longer-duration temporary contract, 1997.....	155
3.13.	Multivariate estimates of the determinants of receiving employer-provided training, 1997.....	158
3.14.	Previous labour force status of temporary workers	162
3.15.	One-year and two-year mobility of temporary workers.....	163
3.16.	Multivariate estimates of the determinants of mobility for temporary workers, 1996-98.....	164
3.17.	International comparisons of the determinants of mobility for temporary workers, 1996-98.....	165
3.A.1.	Definitions of temporary employment used in Chapter 3.....	172
3.A.2.	Components of temporary employment analysed in Table 3.1	175
3.A.3.	Regulation of temporary work arrangements in OECD countries	176
3.A.4.	Examples of policies to stimulate the hiring of selected groups, with a potential impact on temporary employment	177
3.B.1.	Job satisfaction levels of temporary and permanent workers	181
3.B.2.	Incidence of temporary employment by number of jobs and unsocial hours, 2000	182

List of Charts

3.1.	Share of temporary employment in OECD countries, 1985-2000.....	133
3.2.	Incidence of part-time work for temporary and permanent workers, 2000	140
3.3.	Access to employer-sponsored training for temporary and permanent workers, 1997	157
3.4.	Access to formal and informal training for temporary and permanent workers.....	157

Introduction

Temporary employment has grown in a considerable number of OECD countries in the past two decades (see also OECD, 1993 and 1996, on the issue of temporary work) and this expansion has raised concerns that temporary jobs may be an additional source of insecurity and precariousness for workers. Concerns also have been expressed that temporary jobs may lead to growing labour market segmentation and dualism, trapping growing numbers of workers in a Hobbesian realm of “short, brutish and mean” jobs that offer little employment security, poor pay and fringe benefits, and little prospect of upward mobility (Rosenberg and Lapidus, 1999). However, reliable evidence for assessing these fears remains scarce, in part, due to difficult definitional and measurement problems involved in studying temporary employment, particularly in an internationally comparative context.

Temporary employment may also have beneficial effects. Indeed, the expansion of temporary employment seems to reflect, in part, individuals’ and employers’ increased demands for flexibility in working patterns (see also OECD, 1993, 1996 and 1999, on this issue). Some individuals may prefer to be employed in temporary rather than permanent jobs for a number of reasons, *e.g.* temporary jobs may involve less commitment to the employer and, hence, better opportunities to combine work with other activities (*e.g.* education and care giving). Other individuals may value temporary jobs as a means of entering the labour market, securing an immediate source of income while gaining work experience that can help them to move up the job ladder. Similarly, by acting as a buffer, temporary jobs may allow employers to adjust their operations more effectively to changes in competitive conditions, including business-cycle fluctuations in demand. Employers may also use temporary jobs as a least-cost way of screening potential candidates for permanent jobs in their firms. Finally, there is some evidence that temporary employment, and, in particular, the intermediary services of temporary agencies, may improve the matching of job seekers to job vacancies, contributing to a reduction in frictional unemployment (Katz and Krueger, 1999).

Temporary employment has been an area in which many OECD governments have felt the need to intervene, but the best way forward has not always been evident. Areas of frequent intervention have included: *i*) setting (or lifting) restrictions governing the use of temporary contracts, as well as the degree of employment protection accorded to “permanent” workers; *ii*) establishing equal-treatment standards requiring employers to harmonise pay or fringe benefits between temporary and permanent workers; and *iii*) providing employers with incentives to hire certain disadvantaged job-seekers on temporary jobs or to move them into permanent jobs. There have been many legislative initiatives in each of these areas, but also considerable confusion surrounding the principles of best practice.

One may question what is the best strategy for OECD governments to follow in this area and whether there is an optimal level of regulation of temporary employment that can improve the overall performance of the labour market without exposing a subset of workers to excessive insecurity and precariousness (Cahuc and Postel-Vinay, 2001). To shed more light on this and related issues, this chapter gathers new evidence on the growth in temporary employment, as well as on how temporary jobs compare to permanent jobs

from the perspective of the welfare of the workers in these jobs. This includes tackling the following questions:

- Is a steady rise in the share of temporary jobs in total employment a near universal trend across OECD countries or are national experiences more varied?
- How do workers in temporary jobs differ from those in permanent jobs?
- How do the wages paid to temporary workers compare with those paid to similar workers in permanent jobs?
- Are temporary workers penalised in their access to key fringe benefits?
- Are temporary workers satisfied with their jobs?
- What is the average duration of temporary contracts and how long do temporary workers stay in their jobs?
- What are the chances for temporary workers to obtain training, to move up the job ladder or to move into permanent jobs?

This is an ambitious set of issues, but falls short of being a comprehensive assessment of temporary employment. Among the important issues not addressed here, in a detailed manner, are the potential efficiency gains from temporary employment and international differences in employment protection legislation (see, however, OECD 1999 for the latter).

Main findings

- The distinction between temporary and permanent jobs is complex and differs significantly between OECD countries. Nonetheless, it is clear that temporary jobs are a significant feature of the employment landscape in most OECD countries. Despite this commonality, international differences in the share of temporary jobs in total employment are large. One of every three jobs is temporary in the Spanish labour market, but fewer than one in twenty in Luxembourg, the Slovak Republic and the United States. Furthermore, these differences are quite persistent, suggesting that there is no universal trend towards a common, high level of temporary employment.
- There is also considerable diversity across OECD countries in how the share of temporary jobs in total employment evolved between 1985 and 2000. A strong rising trend was observed for certain European countries (France, Italy, the Netherlands, Portugal and Spain). However, this is far from a general pattern. Many countries show no clear trend and, in a few cases (Greece and Luxembourg), the temporary share has tended to follow a downward trajectory. Furthermore, the country in which temporary employment grew most strongly during 1985-95, Spain, saw a decline in the temporary share during 1995-2000.
- Temporary jobs are disproportionately held by younger and less educated workers, as well as those employed in low-skill occupations, agriculture and small firms. In many OECD countries, there is also some tendency for women to be over-represented among temporary workers, but gender differences are only large in a few countries (Belgium, Finland, Japan) and men are more likely than women to hold temporary jobs in Turkey. Despite these differences in the incidence of temporary employment, temporary workers are a diverse group and they work in a wide

range of sectors and occupations, and for both public and private employers of all sizes.

- The aggregate evidence for European countries indicates that the average wage of temporary workers lags those of permanent workers by between 17% (in Germany) and 47% (in Spain). Using regression techniques to control for differences in individual and job characteristics reduces the wage penalty associated with temporary employment, but it is still statistically and economically significant, ranging up to 27% in the Netherlands. The wage penalty to temporary work is similar for women and men.
- Another important dimension of temporary jobs is the access they provide to a number of key fringe benefits, such as paid vacations, paid sick leave, unemployment insurance and a pension. Although nominally covered by virtually all public schemes and many voluntary, employer-provided schemes, the *de facto* eligibility of temporary workers appears to be substantially lower in some cases. This is due to the impact of eligibility criteria, such as minimum contribution periods. In other words, temporary employment *per se* rarely disqualifies workers from benefits, but the very short duration of many temporary jobs may have that effect. By contrast, temporary employees with fixed-term employment contracts of a year or longer appear to enjoy the same benefits as permanent employees with the same employer.
- Temporary workers tend to be less satisfied with their job than permanent workers. The relative dissatisfaction of temporary workers focuses on pay and, especially, job security. Temporary workers are also significantly more likely to report monotonous work tasks and inflexible work schedules, and somewhat more likely to report working night and weekend shifts.
- Most temporary contracts are issued for durations of less than a year and most temporary workers do not remain on the same temporary job for longer than a year. However, in some OECD countries, a considerable number of temporary workers are hired on longer-duration contracts or cumulate several contract renewals and, hence, accumulate job-tenure of five years or more. Evidence for 11 European countries suggests that more educated temporary workers, as well as those employed in the public sector, tend to be employed on fixed-term contracts of above-average duration, while workers under the age of 25 or who were unemployed previously tend to hold contracts of below-average duration.
- The evidence for European countries suggests that the majority of temporary workers have considerable continuity in employment: being in employment one year earlier and remaining in employment one and two years later. Depending on the country considered, between one-third and two-thirds of temporary workers move into a permanent job within a two-year time interval, suggesting considerable upward mobility. The other side of the coin is that up to one-fourth of temporary workers are unemployed when interviewed one and two years later, and employers provide significantly less training to temporary than to permanent workers. Temporary workers who are more educated have significantly better chances to receive training and to move into permanent jobs than less educated temporary workers.

1. Trends and main features

This section provides an overview of temporary jobs and the workers who hold them. The first issue addressed is to ascertain the number of workers in temporary jobs (*i.e.* jobs

that provide little or no prospect of a long-lasting employment relationship) and to test the common perception that the number of workers in “just-in-time jobs” is climbing steadily. The section also provides an overview of the different contractual forms that temporary employment assumes, as well as their numerical importance in accounting for the total number of temporary jobs. Finally, the demographic and occupational profile of temporary workers is examined, along with several characteristics of their employers.

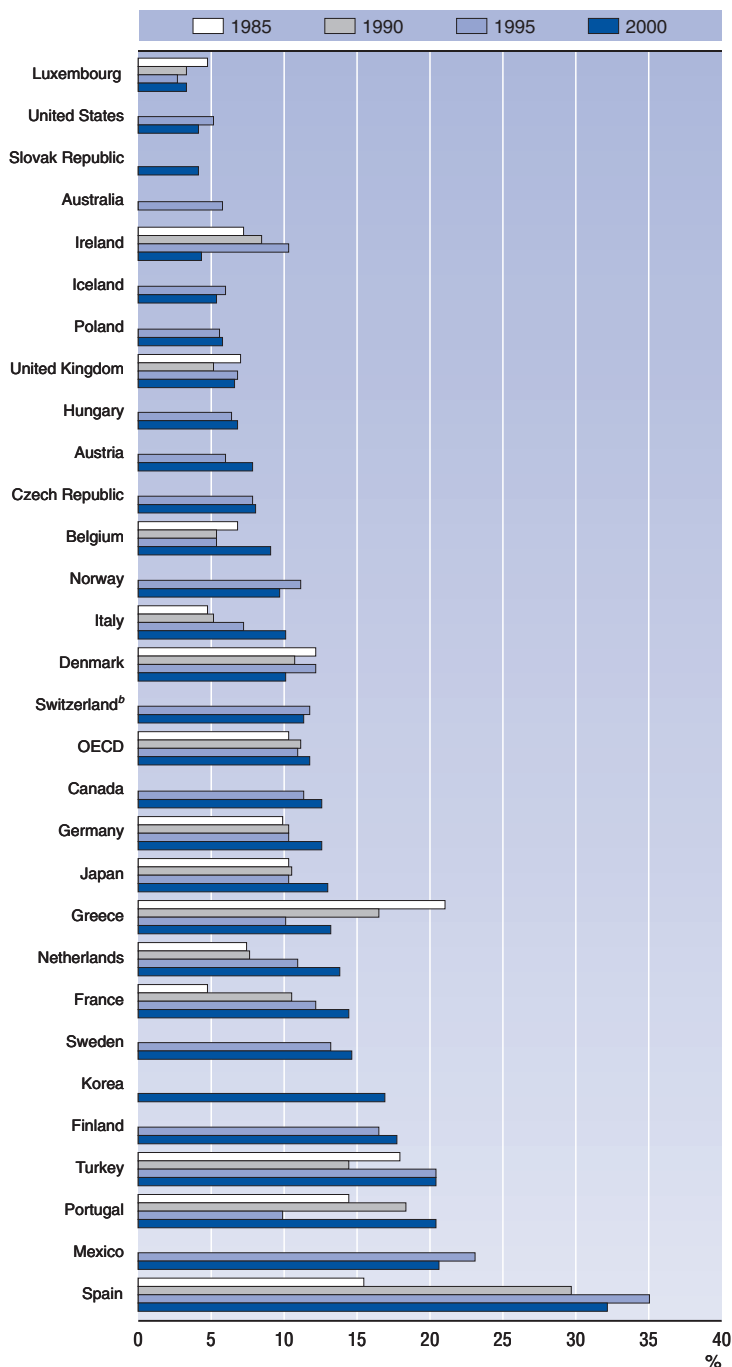
Before they can be counted and analysed, it is necessary to define temporary jobs and develop a strategy for identifying them in the available data sources. (See Annex 3.A for a detailed discussion of these issues.) For the purposes of this chapter, temporary jobs are those forms of dependent employment which, by their nature, do not offer workers the prospect of a long-lasting employment relationship. In many cases, the temporary nature of the job is apparent. For example, this is the case when there is a written employment contract specifying that the job lasts a limited amount of time (*e.g.* a fixed-term contract for 3 months) or when a worker is hired to perform a specific and time-limited task (*e.g.* to replace a sick worker or fill a seasonal job). Other cases are less clear-cut, but for each country a list of identifiable job types judged to be temporary has been chosen and then used to classify all jobs as either temporary or permanent.¹

In most cases, the list of job types that is defined as constituting temporary employment has been based on national practice. In some cases, there is no official national definition of temporary employment. In others, the conventionally used definition does not correspond to the concept of a temporary job that is adopted here. In such cases, an attempt has been made to develop a definition of temporary employment that is as consistent as possible with both the conceptual definition mentioned above and the measures used for other countries.

Temporary employment raises particular difficulties for making international comparisons, for both economic and statistical reasons. The categories of temporary jobs differ significantly across OECD countries, both in terms of their numerical importance and the legal and customary rules surrounding their use. Accordingly, the economic significance of holding a temporary job could differ significantly between workers in two different countries. The adequacy of national datasets for differentiating temporary from permanent workers also varies. As a result, it should be understood that international comparisons of temporary employment are subject to a significant degree of non-comparability.

A. Trends in the level of temporary employment

Chart 3.1 provides an overview of the evolution of the share of temporary employment in total dependent employment during 1985-2000. Temporary jobs are a significant feature of the employment landscape in all OECD countries, but fears that stable jobs have all but disappeared are not confirmed. Despite the caveats attached to making international comparisons, international differences in the share of temporary jobs are large enough to indicate substantial diversity in the relative importance of temporary jobs. One of every three jobs is temporary in the Spanish labour market, but fewer than one in twenty in Luxembourg, the Slovak Republic and the United States. Furthermore, these differences are quite persistent, suggesting that there is no universal trend towards a common, high level of temporary employment.

Chart 3.1. **Share of temporary employment in OECD countries, 1985-2000**Percentage of dependent employees in temporary jobs^a

a) There are breaks in the time series for Greece and Ireland due to changes in the classification of temporary workers between 1995 and 2000. The data refer to 1986 instead of 1985 for Portugal; to 1987 instead of 1985 for Spain; to 1996 instead of 1995 for Switzerland; to 1997 instead of 1995 for Australia, Canada, Czech Republic, Hungary and Poland and to 2001 instead of 2000 for Korea and United States. Countries are ranked in ascending order by the share of temporary employment in the most recent year reported and OECD refers to an unweighted average of countries shown.

b) The Swiss data only cover persons with a permanent residence permit and hence exclude foreign workers with a seasonal or short duration residence permit.

Source: See Table 3.A.1 in Annex 3.A.

The relative importance of the different contractual types of temporary jobs also appears to be quite heterogeneous, based on data for a smaller number of countries (Table 3.1). In five of these eight countries, fixed-term contracts are by far the most common form of temporary jobs. However, jobs mediated by temporary work agencies (TWAs) came to be more numerous than fixed-term contracts in the Netherlands during the course of the 1990s.² The relative importance of fixed-term contracts is even lower in Mexico and the United States, due to the preponderance of seasonal workers in the former and the use of different contractual forms for temporary workers in the latter (Di Natale, 2001). These differences in the mix of contractual types of temporary employment mean that even among countries having similar total shares of temporary jobs, the implications of temporary employment for workers and firms may be quite different.

There is also considerable diversity across OECD countries in how the share of temporary jobs in total employment evolved between 1985 and 2000 (Chart 3.1). As is well known, a strong rising trend was observed in certain European countries (France, Italy, the Netherlands, Portugal and, especially, Spain). However, this is far from being a universal pattern and many countries show either no clear trend or, in a few cases (Greece and Luxembourg), the temporary share tended to fall. Furthermore, the country in which temporary employment grew most strongly during 1985-95, Spain, saw a modest decline in the temporary share during 1995-2000.³

Table 3.2 presents an accounting decomposition of total employment growth during the 1990s into the components attributable to temporary and permanent jobs. This decomposition provides a check on the common perception that few if any new permanent jobs are being created. Once again, the diversity of national experience is highlighted by these results. Temporary jobs account for over two-thirds of total employment growth, or grew

Table 3.1. **Components of temporary employment**

Percentage of temporary workers having each type of contract^a

		Temporary help agency workers	Fixed-term contracts	On-call workers	Seasonal workers	Other temporary workers
Australia	1997	21.7	75.9	..	2.4	..
Canada	1995	2.1	50.4	33.0	14.5	..
France	1990	12.2	48.6	..	2.8	36.4
	1995	12.2	45.0	..	3.1	39.7
	2001	25.7	57.9	..	3.4	40.9
Korea	2001	5.7	63.9	13.4	..	17.0
Mexico	1995	..	17.1	..	47.8	35.1
	2000	..	9.3	..	54.0	36.6
Netherlands	1992	25.1	28.1	29.6	..	17.3
	1995	31.4	27.7	28.7	..	12.2
	1999	36.8	23.8	27.3	..	12.1
United Kingdom	1992	6.7	48.1	..	6.5	38.7
	1995	10.4	54.0	..	4.4	..
	2000	15.8	48.3	..	4.1	31.8
United States	1995	14.1	..	14.2	..	71.8
	2001	13.2	..	14.8	..	72.0

.. Data not available.

a) See Table 3.A.2 in Annex 3.A for explanation of the categories of contract type reported for each country.

Source: Data from national Labour Force Surveys for France, Mexico and United Kingdom; Pot *et al.* (2000) for Netherlands; the 2001 Supplement to the Labour Force Survey for Korea; the 1995 Survey of Work Arrangements (SWA) for Canada; the 1997 Survey of Forms of Employment (FOE) for Australia; and the 1995 and 2001 Supplements on Contingent and Alternative Work Arrangements to the Current Population Survey for United States.

Table 3.2. **Contributions of temporary and permanent jobs to total employment growth,^a 1990-2000**

	Cumulative growth of total employment (percentage)	Percentage-point contribution of temporary employment	Percentage-point contribution of permanent employment
Austria (1995-2000)	1.1	2.0	-0.9
Belgium	17.7	5.3	12.4
Canada (1997-2000)	9.3	2.3	7.0
Czech Republic (1993-2000)	-2.9	2.4	-5.4
Denmark	4.8	-0.1	5.0
Finland (1991-2000)	7.1	4.4	2.7
France	9.9	5.9	3.9
Germany (1991-2000)	-2.1	2.4	-4.5
Greece	18.5	-1.0	19.5
Hungary (1997-2000)	7.7	2.2	5.5
Iceland (1991-2000)	17.5	38.3	-20.8
Ireland	47.4	-1.6	48.9
Italy	-1.2	4.8	-6.0
Japan	11.4	3.8	7.6
Luxembourg	17.2	0.6	16.6
Mexico (1995-2000)	27.2	3.0	24.2
Netherlands	25.1	9.9	15.2
Norway (1996-2000)	8.0	-2.8	10.8
Poland (1997-2000)	-4.3	-0.1	-4.2
Portugal	8.7	3.9	4.8
Slovak Republic (1994-2000)	-0.4	1.8	-2.2
Spain	24.7	10.2	14.4
Sweden (1997-2000)	6.6	1.7	5.0
Switzerland (1991-2000)	-0.5	-1.4	0.8
Turkey	39.9	14.1	25.8
United Kingdom	6.5	1.9	4.6
United States (1995-2001)	9.3	-0.5	9.8
OECD average^b	11.6	4.2	7.4

a) The contribution of a component of employment is calculated as the change in that component relative to the initial level of total employment. For T, temporary employment and E, total employment: $((T_t - T_0)/(E_t - E_0)) \times 100$, gives the percentage-point contribution of temporary employment.

b) Unweighted average of countries shown.

Source: See Table 3.A.1 in Annex 3.A.

despite a fall in total employment, in seven of the twenty-nine countries included in the analysis. However, permanent jobs accounted for two-thirds or more of total employment growth in thirteen of these countries and neither component was dominate in the remaining nine countries. Although it is true that temporary jobs have accounted for most or all job growth in certain countries in certain recent periods (see OECD, 1996 for an analysis of earlier periods) it is not the case that OECD economies have generally failed to generate new permanent jobs.⁴

International differences in the share of temporary jobs and its evolution over the past two decades reflect a number of country-specific factors, such as the regulations affecting temporary employment, the sectoral composition of employment, business competitive strategies and the characteristics and preferences of the workforce. There is a growing research literature on the determinants of the incidence of temporary employment, but a unified account that does justice to the diversity of national experiences across the OECD has yet to emerge. Juxtaposing that literature with the data presented here generates several insights:

- The combination of strict employment protection legislation (EPL) for permanent workers with the liberalisation of regulations for temporary employment appears to account

Box 3.1. The special case of temporary agency workers

Measuring employment mediated by temporary work agencies raises particular difficulties. For example, the turnover of agency workers is very high and it is important to distinguish between stock and flow measures. Another complexity is that the employment contract of agency workers can be with either the agency or the employer in whose establishment they are working at a given time. In the former case, it is even possible that these workers will have an open-ended contract with the agency (*i.e.* might be considered as a permanent worker using the terminology of this chapter). This is possible in Austria, Finland, Germany, the Netherlands and Sweden (Storrie, 2002). As a result of the special nature of agency work, the most reliable data on temporary agency workers in many OECD countries are collected by the means of special surveys, rather than the general labour force surveys analysed in this chapter for most countries. This text box summarises some of the insights that can be gleaned from these alternative sources of information.

Since 1992, the number of agency workers has increased at least five-fold in Denmark, Spain, Italy and Sweden and just under four-fold in Austria (Storrie, 2002). Despite this rapid growth, temporary agency jobs still account for only a small share of all jobs. Looking at the average daily number of people that perform agency work as their main job, it is estimated that between 1.8 and 2.1 million of temporary agency workers were employed in the European Union in 1999, accounting for a little more than 1% of total employment (CIETT, 2000). France has the largest number of temporary agency workers in the EU, but the incidence of agency work is highest in the Netherlands.

In Europe, agency workers are generally more likely to be male (with the exception of Scandinavian countries) and younger than are other workers (Storrie, 2002). For a number of EU countries there is also evidence that the proportion of ethnic minorities is higher among agency workers than in other employment forms (the Netherlands, Sweden, Germany). Furthermore, some European countries (Belgium, Germany, and the Netherlands) have targeted special activation policies at temporary work agencies which are subsidised for placing the long-term unemployed or other hard-to-employ groups (*e.g.* older workers in the Netherlands) into temporary jobs. Preliminary evaluation of these measures in Germany are encouraging (Lechner *et al.*, 2000).

There is some limited evidence that temporary agency work varies procyclically, but it is not yet possible to differentiate clearly between business-cycle effects and the recent secular increase in the temporary agency work in most countries. For example, employment growth in the temporary help services accounted for 8.2% of net non-agricultural employment growth in the economic expansion of 1992 to 1998 in the United States, despite only representing approximately 1% of total employment (Katz and Krueger, 1999). In the old *länder* of Germany, the number of workers employed by temporary work agencies also appears to show procyclicality (Boockmann and Hagen, 2001). In France, temporary agency workers increased their share of total employment from 1.8% in 1996 to 3.8% in 2000, a period of cyclical upswing (Jourdain, 2001).

Katz and Krueger (1999) show that the expansion of the temporary help industry in the United States coincided with an inward shift in the Beveridge curve, indicative of improved efficiency in the matching of workers to job vacancies. They argue that labour market intermediaries increase competition and reduce bottlenecks (*e.g.* allowing employers to find qualified substitute workers quickly), keeping wage pressure low even in a tight labour market, and estimate that the expansion in the temporary agencies reduced the US NAIRU by almost 4% over the period 1989 to 1998.

for the rapid growth of the share of temporary jobs that occurred in a few European countries (see Dolado *et al.*, 2001, for Spain and Blanchard and Landier, 2001, and Cadiou *et al.*, 2000, for France). Similarly, employment mediated by temporary work agencies expanded at a very fast rate in Italy, after its legalisation in 1997 (Carmignani *et al.*, 2001; Italian Ministry of Labour, 2001; Nannincini, 2001). At the other end of the policy spectrum, the low shares of temporary employment in Australia, the United Kingdom and the United States suggest that employers make little use of temporary contracts where national legislation provides little job protection for permanent workers. Despite these suggestive national cases, differences in EPL do not appear to explain much of the overall variation in the share of temporary jobs across OECD countries (OECD, 1999).

- The evolution of temporary employment over time reflects different trends in the different components of temporary employment and a full accounting of the role of regulatory changes on the share of temporary jobs would have to account for these differences. In some countries, the expansion of temporary employment has been driven mainly by the growth of TWA employment (see also Box 3.1). In others, like Sweden, on-call jobs appear to have been the most dynamic component of temporary employment during the nineties (Holmlund and Storrie, 2002).
- In other OECD countries, factors other than changes in EPL appear to be more important for explaining the share of temporary jobs. For example, there is some evidence that temporary jobs have grown as a response to protracted recession (Morishima, 2001; Pot *et al.*, 2000; Holmlund and Storrie, 2002), which might have increased employers' demand for "flexible" labour. By contrast, a high share of agricultural workers appears to be the most important factor explaining the high (but, often falling) shares of temporary jobs in certain other OECD countries (Greece, Mexico and Turkey).⁵ Finally, the example of France suggests that the introduction of large-scale public employment programmes for labour force groups experiencing difficulties (see Table 3.A.4 and Chapter 1) has sometimes made an important contribution to the growth in temporary employment.
- In sum, a considerable number of factors are important for determining the share of temporary jobs and no attempt is made here to provide an exhaustive list or quantify their relative importance.

B. Characteristics of temporary workers and temporary jobs

Additional insights into the nature and implications of temporary employment may be gained by inspecting the composition of temporary employment in terms of the gender, age, education level and occupation of temporary workers, and the industry and size of the employing establishment. This information is particularly useful for assessing whether temporary employment is likely to play an important role in confining vulnerable work-force groups in a lower tier of precarious jobs.

The strongest demographic patterns in the incidence of temporary employment are the strong over-representation of younger and less educated workers (Table 3.3). On average for the countries considered, youths (*i.e.* workers aged 15-24 years) are approximately 3 times as likely as older workers to hold a temporary job, suggesting that these jobs often serve as entry ports into the world of work. Indeed, one-half of young workers hold

Table 3.3. **Incidence of temporary employment by individual and job characteristics, 2000**

Share of temporary employment in total dependent employment for the indicated group (percentage)

	Gender		Age groups			Educational attainment ^a			Industry			Occupation ^b				Size of establishment		
	Female	Male	15-24	25-54	55+	Low	Medium	High	Agriculture	Industry	Services	White collar	Pink collar	Blue collar	Unskilled occupations	Less than 20 persons	20-50 persons	50 and more persons
Australia ^c	6.6	5.0	6.1	5.7	5.0	..	..	..	4.5	3.4	6.6	8.5	5.2	4.1	4.6	..	..	..
Austria	8.4	7.6	28.2	3.8	2.6	21.9	4.2	5.7	7.2	8.7	7.6	6.1	8.2	9.1	5.5	8.7	10.5	6.2
Belgium	12.1	6.6	19.7	4.5	2.1	10.3	8.7	8.1	11.2	7.2	9.7	7.1	7.0	5.3	10.0	12.2	8.4	6.9
Canada ^c	13.3	11.8	29.5	8.8	10.5	15.4	14.5	10.6	35.6	8.3	12.9	..	..	..	..	16.0	12.0	9.6
Czech Republic	9.4	7.0	10.3	3.8	33.6	14.0	7.2	9.5	7.8	6.5	9.5	6.4	7.9	5.2	19.7	9.4	8.3	6.7
Denmark	11.7	8.8	30.6	6.5	5.1	18.9	8.5	5.9	13.8	7.6	11.0	7.7	14.0	11.0	11.9	11.8	12.3	7.8
Finland	20.9	14.5	49.5	14.3	5.1	17.9	20.5	13.9	27.9	13.1	19.3	16.7	19.9	15.2	23.9	20.0	17.7	12.8
France	15.7	14.3	34.8	6.6	3.0	16.3	15.2	13.0	26.7	15.2	14.7	9.6	13.7	13.3	17.8	13.9	14.7	10.6
Germany	13.1	12.5	38.9	6.1	3.8	29.5	9.2	9.1	25.4	10.8	13.5	10.0	10.3	10.9	15.1	13.4	13.4	11.1
Greece	15.7	11.5	28.4	12.1	12.2	17.7	12.1	9.4	41.7	13.0	12.7	7.8	9.7	13.4	22.6	15.4	9.2	6.9
Hungary	6.4	7.3	11.5	5.4	10.9	10.7	6.4	4.6	10.8	6.3	6.9	4.8	5.9	6.4	15.6	8.5	6.7	5.6
Iceland	5.9	4.9	11.2	4.6	2.2	5.3	5.8	5.0	7.8	3.4	5.8	5.8	5.9	3.8	6.5	6.5	4.4	3.5
Ireland	6.0	3.6	15.1	5.7	4.9	11.5	8.4	8.1	6.1	2.7	5.5	6.0	9.9	5.1	15.6	12.7	9.7	6.4
Italy	12.2	8.8	14.7	5.4	5.5	10.2	9.6	11.3	36.7	7.8	10.2	6.5	6.9	6.8	18.1	11.8	8.5	7.3
Japan	20.9	7.7	24.8	9.5	17.9	..	..	..	..	..	..	..	..	..	..	..	..	..
Luxembourg	4.6	2.6	11.3	1.8	1.0	3.2	3.7	2.9	10.1	2.1	3.7	2.9	3.2	2.5	2.7	3.6	3.8	3.1
Mexico ^d	11.7	25.2	25.7	17.8	24.4	26.3	12.7	9.4	74.1	25.9	8.8	..	..	..	..	28.7	12.4	21.6
Netherlands	17.2	11.5	24.3	6.9	6.7	17.1	11.7	10.2	32.1	10.2	13.2	7.2	13.8	8.5	20.5	14.8	12.2	10.5
Norway	11.8	7.8	33.6	8.6	5.2	11.1	9.4	9.7	12.1	6.3	10.7	7.5	16.0	9.0	18.1	10.1	10.1	9.2
Poland	4.8	6.6	13.0	4.0	11.3	13.9	5.6	2.1	20.0	6.1	5.0	2.3	6.0	5.6	13.1	10.9	4.3	2.3
Portugal	22.7	18.6	34.4	10.9	6.5	19.4	24.0	20.6	26.4	18.2	21.7	10.5	14.1	12.1	20.9	21.1	13.5	13.0
Slovak Republic	4.3	3.8	7.4	2.7	13.6	6.0	4.0	2.8	8.0	3.9	3.6	2.3	4.6	3.1	9.7	..	..	..
Spain	34.6	30.6	67.4	25.2	11.8	36.6	29.5	26.2	60.0	37.7	27.7	19.7	30.9	36.6	49.1	40.3	26.9	21.1
Sweden	16.9	12.3	41.3	10.5	7.5	17.9	14.0	13.4	25.3	7.4	16.9	10.3	18.3	10.3	23.1	19.8	14.3	10.2
Switzerland ^e	12.8	10.5	44.9	5.3	4.1	30.0	5.9	8.6	20.1	11.0	11.7	10.4	11.3	15.0	5.4	14.0	9.6	10.0
Turkey	12.6	22.2	23.7	18.7	37.7	..	..	..	..	..	..	..	..	..	..	..	..	..
United Kingdom	7.7	5.9	12.0	4.9	5.8	5.3	6.0	8.9	8.2	4.7	7.4	6.5	7.3	4.6	9.5	6.6	6.7	6.6
United States ^f	4.2	3.9	8.1	3.2	3.8	6.1	4.1	3.3	11.1	3.2	4.2	3.5	4.2	3.7	7.5	..	..	..
OECD average^g	12.2	10.5	25.0	8.0	9.4	15.7	10.4	9.3	21.9	9.6	10.8	7.7	10.6	9.2	15.3	14.4	10.9	9.1

.. Data not available.

a) Highest level of education or training successfully completed. Low refers to ISCED 0/1/2, medium refers to ISCED 3 and high refers to ISCED 5/6/7.

b) Four broad occupational groupings were defined in terms of the 1-digit occupations of ISCO-88: white-collar occupations correspond to occupations 1-3 (*i.e.* legislators, senior officials and managers; professionals; technicians and associate professionals); pink-collar occupations correspond to occupations 4 and 5 (*i.e.* clerks; and service workers and shop and market sales workers); blue-collar occupations correspond to occupations 6-8 (*i.e.* skilled agricultural and fishery workers; craft and related trades workers; and plant and machine operators and assemblers); and unskilled occupations correspond to occupation 9 (*i.e.* elementary occupations).

c) The data relate to 1997. The size of establishment classification is: less than 20 persons, 20-99 persons and 100 and more persons.

d) The size of establishment classification is: less than 15 persons, 16 to 100 persons, more than 100 persons.

e) The Swiss LFS data only cover persons with a permanent residence permit and hence exclude foreign workers with a seasonal or short duration residence permit.

f) The data relate to 2001.

g) Unweighted average of countries shown.

Source: Secretariat calculations based on data from the sources documented in Table 3.A.1 in Annex 3.A.

Table 3.4. **Distribution of temporary employment by individual and job characteristics, 2000**

Share of temporary workers in each group (percentage)

	Gender	Age groups			Educational attainment ^a			Industry			Occupations ^b				Size of establishment		
	Female	15-24	25-54	55+	Low	Medium	High	Agriculture	Industry	Services	White collar	Pink collar	Blue collar	Unskilled occupations	Less than 20 persons	20 to 50 persons	50 and more persons
Australia ^c	53.5	23.0	70.8	6.2	..	..	..	3.8	15.5	80.7	47.5	14.9	29.0	8.6	..	..	..
Austria	47.1	59.2	38.9	2.0	54.4	35.3	10.3	0.9	35.8	63.3	23.3	32.3	36.8	7.6	44.6	16.0	39.3
Belgium	58.5	38.9	59.2	1.9	35.5	34.3	30.2	0.7	22.1	77.2	36.4	29.8	18.1	15.7	35.3	13.5	51.3
Canada ^c	50.9	40.9	51.9	7.1	4.0	51.8	44.2	1.5	4.0	94.5	..	..	..	..	42.7	31.3	26.0
Czech Republic	53.8	19.6	38.5	41.8	16.3	70.0	13.7	4.9	32.9	62.2	27.8	21.6	25.2	25.3	47.3	15.3	37.4
Denmark	55.5	54.6	40.8	4.6	40.9	44.6	14.5	2.5	19.3	78.2	25.6	38.3	21.7	14.4	37.8	17.1	45.1
Finland	59.1	31.2	66.5	2.3	21.7	50.6	27.7	3.4	21.7	74.9	40.7	26.3	21.3	11.6	45.7	19.7	34.7
France	48.7	43.7	54.3	2.0	32.8	45.2	22.1	2.8	27.4	69.9	25.7	32.4	29.1	12.8	99.7	0.1	0.1
Germany	46.2	55.6	41.0	3.4	41.1	42.1	16.8	3.0	29.8	67.2	32.1	24.7	29.4	13.9	40.1	13.2	46.7
Greece	47.4	25.6	67.3	7.1	41.0	40.5	18.5	3.5	27.1	69.5	18.3	27.5	34.7	19.5	79.4	9.6	11.0
Hungary	44.2	26.0	65.3	8.8	28.1	60.7	11.2	6.6	32.6	60.7	23.2	19.9	34.7	22.1	45.0	14.3	40.6
Iceland	55.1	38.5	55.3	6.2	44.0	36.1	19.9	7.9	13.8	78.3	38.0	33.5	17.3	11.2	50.3	22.6	27.1
Ireland	57.4	46.3	48.9	4.7	42.5	30.8	26.7	2.3	18.2	79.5	23.5	43.3	15.1	18.1	41.7	16.7	41.6
Italy	48.2	30.3	63.1	6.6	43.0	43.5	13.6	10.2	26.7	63.2	22.1	25.5	27.1	25.3	70.6	12.6	16.8
Japan	64.2	23.8	50.8	25.4	..	..	..	..	..	..	..	..	..	..	..	..	..
Luxembourg	54.0	54.9	43.3	1.8	32.6	50.0	17.4	1.8	13.7	84.5	33.0	32.5	24.4	10.1	53.8	11.9	34.3
Mexico ^d	19.7	37.0	55.6	7.4	79.7	11.6	8.7	65.2	25.9	8.8	..	..	..	..	56.6	26.7	16.7
Netherlands	53.4	45.2	50.8	4.0	40.0	40.0	20.0	4.4	17.8	77.8	30.3	36.5	17.0	16.2	23.1	11.2	65.7
Norway	58.6	39.3	55.3	5.4	14.3	53.0	32.7	2.1	14.5	83.3	27.3	45.0	16.7	11.0	40.9	18.1	41.0
Poland	38.7	25.4	61.3	13.3	22.5	71.4	6.1	7.9	40.7	51.4	14.3	23.1	36.2	26.4	40.6	14.7	44.7
Portugal	50.8	43.7	52.1	4.2	70.3	17.5	12.3	3.2	35.6	61.2	16.5	31.0	32.4	20.1	90.0	3.6	6.5
Slovak Republic	50.4	25.4	56.6	18.0	10.6	81.0	8.4	14.0	36.2	49.8	19.1	24.9	29.2	26.9	90.3	6.6	3.1
Spain	41.8	35.6	60.4	3.9	57.9	17.9	24.2	6.5	38.7	54.8	13.6	26.1	34.0	26.3	58.4	9.3	32.3
Sweden	58.5	30.9	60.8	8.3	23.8	47.6	28.6	1.8	12.6	85.6	31.4	41.3	17.5	9.7	42.0	18.9	39.2
Switzerland ^e	50.1	62.3	33.3	4.5	54.5	28.9	16.7	1.7	24.8	73.5	37.8	29.8	29.5	2.9	43.7	15.2	41.1
Turkey	11.9	28.0	67.0	5.0	..	..	..	..	..	..	..	..	..	..	..	..	..
United Kingdom	53.8	35.4	53.8	10.8	10.0	51.4	38.6	1.1	17.4	81.5	36.7	37.4	13.5	12.3	33.6	15.3	51.1
United States ^f	49.9	32.5	56.2	11.3	18.4	51.1	30.5	3.2	18.2	78.5	33.2	34.6	19.2	13.0	..	..	..
OECD average^g	49.3	37.6	54.3	8.1	35.2	44.3	20.5	6.4	24.1	69.6	28.2	30.5	25.4	15.9	52.2	14.7	33.1

.. Data not available.

a) Highest level of education or training successfully completed. Low refers to ISCED 0/1/2, medium refers to ISCED 3 and high refers to ISCED 5/6/7.

b) Four broad occupational groupings were defined in terms of the 1-digit occupations of ISCO-88: white-collar occupations correspond to occupations 1-3 (*i.e.* legislators, senior officials and managers; professionals; technicians and associate professionals); pink-collar occupations correspond to occupations 4 and 5 (*i.e.* clerks; and service workers and shop and market sales workers); blue-collar occupations correspond to occupations 6-8 (*i.e.* skilled agricultural and fishery workers; craft and related trades workers; and plant and machine operators and assemblers); and unskilled occupations correspond to occupation 9 (*i.e.* elementary occupations).

c) The data relate to 1997. The size of establishment classification is: less than 20 persons, 20-99 persons and 100 and more persons.

d) The size of establishment classification is: less than 15 persons, 16 to 100 persons, more than 100 persons.

e) The Swiss LFS data only cover persons with a permanent residence permit and hence exclude foreign workers with a seasonal or short duration residence permit.

f) The data relate to 2001.

g) Unweighted average of countries shown.

Source: Secretariat calculations based on data from the sources documented in Table 3.A.1 in Annex 3.A.

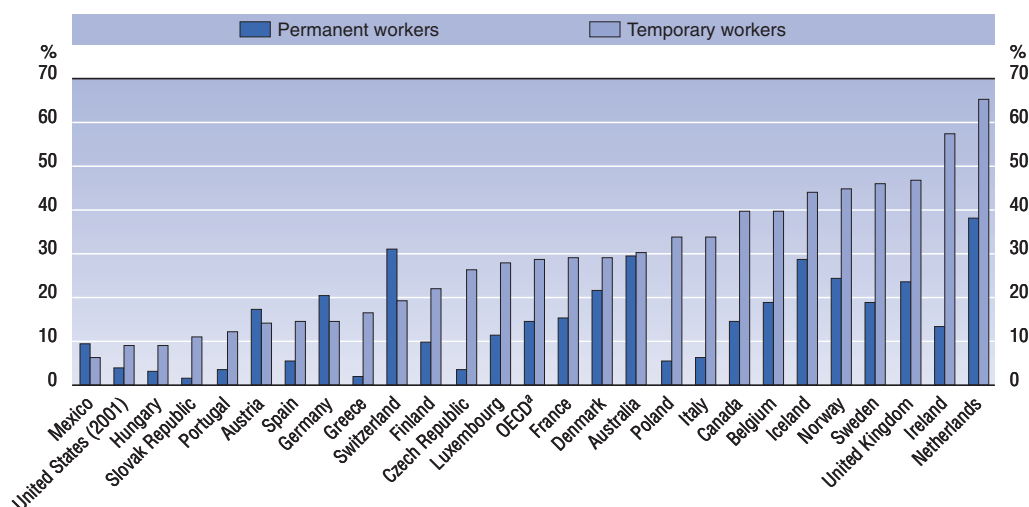
temporary jobs in two European countries (Finland and Spain). More suggestive of long-term traps in precarious work, workers who have not completed upper secondary schooling have a rate of temporary employment that is approximately 60% higher than that of more educated workers. However, there are some exceptions to these general patterns. For example, older workers have a higher incidence of temporary work than younger workers in the Czech and Slovak Republics and Turkey, while temporary work is most common for the most educated members of the workforce in the United Kingdom.

In many OECD countries, women are over-represented among temporary workers, but gender differences are only large in a few countries (Belgium, Finland, Japan and the Netherlands) and men are considerably more likely than women to hold temporary jobs in Turkey. The industrial and occupational profiles of temporary jobs help to explain why men are nearly as likely to hold temporary jobs as women. The highest concentrations of temporary jobs are to be found in agriculture and the unskilled (or “elementary”) occupations. These are predominantly manual jobs that are conventionally held by men. However, less skilled, service jobs (*i.e.* “pink-collar” jobs such as retail sales clerks and secretaries) are more likely to be temporary than are the skilled, white-collar jobs and jobs in industry. Finally, it appears that smaller firms are more likely to hire workers on temporary jobs than are medium- and large-sized firms.

Despite these differences in the incidence of temporary employment, temporary workers are a diverse group and are employed in significant numbers in all major sectors and occupations, and by employers of all sizes (Table 3.4). Averaging over 28 OECD countries, the majority of temporary workers are to be found in the same demographic and institutional categories as the majority of all workers (*i.e.* men, ages 25-54, at least an upper secondary education, semi-skilled or skilled occupations, and service industries). It follows that the majority of temporary workers do not appear to fit the profile of at-risk

Chart 3.2. **Incidence of part-time work for temporary and permanent workers, 2000**

Percentage of workers employed for less than 30 hours per week



a) OECD refers to an unweighted average of the countries shown.

Source: See Table 3.A.1 in Annex 3.A.

workers, likely to be marginalised in the labour market, despite the over-representation of youths and less educated workers in temporary jobs. It also follows that many temporary workers provide a large share of their family's income and are unlikely to voluntarily accept lower earnings and fringe benefits in exchange for the opportunity to work intermittently or try out a series of jobs.

In most OECD countries, temporary workers are more likely to work a part-time schedule than are permanent workers (see Chart 3.2), sometimes very much more likely (*e.g.* in the Czech Republic, Ireland, Italy and Poland). In Ireland and the Netherlands, more than one in two temporary workers are part-time workers. However, these two types of “non-standard” work are far from being synonymous. In several countries, permanent workers are actually more likely to be employed part time than are temporary workers, who tend to be either apprentices (Austria, Germany and Switzerland) or agricultural workers (Mexico). These international differences in the overlap between temporary and part-time jobs emphasise the diversity of temporary jobs and consequent complexity of any assessment of their implications for the welfare of the workers in these jobs. The following section examines these issues in greater depth.

2. Pay, access to fringe benefits and job satisfaction of temporary workers

A. Pay levels of temporary workers

Theoretical considerations suggest that pay in temporary jobs may be either better or worse than in permanent jobs. Wage formation theories based on the hypothesis of compensating differentials – the pay attached to a job must compensate for any less advantageous characteristics – would suggest that temporary workers be paid more than workers in permanent jobs, assuming that most workers would prefer a permanent job. On the other hand, theories of dual labour markets predict that workers in the secondary segment of the labour market – including those on temporary jobs – are paid less (and have less access to fringe benefits) than workers in the primary segment of the labour market. From an efficiency-wage perspective, Guell (2000) argues that in the case of fixed-term contracts, the possibility of renewing the contract matters more than the wage paid in order to provide workers with (“non-shirking”) work incentives. She shows that the higher are the chances of having one's contract renewed, the lower will be the wage paid for temporary work.

Certain policies and labour market institutions found in most OECD countries may have the effect of equalising the wages of temporary and permanent workers who perform equivalent work (see Table 3.5), although direct evidence for such an effect appears to be lacking. Minimum wage legislation, when present, typically covers workers in temporary jobs as well as those in permanent jobs. However, special sub-minimum wages are sometimes established for certain classes of workers likely to be found in temporary jobs (*e.g.* apprentices or youths). Similarly, legislation on equality of opportunity between different groups in the labour market typically applies to temporary workers, at least implicitly. However, collective agreements on pay do not always extend automatically to temporary workers and only a few OECD countries (*e.g.* Belgium, France and Spain) have enacted legislation that explicitly requires temporary workers to be paid the same wages as equivalent permanent workers.

Table 3.5. Wage determination principles applying to temporary employment

	Minimum wage	Collective agreements applying automatically	Equal opportunity	Equal pay to regular
Australia	yes	no	yes	yes
Austria	yes	no	yes	yes
Belgium	yes, for > 1 month employment	yes	yes	yes
Czech Republic	yes	yes	yes	no
Denmark	not applicable	yes	yes	no
Finland	not applicable	yes	yes	no
France	yes	yes	yes	yes
Korea	yes	yes, to union members	not explicitly	no
Japan	yes	yes, to union members	not explicitly	no
Italy	not applicable	yes, usually special provisions	yes	no
Mexico	yes	yes	not explicitly	no
Netherlands	yes	yes	yes	yes
Norway	not applicable	yes	yes	no
Poland	yes	yes	yes	yes
Portugal	yes	no	yes	no
Spain	yes	yes	yes	yes
Sweden	not applicable	yes	yes	yes
Switzerland	not applicable	no	yes	no
Turkey	yes	no	not applicable	no
United Kingdom	yes	no	yes	no
United States	yes	no	yes	no

Source: Secretariat elaboration of data collected directly from OECD Member governments.

The inconclusiveness of theoretical and institutional arguments means that the impact of temporary employment on pay is essentially an empirical question. A number of studies provide estimates of wage differentials between temporary and permanent workers, for one or a few countries. Among these, Booth *et al.* (2000) found evidence for Britain of a significant wage penalty of the order of 16% for men on temporary contracts and 13% for women on temporary contracts. They also concluded that the fact of having held a temporary job, at an earlier stage of their working life, carried a significant wage penalty for men, but not for women. Dekker (2002) finds evidence of significant wage penalties for temporary workers in the Netherlands, Germany and the United Kingdom, on the basis of wage regressions estimated using national longitudinal data. Blanchard and Landier (2001) conclude that individuals on fixed-term contracts earned on average about 20% less than permanent workers in France.⁶ Houseman (1997), using data from a survey of US employers, found that workers on temporary jobs – defined as including fixed-term contracts, on-call work, contracting out and seasonal workers – were paid significantly less than permanent workers.

Table 3.6 compares the gross hourly wage distributions of temporary and permanent workers in 13 EU countries.⁷ It shows that temporary workers are paid less than permanent workers, with the average wage gap varying between a high of 47% in Spain and a low of 17% in Germany. The wages of temporary workers are below those of permanent workers at the 25th, 50th and 75th percentiles of the wage distribution. However, a considerable number of temporary workers have above-average wages. In nine of the thirteen countries analysed, the wage of the 75th percentile of temporary workers is essentially the same or higher than the median wage for permanent workers. Temporary jobs are not synonymous with low-paid jobs, at least in European countries.

The evidence presented in Table 3.6 does not account for differences in individual or job characteristics, such as age or sector of employment, that may lower the wages of tem-

Table 3.6. **Relative wages of temporary workers, 1997**Distribution of hourly gross wages (in ECU) for full-time workers by temporary/permanent status^a

	Work arrangement	25th percentile	Median	75th percentile	Mean	Wage gap ^b
Austria	Permanent	7.4	9.2	12.2	10.2	n.a.
	Temporary	5.8	7.7	9.6	8.3	0.81
Belgium	Permanent	8.6	10.8	14.0	11.9	n.a.
	Temporary	7.1	8.9	11.2	9.4	0.79
Denmark	Permanent	13.4	15.7	18.6	16.7	n.a.
	Temporary	11.3	12.7	15.3	13.0	0.78
Finland	Permanent	8.2	10.0	12.6	11.0	n.a.
	Temporary	6.5	7.8	10.0	8.4	0.77
France	Permanent	6.8	8.9	12.0	10.2	n.a.
	Temporary	5.3	6.4	8.2	7.2	0.71
Germany ^c	Permanent	9.1	11.5	14.9	12.5	n.a.
	Temporary	7.1	8.9	11.7	10.4	0.83
Greece	Permanent	3.7	5.0	6.7	5.6	n.a.
	Temporary	2.5	3.4	4.4	3.8	0.67
Ireland	Permanent	6.8	9.3	13.0	10.7	n.a.
	Temporary	4.9	6.5	8.6	7.1	0.67
Italy	Permanent	6.1	7.4	9.1	8.0	n.a.
	Temporary	4.3	5.6	6.7	5.8	0.72
Portugal	Permanent	2.0	2.7	4.4	3.9	n.a.
	Temporary	1.6	2.1	2.7	2.5	0.65
Spain	Permanent	4.9	6.9	10.6	8.4	n.a.
	Temporary	3.1	4.1	5.2	4.4	0.53
Netherlands	Permanent	10.5	12.9	16.4	14.6	n.a.
	Temporary	7.0	8.7	11.0	9.1	0.63
United Kingdom ^c	Permanent	6.9	9.6	13.4	11.1	n.a.
	Temporary	5.5	7.0	9.5	8.2	0.74

n.a.: Not applicable.

a) The wage data refer to dependent employees working more than 30 hours per week.

b) The wage gap is computed as the ratio of the mean wage of temporary workers to the mean wage of permanent workers.

c) The data refer to national panel surveys included in the ECHP: the Socio-Economic Panel for Germany and the British Household Panel Survey for United Kingdom.

Source: Secretariat calculations based on microdata from the European Community Household Panel, wave 4.

porary workers relative to those of permanent workers, without indicating any causal impact of temporary work contracts on the wage received by a particular worker. Table 3.3 shows that, for example, youths are more likely to be employed in temporary jobs than older workers and that temporary jobs are more likely to occur in agriculture and to be offered by small-size firms. All these characteristics would be expected to lower the wage of an average temporary worker compared with those of an average permanent worker.

Multivariate regression techniques can be used to provide a more accurate estimate of the *independent* impact of holding a temporary job on pay, by standardising for pay differences due to other individual and job characteristics. Table 3.7 presents such estimates, which are based on wage regressions that were estimated separately for men and women.⁸ On the basis of the results shown in Table 3.7 the following conclusions can be drawn:

- Standardising for worker and job characteristics reduces the wage penalty associated with holding a temporary job, but does not eliminate it. There are statistically significant wage penalties for temporary workers in all of the countries considered (except that the estimated penalty is not significant for Belgian women), with the estimated wage penalty being as high as 27% for Dutch men.⁹

Table 3.7. **Multivariate estimates of the wage penalty for temporary work, 1997**OLS coefficients from log-wage regression for full-time workers^a

	Men		Women	
	Number of observations	Coefficient	Number of observations	Coefficient
Austria	(1 587)	-0.06*	(854)	-0.12**
Belgium	(1 155)	-0.12**	(7 2)	-0.02
Denmark ^b	(1 427)	-0.06**	(1 097)	-0.05**
Finland	(1 550)	-0.16**	(1 525)	-0.12**
France	(959)	-0.14**	(861)	-0.20**
Germany ^c	(2 994)	-0.10**	(1 724)	-0.18**
Greece	(1 3 1)	-0.12**	(743)	-0.20**
Ireland	(1 334)	-0.12**	(748)	-0.20**
Italy	(2 501)	-0.13**	(1 372)	-0.15**
Netherlands	(2 270)	-0.24**	(862)	-0.22**
Portugal	(2 322)	-0.07**	(1 558)	-0.14**
Spain	(2 582)	-0.16**	(1 212)	-0.19**
United Kingdom	(2 088)	-0.13**	(1 481)	-0.13**
ECHP countries ^d	(19 739)	-0.15**	(11 918)	-0.16**

ECHP: European Community Household Panel.

* and ** denote statistical significance at the 10% and 5% levels, respectively.

a) OLS coefficients for a dummy variable for temporary employment. The dependent variable is the logarithm of the gross hourly wage and the regression is estimated for full-time workers (> 30 hours per week). In addition to the dummy for temporary work, controls are included for age, education, firm-size, public or private sector, one-digit occupation, job tenure.

b) Data refer to 1996. Therefore, Denmark is not included in the pooled ECHP-countries model.

c) There is no information on firm-size for Germany which is, therefore, excluded from the pooled ECHP-countries regression.

d) Pooled regression for all countries shown above, except Denmark and Germany.

Source: Secretariat estimates using data from the European Community Household Panel, waves 3 and 4.

- When the estimated wage penalties for temporary work differ by gender, they tend to be larger for women than for men. However, the wage penalty for men is substantially larger than that for women in Belgium and somewhat larger in Finland and the Netherlands.
- Re-estimating the model including part-time workers (results not shown) does not affect the findings of significant wage penalties nor does it impact much on their estimated size.

These findings suggest that temporary jobs pay less than permanent ones, even after controlling for a range of individual and industrial characteristics. However, the regressions do not control for all potentially important characteristics, nor for the potential endogeneity of temporary work. Furthermore, it should be borne in mind that national differences in the estimated wage penalties may reflect, not only different economic and institutional contexts, but also differences in data quality. Accordingly, these regressions may still provide biased estimate of the wage penalty to temporary jobs.

B. Fringe benefits of temporary workers

Another important dimension of temporary jobs is the access they may grant to a number of key, fringe benefits such as paid vacations, paid sick leave, unemployment insurance, maternity leave and a retirement pension. In analysing this issue, it is important to distinguish between countries where most benefits are provided on a universal basis by legislation, as is the case for many European countries, and countries where many benefits are provided by employers on a voluntary basis, as in the United States.

National regulations in the area of workers' (or citizens') access to benefits tend to be complex and it is often difficult to judge whether temporary workers fall in or out of the net.¹⁰ In some cases, workers on particular employment relationships, such as agency and on-call work, or traineeships, internships and probationary contracts – which are sometimes included among temporary jobs (see Annex 3.A) – are excluded from statutory fringe benefits. Even when temporary workers are subject to the same rules as permanent workers, their *de facto* entitlement to benefits may be more limited. In particular, temporary workers may fail to gain access to some or all benefits when entitlement conditions are formulated in terms of earnings thresholds and minimum duration of employment or minimum contribution periods. The risk of failing to access key fringe benefits is probably greater for temporary workers when fringe benefits are provided by employers on a voluntary basis, rather than under statutory requirements.

Some evidence on legal conditions for entitlement to fringe benefits that may affect temporary workers' access to such benefits is presented in Table 3.8.¹¹ The following facts emerge:

- Paid holidays are a statutory right for workers in all OECD countries except for Turkey and the United States, but entitlement is usually conditional on having been employed for some minimum period of time with the same employer (which varies between 13 days in Finland and one year in Mexico) and sometimes also on a working hours threshold (Finland, Korea and Japan). In many countries, paid vacations for workers on short-term contract may actually be granted in the form of extra pay rather than as actual days off work.
- Paid sick leave is a statutory right in the majority of OECD countries (but not in Australia, the Czech Republic, Korea, Japan, Switzerland and the United States),¹² but in most countries entitlement is conditional on some minimum contribution period (varying between 3 days in Denmark and 6 months in Portugal) or on having earnings above a minimum threshold (the United Kingdom). In Austria, most temporary workers are entitled to paid sick leave, but this is not the case for on-call workers (who are, however, entitled to postpone work when sick).
- Entitlement to unemployment insurance is a statutory right in most OECD countries, except for Australia and Mexico, but the ability to draw benefits is usually subject to rather long contribution periods (varying between 4 months in France and one year in most other countries) and sometimes also to a minimum earnings threshold (Austria, Norway, Poland, the United Kingdom and the United States) or an hours threshold (Finland and Korea).
- Entitlement to paid maternity leave is a statutory right in most OECD countries (except for Australia, the Czech Republic, Japan, Switzerland and the United States) which is, however, subject to a minimum contribution period in most OECD countries, varying between 3 days in Denmark and 30 weeks in Mexico.
- Participation in a public pension scheme is statutory right in all OECD countries. However, participation in the scheme is sometimes conditional on a minimum employment period (Finland, Korea, Mexico, Poland, Portugal) or earnings threshold (Finland, Switzerland and the United Kingdom) or hours threshold (Korea). However, in the case of private (or of a mix of private and public) pension plans, transferability of rights upon changing jobs may be a problem.

Table 3.8. General conditions for entitlement to fringe benefits

	Paid holidays		Sick leave		Unemployment insurance ^a			Pension		Paid maternity/parental leave ^b		
	Statutory right	Employment duration	Statutory right	Contribution period	Statutory right	Contribution period	Other conditions	Statutory right	Employment duration	Statutory right	Contribution period	Beyond contract
Australia	yes	often 12 months	no		yes, income support	all		yes		no		
Austria	yes	6 months	yes (not for on-call workers)	earnings threshold for those with < 1/5 full-time hours	yes	52 weeks in past 24 months	earnings threshold for those with < 1/5 full-time hours	yes	earnings threshold for those with < 1/5 full-time hours	yes	earnings threshold for those with < 1/5 full-time hours	yes
Belgium	yes	all	yes	3 months	yes	312 days in past 6 months for < 36 years old and more days for older age groups		yes	all	yes	all	yes (at benefit level)
Czech Republic	yes	various conditions	no	not applicable	yes	12 months in past 3 years		yes	not applicable	no	not applicable	yes
Denmark	yes	all	yes	> 72 hours in past 8 weeks	voluntary participation	52 weeks in past 3 years; 34 weeks for part-timers		yes	all	yes	> 72 hours in past 8 weeks	yes
Finland	yes	>14 days or > 35 hrs per month	yes	all	yes	43 weeks in past 24 months and >18 hours per week		yes	a month and minimum earnings	yes	all	yes (by the state)
France	yes	1 month	yes	800 hours in past 12 months	yes	4 months in past 18 months		yes	all	yes	200 hours per quarter in past 6 months or 800 hours in past year	yes
Germany	yes	all pro rata	yes	all	yes	12 months in last 3 years or 6 months if a "seasonal worker"		as for all employees	none, accumulates per month worked	yes	all	yes

Table 3.8. **General conditions for entitlement to fringe benefits** (*cont.*)

	Paid holidays		Sick leave		Unemployment insurance ^a			Pension		Paid maternity/parental leave ^b		
	Statutory right	Employment duration	Statutory right	Contribution period	Statutory right	Contribution period	Other conditions	Statutory right	Employment duration	Statutory right	Contribution period	Beyond contract
Korea	yes (under certain conditions)	30 days and > 15 hours week	no	collective agreements	yes	6 months in past 18 months	> 80 hours monthly (not available for daily workers)	yes	1 year and > 15 hours week	yes	all	no
Japan	yes	6 months and > 80% full-time	no	not applicable	yes, if works > 20 hours day	11 days per month in past 12 months or 14 days per month in past 6 months. 26 days in past 2 months for daily worker		yes	all	no		no
Italy	yes	all	yes		yes	52 weeks in past 2 years						
Mexico	yes	> one year	yes	minimum contributions	no	not applicable	not applicable	yes	lifetime jobs or voluntary contributions	yes, under sick leave	30 weeks in past 12 months	
Netherlands	yes	all	yes	all	yes	in the last 39 weeks one has to have worked for 26 weeks		yes (different system)		yes		
Norway	yes	all	no	collective agreements	yes		income past year > 125% of basis; or mean income past 3 years > 100% of basis	yes	all	yes	all	yes
Poland	yes	all	yes	30 days	yes, if earnings > minimum wage	365 days in past 18 months	earnings > minimum wage	yes	it varies	yes	6 months	no
Portugal	yes	30 days	yes	6 months	yes	18 months in past year		yes	120 days per year	yes	6 months	yes
Spain	yes		yes		yes	360 days in past 6 years		yes		yes		

Table 3.8. General conditions for entitlement to fringe benefits (*cont.*)

	Paid holidays		Sick leave		Unemployment insurance ^a			Pension		Paid maternity/parental leave ^b		
	Statutory right	Employment duration	Statutory right	Contribution period	Statutory right	Contribution period	Other conditions	Statutory right	Employment duration	Statutory right	Contribution period	Beyond contract
Sweden	yes	all	yes	all	yes	6 months in the past 12 months		yes	all	yes	all	yes
Switzerland	yes	pro-rata	no	3 months	yes	6 months in the past 2 years; 12 months for a repeat claim		yes	earnings > threshold	no	not applicable	
Turkey	no		yes		yes	120 days in past 3 years		yes		yes		
United Kingdom	yes (not for all sectors)	13 weeks ^c	yes	3 months and earnings > threshold	yes	some employment in the previous 2 years	contributions paid > some multiple of threshold	yes (for public pensions)	earnings > threshold	yes	26 weeks and earnings > threshold	yes
United States	no	varies	no	often 1 to 6 months	yes if did not quit voluntarily	state set minimum earnings	no	yes (for public pensions)	often one year (private plans)	no	12 months and 1 250 hours in past year	no

a) Unemployment insurance is meant here as contribution-based unemployment insurance and does not include means-tested social assistance benefits which are available to the unemployed in many OECD countries.

b) Parental leave includes here mainly leave taken in conjunction with child birth, *i.e.* maternity leave. However, for some countries the same rules apply to additional child-care leave.

c) It is currently under consideration to remove the 13 weeks limit and give holiday entitlement to all workers.

Source: Secretariat elaboration of data collected directly from OECD Member governments.

- With regard to meeting minimum contribution periods for claiming fringe benefits, separate spells of employment can be cumulated in most OECD countries, albeit over a relatively limited time period. For example, the rules for drawing unemployment benefits often require that individuals have paid 12 months or 365 days of contributions in the previous two or three years. This implies that temporary workers alternating short spells of employment and unemployment may still be able to draw benefits which are not tied to a specific job (see also Chapter 4).
- There may also be grounds for concern that temporary workers may not be able to claim certain benefits, like paid sick leave or maternity leave (when granted) beyond the expiry date of the contract (Korea, Japan, Poland and the United States, but possibly more countries).

On the basis of the legal rules for entitlement to benefits, it is difficult to predict what fraction of temporary workers are able to qualify for statutory fringe benefits. Temporary workers with little or highly fragmented employment experience may fail to qualify for benefits. Unfortunately, the frequency with which this occurs is unclear, since it depends on the detailed dynamics of temporary work and how they interact with the calculation of entitlement thresholds.

Administrative complexity or confusion may also limit the *de facto* entitlement of temporary workers to benefits to which they are *de jure* entitled. For example, if the social security files are not computerised it may be difficult for temporary workers with a fragmented contribution record – due to having worked for a series of firms – to demonstrate that they meet eligibility criteria. Similarly, there is anecdotal evidence that agency workers may fail to accumulate benefit entitlements, as envisioned by law, because it sometimes is not clear whether the temporary work agency or the firm in which the work is performed is responsible for paying contributions into the social security funds (Storrie, 2002). Again, the severity of these problems is not clear, because little evidence is available on the actual entitlement rates of temporary workers to fringe benefits that are state-provided or mandated by national legislation.

There is evidence that temporary workers receive fewer fringe benefits than permanent workers in countries where many fringe benefits are provided by employers on a voluntary basis (e.g. Australia, Canada and the United States). For example, Houseman (1997 and 2001) and Di Natale (2001) report that temporary workers in the United States are less likely than permanent workers to benefit from an employer-provided health plan, paid sick leave and a pension plan. Lipsett and Reesor (1997*a* and 1997*b*) reach a similar conclusion for Canada.

There are special grounds for concern that temporary workers may have more difficulty building up rights to a private pension than permanent workers. For example, there is evidence for the United States and Canada that temporary employees are less likely to join employer-provided pension plans than permanent employees (Houseman, 1997 and 2001, and Di Natale, 2001, for the United States; Lipsett and Reesor, 1997*b* for Canada). In the United Kingdom, there are sometimes waiting periods before newly hired employees can join an employer-provided pension plan and minimum contribution periods (vesting times), which can be as long as two years. In Austria, employer-provided pension schemes sometimes require a minimum employment duration as a pre-condition (a minimum age of the employee is also sometimes a pre-requisite).

Of particular concern for temporary workers, is the transferability of pension rights acquired under one employer. The risk is that the pension contributions paid may be entirely

or partly lost when workers leave a job.¹³ In some OECD countries special steps have been taken to prevent workers from losing pension contributions paid into an employer-pension fund upon leaving the employer, for example through requirement that all pension contributions paid are reimbursed to the worker.¹⁴ In the United Kingdom new personal pension schemes were recently launched, like the new “Stakeholder” pension plan, which allows workers to pay quite low charges and is very flexible (see Casey, 2001, for more details). In the United States, tax incentives are provided to employers to establish retirement plans for “non-highly-paid” employees, which include many temporary employees.

To sum up, temporary work *per se* does not appear to prevent workers from gaining entitlement to statutory benefits in most cases. However, workers on very short contracts or with certain employment relationships (*e.g.* daily workers, traineeships, agency or on-call work) may not be entitled to statutory benefits. Temporary workers with employment contracts of over a year are likely to enjoy the same benefits as permanent employees with the same employer. The same may be true for other temporary workers, provided they build up some minimum contribution record, possibly across a series of short jobs and short spells out of work.

If a significant share of temporary workers fail to get access to fringe benefits such as paid sick leave, maternity leave, unemployment insurance or a pension scheme, this may be a source of insecurity and cause considerable stress, with possible negative (and long-lasting) consequences for the well-being of individuals and their families. Data on actual take up rates of benefits by employment status are needed to be able to assess whether this is an important problem. A full analysis of this issue would also have to consider the potential efficiency and equity gains from imposing minimum thresholds for benefit eligibility. For example, incentives to find and stay in employment could be dulled if even a very short period of employment qualified (or re-qualified) a worker for extensive unemployment benefits (see Chapter 4).

C. Job satisfaction and working conditions

The proceeding analysis suggests that differences in wages and fringe benefits will tend to make temporary jobs less attractive than permanent employment. The potential insecurity associated with a temporary jobs would probably have a similar effect. However, other considerations may dispose certain individuals to prefer a temporary job to a permanent job. This could be the case for individuals desiring to gain some initial work experience or to combine work with other activities, such as studying or caring for family members.

This section compares the job satisfaction levels of temporary and permanent workers. Job satisfaction indexes are somewhat difficult to interpret, being based on individuals’ subjective evaluations of their situation. Accordingly, objective indicators of working conditions in temporary jobs are also examined so as to paint a fuller picture of how favourably temporary jobs compare with permanent jobs.

Temporary workers tend to be less satisfied with their jobs than permanent workers, according to survey evidence on job satisfaction levels in 14 European countries¹⁵ (Table 3.9). The overall job satisfaction level of temporary workers varies between 77% that of permanent workers in Greece and parity in Belgium and Finland. Similar conclusions are reached on the basis of an alternative data source for European countries (see Table 3.B.1 in Annex 3.B).

Table 3.9. **Relative job satisfaction of temporary workers, 1997**

Ratio of average satisfaction levels of temporary to permanent workers
(a value above 100 corresponds to greater job satisfaction for temporary workers)

	Overall satisfaction ^a	Satisfaction with pay ^b	Satisfaction with job security ^c	Satisfaction with working conditions ^d
Austria	96.3	94.9	84.5	99.2
Belgium	100.6	96.0	74.6	105.1
Denmark	98.5	92.0	72.6	96.3
Finland	101.1	92.4	66.3	101.9
France	95.5	92.8	61.3	102.3
Germany ^e	95.1	97.3	82.7	99.0
Greece	76.7	78.9	57.1	80.7
Ireland	94.4	90.6	64.9	101.4
Italy	84.2	84.9	62.1	93.8
Luxembourg ^e	94.8	96.3	77.9	105.1
Portugal	91.3	92.6	71.5	98.6
Spain	90.6	89.9	63.6	96.2
Netherlands	98.9	94.7	73.5	107.1
United Kingdom	95.9	89.2	74.3	..
ECHP average^f	93.9	91.6	70.5	99.0

.. Data not available.

a) Data refer to the variable PK001: satisfaction with work or main activity.

b) Data refer to the variable PE031: "How satisfied are you with your present job in terms of earnings?"

c) Data refer to the variable PE032: "How satisfied are you with your present job in terms of job security?"

d) Data refer to the variable PE036: "How satisfied are you with your present job in terms of working conditions?"

e) Data refer to 1996.

f) Unweighted average of countries shown.

Source: Secretariat calculations using data from the European Community Household Panel, wave 4.

Which characteristics of temporary jobs account for the generally lower levels of satisfaction? Comparisons of the relative satisfaction levels of temporary workers with respect to pay, job security and working conditions indicate the following:

- Not surprisingly, temporary workers are much less satisfied with job security than are permanent workers. The relative satisfaction level of temporary workers, with the security offered by their current job, varies between a low of 57% in Greece and a high of 85% in Austria. The flexibility potentially offered by temporary jobs may be attractive to a portion of workers in temporary jobs, but a considerable number of temporary workers probably would prefer a more secure job.
- Consistent with the analysis of wages in this chapter, temporary workers are also less satisfied with their pay than are permanent workers in all of the countries considered. However, dissatisfaction with pay is not as strong as dissatisfaction with job security. Once again, temporary workers in Greece have the lowest satisfaction relative to permanent workers.
- With few exceptions, satisfaction with working conditions does not appear to be much different for temporary than for permanent workers.

Objective indicators of working conditions also suggest that temporary jobs are typically less desirable than permanent jobs (Table 3.10 and Box 3.2). The incidence of monotonous tasks and inflexible work schedules is significantly higher among temporary workers, who are also somewhat more likely to work night and weekend shifts (see also Table 3.B.2). The finding with respect to inflexible work hours is particularly noteworthy, since it highlights the possibility that the scheduling flexibility associated with temporary jobs may more frequently be used to satisfy employers' production needs than workers' time-use preferences.

Table 3.10. **Working conditions^a of temporary and permanent workers, 2000**

Percentage of workers reporting undesirable working conditions

	Unpleasant working conditions		Monotonous tasks		Working antisocial hours		Limited working-time flexibility		Limited work autonomy	
	Permanent workers	Temporary workers	Permanent workers	Temporary workers	Permanent workers	Temporary workers	Permanent workers	Temporary workers	Permanent workers	Temporary workers
Austria	31.8	44.4	25.9	39.6	18.6	21.6	59.3	67.2	51.3	67.1
Belgium	36.8	47.3	30.4	40.0	19.9	16.8	60.8	70.5	52.4	53.7
Denmark	32.6	28.5	36.7	35.6	16.6	14.9	48.9	57.0	33.7	37.4
Finland	37.5	35.4	48.3	40.9	26.6	20.4	69.3	73.5	48.3	49.7
France	41.1	50.5	41.4	44.0	17.1	20.4	61.1	73.6	50.0	68.8
Germany	33.7	22.1	25.7	32.0	17.5	20.4	74.4	72.0	53.5	57.1
Greece	45.5	48.3	54.0	54.0	24.1	21.2	81.5	87.9	72.1	85.6
Ireland	41.9	40.7	52.5	43.1	20.3	16.0	61.1	68.0	54.4	68.0
Italy	40.5	50.2	46.3	54.7	15.1	21.8	54.0	69.1	60.8	64.8
Luxembourg	34.8	33.7	29.2	37.0	15.9	10.9	55.0	78.4	54.4	49.4
Netherlands	31.6	28.1	26.4	29.3	19.7	18.6	58.6	74.0	31.4	51.0
Portugal	39.7	36.4	41.4	47.3	14.7	17.3	70.2	77.2	59.3	56.7
Spain	49.4	54.7	59.5	60.4	21.0	18.8	71.5	81.6	57.9	68.2
Sweden	36.7	39.7	25.0	36.3	17.5	18.0	60.2	79.5	42.7	52.9
United Kingdom	40.8	45.1	57.4	57.2	23.1	30.9	54.0	68.9	45.8	54.3
European Union	37.9	40.5	39.3	45.7	18.8	20.9	62.7	74.1	50.7	60.8

a) See Box 3.2 for details of the definitions of the different working conditions indexes. A higher value indicates less favourable working conditions.

Source: Secretariat estimates based on microdata from the Third European Survey on Working Conditions (2000), collected by the European Foundation in Dublin.

Box 3.2. Measuring working conditions

The *European Survey on Working Conditions* is designed to monitor working conditions as perceived by workers. The third wave of this survey was conducted by the European Foundation, in close collaboration with EUROSTAT and national statistical offices, in March 2000. Fairly small, but representative, samples of the employed population aged 15 and over were surveyed in each of the fifteen countries of the European Union (approximately 1 500 persons in each country, except only 500 in Luxembourg).

A wide range of information on working conditions is available from the survey. For the purposes of this chapter, five aspects of *poor* working conditions have been selected for comparing temporary and permanent jobs. The definition of each type of working condition is given below along with the survey question(s) upon which it is based (in parenthesis):

Unpleasant working conditions. For between one-half to all of the time, exposed in main job to at least one of the following: vibrations from hand tools or machinery; loud noise; high or low temperatures; breathing in vapours, fumes, dust or dangerous substances; handling dangerous products; or radiation such as X rays, radioactive radiation, welding light or laser beams (Question 11a-g).

Monotonous work. Main job involves monotonous tasks (Questions 23f and 24d).

Working antisocial hours. Usually work at least once a month either at night or on Sundays or work shifts or irregular hours (Questions 16b,c and 18b).

Limited working-time flexibility. Cannot take a break when wanted and not free to decide when to take holidays or days off (Question 26b,c).

Limited work autonomy. Not able to choose or change either the order of tasks, work methods or work speed (Question 25a-c).

3. Career dynamics of temporary workers

A. Duration of temporary jobs and contracts

The duration of temporary jobs may affect the welfare of workers in several ways. First, shorter jobs will imply greater insecurity whenever searching for a new job involves some risk (e.g. the risk of a period of non-employment or of becoming re-employed at a lower wage). Second, employment conditions may differ quite considerably for temporary jobs of different durations. For example, fringe benefits sometimes may not be available to workers engaged in work lasting less than a certain minimum employment period (see Section 2.B). Finally, longer contracts may more often be transformed into permanent employment relationships or be more valued by future potential employers.

The majority of temporary workers (58% on average for the 23 OECD countries considered in Table 3.11) have been in their current job for less than one year, compared with only 13% of permanent workers.¹⁶ Workers in temporary jobs are most likely to have less than one year of tenure in Finland, the Netherlands and Poland, where approximately three out of four temporary workers have been with their current employer for less than 12 months. The opposite pattern holds for ongoing job tenures of over 5 years, which are

Table 3.11. **Job tenure of temporary and permanent workers, 2000**

Percentage distribution of on-going job tenures for each type of work arrangement

	Temporary workers					Permanent workers				
	Less than 1 year	1 to 2 years	2 to 3 years	3 to 5 years	More than 5 years	Less than 1 year	1 to 2 years	2 to 3 years	3 to 5 years	More than 5 years
Austria (1996)	35.3	22.2	16.5	10.4	15.6	9.4	8.3	7.0	13.7	61.6
Belgium	56.5	19.1	3.6	9.1	11.7	10.7	8.9	3.4	10.6	66.4
Canada (1997)	60.9	..	(27.4) ^a	..	11.7	19.1	..	(31.9) ^a	..	49.1
Czech Republic	..	..	..	..	..	9.6	8.1	4.8	16.1	61.3
Denmark	64.3	19.6	3.3	7.4	5.5	20.0	13.2	4.2	14.0	48.5
Finland	75.0	11.8	2.8	6.0	4.3	12.5	8.6	3.7	11.7	63.5
France	61.4	18.5	1.8	8.8	9.4	9.2	8.4	1.7	11.0	69.7
Germany	50.2	25.2	3.1	14.4	7.1	10.5	8.6	3.3	10.9	66.7
Greece	45.8	15.0	7.7	12.2	19.3	8.0	6.6	4.4	13.5	67.4
Hungary	55.4	16.2	3.6	10.6	14.1	9.5	10.5	3.8	16.2	59.8
Iceland	62.0	12.7	0.8	10.5	14.0	25.6	14.1	2.8	14.5	43.1
Ireland	66.8	14.9	2.4	8.6	7.3	19.1	12.7	3.3	14.6	50.2
Italy	51.7	16.2	3.0	9.6	19.5	8.3	7.6	2.4	11.0	70.7
Luxembourg	63.5	16.7	3.2	10.6	6.1	10.7	8.7	3.7	11.2	65.7
Mexico (1999)	40.2	(18.3) ^b	..	9.1	32.4	26.5	(23.2) ^b	..	12.1	38.2
Netherlands	72.5	13.1	3.0	6.3	5.1	14.0	10.5	4.1	13.3	58.1
Norway	60.7	12.4	11.5	9.0	6.2	12.8	6.8	11.1	14.2	55.2
Poland	73.4	9.9	1.9	5.4	9.5	13.2	9.5	3.7	13.5	60.1
Portugal	51.6	20.9	6.1	9.3	12.1	8.0	7.4	3.9	12.1	68.5
Spain	62.9	18.6	4.4	7.8	6.3	5.6	7.5	3.5	11.7	71.8
Sweden	56.3	17.3	3.0	10.5	12.9	9.9	8.8	2.0	9.9	69.4
Switzerland	43.9	22.6	1.4	22.0	10.2	14.9	10.8	3.3	12.6	58.4
United Kingdom	57.0	15.2	2.8	10.7	14.3	17.5	12.5	3.2	15.0	51.8
OECD average^c	57.6	16.9	4.3	9.9	11.6	13.2	9.4	4.0	12.9	59.8

.. Data not available.

a) 1 to 5 years of job tenure.

b) 1 to 3 years of job tenure.

c) Unweighted average of countries shown.

Source: Secretariat calculations using data from sources documented in Table 3.A.1 in Annex 3.A.

approximately five-times more common for permanent workers. However, these comparisons exaggerate, to some degree, the precariousness of employment for temporary workers, by failing to take account of the fact that employers sometimes convert temporary workers into permanent workers (see Box 3.3 in Section 3.C).

Although it is scarcely surprising that tenures are far lower for temporary than for permanent jobs, this is not a tautology since temporary contracts frequently can be renewed and there is turnover among workers in permanent jobs. Direct evidence on renewals is lacking, but these job tenure data indicate that renewals do not prevent temporary jobs from being much shorter than permanent jobs.¹⁷ Nonetheless, a considerable share of temporary workers at any given time appear to be in jobs that will last a year or more in all of these countries and, in a few OECD countries, a considerable share of temporary workers have job tenure rates longer than five years (approximately one out of three temporary workers in Mexico, and one out of five temporary workers in Greece and Italy). Seasonal workers (*e.g.* in agriculture) with strong attachments to a particular employer may account for many of these cases, which accordingly would not reflect continuity in year-round employment.

Survey data on the total duration of temporary contracts are available for the subset of temporary workers who are employed on fixed-term contracts in the European

Table 3.12. **Multivariate estimates of the determinants of being offered a longer-duration temporary contract, 1997**

MLE coefficients from an ordered probit model of contract duration^a

	ECHP countries ^b	Austria	Belgium	Denmark	Finland	France
Woman	-0.04	0.31	-0.19	-0.13	0.02	-0.25**
Low education	-0.32**	-0.06	-0.05	0.00	-0.61**	-0.07
Medium education	-0.18**	-0.17	0.07	0.05	-0.30**	-0.15
Age 15-24	-0.17**	-0.57**	-0.48*	-0.54*	-0.25	-0.15
Age 25-34	-0.03	-0.40*	-0.31	0.15	-0.29**	-0.17
Prior unemployment ^c	-0.14**	-0.25	-0.14	-0.29	-0.27**	-0.37**
Small firm	0.11**	0.07	0.16	0.68**	0.24	0.43**
Public sector	0.40**	1.21**	0.62*	0.59**	0.26*	0.81**
Country dummy variables	yes	no	no	no	no	no
Observations	3 720	140	193	126	438	413
Log-likelihood^d	-3 842.8**	-122.8**	-192.8**	-127.3**	-454.6**	-427.3**
	Greece	Ireland	Italy	Netherlands	Portugal	Spain
Woman	-0.27	-0.46	0.02	-0.24	0.06	-0.02
Low education	-0.46**	-1.23**	-0.01	0.51	-0.61**	-0.39**
Medium education	0.04	-0.71**	0.14	0.12	-0.55**	-0.16
Age 15-24	0.18	-0.14	0.36**	-0.80**	0.03	-0.30**
Age 25-34	-0.08	0.27	0.28**	-0.33	0.13	-0.03
Prior unemployment ^c	-0.10	0.64**	-0.13	-0.05	-0.07	-0.14*
Small firm	-0.19	0.07	-0.05	0.18	-0.20	0.08
Public sector	-0.07	0.22	0.03	0.38	0.46**	0.41**
Country dummy variables	no	no	no	no	no	no
Observations	183	162	4 204	135	425	1 073
Log-likelihood^d	-168.3**	-145.8**	-883.0**	-140.6**	-347.4**	-1 103.1**

* and ** denote statistical significance at the 10% and 5% levels, respectively.

ECHP: European Community Household Panel.

a) Ordered probit model with a trichotomous dependent variable indicating contract length (*i.e.* less than 6 months, 6 to less than one year and more than one year). This variable is based on variable ECHP PE025 and only applies to workers employed on fixed-term contracts, for whom the model is estimated by maximum likelihood techniques.

b) Pooled model for countries shown.

c) Dummy variable which takes the value one if the person was ever unemployed in the previous 5 years.

d) Indicators of statistical significance refer to the Chi-square test for the joint significance of all the regressors.

Source: Secretariat estimates based on data from the European Community Household Panel, wave 4.

countries that participated in the European Community Household Panel (ECHP) in 1997.¹⁸ On average over these eleven countries, one-quarter of these contracts were for durations of 6 months or less, and two-thirds lasted no more than a year (data not shown). However, considerable international differences are present and the share of contracts lasting no more than a year ranged from 45% in Ireland to 81% in Portugal.

In order to isolate the impacts of individual and job characteristics on the probability of being offered a temporary contract of increasing duration, an ordered-probit model was estimated using the ECHP data for workers on fixed-term contracts (Table 3.12). In general, younger and less educated workers, as well as workers having experienced unemployment during the preceding five years, are more likely to be offered shorter contracts than are other workers. However, there are several exceptions to these tendencies, with contract durations tending to be longer for workers under age 25 in Italy and formerly unemployed individuals in Ireland. The public sector offers fixed-term contracts of longer duration than the private sector in all of the EU countries considered except Greece, where there is no significant difference. Small employers use longer-duration contracts than medium-to-large size employers in Denmark and France, but firm size appears not to have a significant effect elsewhere. Country-by-country patterns may reflect economic and institutional regulations on duration of contracts or special hiring policies, for example, in the public sector, as well as differences in the quality of data and small sample sizes.

B. Human capital accumulation and training

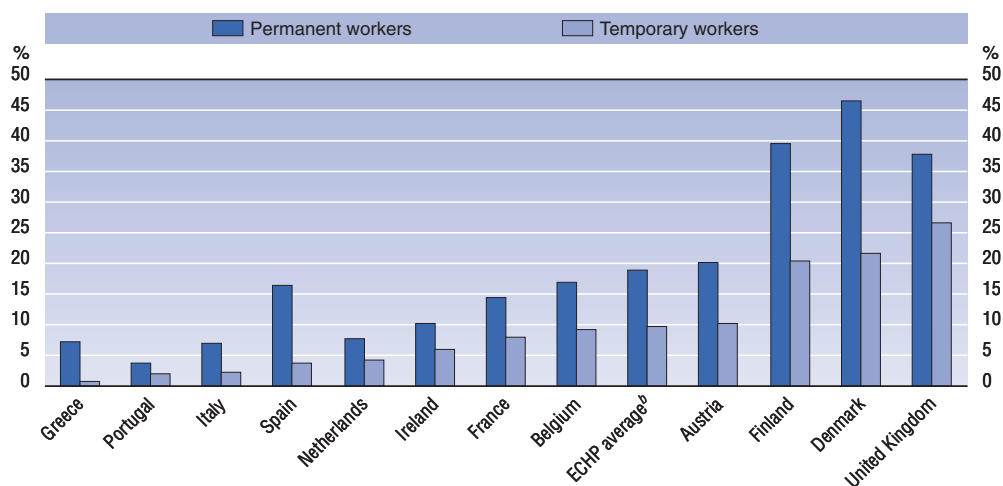
The career prospects of temporary workers could be compromised, if they receive less training from their employers than permanent workers. A theoretical argument can be made that employers would provide less training to temporary workers. Training is costly to provide and firms training workers who will soon leave the firm cannot expect to capture most of the benefits from that training. However, countervailing theoretical arguments can be advanced that employers would find it profitable to train temporary workers in certain circumstances: *i)* newly hired workers – including temporary workers – may require orientation training to perform well in their jobs; *ii)* the lower wages received by temporary workers (see Section 2.A) might reflect – in part – implicit employee financing of general training provided by the employer; *iii)* some temporary jobs have an explicit training component or serve as a probationary period for permanent jobs; and *iv)* it can be profitable for temporary work agencies to provide general training to workers they place with other employers, since doing so provides information about the workers' abilities that are valued by their customers.¹⁹ These considerations indicate that temporary workers' access to training is an empirical issue and the rest of this section presents new empirical evidence on this topic.

Temporary workers receive considerably less formal employer-provided training than permanent workers in 12 European countries (Chart 3.3). A similar picture emerges from the training data collected as part of the International Adult Literacy Survey (IALS), which extends the evidence to several non-European countries (Chart 3.4). The IALS data include separate measures of formal and informal training, which suggest that the training gap for temporary workers tends to be larger for formal training courses than for informal on-the-job training (which may pick-up the initial orientation often provided to newly hired workers by their co-workers).

Simple comparisons of training rates for temporary and permanent workers may confound the true causal effect of holding a temporary job on training access with the effects

Chart 3.3. **Access to employer-sponsored training for temporary and permanent workers, 1997**

Percentage of workers participating in a vocational education course paid for or organised by their employer^a



ECHP: European Community Household Panel.

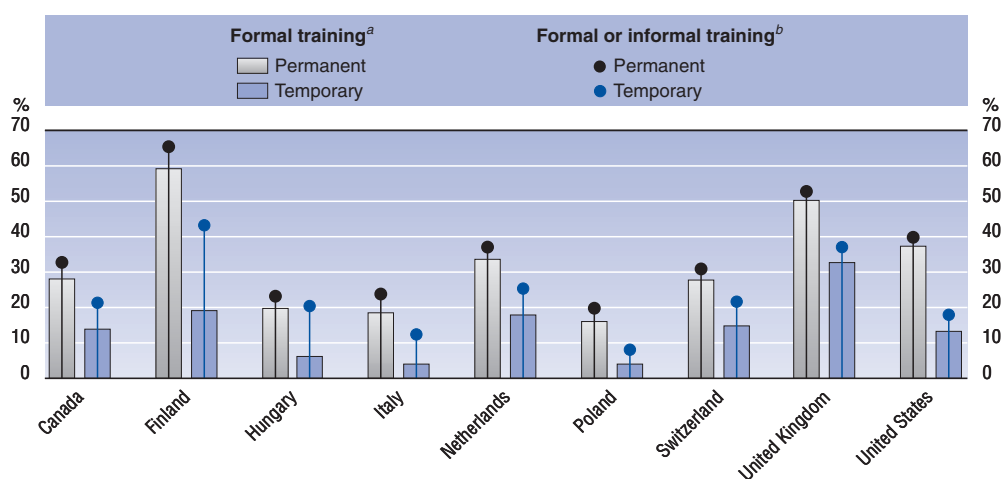
a) Variable PT017 ("Was the vocational course paid for or organised by the employer?") for workers receiving training in the past year.

b) ECHP average refers to an unweighted average of the countries shown.

Source: Secretariat estimates based on data drawn from the ECHP, wave 4.

Chart 3.4. **Access to formal and informal training for temporary and permanent workers**

Percentage of workers receiving the indicated types of training



a) Formal training during the past 12 months which was financially supported or directly provided by the employer.

b) Either formal or informal (i.e. on-the-job) training which was financially supported or directly provided by the employer during the past 12 months.

Source: Secretariat estimates based on data drawn from the International Adult Literacy Survey, 1994-97.

of differences in the characteristics of temporary and permanent workers or of their employers. Probit models of training participation that control for individual and job characteristics indicate that temporary workers are significantly less likely than permanent workers – when all other characteristics are set equal to their sample means – to receive formal training from their employers (Table 3.13). For the model pooling data for 12 European countries, the estimated effect of holding a temporary job is to reduce access to training by 6%, which is approximately the same impact as the difference between not having finished secondary schooling and having obtained a tertiary qualification, and a

Table 3.13. **Multivariate estimates of the determinants of receiving employer-provided training, 1997**

Probit-model estimates of the change in the probability of training associated with each factor^{a, b}

	ECHP countries ^c	Austria	Belgium	Denmark ^d	Finland	France	
Temporary job	-0.06**	-0.02**	-0.03**	-0.14**	-0.17**	-0.06**	
Woman	0.00	-0.05**	-0.04**	-0.02	0.01	-0.00	
Low education	-0.06**	-0.12**	-0.10**	-0.14**	-0.20**	-0.06**	
Medium education	-0.01**	-0.02	-0.08**	-0.07**	-0.08**	-0.03	
Age 15-24	0.01	0.05	0.08	0.12*	-0.06	0.11**	
Age 25-34	0.01	0.04*	0.05**	0.08**	0.01	0.04*	
Prior unemployment ^e	-0.03**	-0.05**	-0.08**	-0.14**	-0.10**	-0.03	
Small firm	-0.05**	-0.04**	-0.08**	-0.07**	-0.18**	0.01	
Public sector	0.04**	0.05**	0.03	0.07**	0.03	0.04	
Tenure 6-9 years	-0.02**	0.02	-0.03	-0.03	-0.04	-0.04	
Tenure 10-14 years	-0.00	-0.01	0.02	-0.07	0.01	0.01	
Tenure > 14 years	-0.02**	0.00	-0.00	-0.02	0.03	-0.01	
Country dummy variables	yes	no	no	no	no	no	
Observations	34 132	2 413	1 916	2 515	2 846	2 085	
Log-likelihood^f	-12 154.4**	-1 104.7**	- 840.2**	-1 535.8**	-1 702.4**	- 882.2**	
	Greece	Ireland	Italy	Netherlands	Portugal	Spain	United Kingdom
Temporary job	-0.03**	-0.00	-0.01**	-0.04**	-0.00	-0.03**	-0.14**
Woman	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	0.03*
Low education	-0.04**	-0.06**	-0.01**	-0.02*	0.00	-0.05**	-0.08**
Medium education	-0.02**	-0.00	0.00	0.00	0.01	0.00	-0.08**
Age 15-24	0.02	0.03	0.00	0.04**	-0.00	-0.01	-0.02
Age 25-34	0.02*	0.04**	0.00	0.03**	0.00	0.00	-0.02
Prior unemployment ^e	-0.01	-0.04**	-0.01**	-0.00	-0.01	-0.02	-0.04**
Small firm	-0.02	-0.03*	-0.01**	-0.04**	-0.02**	-0.05**	-0.09**
Public sector	-0.00	0.05**	0.01**	-0.00	0.01*	0.04**	0.13**
Tenure 6-9 years	-0.00	-0.03	-0.00	-0.02**	-0.00	0.02	-0.09**
Tenure 10-14 years	0.01	-0.03	0.00	-0.02	-0.00	0.04*	-0.06*
Tenure > 14 years	0.01	0.00	-0.00	-0.04**	-0.00	0.01	-0.08**
Country dummy variables	no	no	no	no	no	no	no
Observations	2 272	2 030	4 204	3 808	3 668	3 678	4 217
Log-likelihood^f	-393.2**	-700.5**	-883. **	-965.6**	-386.0**	-1 137.0**	-2 560.3**

* and ** denote statistical significance at the 10% and 5% levels, respectively.

ECHP: European Community Household Panel.

a) Change in the predicted probability of receiving training associated with an increase from 0 to 1 of the indicated dummy variable, when all other variables are set at their sample mean values. For example, the row 1, column 1 estimate of “-0.06” indicates that temporary workers are 6% less likely than permanent workers to receive training. The probit models were estimated by maximum likelihood techniques and also included 8 dummy variables for occupation and an intercept. The dependent variable takes the value of 1 for workers participating in training provided by their employer during the previous year (ECHP variables PT001 and PT017) and the sample is all dependent employees.

b) Indicators of statistical significance for the estimated changes in probability correspond to the significance of regressors in the underlying probit model.

c) Pooled regression for countries shown, except for Denmark (see note d).

d) The data for Denmark relate to 1996 because the occupational variable has many missing values in 1997.

e) Dummy variable which takes the value one if the person was ever unemployed during the previous 5 years.

f) Indicators of statistical significance refer to the Chi-square test for the joint significance of all the regressors.

Source: Secretariat estimates based on data from the European Community Household Panel, waves 3 and 4.

somewhat larger impact (in absolute value) than that estimated for gender, age, firm-size and employment in the public sector. When the model is estimated separately for each country, temporary workers are significantly less likely to be trained by their employers than permanent workers in 8 of the 12 countries considered, while there appears to be no significant difference in Austria, Belgium, Ireland and Portugal.²⁰

The findings reported here strengthen the evidentiary basis for concerns that working in temporary employment could compromise an individual's prospects for career. However, as previously noted, taking account of informal (on-the-job) training probably would give a somewhat more positive picture of the amount of training received by temporary workers. It should also be emphasised that temporary jobs offer some training, as well as work experience, and, hence, contribute more to human capital accumulation than many forms of non-employment. Furthermore, if mobility into permanent employment is high and few workers spend an extended period of time in temporary jobs, then lower training rates in temporary jobs may not much matter for long-term career prospects. Job mobility is investigated in the next sub-section.

C. Mobility of temporary workers

To assess whether temporary jobs are “stepping stones” into permanent employment or “dead-end” jobs, it is necessary to look at mobility into and out of temporary jobs. This issue is currently the focus of considerable research and the new evidence presented in this section should be viewed in combination with the findings of other recent studies, such as those summarised in Box 3.3. These prior studies clearly reveal that temporary workers are not all locked into temporary jobs, since a significant share move into permanent jobs within a fairly short period of time. However, differences in data sources and methods limit the comparability of these research findings and it is currently unclear how the mobility patterns of temporary workers differ between OECD countries.

Retrospective data for 21 OECD countries show that temporary workers demonstrate considerable continuity in employment, in the sense that approximately two out of three were also employed one year earlier (Table 3.14; see OECD, 1996, for similar data for the mid-1990s). Backward-looking employment continuity was highest in Portugal (77%) and lowest in Ireland (54%). Unfortunately, it is not possible, on the basis of these data, to distinguish whether these individuals were in temporary or permanent jobs one year earlier. Nonetheless, these results provide some indication that the majority of temporary workers succeed to keep a foot in employment over time. Among temporary workers not working one year earlier, most were either unemployed or pursuing full-time studies. Temporary jobs are particularly important ports of entry into employment for the unemployed in Spain, while over one-quarter of temporary workers in Denmark were recently full-time students.

A forward-looking perspective that assess the employment prospects of temporary workers is perhaps more important for assessing the mobility of temporary workers. Table 3.15 presents transition probabilities for mobility from temporary jobs to permanent jobs and to unemployment²¹ for 13 European countries. Mobility patterns over one-year (1996 to 1997) and two-year (1996 to 1998) time horizons indicate that:

- A considerable share of temporary workers move into permanent jobs within a year and this share increases substantially between the first and second years in all of the countries considered except Belgium.

Box 3.3. Evidence from the literature on transitions from temporary to permanent jobs

Using longitudinal data for the *Netherlands, Germany and Great Britain*, Dekker (2001) finds that *non-standard forms of employment* (including temporary and part-time jobs) often serve as entry jobs into permanent positions. Upward mobility, in this sense, is greater in the Netherlands and Germany than in Great Britain. Women are less likely to move out of non-standard employment than are men, but this difference could reflect a greater tendency for women to remain in part-time jobs rather than a greater tendency to remain in temporary jobs.

Guell and Petrangolo (2000) find that some *temporary workers* in *Spain* move to permanent positions before the expiry of the temporary contract, while others attain the maximum contract duration allowed by the law (three years) before moving into a permanent job or leaving the firm. They conclude that some firms use temporary jobs to screen workers for permanent positions, with “good” matches being converted to permanent contracts as soon as their quality is known, while other employers use temporary contracts to save on labour costs, renewing contracts up to the maximum allowed duration. The authors also investigate the effect of the 1994 Reform, which restricted somewhat the use of temporary contracts in Spain, and find evidence that it became easier for women and less educated workers to move from a temporary job to a permanent position after the reform.

Holmlund and Storrie (2002) find that about 10% of *Swedish* workers on *temporary contracts* move to permanent employment one quarter later, using information on individual labour market status from matched quarters of the Swedish labour force survey. Korpi and Levin (2001) conclude that having been in temporary employment reduces unemployment duration for a sample of Swedish unemployed.

Houseman (1997) finds that a very small number of *temporary work* positions – including fixed-term contract, on-call, contracting out and seasonal workers – are transformed into permanent jobs, on the basis of data from a survey of employers in the *United States*. Nonetheless, 40-55% of the establishments surveyed reported that they occasionally moved temporary workers to permanent jobs. Transitions from temporary to permanent jobs are more frequent for workers hired via the intermediation of a temporary help agency than for other categories of temporary workers. A similar finding for *Italy* is reported in Italian Ministry of Labour (2001).

Storrie (2002) analyses a sample of *agency workers* in *Germany, France, the Netherlands, Spain and the United Kingdom* and finds that 19% of them were subsequently hired by the client firm: 12% as permanent workers and 7% as temporary workers. An additional 18% found a permanent job with another employer, so that, in total, 30% obtained a permanent job after a spell of agency work.

Booth *et al.* (2000) conclude for *Britain* that *fixed-term contracts* (FTC) are frequently stepping stones into permanent work rather than dead ends, but that upward mobility is less common for seasonal and casual jobs. The authors find that the probability of moving from a FTC to a permanent job increases with the level of education for women, while education does not appear to play a significant role for men. On the other hand, younger men are significantly more likely to move to permanent positions than older men, while age does not have a significant impact for women. Working part time significantly reduces mobility into permanent jobs for men, but has no effect for women.

Box 3.3. Evidence from the literature on transitions from temporary to permanent jobs (cont.)

Blanchard and Landier (2001) evaluate the consequences of the introduction of *fixed-term contracts* (FTCs) in *France*. They find that transitions from FTCs to permanent jobs decreased from the eighties to the nineties for young people, as the use of FTCs by firms became more widespread. They find no corresponding change in the probability of making a transition from FTCs to unemployment. Russo *et al.* (1997) analyse the determinants of workers' chances to move from *short-term contracts* to permanent jobs in the *Netherlands*. The probability increases significantly with the age of the worker and the number of hours worked, but is lower for workers with children and highly-educated workers. No significant gender differences emerge from the analysis, although women (and foreigners) are more likely to occupy a temporary job than are men and Dutch nationals.

Contini *et al.* (1999) test the hypothesis that *short spells* of employment facilitate access to permanent jobs, using longitudinal data for *Italy, Germany and Great Britain*. They find significant mobility over four-year intervals (1986-89 and 1991-94). Italian women are found to have a significantly lower probability of moving to permanent jobs than Italian men, but the gender variable is insignificant for Germany and Great Britain. In general, few of the variables considered show a significant impact on the transition probabilities.

Chalmers and Kalb (2000) investigate whether taking up a “casual” job – a broader category than temporary jobs – increases the chances of moving into regular employment for *Australian unemployed*. To this end, the direct transition from unemployment into regular work is compared to the indirect transition from unemployment into first casual work and then regular work. The authors conclude that there is a beneficial effect from taking a casual job on the probability of finding a regular job, especially for young men and persons with disabilities.

- Mobility from temporary to permanent jobs varies considerably across the countries considered. Between 21% and 56% of temporary workers had moved into permanent employment after one year and between 34% and 71% after two years. Upward mobility is most common in Austria, Denmark, the Netherlands and the United Kingdom and least common in Belgium, France and Spain.
- Not all mobility out of temporary employment is into permanent jobs, as some workers move instead into unemployment. The transition probability between temporary employment and unemployment is similar over 1 or 2 years, ranging between a low of 7-10% in Portugal and a high of 21-24% in France and Germany. Consistent with temporary jobs implying heightened employment insecurity, a far lower share of workers in permanent jobs move into unemployment (1-5%).
- It cannot be excluded that a significant minority of temporary workers remain trapped in temporary jobs over an extended period of time. After two years, between one-quarter and one-half of temporary workers continued to hold a temporary job. Persistence in temporary employment was most common in Belgium and Spain and least common in Austria and Germany. Other workers may be cycling between temporary jobs and unemployment (previous bullet).

Table 3.14. **Previous labour force status of temporary workers**

Labour force status in 1999 of workers holding temporary jobs in 2000 (percentage distribution)

	Employment	Unemployment	Fulfilling domestic tasks ^a	Full-time education	Other status ^b
Austria (1997)	74.2	2.4	..	14.8	8.7
Belgium	64.8	14.1	1.5	15.7	3.6
Czech Republic	56.2	8.8	1.3	5.1	4.2
Denmark	62.0	6.7	1.2	26.4	3.7
Finland	59.3	15.5	2.6	18.9	3.3
France	58.4	21.7	1.9	15.7	2.2
Germany	64.9	10.2	1.8	17.5	5.3
Greece	73.0	17.4	1.4	5.8	2.4
Hungary	63.1	22.0	3.7	6.5	3.4
Iceland	70.9	3.0	0.7	23.1	2.3
Ireland (1997)	54.4	14.2	..	22.1	9.2
Italy	65.7	21.6	2.3	6.9	3.1
Luxembourg	60.1	8.3	4.3	22.7	4.6
Netherlands (1999)	69.4	5.9	..	14.5	10.1
Norway	75.4	3.0	2.1	17.2	2.0
Poland (1999)	59.1	20.1	2.6	9.3	7.8
Portugal	76.8	10.3	1.7	7.9	2.9
Spain	63.6	24.5	1.9	7.7	2.2
Sweden	57.6	14.7	1.6	22.8	2.8
Switzerland	73.0	9.0	..	..	18.0
United Kingdom	72.7	6.1	4.0	14.0	2.3
OECD average^c	65.5	12.3	2.1	14.7	5.0

.. Data not available.

a) This includes performing house work and taking care of children.

b) Other status include disability, retirement, military service and other non-participation status.

c) Unweighted average of countries shown.

Source: Data from the European Union Labour Force Survey, year 2000, provided by Eurostat.

In order to identify the factors facilitating – or impeding – the mobility of temporary workers, separate probit models were estimated of the probabilities of moving from a temporary job into, respectively, a permanent job or unemployment. These models control for a number of individual and employer characteristics with mobility patterns being analysed over one- and two-year periods for a pooled sample of temporary workers from 12 European countries (Table 3.16). Mobility into permanent jobs over two years is then examined in more detail by estimating separate probit models for each of the countries (Table 3.17). The estimation results indicate that:

- Mobility into permanent jobs is highest for medium to highly educated persons between the ages of 25 and 34, who have not been unemployed in the previous five years and are employed by a medium- or large-sized firm in the private sector (Table 3.16). Typically, worker and job characteristics associated with lower mobility into permanent jobs are also associated with an increased risk of falling into unemployment. One notable exception is temporary jobs in the public sector, for which the lower mobility into permanent jobs is entirely due to greater persistence in temporary employment.
- Less educated workers in Mediterranean Europe appear to face particular difficulties in moving from temporary to permanent jobs, since they are 17-24% less likely than highly educated workers to do so (Table 3.17).²² However, Austria and the United Kingdom are exceptions to the general pattern, since mobility into permanent jobs is lower for temporary workers with a tertiary qualification in these countries, than for their less educated counterparts.

Table 3.15. **One-year and two-year mobility of temporary workers**Labour force status in 1997 and 1998 by labour force status in 1996 (percentage distributions)^a

Labour force status in 1996		Labour force status in 1997			Labour force status in 1998		
		Permanent workers	Temporary workers	Unemployed	Permanent workers	Temporary workers	Unemployed
Austria	Permanent workers	93.2	5.0	1.8	93.8	3.4	2.8
	Temporary workers	56.1	41.3	–	71.0	22.8	–
	Unemployed	26.1	–	58.1	42.4	–	47.0
Belgium	Permanent workers	94.7	3.1	2.2	94.6	3.7	1.7
	Temporary workers	42.7	48.5	–	41.7	49.7	–
	Unemployed	–	–	82.5	9.5	16.2	74.2
Denmark	Permanent workers	94.8	3.2	2.0	92.0	5.5	2.5
	Temporary workers	45.4	44.9	–	63.4	28.3	–
	Unemployed	22.3	18.5	59.2	43.8	–	38.9
Finland	Permanent workers	95.5	2.0	2.4	..	..	..
	Temporary workers	38.5	46.1	15.4	..	..	..
	Unemployed	8.4	19.5	72.1	..	..	..
France	Permanent workers	96.3	1.2	2.6	94.7	1.4	3.9
	Temporary workers	20.8	56.6	22.5	37.9	41.2	20.9
	Unemployed	9.5	17.2	73.3	20.9	26.2	53.0
Germany ^b	Permanent workers	92.8	3.3	3.8	92.3	2.5	5.2
	Temporary workers	40.6	36.4	23.0	53.1	22.7	24.2
	Unemployed	19.7	14.7	65.7	20.7	15.8	63.5
Greece	Permanent workers	89.8	7.4	2.8	88.9	7.4	3.6
	Temporary workers	36.4	52.7	10.8	46.2	44.8	8.9
	Unemployed	9.4	21.8	68.8	20.6	34.4	45.0
Ireland	Permanent workers	95.4	3.3	–	95.1	3.5	–
	Temporary workers	47.0	47.1	–	52.4	39.3	–
	Unemployed	16.4	10.7	73.0	27.8	10.2	62.0
Italy	Permanent workers	93.1	5.0	1.9	93.9	4.0	2.1
	Temporary workers	41.3	45.9	12.7	52.2	35.2	12.6
	Unemployed	8.3	9.3	82.4	15.7	17.7	66.6
Portugal	Permanent workers	92.0	4.9	3.1	89.3	6.7	4.0
	Temporary workers	39.0	51.4	9.7	55.4	37.9	6.7
	Unemployed	22.0	23.3	54.7	25.8	35.3	38.9
Spain	Permanent workers	92.4	4.5	3.1	91.2	5.9	2.9
	Temporary workers	23.1	59.4	17.5	33.8	50.9	15.3
	Unemployed	5.5	27.6	66.9	11.4	31.4	57.2
Netherlands	Permanent workers	95.9	2.9	1.2	95.2	3.2	1.6
	Temporary workers	49.1	43.2	–	65.1	29.9	–
	Unemployed	–	12.5	79.7	22.0	12.2	65.9
United Kingdom ^b	Permanent workers	96.4	2.2	1.4	96.4	2.1	1.5
	Temporary workers	56.1	34.5	–	67.0	27.0	–
	Unemployed	31.4	–	54.7	46.9	–	39.3

– Data not reported due to less than 30 observations.

.. Data not available.

a) Labour market transition probabilities are calculated for the sample of individuals beginning in dependent employment or unemployment in 1996 and moving into neither self-employment nor inactivity during 1997-98.

b) Data based on national panel data: Socio-Economic Panel (SOEP) for Germany and British Household Panel Survey (BHPS) for United Kingdom.

Source: Secretariat calculations using data from the European Community Household Panel, waves 3-5.

- The tendency for temporary workers aged 25-34 to have above-average chances of moving into permanent jobs is particularly strong in Germany, the Netherlands and the United Kingdom, where members of this age group are 15-20% more likely to do so than older workers. In Denmark and Ireland, it is the youngest workers who most often find permanent jobs.

Table 3.16. **Multivariate estimates of the determinants of mobility for temporary workers, 1996-98**Probit-model estimates of the change in the probability of the indicated transition associated with each factor^{a, b}

	Moving into a permanent job		Moving into unemployment	
	ln 1 year	ln 2 years	ln 1 year	ln 2 years
Woman	-0.10	-0.03*	0.05**	0.05
Low education	-0.14**	-0.11**	0.12**	0.08**
Medium education	-0.01	0.02	0.07**	0.05*
Age 15-24	0.03	0.06**	0.01	-0.02
Age 25-34	0.04**	0.07**	-0.02*	-0.02**
Prior unemployment ^c	-0.10**	-0.11**	0.09**	0.11**
Small firm	-0.07**	-0.09**	0.00	0.04**
Public sector	-0.10**	-0.06**	0.00	-0.00
Observations	4 543	4 068	4 543	4 068
Log-likelihood^d	-2 910.9**	-2 629.5**	-1 750.5**	-1 460.8**

* and ** denote statistical significance at the 10% and 5% levels, respectively.

a) Change in the predicted probability of making the indicated transition which is associated with an increase from 0 to 1 of the indicated dummy variable, when all other variables are set at their sample means. For example, the row 1, column 2 estimate of “-0.03” indicates that the women among temporary workers are 3% less likely than men to move into a permanent job, over a two-year time horizon. The probit models were estimated by maximum likelihood techniques for a pooled sample of workers from 12 European countries (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain and United Kingdom) included dummy variables for countries and an intercept.

b) Indicators of statistical significance for the estimated changes in probability correspond to the significance of the associated regressors in the underlying probit model.

c) Dummy variable which takes value one if the person was ever unemployed during the previous 5 years.

d) Indicators of statistical significance refer to the Chi-square test for the joint significance of all the regressors.

Source: Secretariat estimates based on data from the European Community Household Panel, waves 3-5.

- Having been unemployed in the previous five years particularly reduces the probability of moving into permanent jobs in Austria and Germany (by 23% and 33%, respectively). However, it is unclear whether the association between past unemployment and low mobility into permanent jobs reflects a causal effect of unemployment (*i.e.* “scarring”) or whether prior unemployment is serving as a proxy for the presence of labour market difficulties not captured by the other variables (*i.e.* unobserved heterogeneity).
- For these 12 European countries as a whole, there is, at best, a weak tendency for women in temporary jobs to be more at risk of becoming unemployed than men, as well as somewhat less likely to move into permanent jobs. Gender differences in mobility are more pronounced in several countries, but not in a consistent manner. Women are more likely than men to move into permanent jobs in Germany, but less likely to do so in Austria.
- Temporary workers in small firms are less likely than those employed by larger firms to find permanent jobs. This association is strongest in Germany and Greece (17-18%) and may result from temporary workers having fewer opportunities to be promoted into permanent positions in small firms.
- The mobility of temporary workers into permanent jobs is particularly low in the public sector in France and Germany (19% and 23% lower, respectively). This is probably due to the tendency for temporary contracts to last longer in the public sector (Section 3.A). Denmark is, however, a notable exception, with public sector workers being 9% more likely to transit from temporary to permanent jobs.

Overall, the evidence presented in this section suggests that many temporary workers have a sustained commitment to paid employment and manage to keep a foot in employ-

Table 3.17. **International comparisons of the determinants of mobility for temporary workers, 1996-98**

Probit-model estimates of the change in the probability of moving into permanent employment over a two-year period that is associated with each factor^{a, b}

	Austria	Belgium	Denmark	France	Germany	Greece
Woman	-0.10*	-0.10	-0.07	-0.03	0.10*	0.02
Low education	0.19*	0.01	-0.03	-0.08	-0.08	-0.17*
Medium education	0.38**	-0.11	0.02	-0.04	-0.08	0.07
Age 15-24	0.05	-0.04	0.22**	0.02	0.04	0.11
Age 25-34	0.12	-0.05	0.07	0.01	0.15**	0.01
Prior unemployment ^c	-0.23**	-0.06	-0.08	-0.17**	-0.33**	0.01
Small firm	0.00	-0.19	0.00**	-0.04	-0.17**	-0.18*
Public sector	0.05	-0.13	0.09**	-0.19**	-0.23**	0.10
Observations	222	159	208	309	316	272
Log-likelihood^d	-116.1**	-104.3**	-127.3**	-203.9**	-192.18**	-171.0**
	Ireland	Italy	Netherlands	Portugal	Spain	United Kingdom
Woman	-0.07	0.01	0.04	-1.08	-0.00	-0.03
Low education	0.07	-0.24**	0.07	-0.24**	-0.17**	0.12*
Medium education	-0.00	0.07	0.11	-0.13	-0.02	0.18**
Age 15-24	0.14*	0.08	0.03	0.00	-0.02**	0.04
Age 25-34	0.10	-0.06	0.20**	0.08	0.02	0.15**
Prior unemployment ^c	0.08	-0.06	-0.00	-0.11**	-0.12**	0.00
Small firm	0.01	-0.13*	-0.10	-0.01	-0.07**	-0.10
Public sector	0.01	0.07	-0.05	0.01	-0.13**	0.07
Observations	241	381	240	511	1 012	197
Log-likelihood^d	-153.4**	-236.6**	-146.3**	-339.8**	-655.8**	-96.69**

* and ** denote statistical significance at the 10% and 5% levels, respectively.

a) Change in the predicted probability that a worker in a temporary job in 1996 will be in a permanent job in 1998 which is associated with an increase from 0 to 1 of the indicated dummy variable, when all other variables are set at their sample means. For example, the row 1, column 1 estimate of “-0.10” indicates that women are 10% less likely than men to move from temporary to permanent work over a two-year time horizon in Austria. The probit models were estimated by maximum likelihood techniques for workers in temporary employment in 1996 and include an intercept.

b) Indicators of statistical significance for the estimated changes in probability correspond to the significance of the associated regressors in the underlying probit model.

c) Dummy variable which takes the value one if the person was ever unemployed during the previous 5 years.

d) Indicators of statistical significance refer to the Chi-square test for the joint significance of all of the regressors.

Source: Secretariat estimates based on data from the European Community Household Panel, waves 3-5.

ment over the medium term: being in employment one year earlier and remaining in employment during the following two years. Furthermore, a considerable share of temporary workers move into permanent jobs over a relatively short time period, consistent with the stepping stone metaphor. However, others stay in temporary employment or become unemployed. Unfortunately, it is difficult to judge how many in this latter group are trapped in temporary jobs, because some of the persistence in temporary employment may be voluntary and two years is a relatively short-time horizon. A second limitation of these results is that no data are analysed for non-European countries, where mobility in and out of temporary jobs may follow different patterns.

Conclusions

Temporary jobs are a closely watched test case of a key issue related to labour market regulation, namely, how far should public policy go towards establishing minimum standards for the terms of employment? Regulatory standards are common for many aspects of the employment relationship (*e.g.* workplace safety, collective representation

and non-discrimination in hiring and pay). However, employment protection regulations – including rules governing temporary jobs – have attracted particular attention in the past decade, as a potentially important cause of persistently high unemployment. In response to this concern, a considerable number of OECD countries have liberalised the rules governing temporary employment. The consequent expansion in temporary employment – which has been dramatic in several countries – provides an important testing ground for the social implications of deregulation.

This chapter contributes to the factual knowledge required to assess the growth in temporary employment and its implications for the welfare of workers. The portrait that emerges is complex and confirms neither the most optimistic nor the most dire assessments. Temporary jobs are a significant feature of the employment landscape in OECD countries, but international differences in the share of temporary jobs in total employment are large and there does not appear to be a universal trend towards ever rising levels of temporary employment. Temporary jobs are disproportionately held by younger and less educated workers, but temporary workers are a diverse group and they work in a wide range of sectors and occupations, and for both public and private employers of all sizes.

The chapter's analysis of the quality of temporary jobs also generates a complex portrait that defies simple caricatures. Temporary employment is associated with a wage penalty, even after using regression techniques to control for differences in individual and job characteristics. However, it is also true that some temporary jobs pay quite well. Temporary employment *per se* rarely disqualifies workers from fringe benefits, but the very short duration of many temporary jobs may have that effect, in practice. Depending on the country considered, between one-third and two-thirds of temporary workers move into a permanent job within a two-year time interval, suggesting considerable potential for upward mobility. The other side of the coin is that up to one-fourth of temporary workers are unemployed two years later – indicating a far greater risk of unemployment than is observed for workers in permanent jobs – and an even larger share are still in temporary jobs. Since employers provide less training to temporary than to permanent workers, persons spending an extended period of time in temporary jobs may be compromising their long-run career prospects, in addition to being subject to considerable employment insecurity.

From a policy perspective, the chapter's analysis suggests adopting a nuanced approach that addresses the specific difficulties that temporary employment occasions for certain workers, but does not tightly limit temporary employment. Neither the liberalisation of the regulation of temporary employment nor the economic trends, such as globalisation and product market deregulation (see Chapter 5), thought to be increasing the demand for flexible employment have triggered an inexorable rise in temporary employment in the OECD area, although it has reached quite high levels in a few countries. This suggests that many employers prefer to maintain a quasi-permanent employment relationship with a considerable portion of their workforce and that strict regulatory limits on temporary employment are not needed to preserve “career” jobs. Even if career jobs do not appear to be endangered, difficulty of access to these jobs may be a serious concern for certain labour force groups.

The available evidence suggests that only a minority of temporary workers are at risk of long-term traps. However, certain groups of temporary workers – notably persons not having completed upper secondary schooling – appear to have greater difficulty finding permanent jobs. Moreover, it appears that the welfare of many workers in temporary jobs

could be adversely affected, if they are unable to obtain a permanent job for an extended period of time. Most of these workers demonstrate considerable attachment to paid employment and wages tend to be lower in temporary jobs, as well as access to training and fringe benefits. More research on mobility from temporary jobs, which follows workers over a longer period of time than could be analysed here, is clearly needed.

The empirical analysis in this chapter suggests that policies to shield temporary workers from the undesirable employment conditions sometimes associated with temporary jobs – especially, long-term traps in precarious employment – deserve serious attention. However, such measures would have costs as well as benefits and specific policy options would need to be analysed carefully. Accordingly, studies of whether access to benefits should be eased for temporary workers or policies implemented to facilitate transitions from temporary to permanent jobs would be of great interest. It would also be important to assess whether such policies are best targeted at certain disadvantaged categories of temporary workers, along the lines of what is already done for unemployed persons in some OECD countries, or if more general measures would be more effective, such as modifying rules concerning minimum qualification periods for fringe benefits, maximum allowable durations of temporary jobs or access to training.

Notes

1. For expository convenience, this chapter refers to all jobs not classified as temporary as “permanent” jobs. This should be understood as a short-hand label for jobs that do not inherently preclude a lasting employment relationship. Permanent jobs are often associated with open-ended employment contracts, but a variety of contractual forms are possible. Whatever the contractual details, it should be borne in mind that some of these permanent jobs will not, in fact, last a long time, either because the employee voluntarily quits or because the employer fires the worker (*e.g.* for inadequate performance or because business conditions change so as to make the job unprofitable). In the case of an employer wishing to fire a permanent worker, national regulations, union contracts and customary practice typically specify procedural protections (*e.g.* a requirement to show due cause or give advance notification) and compensation (*e.g.* severance payments) that are not available to workers in temporary jobs, although there are large differences among OECD countries in the extent of these protections (OECD, 1999).
2. The TWA share has also grown rapidly in France and the United Kingdom, but is still less than one-half that of fixed-term contracts.
3. The upward growth in Ireland also appeared to reverse after 1995, but this may be an artifact of a change in the statistical method used to identify temporary workers.
4. The share of temporary jobs in all new hires can be estimated from *flow* data for several OECD countries. These shares are much higher than those based on the *stock* data analysed in this chapter. For example, 71% of new hires in France were into temporary jobs in 2001 and 70% of new hires in the private business sector in Sweden were into temporary jobs in the late 1990s (Holmlund and Storrie, 2002). These higher values reflect the high turnover that occurs in temporary jobs, in addition to any net job creation.
5. With only a few exceptions, international comparisons of the level and trends in temporary employment look similar if workers in the agriculture, hunting and forestry sector are omitted (data not shown). However, L’Italien *et al.* (1999) show, on the example of the Canadian province of New Brunswick, that regional economies heavily dependent on one or a few seasonal industries can be highly seasonal with seasonal jobs spreading to all sectors.
6. This estimate is based on aggregate wage data and does not control for the likely impact of differences in individual or demand-side characteristics on differences in pay between workers in temporary and permanent jobs.
7. These estimates are calculated from micro-data drawn from wave 4 of the European Community Household Panel. Only full-time workers, defined as persons working for more than thirty hours per week, were included into the estimation sample. This restriction avoids the difficulties of computing hourly wages, which are typically subject to large errors due to misreporting of usual hours of work.
8. The data for estimation are drawn from wave 4 of the European Community Household Panel, with the estimation sample restricted to full-time workers. The estimated models do not control for the potential endogeneity of holding a temporary job nor for selection into employment.
9. The estimated wage penalty is 0.24 log-points, which corresponds to a difference of 27%.
10. In most OECD countries special rules hold for the self-employed. Whenever possible, the analysis in this chapter excludes the self-employed from temporary employment (see Annex 3.A). However, the distinction between self-employed persons and temporary employees is sometimes not very clear. This is particularly the case for self-employed persons that work for one employer at a time, often at the employer's premises and/or with work infrastructure provided by the employer.
11. The information presented is based on answers provided by OECD Member countries in response to a questionnaire sent out by the OECD secretariat. Large institutional differences characterise OECD countries in these matters and no attempt is made here to provide the fine details of national legislation. The aim, instead, being to survey whether the rules for participation in certain schemes are of a character that may penalise temporary workers relative to permanent workers.
12. In Korea, entitlement is regulated by collective agreements.
13. For example, in the United Kingdom, workers leaving a company cannot claim the employers' contributions back, before the vesting period (minimum contribution time) is completed. However, if contributions were paid for the full vesting period, workers usually have the option of either moving their pension rights into a new fund or leaving them with the former employer, to be claimed at retirement. In this last

- case, it is sometimes an issue whether pension rights will be uprated, for example by the consumer price index. In the United States, workers are always entitled to claim back all of their contributions to a pension plan, but they lose the employers' contributions if they are not vested.
14. For example, in Norway, in the public sector pension contributions are transferred from one public pension fund to the other, but individuals moving from the public to the private sector, or *vice versa*, may lose their pension contributions. However, in the Norwegian private sector, since January 2001, workers employed for over one year, can claim the employer's pension contributions back if they change employers.
 15. The data are drawn from the 1997 wave of the European Community Household Panel.
 16. The job tenure values shown in Table 3.11 correspond to the amount of time individuals had been in their current job, at the date of the survey interview. Accordingly, these represent *ongoing* job tenures and should not be interpreted as describing the distribution of the *completed* durations of these jobs. The distribution of ongoing tenures of temporary jobs at a point in time can either over- or under-estimate the distribution of completed tenures for all temporary jobs over a period of time, since it is subject to off-setting biases: spell truncation (*i.e.* the observed duration provides a lower-bound for the completed duration, because the job has not yet ended) and length-biased sampling (*i.e.* jobs of short duration are less likely to be observed on any given date than are longer jobs, so that the average duration of observed jobs is longer than the average duration of all jobs).
 17. In some OECD countries, there are legal limits to the total number of renewals of a temporary contract or to its total duration (see Table 3.A.3 in Annex 3.A).
 18. Workers on fixed-term contracts are asked about the total length of their *current* contract (time to date plus remaining time). If their contract has already been renewed one or more times, the cumulative duration of all of these contracts will exceed the value recorded.
 19. Autor (2000) shows that under certain assumptions the most able workers will self-select themselves into the training programme and firms that employ agency workers will be willing to pay for the extra for the information on workers' abilities that training generates. There is some limited evidence that temporary work agencies in the United States do, in fact, provide free general training to their employees.
 20. The findings presented here are consistent with most previous studies of the determinants of training probabilities (*e.g.* training rates being higher for more educated workers and workers employed by large firms). However, few previous studies have included a control for temporary jobs (OECD, 1999).
 21. For the purposes of analysing the mobility opportunities available to temporary workers, the very small number of workers moving between temporary jobs and either self-employment or non-participation were dropped from the sample. Accordingly, the transition probabilities in Table 3.15 are conditional upon remaining in dependent employment or actively searching for a job over the three years analysed.
 22. These estimates of changes in probability are obtained setting other individual and job characteristics equal to their sample mean values.

Annex 3.A

Defining and measuring temporary employment

There is no standard definition of temporary employment that can be used for making international comparisons of the number of temporary jobs and their implications for earnings, employment security and other conditions of employment. By necessity, the strategy adopted by researchers has been to select – from amongst the sub-categories of employment available in national statistics – those that appeared best suited to approximate an internationally consistent definition (Casey, 1994; OECD, 1996). This strategy has worked reasonably well for many European countries, because Eurostat had already achieved a considerable harmonisation of the statistics on temporary employment reported in the European Union Labour Force Survey. However, it has worked less well for the OECD area as a whole, since it results in a considerable number of countries being either: *i*) excluded from the analysis for having no comparable data; or *ii*) included in the analysis, despite important non-comparabilities in how temporary employment is measured.

This chapter improves somewhat upon previous studies by assembling data for additional OECD countries and harmonising better the statistics on temporary employment that are used for several countries. The definitions and data sources that are used in this chapter's analysis are first presented in this annex. Brief discussions then follow of how these statistics differ from other measures of temporary employment, which are sometimes used by national statistical authorities or researchers, and of some of the limitations of these statistics for the purpose of making international comparisons.

Definitions used in this chapter

For both practical and conceptual reasons, this chapter follows Eurostat in defining “temporary” jobs as dependent employment of limited duration. For convenience, all other jobs are referred to as “permanent” jobs. This classification is intended to differentiate between jobs that offer workers the prospect of a long-lasting employment relationship and those that do not. Accordingly, the temporary or permanent quality of a job is understood as being a characteristic of the explicit or implicit employment contract, rather than being defined in terms of the actual duration of the job, which is also influenced by other factors, including workers' voluntary choices to quit.

In order to operationalise this definition, it is necessary to enumerate – from amongst the employment sub-categories that are identifiable in national statistical sources – those job types judged to meet the conceptual criterion for being temporary.¹ In most cases, these choices have been made by the national statistical offices (NSOs), who are most familiar with national data sources and employment practices. However, this approach means that it is difficult to verify how closely the resulting statistics approximate the uniform application of a common underlying definition of temporary work.

The list of job types classified as temporary employment typically includes many or all of the following:

- *Fixed-term contracts*, that have a specified duration or a predetermined ending date.
- *Temporary agency workers*, who are placed by a temporary work agency (TWA) to perform work at the premises of a third-party customer enterprise.
- *Contracts for a specific task*, a contract of work that lasts only as long as is necessary to complete a specified task.
- *Replacement contracts*, for example, to replace workers on leave for family-related reasons.
- *Seasonal work*, taking place only at certain periods of the year (*e.g.* harvesting).
- *On-call work*, which is performed only on an as-needed basis.
- *Daily workers*, who are hired on a daily basis.
- *Trainees*, meaning apprentices and other workers with a training contract that qualifies them for a salary but does not guarantee them a permanent position at the end of the training period.

- *Persons in job creation schemes*, individuals hired under public programmes to stimulate the employment of disadvantaged categories of workers (e.g. youth, the long-term unemployed, and the disabled), when these jobs are of limited duration.

The list of the sub-categories of temporary jobs for any particular country will depend on the contracting forms that are in use in that country and identifiable in national statistics, as well as NSO's judgements of which of the job types have a temporary character. Accordingly, these lists vary from country to country and only approximate the uniform application of a common definition to diverse national institutional contexts. Table 3.A.1 summarises the job types used to classify jobs as either temporary or permanent in each country, as well as the primary data source used.²

Comparison with alternative definitions

In addition to the approach adopted in this chapter, prior research and the national statistical practices of OECD countries suggest two alternative approaches to defining temporary jobs. The three approaches are:

1. A *direct* approach based on grouping together certain *types of work arrangements* that are judged to have a “temporary” character for reasons independent of workers’ choices whether to remain in a job (i.e. this chapter’s preferred approach).
2. A *direct* approach based on the *actual or expected duration* of the work arrangement being below some maximum ceiling (e.g. jobs lasting less than one year).
3. *Residual* approaches, defining as “temporary” all employment which is *non-regular, atypical* or *does not confer entitlement to key fringe benefits*, such as paid vacation and sick leave.

The second approach, which defines temporary jobs in terms of actual job durations – or workers’ subjective assessments of how long their jobs will last – is particularly attractive for countries, such as the United States, where employment contracts rarely specify whether a job is of limited duration or open-ended. However, this approach creates serious measurement problems, because the ultimate duration of the jobs observed in labour force surveys is not yet known and workers’ assessments of the durability of their jobs are rarely recorded and potentially highly subjective. Selecting all jobs of short duration as the object of study may also confound the rather different issues of whether a job offers the *possibility* of a long-term employment relationship and whether workers quit ongoing jobs.

The residual approach to defining temporary employment (i.e. the third approach) is most often encountered in countries where the legal structure and industrial relations practice clearly demarcate a class of “regular” jobs. By subtraction, all other jobs are “non-regular” or “atypical”. Since the jobs in this residual class tend to be less stable than regular jobs and are clearly differentiated in the national statistics, employment in non-regular jobs is sometimes interpreted as being approximately comparable to temporary employment, as measured in other countries. Examples of the third approach include classifying as temporary workers all workers in non-regular employment in Korea or all “casual” workers in Australia. Similarly, some researchers have treated all Japanese workers not having lifetime jobs as being in precarious or temporary jobs.³

The residual approach has several drawbacks for the purposes of this chapter:⁴

- If the intent is to study jobs that do not imply a commitment on the part of the employer to providing continuing employment, then the category of non-regular jobs typically is of limited use, because it is too heterogeneous and includes many quasi-permanent jobs.⁵ Recently, statistical authorities in Australia and Korea have conducted new labour force surveys that allow temporary workers, in the sense used in this chapter, to be identified. Temporary workers in this narrower sense are a far smaller share of total employment than are all “casual” or non-regular workers (52% non-regular workers *versus* 17% temporary workers in Korea in 2001 and 27% casual workers *versus* 6% temporary workers in Australia in 1997).⁶ Accordingly, it would not be valid to conclude that precarious employment is particularly widespread in these two countries solely on the basis that the share of non-regular jobs in total employment is much higher there than is the share of temporary jobs in most other OECD countries.
- A second difficulty with adopting residual definitions of temporary workers is that doing so prejudices the issue of whether employment conditions for temporary jobs are inferior to those for permanent jobs. Non-regular jobs are defined, to a considerable extent, by the fact that they offer less advantageous employment conditions.

To the maximum extent possible, this chapter has applied the first of these three approaches to defining temporary employment. However, this approach could not be applied in a fully consistent manner in all of the countries and some non-comparabilities are present. It should also be understood that the economic significance of this classification, even when implemented in a comparable manner, will vary depending on the national institutional environment. The following two sub-sections develop these themes.

Table 3.A.1. **Definitions of temporary employment used in Chapter 3**

	Temporary employment	Data source
Australia	Workers with a fixed-term contract; employed by temporary agencies; seasonal workers.	Forms of Employment Survey, 1998 (data relate to 1997).
Austria	Employees with a fixed-term contract; interim work through a temporary work agency; apprentices and trainees; probationary period; contract for a specific task; daily workers.	Austrian Labour Force Survey
Belgium	In the majority of the European Union countries most jobs are based on written work contracts. A job may be 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 temporarily replaced. In the case of a work contract of limited duration, the condition for its termination is generally mentioned in the contract. To be included in these groups are also: <i>a)</i> persons with a seasonal job, <i>b)</i> persons engaged by an employment agency or business and hired out to a third party for the carrying out of a "work mission" (unless there is a work contract of unlimited duration with the employment agency or business), <i>c)</i> persons with specific training contracts.	Eurostat, European Union Labour Force Survey
Denmark		
France		
Germany		
Greece		
Ireland		
Italy		
Luxembourg		
Netherlands		
Portugal		
Spain		
United Kingdom		
Canada	A temporary job has a pre-determined end date or will end as soon as project is completed (including seasonal jobs).	Canadian Labour Force Survey
Czech Republic	Workers with a fixed-term contract; employed through a temporary work agency; apprentices and trainees; on probationary period; occasional, casual or seasonal workers; individuals carrying out community work as unemployed; workers with a contract for a specific task.	Czech Labour Force Survey
Finland	Workers whose main job is with a fixed-term contract; trainees; workers on probationary period; other jobs that are considered as temporary by respondents.	Finnish Labour Force Survey
Hungary	Workers whose main job is with a fixed-term contract; apprentices and trainees; workers on probationary period; individuals doing occasional, casual or seasonal work; individuals carrying out community work as unemployed; workers with a contract for a specific task; individuals employed on jobs lasting less than 12 months; daily workers and others.	Hungarian Labour Force Survey
Iceland	Workers whose main job is with a fixed-term contract; doing interim work through a temporary work agency; apprentices and trainees; workers on probationary period; occasional, casual or seasonal work.	Iceland Labour Force Survey
Japan	Workers whose main job is with a fixed-term contract lasting not more than one year; doing occasional, casual or seasonal work; working on a job lasting less than 12 months.	Japanese Labour Force Survey
Korea	Workers whose main job is with a fixed-term contract; temporary agency workers; on-call workers; seasonal workers; workers who do not expect their job to last for involuntary, non-economic reasons.	Summer 2001 Supplement to the Korean Labour Force Survey

Table 3.A.1. **Definitions of temporary employment used in Chapter 3** (cont.)

	Temporary employment	Data source
Mexico	Workers whose main job is with a fixed-term contract; occasional, casual or seasonal work; workers with a contract for a specific task; employed in a job lasting less than 12 months.	Mexican Labour Force Survey
Norway	Workers whose main job is with a fixed-term contract; interim work through a temporary work agency; apprentices and trainees; workers on probationary period; occasional, casual or seasonal work; workers with a contract for a specific task; individuals with a job lasting less than 12 months; daily workers.	Norwegian Labour Force Survey
Poland	Workers whose main job lasts less than 12 months.	Polish Labour Force Survey
Sweden	Workers whose main job is with a fixed-term contract; apprentices and trainees; workers on probationary period; occasional, casual or seasonal work; individuals carrying out community work as unemployed; individuals with a contract for a specific task; daily workers.	Swedish Labour Force Survey
Switzerland	Workers whose main job is with a fixed-term contract; interim work through a temporary work agency; apprentices and trainees; occasional, casual or seasonal work; individuals carrying out community work as unemployed; individuals with a contract for a specific task; individuals with a job lasting less than 12 months; daily workers. These data do not include foreign workers without a permanent residence permit.	Swiss Labour Force Survey
Turkey	Workers whose main job is occasional, casual or seasonal work; daily workers or other persons who depend only on an employer and do not work regularly and for unlimited duration; seasonal or temporary workers or on-call workers (ex. construction workers, etc.).	Turkish Labour Force Survey
United States	Dependent workers, temporary help and contract company workers who do not expect their job to last.	Contingent and Alternative Work Arrangements Supplements to the Current Population Survey, 1995 and 2001

Differences in the implementation of the chapter's definition

The chapter's definition of temporary employment could not be implemented in a fully consistent manner in all countries for both conceptual and statistical reasons. Instances that may imply important non-comparabilities include:

- In some countries, temporary agency workers can have *permanent* contracts with the agency (e.g. Austria, Finland, Germany, the Netherlands and Sweden) and arguably should not be included among temporary workers. Similarly, the correct classification on workers on training or probationary contracts is often problematic, since there may be an expectation that employers will provide permanent positions to trainees and probationary workers who perform well. In these cases, the chapter defers to the judgement of NSOs, which may not be mutually consistent.
- It is arguable that certain forms of self-employment are functionally equivalent to forms of temporary dependent employment that are included in the definition used in this chapter. For example, it may matter little whether workers hired to complete a short-run project are directly employed by the firm (e.g. on a fixed-term contract), are agency workers, or are hired as independent contractors.⁷ Excluding the latter of these three groups – as being self-employed – may distort international comparisons, if

there are international differences in mix of contracting forms used for such work. Nonetheless, self-employed workers have been excluded from this chapter's analysis of temporary work.

- In several cases, the criteria used to identify temporary workers included the condition that the job lasts no longer than one year (*i.e.* temporary workers were defined using a mix of approaches 1 and 2 above). Japan and Poland include only individuals with work arrangements lasting less than twelve months among temporary workers. Other countries include workers whose job lasts less than a year as an additional category of temporary workers (Hungary, Mexico, Norway and Switzerland), or apply the one-year ceiling to a subset of the workers classified as temporary (*e.g.* some temporary workers in Korea).
- For the United States, the definition of temporary workers corresponds quite closely to the definition used for other countries, except that the classification of a job as temporary relies much more extensively on workers' subjective judgements concerning the potential duration of their jobs.⁸
- In Switzerland, foreign workers with short-term residence permits are not covered in the labour force survey and, hence, are excluded from the data reported in this chapter. This probably results in an underestimation of the extent of temporary employment, particularly seasonal work.

Differences in the economic significance of temporary employment

Even in those instances when the chapter's definition of temporary employment was implemented with considerable precision, differences in the national institutional environments will cause the economic significance of temporary jobs to vary:

- Temporary employment takes a number of different contractual forms (*e.g.* fixed-term contracts and TWA work) that may have quite different implications for pay, fringe benefits and other conditions of employment. The mix of these forms could differ significantly for two countries with the same level of overall temporary employment, potentially causing the situation of temporary workers to differ. Unfortunately, detailed data on the contractual forms of temporary employment could only be gathered for a subset of the countries analysed in this chapter. Table 3.A.2 summarises the data that were assembled on the components of temporary employment and are analysed in Section 1.
- The scope and economic significance of temporary jobs are influenced by the national regulatory environment, particularly employment protection legislation (EPL). Table 3.A.3 summarises the most recent regulations concerning temporary employment, including rules related to the maximum duration of temporary contracts and the maximum number of renewals allowed. Although there has been a pronounced trend towards relaxing the regulation of temporary employment in OECD countries (OECD, 1999), a number of countries still enforce limits on the purposes for which temporary contracts can be used or how long temporary jobs may last. International differences in the strictness of EPL rules for permanent jobs will also affect the labour market position of temporary workers (*e.g.* the ease with which they can move into permanent positions).
- Many OECD governments have established employment programmes that are intended to stimulate the hiring of disadvantaged categories of workers, for example by offering employers wage subsidies or social security discounts to hire such workers, or through direct job creation (*e.g.* community work). Since these provisions are typically time-limited for any given worker, they may encourage an expansion of temporary employment or change the profile of the workers found in temporary jobs, their employment conditions and mobility patterns. Table 3.A.4 summarises some of these programmes and shows that they differ significantly between OECD countries in terms of the individuals targeted for assistance, the instruments used to encourage increased employment, the rules regarding the duration of these jobs and whether there are any inducements to move programme participants into permanent jobs. (Public programmes for youths are discussed in detail in Chapter 1.)

Table 3.A.2. Components of temporary employment analysed in Table 3.1

	Seasonal workers	Temporary help agency workers	On-call workers	Fixed-term contracts	Other temporary workers
Australia	yes	yes	no	yes	no
Canada	yes	yes	yes (but wider)	yes	no
France	yes	yes	no	yes	apprentices; workers on probation; workers on stage.
Korea	no (included in other)	yes	yes	yes (but wider ^a)	workers who expect their job to last less than a year.
Mexico	yes (but wider)	no	no	yes	short duration contracts.
Netherlands	no	yes	yes	yes (but less than one year)	other fixed-term contract.
United Kingdom	yes	yes	no	yes	casual work; not permanent in some other way.
United States	no (included in other)	yes	yes	no	other dependent workers who do not expect their job to last.

a) Includes some workers on other short-term contracts that could not be identified separately.

Source: Data from national Labour Force Surveys for France, Mexico and United Kingdom; Pot *et al.* (2000) for Netherlands; the 2001 Supplement to the Population Survey for Korea; the 1995 Survey of Work Arrangements (SWA) for Canada; 1997 Survey of Forms of Employment (FOE) for Australia; and the 1995 and 2001 Supplements on Contingent and Alternative Work Arrangements to the Current Population Survey for United States.

Table 3.A.3. Regulation of temporary work arrangements in OECD countries

	Other temporary contracts					Temporary work agencies					
	Limited sectors of employment	Limited reasons for hiring	Maximum duration	Maximum renewals	Total duration	Limited sectors of employment	Limited reasons for hiring	Maximum duration	Maximum renewals	Total duration	Recent law changes
Australia	no	no	no limit	no limit	no limit	no	no	no	no	no	
Austria	no	no		yes in court	yes in court	no	no	no	yes in court	yes in court	
Belgium	no	yes		3-4 times	2 years	yes	yes	6 months		6 to 24 months	1998
Canada	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	
Czech Republic ^a	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	
Denmark	no	no	no limit	yes (in court)	yes (in court)		no	no	yes (in court)	yes (in court)	
Finland	no	yes	no limit	no limit	no limit	no	yes	no limit	no limit	no limit	2001
France	no	yes	18 months	yes once	mostly 18 months	no	yes	18 months	yes once	18 months	1990
Hungary	no	no	no limit	no limit	5 years	no	no	no limit	no limit	no limit	
Italy	no	no		varies	varies	no	no			no limit	1997
Korea	no	no	one year	no limit	no limit	yes	no	< 1 year	1	2 years	1998
Japan	no	no	1 year	no limit	no limit	yes	no	1 year	no limit	no limit	1999
Mexico	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	1970
Netherlands	no	no	no limit	2 times	5 years	no	no	no limit	2	5 years	
New Zealand	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	
Norway	no	yes	no limit	no limit	no limit	no limit	yes	no limit	no limit	no limit	2000
Poland	no	no	no limit	3 times	no limit	no	no	no	3 times	no limit	1996, 2001
Portugal	no	yes	varies with reasons	2 times (with some exceptions)	3 years (with some exceptions)	no	yes	varies with reasons	no limit	varies with reasons	1999
Spain	no	yes	varies		2-3 years						
Sweden	no	yes	varies with reasons	no limit	6 months to 3 years	no	no	no limit	no limit	6 months to 3 years	1997
Switzerland	no	no	no	in court	no	no	no	no	no limit	no	
Turkey	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	
United Kingdom	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	to be changed in 2002
United States	no	no	no limit	no limit	no limit	no	no	no limit	no limit	no limit	

a) Temporary work agencies are not formally recognised as such, but are considered as direct employers that dispatch temporarily some of their workers to another enterprise.

Source: OECD secretariat elaboration of data collected directly from OECD Member governments.

Table 3.A.4. **Examples of policies to stimulate the hiring of selected groups, with a potential impact on temporary employment**

	General features of the programme			Incentives to hiring into permanent employment	Success of the programme
	Category of workers targeted	Incentive type	Duration		
Australia	Unemployed and indigenous people	Wage subsidy		Wage subsidies for hiring indigenous people	
Belgium	Long-term unemployed, hard-to-employ, young new entrants, older people	Wage subsidy and contributions discount	Varies	For some programmes, additional wage subsidies and fiscal contributions discount	
Czech Republic	Youths; the handicapped	Wage subsidies and contributions reductions			
Denmark	The handicapped and ethnic minorities	50% wage subsidy	6 months		
Finland	Unemployed people (to replace permanent workers on leave)				
France	Long-term unemployed and low-qualified youth	Exemption from social security contributions; sometimes wage subsidy	Varies	The various programmes cover both permanent and temporary employment	For LTU, 60% of participants still employed after a year, 60% of them in permanent jobs. For youths, same percentages are 70% and 50%, in 2000
Italy	Youths (on training contracts)	Discount on contributions	2-4 years	1 additional year of reduced contributions	
Korea	Unemployed youths	Wage subsidy	3 months	3 more months wage subsidy granted	83% contracts made permanent
Japan	Long-term unemployed, old people	Wage subsidy	6 months		
	Mothers out of the labour force	Wage subsidy	6 months		
	Part-time workers	1993 part-time work law		Encouragement, made in the law	
	Dispatched workers	1999 worker dispatching law		Encouragement, made in the law	
Mexico	All population under ALMP	Tax reductions			
Norway	Unemployed youths, long-term unemployed	50% wage	6 months	No specific rule	Programme participants have 12% higher employment chances (net effect). 74% of those employed are in permanent jobs
	Immigrants, older workers	75% wage (40% wage)	First 6 months (next 6 months)	No specific rule	
	Vocationally disabled	75% wage	24 months	No specific rule	

Table 3.A.4. **Examples of policies to stimulate the hiring of selected groups, with a potential impact on temporary employment** (*cont.*)

	General features of the programme			Incentives to hiring into permanent employment	Success of the programme
	Category of workers targeted	Incentive type	Duration		
Poland	Long-term unemployed	Wage subsidy; contribution discount; transportation and equipment costs reimbursed	12 months		
	Recent graduates (since January 2001)	Old-age pension and accident insurance contribution subsidized			
Portugal	Young new entrants and long-term unemployed	Lump-sum amounts	Duration of fixed-term contract	No social security contributions for 36 months, if received no other subsidy earlier	
	Prisoners with free movements	50% social contributions		No social security contributions for 36 months, including previous discount period	
	Handicapped temporary workers Special training contracts			Lump-sum amounts	
Spain	Long-term unemployed, youths, older people, the hard-to-place	Discount on contributions	Varies	25% off social security contributions for 2 years if contracts are made permanent	
Switzerland	Replacement contracts	Discount on contributions	6 months	Discount on employees' contributions	
	Hard-to-employ persons including older workers, mentally ill and long-term unemployed	Wage subsidy			
	Unemployed persons accepting a job that pays less than the benefit	Wage subsidy	2 years maximum		
United States	Job seekers, including disadvantaged youths and others hard-to-employ	Tax credits, up to \$2 400 per hire		No specific rule	

Source: Secretariat elaboration of data collected directly from OECD Member governments.

Notes to Annex 3.A

1. This approach builds naturally upon the categories of employment described in the International Classification of Status in Employment as adopted in 1993 (ICSE-93, see International Labour Organisation, 1993). The ICSE-93 does not define temporary employment, but does discuss the statistical treatment of 20 “particular groups” of workers, amongst which many of the forms of temporary employment listed here appear.
2. The nomenclature used in Table 3.A.1 (and in this chapter more generally) sometimes differs from that used in any specific OECD country. For example, “casual or seasonal work” is listed as one of the types of temporary jobs in many of the countries, but this usage of casual work is an approximate synonym for “daily workers” and is not to be confused with the much broader category of “casual workers”, as used by Australian statistical authorities (see sub-section on alternative definitions). Similarly, “temporary workers” is sometimes used as a synonym for temporary agency workers, rather than as covering all forms of temporary employment, as in this chapter.
3. For further information on non-standard workers in Japan see Araki (1999) and Morishima (2001), and in Korea see Ahn (2002) and OECD (2000). It should be emphasised, however, that non-regular employment generally is not an undifferentiated residual category in national labour force statistics (e.g. information is collected for a variety of different forms of non-regular employment in both Korea and Japan). For further information on the category of casual workers in Australia, see Murtough and Waite (2000), OECD (2001) and Campbell and Burgess (2001).
4. In a formal sense, the two direct approaches could be reformulated as residual approaches (*i.e.* they implicitly define permanent workers, so that the definition of temporary workers could be expressed residually, as being all workers who are not permanent by this definition). However, the interest here lies in residual approaches that have actually been used and result in a substantively different classification of jobs.
5. Furthermore, many temporary workers, as defined in this chapter, may be classified as regular workers (e.g. approximately two out of three temporary workers in Australia, under the definition used in this chapter, are classified as regular workers in Australian national statistics).
6. The Australian and Korean data presented in this chapter are based on new surveys and should be viewed as somewhat experimental. Furthermore, the contract types included in the definition of temporary jobs (Table 3.A.1) were chosen by the OECD Secretariat, rather than by the NSOs.
7. Examples of forms of self-employment that appear to differ little from forms of temporary employment included in this chapter's analysis include self-employed workers with a contract of “co-ordinated and continuous collaboration” in Italy (Sestito, 2002) and many of those with a “contract for work and services” in Austria.
8. The US Bureau of Labor Statistics has proposed three definitions of “contingent” workers, which are intended to identify jobs that do not offer the possibility of long-term employment (US Bureau of Labor Statistics, 2001; Hipple, 2001; Di Natale, 2001). This chapter uses the broadest of these definitions, except that all self-employed workers are excluded.

Annex 3.B

Job satisfaction and working conditions

This annex presents additional tables comparing job satisfaction and working conditions for temporary and permanent workers.

Table 3.B.1. **Job satisfaction levels of temporary and permanent workers^a**

		Average satisfaction ^b				Percentage very satisfied ^c				Percentage not at all satisfied ^d			
		Permanent workers	All temporary workers	Workers on fixed-term contracts	Workers from temporary agencies	Permanent workers	All temporary workers	Workers on fixed-term contracts	Workers from temporary agencies	Permanent workers	All temporary workers	Workers on fixed-term contracts	Workers from temporary agencies
Austria	1995	3.3	2.9	3.0	..	44.5	21.5	22.3	..	1.3	4.3	4.4	..
	2000	3.3	3.1	3.2	..	40.5	35.5	43.0	..	0.9	3.7	2.1	..
Belgium	1995	3.4	3.3	3.4	..	43.0	40.0	45.8	..	0.9	2.0	..	..
	2000	3.2	3.2	3.2	3.1	31.6	33.5	32.9	35.1	3.3	5.2	5.4	4.6
Denmark	1995	3.4	3.4	3.4	3.4	48.2	52.5	51.3	55.1	1.4	3.6	3.1	4.8
	2000	3.5	3.4	3.5	..	53.6	52.1	56.6	..	0.8	2.6	2.0	..
Finland	1995	3.2	3.3	3.3	..	29.5	36.0	36.6	..	1.6	1.4	1.5	..
	2000	3.2	3.3	3.3	..	24.1	35.0	35.7	..	1.2	0.7	0.7	..
France	1995	3.0	3.0	3.0	2.7	20.6	20.5	20.9	18.7	4.7	5.4	3.3	14.5
	2000	2.9	3.1	3.1	3.1	19.8	28.6	28.8	28.3	5.2	2.6	2.5	2.9
Germany	1995	3.2	2.7	2.7	..	33.3	19.5	21.2	..	2.9	13.4	13.5	..
	2000	3.1	2.9	3.0	..	25.5	18.1	17.6	..	1.8	4.4	3.8	..
Greece	1995	2.8	2.7	2.6	2.7	13.1	14.5	17.7	9.2	5.2	8.2	10.0	5.1
	2000	2.8	2.6	2.7	..	16.3	12.5	14.9	..	4.6	7.2	8.6	..
Ireland	1995	3.5	3.4	3.4	3.4	56.4	52.9	55.1	47.7	0.6	0.9	1.3	..
	2000	3.4	3.4	3.4	3.3	49.5	47.3	50.5	43.6	1.0	2.2	0.9	3.8
Italy	1995	3.0	2.8	2.9	..	19.9	15.8	17.7	..	3.9	5.7	5.3	..
	2000	2.9	2.7	2.8	2.6	17.7	15.8	18.7	12.6	4.3	11.2	8.8	13.9
Luxembourg	1995	3.3	3.1	..	..	35.3	35.2	..	..	1.5	6.5	..	..
	2000	3.1	..	..	..	26.8	..	..	..	1.8	..	..	..
Netherlands	1995	3.3	3.4	3.4	..	43.4	49.1	50.4	..	1.3	2.3	2.8	..
	2000	3.3	3.2	3.2	3.3	48.9	36.6	37.5	32.2	2.0	2.1	2.5	..
Portugal	1995	3.1	2.8	3.0	2.6	23.1	12.1	18.1	3.6	3.0	5.6	2.1	10.5
	2000	2.9	2.9	2.9	..	12.1	16.6	16.9	..	2.5	2.7	2.8	..
Spain	1995	3.1	2.8	2.7	2.9	27.0	15.9	13.4	22.4	2.9	5.7	7.1	1.9
	2000	2.9	2.8	2.8	..	15.7	14.7	15.2	..	3.6	7.2	6.2	..
Sweden	1995	3.3	3.1	..	3.1	37.0	33.6	..	31.9	1.9	7.1	..	8.3
	2000	3.1	2.9	2.9	..	27.6	28.1	27.7	..	3.4	10.4	11.0	..
United Kingdom	1995	3.2	3.1	3.2	2.8	38.0	25.3	31.9	11.7	4.9	3.7	1.3	8.7
	2000	3.3	3.1	3.1	..	39.2	29.0	28.2	..	2.7	2.4	0.7	..
European Union	1995	3.1	2.9	2.9	2.8	31.6	22.6	23.8	18.9	3.4	6.7	6.4	7.7
	2000	3.1	3.0	3.0	2.9	27.6	23.5	23.7	22.5	3.0	4.8	3.9	9.3

.. Data not available or less than 30 observations.

a) The data refer to question 36 for the year 1995 and question 38 for the year 2000 of the European Survey on Working Conditions: “On the whole are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with your main job?”.

b) Weighted average of job satisfaction scores (*i.e.* 1 for “not at all satisfied”, 2 for “not very satisfied”, 3 for “fairly satisfied” and 4 for “very satisfied”).

c) Percentage of workers reporting the highest level of job satisfaction.

d) Percentage of workers reporting the lowest level of job satisfaction.

Source: Secretariat estimates based on microdata from the Second and Third European Survey on Working Conditions (1995-96 and 2000), collected by the European Foundation in Dublin.

Table 3.B.2. **Incidence of temporary employment by number of jobs and unsocial hours, 2000**

Share of indicated group holding a temporary job (percentage)

	Existence of a second job		Shift work			Saturday work			Sunday work		
	No	Yes	Usually	Sometimes	Never	Usually	Sometimes	Never	Usually	Sometimes	Never
Austria	8.1	3.5	5.9	9.7	8.3	10.2	6.6	7.5	8.7	8.3	7.8
Belgium	9.0	7.8	7.4	..	9.1	10.0	7.7	9.5	10.5	7.8	9.3
Czech Republic	8.2	6.5	..	..	..	..	..	..	..	..	..
Denmark	9.7	13.0	12.6	11.4	9.9	10.7	8.7	10.3	10.3	8.0	10.5
Finland	17.5	22.7	17.9	..	17.6	16.8	18.0	17.8	17.1	18.4	17.6
France	14.4	17.1	15.8	..	14.4	14.2	12.5	15.6	16.3	11.6	15.0
Germany	12.7	10.2	8.6	12.5	12.0	10.1	9.6	12.6	10.7	11.3	11.7
Greece	12.9	20.9	10.6	14.5	13.4	20.4	14.3	9.4	25.1	15.1	11.6
Hungary	6.9	7.4	6.6	6.2	7.0	8.3	7.0	6.6	8.2	6.9	6.8
Iceland	4.6	9.2	6.8	1.0	5.2	6.7	5.3	4.8	7.8	7.1	3.9
Ireland ^a	4.3	5.0	8.2	11.8	9.4	9.5	7.5	10.5	10.7	9.3	9.2
Italy	10.1	16.6	8.3	11.4	10.5	10.6	8.5	10.5	10.7	10.1	10.1
Luxembourg ^b	3.4	1.0	1.7	..	3.1	3.4	2.1	3.0	2.0	1.7	3.1
Netherlands	13.3	23.0	17.4	13.3	14.1	17.8	10.3	13.9	14.9	12.4	14.5
Norway	9.5	12.4	12.8	26.9	10.5	12.3	8.2	9.0	13.6	8.8	9.0
Poland	6.0	3.3	..	..	..	..	..	..	..	..	..
Portugal	20.6	18.5	20.6	..	20.4	25.4	..	19.2	28.0	..	19.6
Slovak Republic	4.1	1.2	..	..	..	..	..	..	..	..	..
Spain	32.2	30.0	25.8	22.5	33.6	35.6	29.3	32.1	33.5	25.4	33.2
Sweden	14.3	17.3	15.9	30.9	13.6	18.3	17.3	12.5	17.8	17.3	12.9
Switzerland	11.2	15.9	4.2	8.2	11.9	11.1	9.0	14.5	10.3	9.0	12.5
United Kingdom	6.5	11.7	14.5	5.5	6.9	5.7	4.7	8.9	7.0	4.5	7.6
OECD-Europe average^c	10.9	12.5	11.1	13.3	12.2	13.5	10.4	12.0	13.8	10.7	11.9

.. Data not available

a) 1997 instead of 2000 for unsocial hours variables (shift work, Saturday and Sunday work).

b) 1998 instead of 2000 for unsocial hours variables (shift work, Saturday and Sunday work).

c) Unweighted average of countries shown.

Source: Secretariat estimates based on data supplied by Eurostat from the European Union Labour Force Survey.

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Chapter 4

The ins and outs of long-term unemployment

Efforts to reduce the duration of unemployment spells should be a key element in strategies to reduce overall unemployment. There is some evidence that the long-term unemployed are relatively more likely to become very-long-term unemployed in some countries, while they are more likely to exit the labour force in others. In European countries, the shares of prime-aged males in long-term unemployment and in potentially-avoidable disability and early retirement appear to be similar.

A special analysis of longitudinal data for European countries is used here to examine the role of recurrent unemployment and explore alternative measures of long-term unemployment. Conventional measures understate the extent of long-term unemployment insofar as many short-term unemployed will go on to accumulate 12 months or more of unemployment before their spell ends. Multiple spells of unemployment are common, but in many of the countries considered secondary spells of unemployment do not add many unemployment-months to the total experienced over a four-year period.

A second section examines issues of timing in the design of active labour market policies. Should interventions intensify as the duration of unemployment spells increases, or should policy concentrate on preventing long-term unemployment before it arises? Are “profiling” procedures, for the early identification of individuals who need intensive assistance, effective? Do the minimum contribution and maximum benefit periods in unemployment insurance systems encourage cycling between benefits and short-term employment? When programmes are targeted on the long-term unemployed, how do the authorities define long-term unemployment? Can very-long-term unemployment or cycling between benefits and labour market programmes be reduced by creating permanent jobs for the most disadvantaged unemployed? References to national practices and experiences in this chapter illustrate and to some extent answer these questions.

INTRODUCTION.....	189
MAIN FINDINGS.....	189
1. ANALYSIS.....	191
2. ACTIVE LABOUR MARKET POLICIES AND LONG-TERM UNEMPLOYMENT	210
CONCLUSIONS	226
<i>Annex 4.A.</i> Data for the Main Labour Status variable in Table 4.2.....	232
<i>Annex 4.B.</i> Labour market transitions in European Community Household Panel data	233
<i>Annex 4.C.</i> The use of statistical profiling techniques in OECD Member countries	235
BIBLIOGRAPHY	239

List of Boxes

4.1. The change in life satisfaction of the unemployed in a number of different countries.....	208
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List of Tables

4.1. Long-term unemployment and joblessness, European Union, 2000	195
4.2. Long-term unemployment and Main Labour Status categories, 2000.....	197
4.3. The incidence of long-term unemployment and the mean duration of unemployment spells measured over four alternative reference periods, 1994-97	201
4.4. Single and multiple spells leading to long-term unemployment in 1994-97, by gender and age.....	202
4.5. Distribution of individuals by total months of unemployment, 1994-97, by gender and age	204
4.6. Exits from unemployment followed by re-entry to unemployment within a year.....	205
4.7. Labour market status in 1996 and 1997 following long-term unemployment, by gender and age ...	206
4.8. Labour market status in 1996 and 1997 following short-term unemployment, by previous experience of unemployment	207
4.9. Changes in life satisfaction related to changes in labour force status.....	209
4.10. Minimum UI contribution periods and entitlement duration	219
4.11. Treatment of breaks in unemployment in determining active labour market policy interventions ...	221
4.B.1. Relative frequency of end-year starts and terminations of long-term unemployment spells in ECHP data	233
4.B.2. Average unemployment rate and incidence of long-term unemployment in ECHP data compared with Labour Force Survey data	234
4.C.1. Statistical profiling techniques in Member countries	235

List of Charts

4.1. Long-term unemployment and unemployment rate, 2000.....	192
4.2. Changes in long-term unemployment and unemployment rate, 1990-2000.....	193
4.3. Transition into long-term unemployment, 1984-2000.....	193
4.4. Long-term unemployment compared with long-term joblessness, 2000.....	194
4.5. Proportions of long-term unemployed who have been without employment for two years or more, 2000.....	196

Introduction

A high proportion of long-term unemployment in total unemployment indicates that the burden of unemployment is concentrated on a relatively small number of people, who often are at risk of permanent detachment from the labour market. To the extent that the long-term unemployed are partially detached from the labour market, unemployment becomes a poor indicator of effective labour supply, and macroeconomic adjustment mechanisms – such as downward pressure on wages and inflation when unemployment is high – will then not operate effectively to bring unemployment down. The rise in unemployment seen in Europe in recent decades does not seem to be due primarily to an increase in the numbers of people entering unemployment, for example after losing a job, but rather to increased difficulties in finding work once unemployed.¹ Such observations suggest that efforts to reduce the duration of unemployment spells should be a key element in strategies to reduce unemployment.

On average about 30% of unemployed people in OECD countries were long-term unemployed (*i.e.* had been unemployed for 12 months or more) in 2000. In ten countries, the proportions were over 40%. These are high proportions by historical standards, especially after a long period of expansion. Moreover, this chapter documents that in EU countries a large proportion of people who are classified as short-term unemployed in conventional statistics nevertheless experience 12 months of unemployment in total over a two- to four-year period. There is also concern that figures would be higher still if hidden unemployment among those classified as “early retired”, “permanently disabled” or simply “out of the labour market” were taken into account.

The first main section of this chapter reviews the progress made in reducing long-term unemployment during the recent expansion. It compares long-term unemployment with specific inactive statuses, including permanent disablement and early retirement, and a broad concept of “long-term joblessness”. A special analysis of average life satisfaction data shows that the long-term unemployed report very similar life satisfaction to the short-term unemployed, while transitions from unemployment into inactivity increase life satisfaction. Longitudinal data for unemployment month by month over a 48-month period are used to explore alternative measures of the concentration of unemployment among individuals, the duration of unemployment spells, repeat unemployment, and relationships between individual labour market history and later labour market outcomes.

The second main section of the chapter focuses on issues of timing that arise in the design of active labour market policy and unemployment benefits. This section includes information from special surveys of how Member countries currently use profiling techniques and how the duration of unemployment spells is defined administratively for purposes of targeting labour market programmes on the long-term unemployed.

Main findings

- In cross-country comparison, the incidence of long-term unemployment – the proportion of all people unemployed who have been unemployed for a year or more – is positively correlated with the overall unemployment rate. Repeat unemployment – a situation where unemployed people have often experienced other spells of

unemployment in recent years – may be seen as the second proximate cause of high unemployment: it appears to be particularly common in a few countries where unemployment is mainly short-term and yet the overall unemployment rate remains relatively high.

- Even among prime-age males, in European countries slightly more people are inactive than unemployed. The numbers in “potentially-avoidable” disability and early retirement are similar to numbers in long-term unemployment on average, but there is much variation across countries. The pattern of cross-country variation is partly consistent with the hypothesis of substitution between disability, early retirement and long-term unemployment statuses.
- An analysis here of longitudinal data for eleven European countries over a four-year period in the mid-1990s shows that although many individuals experienced only short-term and non-repeated unemployment, these individuals accounted for only a relatively small proportion of total months of unemployment. Among those who were short-term unemployed at a given point in time (December 1995) according to the conventional definition of duration, about 40% went on to experience 12 or more months of unemployment by the time that their current spell had finished. About half of the remainder accumulated 12 months of unemployment in total, when months spent in other spells of unemployment were also taken into account. So in the end, on average, five out of six people who were unemployed in December 1995 in this sample experienced 12 months of unemployment over a four-year period.
- Very-long-term (four-year) spells of unemployment are relatively rare in many of the countries. The availability of very long-term unemployment benefits uninterrupted by participation in labour market programmes in some countries could explain some of the main cross-country patterns seen for older workers, but not for youth because very-long-term youth unemployment is common in several countries of Southern Europe where they typically do not receive benefits.
- Some studies using cross-sectional data have found slightly higher life satisfaction among the long-term unemployed than among the short-term unemployed. However, a longitudinal analysis reported here finds no evidence that life satisfaction among the long-term unemployed is higher than it was among the same individuals a year earlier. This suggests that the cross-section finding may well arise through sample selection, in the sense that those who suffer most severely from unemployment tend to leave that state more rapidly.
- Labour market policies can attempt to influence the incidence of long-term unemployed through “prevention” or “cure”. The emphasis to be given to each approach in an optimal strategy depends on a number of considerations: the degree to which the experience of unemployment in itself reduces the rate of exit from unemployment (state dependence); the importance of individual differences affecting the rate of entry to long-term unemployment (heterogeneity and sorting); the characteristics of the long-term unemployed (*e.g.* poor productivity or poor motivation); the phenomenon of “lock-in” when short-term unemployed people participate in long-term labour market programmes; and the behavioural response of beneficiaries to reductions in the replacement rate or programme participation requirements.
- The 1990s saw attempts at improving on some of the above trade-offs through “profiling”, which targets assistance on those short-term unemployed who are most at

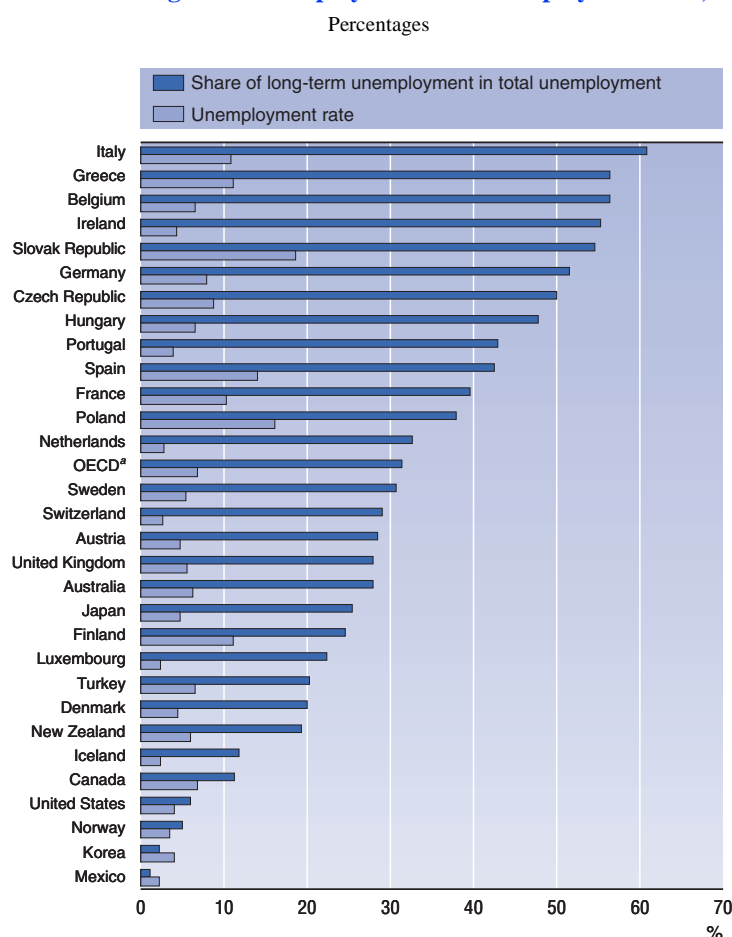
risk of long-term unemployment, and strategies such as individual action plans which make it possible to combine obligations with an individualised treatment of problems.

- Benefit systems create some incentives for repeat unemployment, particularly but not solely when benefit entitlements are limited in duration and can be regained after a relatively short time back in work. Seasonal work and temporary layoffs with rehiring by the same employer are often involved in repeat unemployment. Detailed rules within the UI system can be used to limit the benefit coverage of such entries to unemployment, when unemployment no longer has the character of unpredictable risk.
- European longitudinal data suggest that the short-term unemployed with a substantial history of earlier unemployment are as much at risk of additional months of unemployment as are the long-term unemployed. In many cases, national practices allow people whose spell of unemployment has recently been briefly interrupted to be treated as equivalent to the long-term unemployed, in determining eligibility for labour market programmes. However, these practices are very varied and merit further research and reflection on the principles to be followed.
- Various “carousel effects” – mechanisms that generate repeated movements in and out of unemployment – have become important at particular times and in particular countries. If UI entitlement arises automatically after the end of temporary contracts, a carousel effect can arise because UI claims are no longer restricted to situations where the firm has an objective economic reason for layoffs. To avoid this, it may be desirable to tighten UI entitlement rules applying to workers holding temporary jobs, or to restrict or tax the use of temporary contracts in situations where there is no objective need for them.
- Two others sources of “carousel effects” are the use of labour market programmes to renew entitlement to UI benefit, and the creation by local authorities of temporary jobs that qualify social assistance beneficiaries for UI benefits. Although cycling between open unemployment and programme participation could be stopped simply by making one or the other state permanent, this may not in itself be a better outcome. Repeated cycling should be interpreted as a form of long-term unemployment, calling for interventions that depend on the considerations listed above.

1. Analysis

A. The extent of long-term unemployment

According to the conventional definition of the long-term unemployed as those who have been continuously unemployed for at least one year, long-term unemployment represented around 30% of total unemployment in OECD countries in 2000. This proportion varies widely from country to country. In 2000, it was over 50% in Italy, Greece, Belgium, Ireland, the Slovak Republic and Germany, but under 20% in New Zealand, Iceland, Canada, the United States, Norway, Korea and Mexico (Chart 4.1). As pointed out by Karr (1997), these percentages are much lower than the percentages of individuals in the current stock of unemployed whose current spell will last for over a year in total.² At the same time, they are higher than the percentage of all entries to unemployment that represent the start of a long-term spell.

Chart 4.1. **Long-term unemployment and unemployment rate, 2000**

a) OECD: unweighted average of the countries shown.

Source: OECD database on labour force and unemployment duration.

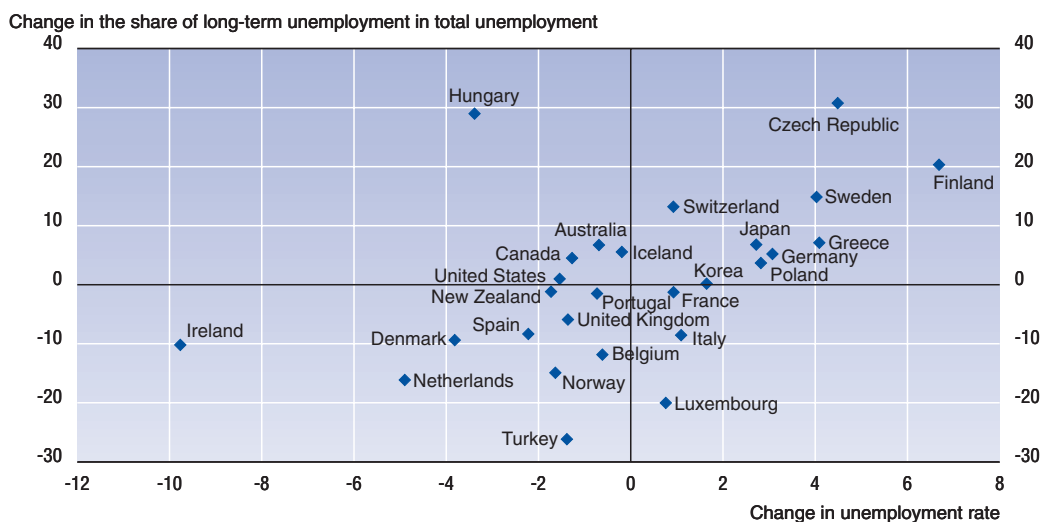
Changes in the incidence of long-term unemployment (*i.e.* long-term unemployment as a percentage of total unemployment) over the 1990s³ were positively correlated across countries with changes in total unemployment (Chart 4.2). Ireland and Hungary were the two main outliers on this scatter diagram, experiencing changes in long-term unemployment that were less favourable than could be expected given the change in total unemployment. Although there was almost no fall in the average incidence of long-term unemployment during the 1990s, the average incidence in the 1990s was somewhat lower than in the 1980s. Related to this, rates of transition from short-term into long-term unemployment have tended to fall since the 1980s (Chart 4.3).

B. Long-term unemployment and long-term joblessness

There has always been concern that unemployment statistics fail to record significant numbers of people who want to work but are excluded from the standard international definition of unemployment, which generally requires an act of job search within

Chart 4.2. **Changes in long-term unemployment and unemployment rate, 1990-2000**

In percentage points



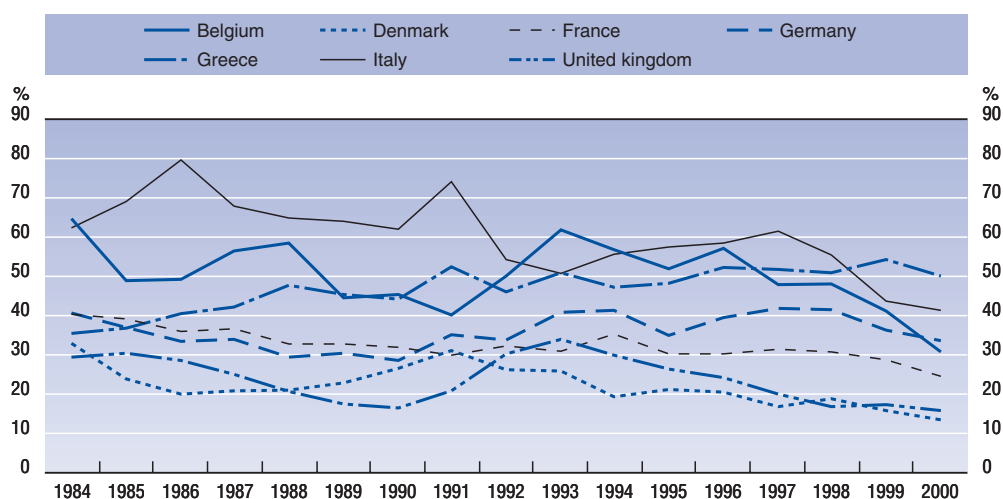
Source: OECD database on labour force and unemployment duration.

the last four weeks. Among the categories not counted as unemployed are those who are not looking for work because they believe no work is available for them (the so-called “discouraged workers”). One possible broader statistical concept is “long-term joblessness”. In this sub-section, the long-term jobless are defined as working-age people who

Chart 4.3. **Transition into long-term unemployment,^a 1984-2000**

Population aged 15 to 64

Percentages



a) The average probability of passing from unemployment of under one year to long-term unemployment. This is measured as the ratio of persons unemployed for 12 to 23 months in the year in question to persons who had been unemployed for less than 12 months the year beforehand, in per cent.

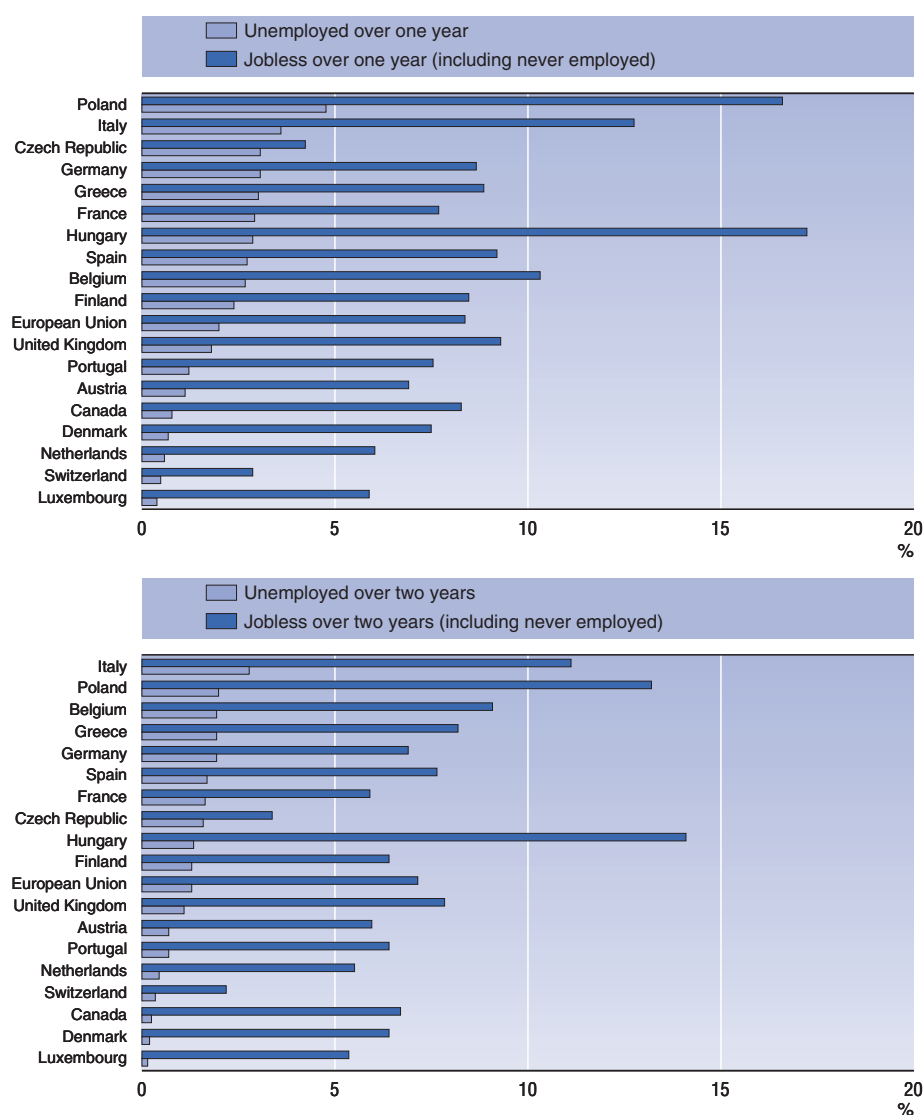
Source: OECD calculations using data supplied by Eurostat from the European Union Labour Force Survey.

were not in employment at the time of the interview and have not worked within the last one or two years. Naturally, since many of the “jobless” have not recently sought work, statistics for “joblessness” reflect a variety of factors and not only difficulty in finding work.

Comparisons between long-term unemployment and long-term joblessness are perhaps most telling for men aged 25-54, who are generally expected to be in employment unless there are special circumstances, such as disablement or extended education. Chart 4.4 shows that long-term joblessness, of one and two years’ duration, is a considerably higher

Chart 4.4. **Long-term unemployment compared with long-term joblessness, 2000**

Percentage of men aged 25 to 54



Source: As for Table 4.2, and for Canada advice from national authorities based on the Public Microdata file of the 2000 Labour Force Survey.

proportion of the male population aged 25-54 than is long-term unemployment of corresponding durations. While there is a positive correlation between the joblessness and unemployment measures, it is by no means close.

Figures for a wider range of population groups are provided in Table 4.1, which relates to the European Union as a whole. Men aged 25-54 have the lowest rates of joblessness as would be expected. They also have the lowest rate of persons unemployed for at least two years. At ages 55 to 59, male non-employment is almost as high as at ages 20 to 24 – when a quarter of the population is in education but not in the labour force (see Chapter 1). About 15% of women aged 55 to 59 report that they have never worked and a further 35% have not worked in the last two years.

Information on joblessness can also be used to show the proportion of the long-term unemployed who have no work experience in the last two years and, hence, might be expected to find it particularly difficult to enter or re-enter employment (Chart 4.5). In Austria, Belgium, Canada,⁴ Germany and the United Kingdom, the figures are around two-thirds, or higher. The long-term unemployed are the least likely to have been jobless for two years or more in Denmark, Norway and Sweden, but this may not indicate easier access to unsubsidised jobs. The jobs recorded in these data are not necessarily in the open labour market and in these Nordic countries the long-term unemployed often enter a labour market programme of a job-creation nature before they have been out of work for two years.

Table 4.2 compares the numbers of long-term unemployed with the numbers in various “non-active” states, defined by Eurostat in the “Main Labour Status” variable of the EU Labour Force Survey. The figures are only very roughly comparable internationally (see Annex 4.A). Restricting attention to men aged 25 to 54, and on average for the countries for which the data are available, the long-term unemployed population is smaller than the numbers saying that they are permanently disabled (an average of 2.5% as against 3% of the population). In Nordic countries, the Netherlands and the United Kingdom, disability is two or more times as common as long-term unemployment. In this age group, the proportion saying that they have retired is relatively small, but is still over half of the proportion that is in long-term unemployment. The international variation

Table 4.1. **Long-term unemployment and joblessness,^a European Union, 2000**

As a percentage of the total population in the age groups shown

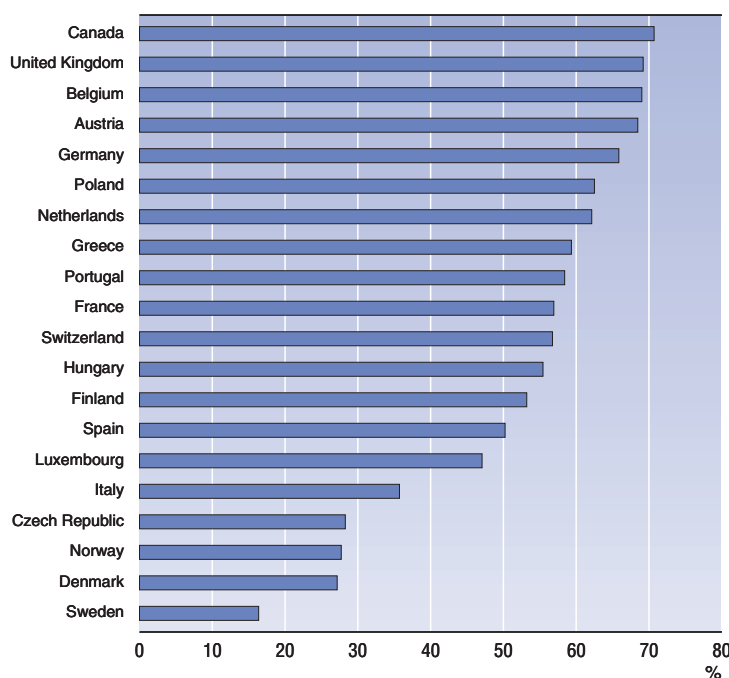
	Not employed			Unemployed		
	Total	Of which:		Total	Of which:	
		Have not worked over the past year	Have not worked over the past two years		Unemployed for at least one year	Unemployed for at least two years
Men						
20-24	39.4	31.1	29.3	10.1	3.4	1.9
25-54	12.9	9.0	7.6	5.6	2.6	1.6
55-59	36.6	29.9	24.7	5.6	3.6	2.4
Women						
20-24	48.9	40.6	38.0	10.0	3.7	2.0
25-54	34.3	29.2	26.9	6.4	3.1	2.1
55-59	59.4	53.9	50.3	4.0	2.5	1.8

a) Joblessness is defined as the absence of employment during the periods shown.

Source: OECD calculations based on data supplied by Eurostat from the European Union Labour Force Survey.

Chart 4.5. **Proportions of long-term unemployed who have been without employment for two years or more, 2000**

Percentage of men aged 25 to 54



Source: OECD calculations based on data supplied by Eurostat from the European Union Labour Force Survey, and for Canada advice from national authorities based on the Public Microdata file of the 2000 Labour Force Survey.

suggests that effective policies might be able to limit early retirement to 0.5% and disability to 2%, for this population. On this assumption, potentially-avoidable early retirement and disability are less frequent than unemployment, but about as frequent as long-term unemployment.

C. Repeat spells of unemployment and alternative measures of long-term unemployment

Recurrent unemployment spells and high rates of re-entry to unemployment among individuals who have found work can result in chronic unemployment even among individuals who never become long-term unemployed. In countries such as Canada and Finland where total unemployment is much higher than would be expected on the basis of the long-term unemployment figures (see Chart 4.1), the short-term unemployment that makes up the bulk of total unemployment arises mostly in repeat spells (see below). There is not always a clear definitional distinction between recurrent unemployment and long-term unemployment: a person who is sick for a short time in the middle of a 23-month spell of unemployment in principle may never have become long-term unemployed, but few data sources reliably record such breaks in the unemployment spell. This section will look in detail at alternative measures of unemployment duration, including some which take repeat spells into account.

Table 4.2. Long-term unemployment and Main Labour Status categories, 2000

Percentages of men aged 25 to 54

	Main Labour Status ^a							Labour force status
	Carries out a job or profession	Unemployed	Pupil, student, further training, unpaid work experience	In retirement or early retirement or has given up business	Permanently disabled	Fulfilling domestic tasks	Other inactive person	Long-term unemployed
Austria	89.2	5.1	2.0	2.7	0.3	0.3	0.5	1.1
Belgium	86.7	5.2	0.9	1.5	3.8	0.3	1.5	2.7
Czech Republic	90.0	5.5	0.6	0.2	3.3	0.1	0.2	3.1
Denmark	86.3	4.4	3.6	0.4	4.8	0.2	0.3	0.7
Finland	83.3	8.1	2.8	0.3	5.0	0.1	0.4	2.4
France	87.5	8.1	0.8	0.6	2.1	0.1	0.8	2.9
Greece	87.6	7.0	0.8	1.8	2.0	0.0	0.8	3.0
Hungary	78.5	9.3	0.6	5.8	3.8	0.3	1.7	2.9
Iceland	95.2	0.7	2.0	0.0	1.5	0.0	0.6	0.1 ^b
Ireland	87.7	6.6	1.1	0.6	3.1	0.6	0.5	3.2 ^b
Italy	84.2	8.4	2.9	2.7	1.2	0.0	0.7	3.6
Luxembourg	92.8	0.8	1.6	1.2	1.8	0.3	1.7	0.4
Netherlands	90.5	1.6	2.0	0.1	3.3	0.8	1.8	0.6
Norway	89.3	3.4	1.5	0.2	5.0	0.1	0.6	0.5
Poland	77.5	10.8	0.5	1.3	6.8	0.2	2.8	4.8
Portugal	89.6	4.4	1.1	2.2	1.1	0.0	1.6	1.2
Slovak Republic	79.2	15.3	0.4	4.8	0.0	0.2	0.2	8.5
Sweden	83.8	5.9	4.4	0.1	3.5	0.0	2.3	1.5
Switzerland	95.2	1.5	1.1	1.2	..	0.2	0.7	0.5
United Kingdom ^b	87.1	5.0	0.7	0.2	4.8	1.0	1.1	2.0
Unweighted average	86.6	6.1	1.6	1.4	3.0	0.2	1.0	2.5

a) For definitions of the Main Labour Status categories, see Annex 4.A.

b) 1999 instead of 2000.

Source: OECD calculations based on data supplied by Eurostat from the European Union Labour Force Survey, 2000; and for Switzerland data supplied by the Swiss Federal Statistical Office on the basis of the Swiss Labour Force Survey, 2000.

National studies of repeat spells of unemployment

National studies have used various types of statistics to document the significance of recurrent unemployment. Some of the findings are:

- In Canada, only 20% of unemployment insurance (UI) claims initiated in 1989 were new claimants: the remaining 80% were made by people who had at least one other claim since mid-1971. A “standard” male with one claim had a 61% chance of claiming again within the next five years, and after a second claim had a 69% chance of claiming again within the next five years (Corak, 1993).⁵
- Repeated circling between open unemployment and labour market measures became a characteristic feature of the Finnish labour market in the 1990s. Of 485 000 people who were unemployed or in measures in 1996, and who had become unemployed for the first time more than two years earlier, 395 000 (*i.e.* 81%) had been in unsubsidised employment for less than 25% of the previous two years (based on advice from national authorities).
- In France, in a sample of individuals with a low level of education, individuals who had experienced unemployment or inactivity one to four years after leaving school were 1.6 times more likely to experience unemployment in later years than those who had not experienced unemployment or inactivity in the same year. For those who experienced unemployment or inactivity three to six years after leaving school,

this ratio increased to 3.6. For those who took more than 17 months to find their first job, the risk of experiencing repeat unemployment several years later was at least twice the average. Allaire *et al.* (2000) conclude that although unemployment shortly after leaving school is largely a chance phenomenon, unemployment at the end of the period more often indicates social exclusion and it can partly be predicted from the length of the early spells of unemployment.

- In Italy, over 50% of individuals who claimed ordinary unemployment benefit with reduced requirements (based on a minimum of 78 days of work in the year) claimed the same benefit one year later, and 25% claimed it five years later (1990-1998 data, reported in MLPS, 2000).
- In New Zealand, among individuals who became unemployed in 1993, the “most fortunate” quarter typically experienced only one spell and a total of nine weeks’ unemployment over the period 1988 to 1997. The “least fortunate” quarter of these individuals typically experienced three spells and almost two and a half years of unemployment. About half of male exits from unemployment were followed by the start of another spell within a year (Gobbi and Rea, 2000).
- In Norway, in the period 1991 to 2000, 1.14 million people – over half the labour force at a given point in time – were unemployed at least once. Over this period, 4% of the labour force had been unemployed more than 10 times and 3% for more than three years, in total (based on advice from national authorities).
- In Swedish data for 1982 to 1992, about 60% of individuals who received UI in one year also received it the next. Nearly 50% of all individuals with UI in a given year were at some point in a spell of at least four consecutive years with UI receipt (Ackum Agell *et al.*, 1995).
- In the United Kingdom, 49% of all individuals who experienced claimant unemployment at some time over the five years 1992 to 1996 had more than one spell. In February 1995, 36% of the current stock of claimants had been claiming continuously during the past year, but half of the remainder had claimed for more than one year in total over the past two years. From 1990 onwards, the rate of re-entry to unemployment within a year of the end of an unemployment spell was very close to 50% irrespective of the duration of the preceding spell (Teasdale, 1998).⁶
- In US data for five states from 1979 to 1984, 60% of individuals who had claimed UI had claimed it only once. However, 70% of all benefit-years were accounted for by repeat users, and 42% were accounted for by individuals with a claim in at least three out of five possible years (Meyer and Rosenbaum, 1996).

Individuals who experience many spells of unemployment are often found to have a low average spell length,⁷ but this appears to be partly a statistical artefact arising in data sets relating to a fixed time period (*e.g.* in data which cover only two years, by construction, no multiple spells of long-term unemployment will be observed). OECD (1985, Chapter 6) remarked, in relation to Canadian data, that “When multiple spells are examined over an even longer period (*i.e.* longer than two years), the negative relationship between number and average length of spells all but disappears”. Thus in cross-section across individuals, rates of entry to unemployment while not-unemployed are not necessarily correlated with rates of exit from unemployment while unemployed. This does not preclude high levels of correlation through time for a given individual such that, for example, some individuals are continuously at high risk of entering unemployment, others are continuously at high risk that any spell experienced will be lengthy, and others again face neither, or both, risks.

Repeat unemployment is in fact much more common than it would be if unemployment struck members of the workforce at random. One factor explaining this is seasonal unemployment. Gray and Sweetman (2001), using Canadian data for 1992 to 1997, distinguished a number of patterns among 1996 Employment Insurance (EI) users:

- *Relatively new entrant* users (probably too young to have claimed every year) were 11% of female and 13% of male users.
- *Classic displaced* users with just one claim (in 1996) were 14% of female and 10% of male users.
- *Twice-unlucky* users with claims in two years were 19% of female and 14% of male users.
- *Strictly seasonal* and *mostly seasonal* users, who claimed EI at least four out of the six years within an 8-week window, were 17% of female and 15% of male users.
- *Frequent and mostly frequent, but non-seasonal* users who claimed EI in at least four of the six years, but for whom no pattern of seasonality was discerned, were 15% of female and 22% of male users.
- *Other frequent* users who claimed in three of the six years were 20% of users.
- *Perpetual* users who had a claim active in over 90% of the six-year period (this can occur when during claim periods, enough time is spent in employment to qualify for another claim immediately) were 4% of the female and 6% of the male users.

These findings suggest that users with a strictly seasonal pattern are a minority within the total of frequent users: frequent but irregular use of EI is more common. By contrast CEIC (2000), using different definitions, estimates that by 1999/2000 (following a sharp fall in non-seasonal frequent claims after 1995/96), 80% of all frequent claims were seasonal.

Temporary layoffs by employers are another cause of repeat (in some cases also seasonal) unemployment experiences. Corak (1995) reports for Canada that over 40% of claimants who made at least five claims within a 14-year period supported their claims with employment from three or fewer different employers. Meyer and Rosenbaum (1996) similarly report for the United States that over 80% of all individuals with UI claims in three or more out of five years had been laid off by only one or two employers, and thus must have been recalled at least once. Temporary layoff unemployment can be defined as unemployment in spells which ended with the unemployed person being rehired by the same employer. On this basis, temporary layoffs have been estimated to account for 45% of terminations of UI spells and 38% of UI weeks paid in Canada (late 1980s data in Corak, 1995), 32% of all terminations of unemployment spells and 20% of total unemployment in Austria (late 1980s data), 50% of all unemployment spells and 20% of total unemployment in Denmark (1981 to 1990 data), and 68% of unemployment spells and 30% of total unemployment in manufacturing in the United States (1965 to 1976 data, with some similar figures cited for 1979-80) (sources cited by Jensen and Svarer, 2001). In Germany, recalls accounted for about 17% of jobs started by benefit recipients and 11% of benefits were paid to workers who were later recalled (1980 to 1990 data) (Mavromaras and Rudolph, 1998). In Norway, recall unemployment accounted for 32% of unemployment spells and 13% of total unemployment (1989 to 1998 data) (Roed and Nordberg, 2001). In Sweden, 45% of a sample of unemployed people who found work returned to a previous employer, and an estimated 10% of the unemployment stock consists of people on temporary layoff (data from a small survey, relating to 1995 and 1996) (Jansson, 2002).

Apart from seasonal unemployment and temporary layoffs – factors that are related to industry, occupation and employer behaviour – tendencies for unemployment experi-

ences to be repeated could be due to heterogeneity in individual characteristics or to state dependence, *i.e.* so-called “scarring” whereby a first unlucky experience of unemployment increases the probability of further spells. Pedersen (1994) notes that low levels of educational achievement are a very important influence on the amount of unemployment experienced over a nine-year period by Danish youths: this is an example of an explanation in terms of (observed) heterogeneity. Winter-Ebmer and Zweimuller (1992) find, using a probit model for the probability of repeat unemployment after an unemployment spell in Austria in 1986, that the number of short-term (up to six-month) unemployment spells in the three preceding years is the most significant explanatory variable and the duration of the 1986 unemployment episode (which enters with a positive coefficient) is the second most significant. They conclude that (even after allowing for seasonal work patterns, which are also important) the most prominent factor in explaining repeat unemployment is past unemployment history, and they attribute this to state dependence effects.⁸

Repeat spells and alternative measures of long-term unemployment in the European Community Household Panel

Longitudinal data allow detailed analysis of unemployment durations, repeat spells of unemployment and transitions between different labour market states. Tables 4.3 to 4.8 here present various statistics – inspired by statistics used in the national studies cited above – from the European Community Household Panel (ECHP) (including data from German and UK national surveys, as described in Box 4.1). ECHP data suffer from strong “seam effects”, *i.e.* the tendency in survey-based longitudinal data for changes in reported status to occur between the last month covered by one interview and the first month covered by the next interview. In the ECHP, as described in Annex 4.B, interviewees report their status month by month for the preceding calendar year and in half the countries the majority of all long-term spells of unemployment (those lasting 12 months or more) are reported to finish in December and/or commence in January. Tabulations here use a sample that has been adjusted by putting higher weights on the records that report changes in status in other months of the year. In the reweighted sample, the incidence of long-term unemployment is on average close to that reported in the EU Labour Force Survey. However, some fairly large discrepancies arise for individual countries and it would be useful, wherever possible, to calculate the statistics in Tables 4.3 to 4.8 using alternative data sets.

International comparisons of “long-term unemployment” according to different definitions

Table 4.3, Panel A, shows the proportion of all individuals who were unemployed at a given point in time – December 1995 – who experienced 12 months or more of unemployment as measured over alternative reference periods. On average, 46% of unemployed people had already been unemployed for 12 or more months within their current spell of unemployment: this is the conventional measure of the incidence of long-term unemployment. However about 40% of those with less than 12 months of unemployment went on to have a completed spell duration of 12 months or more: on this basis, nearly 70% were long-term unemployed. Counting also unemployment that occurred in other spells, nearly three out of four unemployed people had experienced 12 or more months of unemployment in total over the two preceding years (1994 and 1995) and five out of six experienced 12 or more months of unemployment in total over the four years (1994 to 1997). The impact of using a longer reference period varies greatly between countries. Persons who were in a spell of less than 12 months (completed duration) in December 1995 nevertheless accumulated 12 months of unemployment over the four-year

Table 4.3. **The incidence of long-term unemployment and the mean duration of unemployment spells measured over four alternative reference periods, 1994-97**

A. Percentage of all persons unemployed in December 1995 who experienced at least 12 months of unemployment as measured by:

	Uncompleted duration of the current spell	Completed duration of the current spell	Total unemployment in the last 24 months	Total unemployment in the four years, 1994-97
Austria	23.0	47.3	55.2	68.0
Belgium	67.4	82.2	87.2	91.6
Denmark	47.1	67.1	68.8	78.6
France	45.8	75.7	84.1	90.9
Germany	47.0	75.7	77.6	86.6
Greece	32.2	43.1	63.5	79.9
Ireland	67.4	81.3	84.1	90.2
Italy	54.2	71.4	80.8	88.4
Portugal	36.8	67.4	69.3	76.0
Spain	40.5	62.2	75.2	85.8
United Kingdom	39.5	71.6	69.0	77.5
ECHP^a	45.5	67.7	74.1	83.0

B. Average months of unemployment experienced by persons unemployed in December 1995 as measured by:

	Uncompleted duration of the current spell	Completed duration of the current spell	Total unemployment in the last 24 months	Total unemployment in the four years, 1994-97
Austria	7.4	17.0	9.5	20.0
Belgium	16.6	34.2	17.6	35.8
Denmark	12.0	24.4	14.3	27.0
France	12.1	25.0	14.9	29.4
Germany	12.5	25.5	14.0	27.7
Greece	8.6	17.2	12.9	23.8
Ireland	16.8	32.9	18.5	35.0
Italy	14.1	27.7	16.8	32.1
Portugal	10.5	21.1	12.2	22.9
Spain	11.5	22.2	15.1	27.9
United Kingdom	10.6	22.4	13.1	25.5
ECHP^a	12.1	24.5	14.4	27.9

ECHP: European Community Household Panel.

a) Unweighted average of countries shown.

Source: ECHP, waves 2 to 5.

period in two-thirds of the cases in France, Greece, and Spain, whereas in the United Kingdom this occurred in only one-fifth of the cases.

How much unemployment is “missed” if labour market policies focus only on individuals who are currently unemployed, with the aim of bringing the current spell of unemployment to an end but without attention to the risk of later return to unemployment? According to Table 4.3, on average only one-eighth of the unemployment-months experienced within the four-year window either side of December 1995 occurred outside the completed current spell of unemployment. This proportion is necessarily low where the average duration of current spells is already very long: it is higher in Austria, France, Greece and Spain.

Repeat spells as a form of long-term unemployment

Table 4.4 reports the number of unemployment spells experienced by individuals who were unemployed for at least 12 months in total over the four years 1994 to 1997 (these individuals appeared in the last column of Table 4.3 if they were unemployed in December 1995). In 10 of the 11 countries, only a minority of these “long-term

Table 4.4. **Single and multiple spells leading to long-term unemployment in 1994-97, by gender and age**Percentage of the long-term unemployed population^{a, b}

Number of observations	At least one single spell of 12 months or more	No spell of 12 months or more			Number of observations	At least one single spell of 12 months or more	No spell of 12 months or more			
		2 spells	3 spells	4 spells or more			2 spells	3 spells	4 spells or more	
	Both sexes aged 15-64					Both sexes aged 15-24				
Austria	227	41.2	25.5	16.9	16.4	Austria	36	(49.4)	—	—
Belgium	454	59.5	22.9	6.9	10.7	Belgium	88	54.8	(24.7)	—
Denmark	337	30.8	34.8	17.3	17.1	Denmark	47	(33.0)	(24.6)	—
France	898	28.0	29.9	21.1	21.0	France	211	21.5	23.3	21.6
Germany	1 031	41.4	37.1	13.3	8.2	Germany	129	51.4	34.9	(7.8)
Greece	842	29.5	23.3	14.1	33.2	Greece	332	33.7	27.4	16.5
Ireland	456	41.5	36.6	12.6	9.3	Ireland	126	34.8	30.5	(24.8)
Italy	1 953	35.8	31.2	17.5	15.5	Italy	856	46.4	30.2	14.1
Portugal	707	43.0	31.7	14.5	10.8	Portugal	226	27.5	35.2	(23.9)
Spain	2 057	22.0	29.7	22.9	25.3	Spain	640	19.6	29.5	28.9
United Kingdom	388	30.1	37.3	21.1	11.5	United Kingdom	104	(25.1)	31.0	(29.1)
Men aged 15-64					Both sexes aged 25-54					
Austria	113	38.5	(24.1)	(19.9)	(17.6)	Austria	160	35.5	24.5	(17.5)
Belgium	144	59.7	18.6	(6.6)	(15.1)	Belgium	323	59.3	21.8	(7.2)
Denmark	112	34.6	32.7	(11.8)	(20.9)	Denmark	234	29.1	36.8	17.1
France	370	24.5	29.7	23.7	22.0	France	614	28.0	30.4	22.6
Germany	453	39.1	34.5	14.5	12.0	Germany	705	36.4	36.0	16.3
Greece	325	33.9	19.9	12.0	34.2	Greece	479	27.1	21.3	12.0
Ireland	346	43.8	36.6	11.7	8.0	Ireland	286	44.9	38.1	8.9
Italy	1 016	32.7	33.3	20.6	13.4	Italy	1 028	28.7	31.6	20.2
Portugal	288	41.7	39.0	(8.9)	(10.4)	Portugal	384	48.2	28.8	11.7
Spain	1 054	23.1	28.5	22.7	25.8	Spain	1 246	20.2	30.6	21.9
United Kingdom	251	28.3	34.8	23.8	13.1	United Kingdom	236	30.5	38.1	19.0
Women aged 15-64					Both sexes aged 55-64					
Austria	114	44.6	27.4	(13.1)	(14.9)	Austria	31	(59.3)	(29.0)	—
Belgium	310	59.4	25.2	(7.1)	(8.3)	Belgium	43	(71.0)	(29.0)	..
Denmark	225	27.9	36.5	21.4	(14.1)	Denmark	56	(38.6)	(31.1)	—
France	528	30.7	30.0	19.1	20.2	France	73	46.3	44.2	—
Germany	578	43.8	39.8	12.1	(4.3)	Germany	197	51.0	41.4	(7.3)
Greece	517	25.7	26.1	15.8	32.4	Greece	31	(24.8)	—	—
Ireland	110	32.9	36.4	(16.3)	(14.5)	Ireland	44	(32.8)	(42.0)	—
Italy	937	40.5	28.1	12.8	18.6	Italy	69	(21.6)	(38.6)	—
Portugal	419	43.9	26.6	18.4	11.0	Portugal	97	50.5	39.6	—
Spain	1 003	20.4	31.5	23.3	24.7	Spain	171	51.9	20.7	(12.8)
United Kingdom	137	33.5	42.0	(15.8)	(8.6)	United Kingdom	48	(37.0)	(44.5)	—

.. Data not available.

— Estimates not reported due to fewer than 10 observations.

(Estimates based on less than 30 observations).

a) Population with at least 12 months of unemployment in the 48 months, 1994 to 1997.

b) The age ranges refer to age in 1995. Because individuals aged over 64 are dropped from the survey, the 55-64 group includes only those aged 55-61 in 1995 (*i.e.* 58-64 in 1998).

Source: European Community Household Panel, waves 2 to 5.

unemployed” had any one spell that lasted 12 continuous months (although truncation of spell duration at the beginning and end of the observation window contributes to this result). Experiencing this type of “long-term unemployment” only through repeat spells was common in Denmark, France, Greece, Spain and the United Kingdom. Youths do not have more multiple spells than prime-age workers and older workers have relatively few multiple spells, but these observations need to be seen in the light of the fact that youths and older workers often spent only part of these four years in the labour force.

The distribution of total months of unemployment

Table 4.5 shows the distribution of individuals with any unemployment by total months unemployed over the four years 1994-97. The top decile of this distribution (which represents about 2% of the total population) in Ireland and Italy, and the top two deciles (about 4% of the population) in Belgium experienced close to 48 months of unemployment. In all other countries the 90th percentile is below 38 months, indicating that continuous spells as long as four years are rare. In some countries (*e.g.* Spain and Portugal) UI benefit exhaustion would tend to produce this result. In others (Denmark and Germany) it may arise because some participation in labour market programmes would be obligatory for individuals who would otherwise be entitled to four or more years of benefit.

On average, 39% of 15-24 year-olds, 22% of 25-54 year-olds, and only 10% of 55-64 year-olds experienced unemployment at some time over the four years. Long spells are more common for women than men in Belgium (where UI benefit is in some cases indefinitely compatible with spousal earnings), and more common for men than women in the United Kingdom and Ireland (where long-term benefits are means-tested, and incompatible with spousal earnings or benefit income). Also, some cases of four years in almost-uninterrupted unemployment arise among older workers in contrast to prime-aged workers in France (where indefinite-duration assistance benefits are more generous for older workers) and Spain (where indefinite-duration assistance benefits are only available to older workers). These differences suggest that benefit availability influences very-long-term unemployment, even in data which are not in principle based on benefit reciprocity status.⁹ However looking across countries at the statistics for youths, an inverse relationship appears – Greece, Italy and Spain are among the four countries with the highest incidence of very-long-term youth unemployment, yet benefits are not generally available to unemployed youths in these countries.¹⁰

Calculations based on Table 4.5 suggest that nearly half of all months of unemployment over four years are experienced by 5% of the population (mainly the individuals in the top two deciles). This can be compared with the situation for any given month where (since about 7% of the population are unemployed) half of the unemployment is experienced by about 3.5% of the population. Thus unemployment over four years is less concentrated than it is in a given month, but the difference is not very great. Comparing this table with Table 4.3, it is seen that on average less than half of the individuals with any unemployment over the four-year period experienced 12 or more months of unemployment, whereas five-sixths of the individuals who were unemployed in December 1995 experienced 12 or more months of unemployment. This is because relatively few of the individuals who experienced only a few months of unemployment are included in the latter sample.

Risk of re-entering unemployment

Table 4.6 shows that about 40% of exits from unemployment were followed by re-entry to unemployment within a year. In Germany and Italy, re-entries to unemployment are more frequent when the previous spell was short, possibly indicating an important

Table 4.5. **Distribution of individuals^a by total months of unemployment, 1994-97, by gender and age**

Percentile break points in the distribution

	Number of obser- vations	10%	20%	30%	40%	50%	60%	70%	80%	90%	Unem- ployment/ popula- tion ratio ^b		Number of obser- vations	10%	20%	30%	40%	50%	60%	70%	80%	90%	Unem- ployment/ popula- tion ratio ^b
Both sexes aged 15-64												Both sexes aged 15-24											
Austria	641	1.0	2.1	3.2	4.6	6.7	8.5	11.6	15.6	21.9	16.5	Austria	169	0.7	1.5	2.6	4.0	6.0	7.7	9.5	12.9	17.4	25.6
Belgium	730	1.4	2.8	5.3	8.3	13.1	19.0	29.5	44.7	47.4	21.7	Belgium	182	1.0	1.7	2.7	4.4	7.1	9.3	14.7	18.5	29.5	41.5
Denmark	764	1.2	2.4	3.6	5.3	7.5	10.2	14.3	20.4	32.2	30.1	Denmark	155	0.5	1.2	2.1	2.5	2.9	4.5	6.0	10.7	24.7	41.7
France	1 664	1.8	3.4	6.0	9.0	12.3	16.4	21.6	28.7	37.5	21.4	France	510	1.2	2.4	4.0	5.6	9.5	12.4	17.0	22.6	29.5	39.6
Germany	2 009	1.2	2.6	4.8	7.8	10.6	14.6	19.8	26.3	32.8	21.8	Germany	391	0.5	1.0	2.0	3.4	5.0	7.8	10.7	16.3	28.2	33.7
Greece	1 307	2.7	4.4	6.3	8.7	11.3	15.2	20.0	23.8	33.7	19.5	Greece	481	2.4	4.3	7.8	9.7	14.3	19.2	23.1	28.5	35.7	40.8
Ireland	857	1.7	3.4	5.4	8.4	11.5	19.5	29.2	41.7	47.3	22.9	Ireland	302	1.2	1.9	3.3	4.6	6.2	10.9	15.8	25.4	38.1	39.5
Italy	2 688	2.5	4.4	6.8	9.4	14.0	19.7	27.8	34.8	44.8	21.9	Italy	1 160	2.3	4.1	5.6	8.3	12.6	18.3	28.4	37.0	47.0	52.2
Portugal	1 215	1.5	3.0	4.6	6.0	8.7	11.4	15.8	20.8	27.9	19.9	Portugal	439	1.3	2.5	4.2	5.7	8.2	10.3	12.5	16.8	20.7	31.0
Spain	2 991	2.5	5.1	7.3	10.0	14.0	18.0	23.7	29.6	37.3	35.4	Spain	948	2.3	3.8	6.1	8.5	11.3	16.0	20.9	30.4	39.0	46.5
United Kingdom	1 124	1.1	2.1	3.1	4.9	7.3	9.7	12.4	18.8	29.8	17.9	United Kingdom	318	1.1	2.0	3.0	4.7	6.9	8.8	11.9	15.9	26.7	33.6
Men aged 15-64												Both sexes aged 25-54											
Austria	345	1.1	2.1	3.2	4.4	6.7	8.8	12.3	15.8	25.4	17.9	Austria	418	1.2	2.2	3.3	4.5	6.7	8.4	11.4	15.6	23.8	16.6
Belgium	278	1.2	2.4	3.7	5.9	8.2	13.1	22.1	35.1	47.4	20.0	Belgium	496	1.7	3.8	7.0	11.1	16.0	24.7	35.9	47.0	47.5	21.2
Denmark	317	1.0	2.4	3.8	5.2	7.2	9.8	13.3	20.2	38.4	26.8	Denmark	528	1.5	3.0	4.1	6.3	8.1	11.0	15.2	20.9	34.4	30.2
France	763	1.6	3.0	4.9	8.1	10.6	14.4	20.1	28.1	36.3	21.0	France	1 052	2.2	4.1	7.4	9.8	13.3	17.5	22.4	29.7	37.4	20.3
Germany	1 022	0.8	2.2	3.9	6.7	9.6	13.5	19.9	25.8	32.5	23.7	Germany	1 347	1.4	2.8	5.2	8.3	10.9	14.7	20.1	26.1	32.9	21.5
Greece	589	2.4	3.7	5.2	7.0	9.6	12.7	17.2	22.1	29.6	19.9	Greece	761	2.9	4.5	6.0	8.5	10.5	13.8	17.7	22.4	32.0	18.8
Ireland	560	2.3	4.5	8.1	12.2	20.6	29.5	39.4	47.1	47.5	30.6	Ireland	494	2.4	4.7	7.4	9.9	14.6	24.6	36.7	47.0	47.5	21.2
Italy	1 408	2.5	4.8	7.5	10.5	16.9	22.8	31.0	39.0	47.0	24.7	Italy	1 436	2.5	5.0	7.8	10.1	14.9	20.7	27.9	33.5	44.2	18.6
Portugal	568	1.2	2.6	3.8	5.4	6.7	9.6	13.0	19.0	26.7	20.5	Portugal	654	1.5	3.1	4.7	5.9	8.7	11.6	15.9	22.7	28.9	19.1
Spain	1 605	2.4	4.9	7.2	10.2	14.0	17.7	23.2	30.2	37.4	40.5	Spain	1 808	2.6	5.3	7.8	10.7	15.1	19.4	24.2	29.3	36.4	37.5
United Kingdom	622	1.2	2.2	3.5	5.4	8.2	11.2	15.4	24.1	35.3	22.0	United Kingdom	694	1.0	2.0	3.0	4.8	6.8	9.5	12.3	19.0	30.2	16.0
Women aged 15-64												Both sexes aged 55-64											
Austria	296	1.0	2.1	3.3	4.7	6.7	8.3	11.1	14.5	18.8	15.1	Austria	54	2.2	3.7	5.4	11.1	13.8	15.5	18.2	21.7	29.8	6.4
Belgium	452	1.5	4.0	7.5	12.5	17.4	27.3	37.5	45.7	47.5	23.3	Belgium	52	1.8	5.6	22.1	23.8	43.9	47.2	47.4	47.6	47.8	7.9
Denmark	447	1.4	2.4	3.6	5.4	7.7	10.6	15.2	20.5	29.5	33.6	Denmark	81	3.3	5.9	8.3	9.9	12.3	15.2	17.6	23.7	35.9	18.6
France	901	2.0	4.1	7.7	10.6	14.1	18.4	22.8	29.1	38.3	21.7	France	102	1.7	5.1	8.7	15.3	21.7	28.5	34.9	42.0	47.3	8.9
Germany	987	1.7	3.5	5.9	8.7	11.9	15.3	19.6	26.6	33.3	19.9	Germany	271	3.9	6.2	10.9	13.9	17.1	23.3	27.2	31.1	39.7	16.0
Greece	718	3.3	5.5	7.9	9.7	13.4	17.5	21.9	28.0	38.9	19.1	Greece	65	2.2	3.2	4.5	5.5	6.6	9.7	16.3	23.1	27.7	5.0
Ireland	297	1.2	2.1	3.6	5.1	6.3	8.7	11.2	16.5	29.3	15.5	Ireland	61	2.8	7.0	12.3	16.8	23.8	31.3	34.7	45.5	47.4	9.2
Italy	1 280	2.4	4.2	5.9	8.4	11.2	16.6	22.3	29.3	43.1	19.1	Italy	92	3.6	5.1	6.2	8.2	11.6	13.5	19.4	23.4	32.7	3.4
Portugal	647	1.8	3.6	5.2	8.2	10.5	14.0	18.5	22.8	28.9	19.3	Portugal	122	2.6	3.9	7.7	11.3	18.0	23.2	27.3	34.2	43.0	9.4
Spain	1 386	2.7	5.3	7.3	9.7	13.9	18.6	24.0	28.6	37.2	30.0	Spain	235	3.9	5.6	8.0	10.2	13.7	17.6	22.6	31.3	47.3	13.4
United Kingdom	502	0.9	1.9	2.7	4.3	6.2	8.6	10.7	13.0	20.2	14.4	United Kingdom	112	1.6	2.6	4.1	7.8	9.7	11.6	14.5	21.6	32.6	12.9

a) The distribution includes only individuals with non-zero months.

b) Percentage of the population having non-zero months of unemployment in the four years 1994 to 1997.

Source: European Community Household Panel, waves 2 to 5.

Table 4.6. **Exits from unemployment followed by re-entry to unemployment within a year**

Percentage returning to unemployment within a year following an exit^a

	Exits following an unemployment spell of duration of:						All exits	
	Less than 6 months		6 to 11 months		12 months or more			
	Number of observations	%	Number of observations	%	Number of observations	%	Number of observations	%
Austria	81	45.5	14	(40.9)	16	(47.7)	111	45.1
Belgium	33	52.8	8	—	18	(45.5)	59	48.6
Denmark	44	30.3	15	(29.1)	24	(26.0)	83	29.0
France	137	48.6	41	40.2	70	41.4	248	45.0
Germany	84	41.1	36	40.6	55	32.0	175	37.6
Greece	82	49.2	77	62.7	47	41.8	206	52.2
Ireland	43	34.3	18	(27.1)	31	53.1	92	38.6
Italy	119	52.1	60	52.4	82	36.1	261	47.8
Portugal	46	19.8	27	(39.3)	35	19.6	108	23.5
Spain	206	53.8	118	53.5	105	45.5	429	51.6
United Kingdom	55	32.8	25	(29.9)	30	30.4	110	31.5
ECHP average ^b	930	41.9	439	41.2	513	38.1	1 882	41.0

ECHP: European Community Household Panel.

– Estimates not reported due to fewer than 10 observations.

(Estimates based on less than 30 observations).

a) Exits from unemployment between January 1995 and December 1996 only: in case of multiple spells only the exit closest to December 1996 has been taken into account.

b) Unweighted average of countries shown.

Source: ECHP, waves 2 to 5.

high-turnover (*e.g.* seasonal) component in unemployment. In Ireland re-entry rates are higher following long spells of unemployment, suggesting that exits from long-term unemployment are quite often only brief interruptions of the unemployment spell.

Future prospects for long-term unemployed people

People who were unemployed throughout 1995 spent on average slightly over half of the next two years in unemployment, a third in employment and slightly below a sixth out of the labour market (Table 4.7). This table shows a trade-off between inactivity and very-long-term unemployment: the three countries with the highest rates of continuing unemployment, Belgium, Ireland and Italy, which are also the countries where the top decile of the distribution experienced four years of uninterrupted unemployment (see Table 4.5), have among the lowest rates of transition to labour market inactivity. The apparent trade-off suggests that despite efforts at the international harmonisation of statistics, national idiosyncrasies (no doubt reflecting substantive factors, *e.g.* ease of access to different types of income support) in the classification of people who have only tenuous links with the labour market remain very important.

A transition to inactivity, rather than employment, is much more frequent for older workers. Re-entries to employment by older long-term unemployed workers appear to be extremely rare in some countries, although the small sample sizes involved in this case should be kept in mind.

Predicting future unemployment

Table 4.8 shows that labour market outcomes over the two following years are better for individuals who are short-term unemployed with less than 6 months of other recent

Table 4.7. **Labour market status in 1996 and 1997 following long-term unemployment, by gender and age**People who were long-term unemployed in December 1995^a

Average months per year in each status in 1996 and 1997				Average months per year in each status in 1996 and 1997				
Number of observations	Average duration of unemployment (months)	Average duration of employment (months)	Average duration out of labour force (months)	Number of observations	Average duration of unemployment (months)	Average duration of employment (months)	Average duration out of labour force (months)	
	Both sexes aged 15-64				Both sexes aged 15-24			
Austria	67	6.4	2.7	3.0	5	—	—	
Belgium	268	9.1	1.8	1.1	29	(9.0)	(1.8)	
Denmark	180	5.4	4.4	2.1	22	(7.5)	(4.1)	
France	488	6.0	4.3	1.7	79	5.7	5.5	
Germany	497	5.2	3.5	3.1	52	3.9	4.8	
Greece	354	6.1	4.9	0.8	152	6.5	4.5	
Ireland	268	8.1	3.2	0.6	68	6.0	4.3	
Italy	891	7.4	4.2	0.4	384	8.4	3.2	
Portugal	272	4.6	6.0	1.5	71	3.2	8.3	
Spain	855	6.0	5.2	0.8	261	6.6	4.8	
United Kingdom	228	5.2	4.2	2.6	62	5.4	4.8	
		Men aged 15-64				Both sexes aged 25-54		
Austria	33	7.1	2.0	2.9	46	6.7	3.4	1.9
Belgium	80	9.4	1.9	0.7	211	9.0	2.1	0.9
Denmark	62	6.6	4.2	1.2	121	5.5	5.1	1.4
France	190	6.7	4.0	1.4	357	5.9	4.6	1.5
Germany	214	5.5	3.2	3.2	347	5.4	4.3	2.0
Greece	127	5.8	5.4	0.6	189	5.7	5.3	0.8
Ireland	217	8.6	3.1	0.3	181	8.8	2.9	0.3
Italy	521	7.6	4.1	0.2	479	6.8	4.9	0.3
Portugal	114	3.9	5.9	2.2	156	4.8	6.5	0.7
Spain	495	6.2	5.2	0.6	525	5.7	5.5	0.8
United Kingdom	165	5.7	4.3	2.0	136	5.1	4.5	2.4
		Women aged 15-64				Both sexes aged 55-64		
Austria	34	5.5	3.5	3.0	16	(4.9)	(0.1)	(7.0)
Belgium	188	8.9	1.8	1.2	28	(9.6)	(0.0)	(2.4)
Denmark	118	4.5	4.6	2.9	37	3.7	0.8	7.5
France	298	5.5	4.6	1.9	52	7.3	0.4	4.3
Germany	283	4.9	3.8	2.9	98	5.0	1.5	5.5
Greece	227	6.3	4.7	1.0	13	(9.0)	(2.8)	(0.2)
Ireland	51	5.7	4.1	2.2	19	(8.1)	(3.4)	(0.6)
Italy	370	6.9	4.4	0.7	28	(4.7)	(5.9)	(1.3)
Portugal	158	5.0	6.0	1.0	45	5.9	0.6	5.6
Spain	360	5.6	5.2	1.2	69	6.6	2.8	2.6
United Kingdom	63	3.5	4.0	4.5	30	5.3	1.9	4.8

— Estimates not reported due to fewer than 10 observations.

(Estimates based on less than 30 observations).

a) Equivalently people who were unemployed in every month of 1995.

Source: European Community Household Panel, waves 2 to 5.

Table 4.8. **Labour market status in 1996 and 1997 following short-term unemployment, by previous experience of unemployment**

People who were unemployed in December 1995

Short-term unemployed in December 1995 ^a										Long-term unemployed in December 1995		
Unemployment in the 12 months preceding the current spell ^b												
None			1-5 months			6-11 months						
Average months per year in each status in 1996 and 1997 ^c												
	Number of observations	Unemployed	Employed	Number of observations	Unemployed	Employed	Number of observations	Unemployed	Employed	Number of observations	Unemployed	Employed
Austria	68	3.8	6.2	39	5.0	6.7	8	—	—	67	6.4	2.7
Belgium	44	5.7	5.4	18	(6.9)	(4.8)	14	(8.6)	(3.3)	268	9.1	1.8
Denmark	65	4.2	6.8	31	3.6	6.9	16	(7.3)	(4.1)	180	5.4	4.4
France	163	7.1	4.0	74	5.4	5.7	55	6.3	4.8	488	6.0	4.3
Germany	203	7.1	3.6	48	4.5	5.7	27	(7.4)	(3.5)	497	5.2	3.5
Greece	78	3.6	5.5	109	4.2	7.0	83	5.3	5.4	354	6.1	4.9
Ireland	72	4.8	6.8	29	(4.8)	(6.6)	16	(8.5)	(3.4)	268	8.1	3.2
Italy	127	6.4	3.7	77	5.3	5.8	79	5.8	5.7	891	7.4	4.2
Portugal	114	4.5	5.6	37	4.8	6.7	30	3.7	7.1	272	4.6	6.0
Spain	176	4.9	4.8	131	5.2	5.8	153	6.6	4.6	855	6.0	5.2
United Kingdom	107	4.7	5.1	31	4.7	6.4	22	6.5	5.1	228	5.2	4.2
ECHP ^d	1 217	5.2	5.2	624	4.9	6.2	503	6.6	4.7	4 368	6.3	4.0

ECHP: European Community Household Panel.

– Estimates not reported due to fewer than 10 observations.

(Estimates based on less than 30 observations).

a) Individuals whose current spell of unemployment started after January 1995.

b) For example, if the current spell began in March 1995, a person who was unemployed for 4 months in total from March 1994 to February 1995 appears in the “1-5 months” category.

c) Equivalently, half the total number of months spent unemployed and employed in the 24 months January 1996 to December 1997.

d) Unweighted average of countries shown.

Source: ECHP, waves 2 to 5.

Box 4.1. **The change in life satisfaction of the unemployed in a number of different countries**

The link between personal well-being and unemployment has been explored over many years, from the Great Depression of the 1930s to the present day (Machin and Manning, 1999). The universal finding of both cross-sectional and panel data is that unemployment tends to be associated with a marked reduction in psychological well-being. However, it is less clear whether, in addition, psychological well-being varies with the duration of unemployment. Some studies using cross-sectional data, such as Clark and Oswald (1994), have found that unemployment duration has a small positive effect on well-being, conditional on being unemployed. This result might be explained by “habituation” – unemployed people might learn to live with unemployment over time. However, there is another possible explanation. Those who are most badly affected by unemployment have the greatest incentive to find a job. Unless such unemployed people also tend to have greater difficulty in finding work, this should tend to change the composition of the unemployed pool towards people less affected by unemployment, as the duration of unemployment increases. This is sometimes called a “sample selection” effect.

In order to explore the effect of unemployment duration on psychological well-being, cross-sectional data are therefore not enough. It is necessary to use longitudinal data as well. Existing longitudinal studies have produced mixed findings. Winkelmann and Winkelmann (1998) find no statistically significant evidence for a decline in reported satisfaction “with life as a whole” as the duration of unemployment increases.

This box summarises the main results of a study to explore the relative influence of “habituation” and “sample selection” effects using national longitudinal surveys for Germany (German Socio-Economic Panel, GSOEP) and the United Kingdom (the British Household Panel Survey, BHPS), and cross-country panel data from the European Community Household Panel (ECHP – see Annex 4.B). Results from a straightforward cross-sectional analysis are rather varied but in some countries they suggest that the life satisfaction of the long-duration unemployed is higher than that of the shorter duration unemployed, especially for women. However, this does not take account of changes in the composition of the unemployment pool as the duration of unemployment lengthens.

Using longitudinal data, it is possible to look at the change in life satisfaction of individuals who stay unemployed from one wave of the survey to the next. Table 4.9 presents the simple means of the change in life satisfaction according to labour market status at wave $t-1$ and wave t . Changes in life satisfaction of those who remain unemployed were not statistically different from zero in the BHPS and GSOEP data. There is some evidence that life satisfaction fell for those who remained unemployed in the ECHP data, but in this case life satisfaction also fell for those who remained employed. Panel data regressions (not shown), with dummies for unemployment of less than one year, one to two years, and two years or more, suggest that unemployment has a strongly depressing effect on life satisfaction, but that this effect is not strongly, or systematically, dependent upon the length of the unemployment spell. The cross-section finding that life satisfaction of the unemployed rises slightly with unemployment duration may therefore be caused not by habituation but by sample selection.

Many of the long-term unemployed leave the labour force, rather than continuing in unemployment. Table 4.9 shows that unemployed people who leave the labour force experience, on average, an increase in life satisfaction although this is less than the increase in satisfaction associated with entry to employment.

Box 4.1. The change in life satisfaction of the unemployed in a number of different countries (cont.)

Table 4.9. Changes in life satisfaction related to changes in labour force status

Units of satisfaction as measured in the surveys

	Labour force status in the previous year	Current labour force status		
		Employed	Unemployed	Inactive
BHPS	Employed			
	Mean	–0.008	–0.281	–0.102
	Standard error	0.009	0.09	0.047
	Number of observations	14 536	274	753
	Unemployed			
	Mean	0.388	–0.121	0.219
	Standard error	0.069	0.082	0.107
	Number of observations	376	339	224
	Inactive			
	Mean	0.048	–0.22	–0.041
	Standard error	0.043	0.098	0.02
	Number of observations	883	214	4 618
GSOEP	Employed			
	Mean	–0.063	–0.763	–0.161
	Standard error	0.068	0.054	0.034
	Number of observations	60 363	1 909	3 279
	Unemployed			
	Mean	0.903	0.013	0.224
	Standard error	0.065	0.05	0.067
	Number of observations	1 419	2 151	981
	Inactive			
	Mean	0.034	–0.336	–0.076
	Standard error	0.031	0.086	0.012
	Number of observations	3 908	749	22 213
ECHP	Employed			
	Mean	–0.0446	–1.271	–0.138
	Standard error	0.0033	0.029	0.019
	Number of observations	133 999	4 322	7 885
	Unemployed			
	Mean	1.379	–0.041	0.521
	Standard error	0.025	0.018	0.026
	Number of observations	5 837	7 573	4 799
	Inactive			
	Mean	0.211	–0.741	0.004
	Standard error	0.019	0.026	0.006
	Number of observations	7 504	4 950	64 000

BHPS: British Household Panel Survey.

GSOEP: German Socio-Economic Panel.

ECHP: European Community Household Panel.

Source: Calculations by the OECD and by Andrew Clark.

experience of unemployment than for those who are currently long-term unemployed. However, for those who are short-term unemployed yet were unemployed for half or more of the year just before their current unemployment spell, unemployment outcomes are just as bad as they are for the long-term unemployed. These results suggest the short-term unemployed with a substantial recent history of unemployment are in important respects just as disadvantaged as the long-term unemployed. However the two groups are not iden-

tical: the former group has, as can be calculated from the data in Table 4.8, much lower rates of withdrawal from the labour market.

2. Active labour market policies and long-term unemployment

This section focuses on active labour market policies and the Public Employment Service (PES), including unemployment benefits. These policies are mainly relevant for people who are registered unemployed or have UI or assistance benefits, who in some countries are only a minority of the unemployed.¹¹ Policies in other areas such as aggregate demand management, fostering entrepreneurship, taxation, wage determination mechanisms, employment security, and education and training will not be studied: these policies can affect long-term unemployment, but analysis of their impact needs to use many further indicators. Rather than attempting to look at all aspects of PES policies this section focuses on some issues of *timing*, notably the emphasis to be placed on the strategies of “prevention” rather than “cure” of long-term unemployment, and policies towards repeat unemployment.

A. Background

Recent OECD publications on active labour market policies and the PES have argued for the following policy stance (OECD, 2001a):

- *High-quality job matching and related employment services, with effective use of information technology*: these further empower clients who are able to search effectively themselves.
- *“Interventions” in the unemployment spell, designed to ensure continued effective job search*: these can include regular short interviews, intensive interviews, individual action plans, reporting and review of job-search efforts, referrals to vacant jobs by the PES and short job-search training courses. These interventions should bring the jobseeker into regular contact with vacant jobs and correct ineffective job search strategies. They may lead directly to a job, and also they help to maintain the jobseeker’s focus on the objective of finding work, and implement the requirement to be available for work as a condition for receiving benefits.
- *Labour market programmes*: these are to tackle problems such as individual skill deficits, lack of work experience and information barriers in the labour market. When benefit disincentives are part of the problem, linking receipt of benefits to programme participation has a “motivation” effect, encouraging some jobseekers to take up market work instead.

None of these approaches is a panacea. Few labour market programmes have a large and robust impact on job finding, and the most successful programmes are often those which are difficult to expand: for example, temporary wage subsidies for private sector employment are relatively successful for the people who are hired, but if they are expanded too far, high rates of displacement and churning arise. Programme participation requirements can have a large “motivation” effect for some groups of unemployed, but there is still a risk that, for others, programme participation becomes a means of requalifying for another spell of UI benefits, or a way of life. It is important to monitor impacts, and only use each policy approach to the extent that it effectively promotes entry to unsubsidised work.

Management, institutional and legal factors determine to a large extent whether effective services and interventions are implemented. Some significant factors are:

- *Information*: the PES needs to know the history and current status of unemployed people and of its own contacts with them, and have nationwide information on placements, etc., on a consistent definitional basis to assess whether one approach or another is being successful.
- *Management control mechanisms*: effective management, whether through traditional line-management approaches, performance-rating and management-by-objectives, or financial incentive mechanisms within the PES, is needed to ensure that a strong focus on placement into unsubsidised work is maintained, down to the level of the individual employment counsellor and unemployed person.
- *The legal definition of “suitable work”*: for example, benefit legislation which stipulates that an unemployed person is not required to move or to change occupation to find work can allow long-term unemployment to persist unnecessarily. However, stricter legislation has no impact if it is not applied (OECD, 2000, Chapter 4).

A high level of success with these and other policies towards unemployment should be seen as a precondition for policies that have the broader objective of raising employment rates. Otherwise the latter policies (*e.g.* restricting access to early retirement benefits, or making disability benefits conditional on the use of residual work capacity) may, by increasing number of disadvantaged jobseekers that need work, overwhelm the policies towards unemployment.

B. The scheduling of labour market policy interventions

The EU Luxembourg process set out in 1997 the principle that an offer of assistance should be made to all young persons reaching 6 months of unemployment, and to all adults reaching 12 months of unemployment. This initial targeting on the long-term unemployed was soon supplemented by a renewed emphasis on prevention, *e.g.* the EU’s Employment Guidelines for 2000 stated “The preventive approach (...) lies at the heart of the strategy. Stemming the flow into long-term unemployment is an essential prerequisite for tackling the scourge of unemployment; otherwise the skills of those becoming unemployed become obsolete, and even the will to work can fade. The preventive approach requires early intervention at the level of the individual and the aim must be an effective and rapid integration of the individual concerned into the labour market” (EC, 1999). A multi-country survey, *Preventing Unemployment in Europe: A New Framework for Labour Market Policy* (Klemmer and Wink, 2000) reflected this shift in emphasis.

Regular services of the Public Employment Service (PES)

High-quality PES self-service facilities should be available at any time in the unemployment spell. Some countries also make specialised education and training programmes available, subject to screening checks, at any time. Certain “activation” measures – such as requirements to report regularly to the employment office, keep a job-search diary, accept referrals to job vacancies, and participate in intensive interviews (albeit that often several months pass between such interviews) – are also usually applied on an ongoing basis and from the start of an unemployment spell.

Some of the types of PES interventions that typically are “ongoing” throughout the unemployment spell are intensified after a certain duration of unemployment. For exam-

ple, in the United Kingdom direct referrals to vacant jobs tend to occur under “caseload-ing” procedures (a series of regular interviews with an advisor), usually reserved for longer-term unemployed (the 1-2-1 and Jobfinder programmes provided a formal structure for targeting them on one-year and two-year unemployed). Requirements for reporting job search sometimes intensify after some months (*e.g.* in Australia after participation in job-search training, in Finland after an action plan procedure, and in the United States insofar as four job search contacts per week are required under the federal extended benefit programme¹²). At the same time, there is often a general tendency for the long-term unemployed to get less attention from PES officers because they are seen as being hard-to-place.

Individual action plans are often introduced after some months of unemployment (*e.g.* five months in Finland and a year in Belgium). However, in other countries an individual action plan must be drawn up before benefit payments start (in the United Kingdom) or within the first few weeks of unemployment (in Austria, France, New Zealand, Switzerland and Sweden) (OECD, 2001*a*, and advice from national authorities). Overall, it should be kept in mind that a number of basic services and regular interventions, with only a weak tendency for these to be intensified as the duration of unemployment increases, are an important component of an active labour market policy. And importantly, regular interventions should increase rates of exit from unemployment at all durations: this means that their impact is not neutral as between short-term and long-term unemployment, they unambiguously reduce the latter more than the former.

Targeting programmes on the long-term unemployed

Many long-term labour market programmes are offered only (or with just a few exceptions) to people who have been unemployed for a minimum period, which may be 3, 6 or 12 months or occasionally longer. This helps to limit costs. Job-creation programmes and hiring subsidies are usually restricted to the long-term unemployed, although there are some exceptions (*e.g.* sheltered employment for the disabled, and the Belgian and French youth programmes mentioned in Chapter 1). As mentioned above, training programmes are – subject to additional checks and to the availability of suitable places – more often available to unemployed people irrespective of unemployment duration: limited take-up, depending on the range and attractiveness of the training offered and the prior qualifications required, can limit the cost of providing training.

Arguments for targeting assistance

The main arguments for and against targeting employment assistance on the long-term unemployed are all related to the tendency for rates of exit from unemployment to decline with the duration of unemployment:

- If the decline in exit rates is due to “state dependence” such that the experience of unemployment directly reduces rates of jobfinding,¹³ it will be more efficient to deliver assistance early in the unemployment spell. One argument for prevention is that long-term unemployment results in the deterioration of skills, further detachment from the labour force or stigmatisation in the eyes of employers, so that early interventions are more likely to be successful. This is an argument for profiling the short-term unemployed, to determine early on which of them need intensive assistance (see below).

- If the decline in exit rates is due to heterogeneity and sorting, the implications depend on the nature of the heterogeneity. Some workers become long-term unemployed because they are using ineffective job-search strategies, and this argues for targeting interviews, assessment, and job-search training on the long-term unemployed. If the long-term unemployed are employable but poorly motivated, the “activation” measures described below may be appropriate. If underlying employability varies, the long-term unemployed will on average have low employability, which argues for targeting “social” rather than “employment” measures on them.¹⁴
- Declining rates of exit imply that the expected future duration of an unemployment spell is greater for a long-term unemployed person than for a short-term unemployed person. If one-off interventions (*e.g.* job-search training, or individual assessments which allow more accurate referral to jobs or further programmes) can achieve the same number of placements in both cases, it is more efficient to target them on the long-term unemployed.
- In the case of longer-term programmes, “lock-in” effects need to be considered. During programme participation, the employment rates of programme participants fall below those of a comparable group of non-participants. After the programme has ended this gap narrows, but it may not be decisively reversed in favour of participants.¹⁵ Such “lock-in” effects (in the case of training and job creation programmes) and “deadweight” (in the case of hiring subsidies) are greatest for more-employable participants, who have high rates of entry to employment when they do not enter a programme. This is an argument for offering slots on labour market programmes to unemployed people only after they have been unemployed for some time.¹⁶

Scheduling activation measures

“Activation” involves an element of *obligation* on the unemployed person: if entry to a labour market programme is restricted to the long-term unemployed but remains wholly voluntary for them, it is a targeted programme more than an activation measure. Nordic countries often use the term “activation” to mean only participation in a training or employment programme, although here the idea is that interventions such as job-search monitoring and the preparation of individual action plans can also be activation measures.

Arguments for targeting obligations on the long-term unemployed

Simple models of optimal unemployment benefits provide one important argument for targeting activation measures on the long-term unemployed. In these models, where individual search behaviour is an important influence on the unemployment rate but income adequacy during unemployment is also a central policy consideration, the optimal benefit schedule has a replacement rate that falls with the duration of unemployment (Fredriksson and Holmlund, 2001). The decline in benefit levels “later” increases search incentives for all unemployed workers “now”, whereas the welfare losses associated with low levels of benefit “later” affect only a limited proportion of the same unemployed workers (because many of them find work first, and never suffer from the low levels of benefit). A declining time profile of benefits thus to a certain extent maintains incentives for job search while also maintaining jobseeker utility out of work, and thus it maximises social welfare, when this is defined as the sum of all individual utilities. This result does not depend on jobseeker heterogeneity: it holds even when individual characteristics and

individual chances of finding work (conditional on job search) are the same for all individuals and invariant to the duration of unemployment (*i.e.* the long-term unemployed have searched as intensively as other unemployed, and differ from others only in terms of their bad luck). The probable empirical relevance of these mechanisms is illustrated by empirical findings that rates of job-finding increase around the time that the replacement rate declines or UI benefits expire.¹⁷

Replacement rates are usually reduced with increasing duration of unemployment, often sharply.¹⁸ Owing to the element of obligation involved, activation measures targeted on the long-term unemployed have a similar effect in motivating job search earlier in the unemployment spell. Under certain assumptions (*e.g.* if occupying jobseekers in programmes and maintaining their incomes has positive social externalities in terms of crime, homelessness and the welfare of beneficiaries' children), "workfare" requirements which reduce the utility of the long-term unemployed without reducing their incomes could be preferable to a declining schedule of replacement rates, as a means of achieving job-search incentive effects.¹⁹

Empirically, benefit eligibility conditions tend to be made stricter with the duration of unemployment²⁰ and Australia and certain European countries with long-term unemployment benefits tend to require participation in some of their main programmes after a fixed duration of unemployment. The principle of uniform timing runs contrary to policy recommendations which call for an individualised treatment of unemployment. Possible arguments for it are:

- *Horizontal equity*: all unemployed people face the same obligations.
- *Reliable implementation*: with a uniform rule, it is relatively difficult for either the unemployed person or PES staff to avoid appropriate action (*e.g.* drawing up an action plan), as may often occur when interventions are decided on a discretionary basis.
- *Clarity and administration costs*: obligations must be clearly defined if they are to be enforced, and administrative resource constraints make it difficult to do this on a case-by-case basis.
- *Motivation effects*: letting jobseekers know their new obligations (*e.g.* to participate in a programme) in advance will give them more time to find a job instead, if that is possible.²¹

Methods of implementing activation strategies

One way to individualise treatment, within a context of uniformly-defined obligations, is to give the jobseeker and employment counsellor choice across options. Thus in the UK New Deal, participants can choose between four options but there is "no fifth option" of staying on benefits. In some other countries, an action plan is drawn up before referral to a labour market programme and allowance for individual situations can be made at this point. In Sweden jobseekers and employment counsellors can even vary the timing of programme participation: limits on benefit duration have traditionally helped ensure that some option is taken up.

Since 1990, several European countries have made any further payment of UI benefits after a certain duration of unemployment conditional, in principle, on participation in a labour market programme. Denmark's policy, as first implemented in 1995, abolished the possibility of requalifying for UI through programme participation, extended the UI

benefit duration to seven years, and made the payment of the fifth, sixth and seventh years of UI benefit conditional on programme participation. In following years, as unemployment rapidly fell, the timing of the period of continuous programme participation was advanced (see AM, 2000, for details). Switzerland introduced a similar policy in its 1996 revision of UI legislation: after 7 months (12 months for older workers), UI for the remainder of the two-year UI entitlement period is conditional on participation in a labour market programme. Unemployment in Switzerland fell rapidly under this policy, although reforms of the PES (described in OECD, 2001a) contributed to this in addition to the programme participation requirement. The principle of continuous participation has not been implemented in a rigid way in either Denmark or Switzerland. Denmark aims to achieve programme participation for a minimum 75% of the time, during the “active period” of benefits. This allows for some periods of open unemployment in between programmes. In Switzerland, in practice unemployed people often entered a labour market programme some months before or after the 7-month limit,²² and in 2001 federal rules for the timing of programme participation were abandoned, leaving decisions about this to the cantons and local employment offices.²³

Sweden introduced an “activity guarantee” in 2000, with associated changes in UI legislation early in 2001. Under previous legislation, UI could be paid for 300 days (60 weeks, or 14 months) but participation in a six-month labour market programme (which often started towards the end of the UI period) generated a new period of entitlement to benefit. Following the reform, UI can be paid for 600 days (120 weeks, or 28 months), but programme participation no longer renews benefit entitlement. This implies that after 28 months, an unemployed person has to participate in programmes continuously in order to receive the programmes’ subsistence allowances (which are similar to UI benefits). According to some reports, under the terms of the activity guarantee people who have been unemployed for over two years are required to attend the local employment office every day, and after 27 months a place on a labour market programme is offered.

Profiling

“Profiling” in labour market policy is a procedure where a numerical score, calculated on the basis of multivariate information (sometimes including variables assessed by PES staff judgement), determines the referral of a jobseeker to further employment services. In current applications, profiling scores are designed to be indicators of whether the jobseeker will be hard-to-place, or is likely to suffer long-term unemployment. Profiling seeks to deliver intensive services early rather than after long-term unemployment has already occurred. While this approach is attractive, two potential issues with it are:

- It may be difficult to identify the individuals at greatest risk of long-term unemployment accurately. For example, UK research identified many factors associated with the risk of long-term unemployment including age, gender, marital status, household composition, housing tenure and local market indicators, but was not able to develop a good predictive model.²⁴ When prediction accuracy is low, intensive services will be delivered to many jobseekers who would have found work in any case, using resources which could have been conserved for helping those who actually become long-term unemployed.
- Targeting intensive assistance on the groups with the highest levels of disadvantage is not necessarily an effective use of resources. Plausibly, a programme of training

and job-search assistance which can raise the job-finding rate from 5% to 8% for a group of highly-disadvantaged unemployed people will raise it in a similar proportion, *e.g.* from 20% to 30%, for a less-disadvantaged group.²⁵ One evaluation of profiling services in the United States (Black *et al.*, 1999) found an inverse-U relationship, with the estimated impact of employment services being close to zero both for highly-employable and for highly-disadvantaged workers. Another US evaluation (Eberts, 2001) reported that profiling was able to increase total programme impact by allocating welfare recipients to the most appropriate service: some of the services available were more effective for the more-employable jobseekers.²⁶

The current pattern of use of statistical profiling techniques in OECD Member countries is summarised in Annex Table 4.C.1. Australia, the Netherlands and the United States are the main users. This is probably related to other aspects of labour market policy in these countries. In the United States, the maximum duration of UI benefits is usually six months, and programmes targeted on those who have already become long-term unemployed would not save money for insurance funds. In Australia and (starting in 2002) the Netherlands, hard-to-place workers are allocated to contracted intensive assistance services (called reintegration services in the Netherlands), which in Australia account for around half of total government spending on employment services, and profiling scores are used to determine which new jobseekers are referred to these services.

Only the United States profiles newly-unemployed workers directly on the basis of econometric models of the probability that jobseekers will enter long-term unemployment (the probability of exhausting UI benefits, in the US context). Australia incorporates some additional variables with weights decided on the basis of expert judgement, and in the Netherlands the coefficients used have no explicit basis in econometric estimates.²⁷ US forecasting models use a relatively restricted set of variables, notably education, job tenure, change in employment in the previous industry and occupation, and local unemployment rate: the use of some other variables common in econometric modelling, including age, race/ethnic group and gender, is prohibited.²⁸ In Australia not only age, gender and family status but also disability, homelessness, prison record, limited literacy and other personal factors can each contribute from 5 to 8 points to the JSCI (Jobseeker Classification Instrument) score which determines referral of an individual to Intensive Assistance. Although this greater detail should contribute to greater accuracy, some operational problems arise when a client does not declare factors of disadvantage (such as disability or literacy problems) at initial interview, and these factors are only detected when the service agency begins work with the client.²⁹ The JSCI is reapplied annually and (following recent re-estimation of the weights) twelve months of unemployment contribute at least 10 points and 10 years of unemployment contribute 26 points: 25 points in total are needed to qualify for Intensive Assistance, and the majority of long-term unemployed jobseekers now qualify.

In the United States, the services provided to workers selected by profiling procedure vary considerably from state to state. A third of states offer only minimal re-employment services (five hours or less) to workers selected by the profiling mechanism, but in about 45% of states over half the profiled claimants are required to participate in additional services as specified in their service plan (Wandner and Messenger, 1999).³⁰ In Australia and the Netherlands, intensive assistance providers typically make a further individual assessment of the jobseeker and provide a variety of further services. In no case are profiling scores alone used to determine referral to, or eligibility for, longer-term training or job-creation programmes.

Using a broader concept, a number of other countries can be said to use some form of profiling:

- Korea and New Zealand use scoring systems based on a statistical model. However in Korea the system is voluntary for the unemployed and advisory for counsellors, and in New Zealand the scores are used to classify jobseekers, but it is not clear that any specific action is based on the score alone (although those identified as hard-to-place may be given more expensive help, *e.g.* wage subsidies). The calculation of profiling scores here may help to structure the traditional activity of collecting and recording relevant information about jobseekers, after which a summary score can be calculated at no additional cost.
- In some other countries, PES staff classify unemployed workers into categories (such as “hard to place”) on the PES computer system. In Sweden PES officers judge whether a person is likely to become long-term unemployed, and refer the person to a labour market programme if this is the case.³¹ The Czech Republic mentions categories defined by legislation, Portugal mentions a code from 1 to 5 on the basis of perceived employability, and Swiss placement offices classify unemployed workers into categories of placeability: “very easy”, “easy”, “medium” and “difficult” (Gerfin and Lechner, 2001, Table A.3). Such categories function as supplementary registration information with a role similar to that of information on the person’s qualification level or previous occupation, for example. Germany immediately classifies jobseekers into two categories “immediately ready to take up a job” and “need for assistance and help”. In the latter case, a wide range of “placement characteristics”, which help determine which assistance strategy is appropriate, are often later recorded through a questionnaire.³²
- Intensive interviews or action plan procedures are often important in determining referrals to labour market programmes, as a function of individual characteristics, and in this sense also function as a form of profiling.

Thus reliance on profiling scores that are calculated on the basis of multivariate information remains fairly limited. However, profiling techniques are still under development. There seems to be scope for improving forecasting accuracy. In assessing jobseeker disadvantage, future unemployment risk including repeat spells could be used as a dependent variable. The individual’s unemployment history prior to the current unemployment spell could be used as an explanatory variable, as suggested by the analysis in Section 1.C above,³³ and variables for the person’s “contactability” and transport facilities and typical travel-to-work times from the area where the person lives also seem promising. Some progress may be made in identifying characteristics that indicate a jobseeker’s ability to benefit from particular services, rather than only identifying disadvantage. Another step that could mitigate problems of deadweight due to inaccurate forecasting is to allocate resources to profiled workers only after a holding period of month or so (OPRA Consulting Group, 1998).

C. Policy measures towards repeat unemployment

This sub-section examines a number of policy issues involved in repeat unemployment. The first two are policy issues for UI systems, the next two concern PES interventions, and the fifth concerns “carousel effects” arising from the interaction of benefit systems with private sector employment practices and/or labour market programmes.

Temporary layoff unemployment

As discussed in Section 1.C above, national data (mainly administrative) suggest that one-third of unemployed workers are on temporary layoff in the United States and Canada, and up to a fifth in some European countries. There is a risk that UI benefits will artificially subsidise the regular use of temporary layoffs. In the United States, there is an extensive literature (which will not be mentioned further here) analysing the “experience rating” of UI benefits. Some other countries attempt to limit benefit payments to temporarily-laid-off employees through administrative rules. Thus Italy’s Ordinary CIG benefit is restricted to workers affected by collective layoffs that are due to transitory causes independent of both the employer and the worker (OECD, 1996). In Norway, in 1990, the period during which a temporarily laid-off worker could be paid regular UI benefits, without having been formally dismissed or being available for other work, was restricted to 12 weeks. This limit was then raised to 26 weeks in 1993 and to 52 weeks in 1994. Rates of recall by employers, at months of unemployment duration near these time limits, were several times higher than in other months (Roed and Nordberg, 2001).³⁴

Because the PES does not refer workers with an official temporary layoff status to job vacancies, in a tight labour market employers have some incentive to declare layoffs as temporary. In a slack labour market this incentive is weak, because firms will often be able to rehire former employees even if they are not identified as temporary layoffs. Jansson (2002) suggests that the administrative distinction between temporary layoffs and other forms of unemployment was not implemented effectively in Sweden in the mid-1990s, with unemployment spells that ended through rehiring by the previous employer rarely being declared as temporary layoffs by employers or identified as recalls by the PES. In general, benefit administrations need to assess the frequency of benefit claims associated with temporary layoffs that seem to have no real insurance function, and the effectiveness of measures to limit them.

UI contribution and entitlement periods

Labour market histories with repeat movements from unemployment to employment and back to unemployment again create two problems for UI systems. When employment spells are too short to qualify for UI, economic hardship and incentives for moving short-term employment relationships into the informal economy result. At the same time, employment spells that are just long enough to qualify for benefit result in a relatively high ratio of benefits received to contributions paid, so that the UI systems subsidise patterns of intermittent work of this duration.

If moral hazard were not an issue, UI systems could provide unlimited duration coverage of involuntary unemployment from the first day of contributions (as is more or less the case for industrial injury insurance, for example). However, in practice many UI systems provide insurance only with additional restrictive conditions. Table 4.10 shows minimum qualifying periods for repeat unemployment claims (a first claim requires more contributions in Canada but fewer in Switzerland) and corresponding limits on benefit duration for 20 countries.

In eleven countries the benefit period is no longer than the contribution period: in four of these, the benefit period is only half as long or less.³⁵ In these cases it seems possible that drawing the full duration of UI benefits is sometimes regarded as an entitlement, so that PES efforts at placement prior to benefit exhaustion are relatively ineffective. In

Table 4.10. **Minimum UI contribution periods and entitlement duration^a**

Workers aged 40, not the first claim

	Minimum contribution period	Duration of benefit entitlement following minimum contributions	Benefit/contribution ratio
Austria	28 weeks	20 weeks	0.7
Belgium	468 days (78 weeks)	Indefinite	–
Canada ^b	420 hours (11 weeks)	45 weeks	4.1
Denmark	6 months or 1 year ^c	4 years	4 or 8
Finland	10 months	500 days (100 weeks)	2.3
France	4 months	4 months	1
Germany	12 months	6 months	0.5
Greece	125 days (25 weeks)	5 months	0.9
Ireland	13 weeks	390 days (65 weeks)	8.5
Italy	78 days (3 months)	78 days (3 months)	1
Japan	6 months	90 days (3 months)	0.5
Korea	6 months	90 days (3 months)	0.5
Netherlands	26 weeks	6 months	1
Norway	c.10 weeks ^d	3 years	15.6
Portugal	540 days (18 months)	18 months	1
Spain	360 days (12 months)	120 days (4 months)	0.3
Sweden	6 months	300 days (60 weeks)	2.3
Switzerland	12 months	2 years	2.0
United Kingdom	c.10 weeks ^e	182 days (6 months)	2.6
United States	2 quarters ^f	6 months	1

a) Minimum contribution periods relate to repeat spells of unemployment: in some cases contributions required for a first claim to UI are longer (except Belgium where the entitlement once opened continues indefinitely). The durations of benefit entitlement shown correspond to these minima (in some case longer durations of entitlement can be obtained for longer periods of contribution).

b) The minimum contribution and maximum entitlement periods cited apply only for repeat users in high-unemployment regions. For a first claim, a minimum of 26 weeks of insured employment are required. See <http://www14.hrdc-drhc.gc.ca/ei-ae/ratesc.htm> for a table of entitlements by region.

c) 12 months for people still within the four-year UI period to start a new UI period; 6 months for UI exhaustees.

d) The minimum earnings requirement is 1.25 time the Basic Amount and the Basic Amount is about 18% of average production worker earnings.

e) The minimum required duration of contributions depends on wages and can rise to 25 weeks for low-paid part-time work.

f) The contribution requirement is for earnings in each of two quarters: employees with low earnings (perhaps 5 to 10 weeks of full-time work) can qualify for benefit, but then receive fewer months of benefits.

Source: OECD database on benefit systems and work incentives; UNEDIC (2001); Missoc (europa.eu.int/comm/employment_social/missoc2001/index_en.htm).

such a context, a restrictive pattern of contribution requirements and benefit duration conditions will be important to contain costs and the level of insured unemployment. In Canada, benefit durations are longer than the corresponding contribution periods, but they are both under a year with the exact periods varying by region, and these arrangements appear to be associated with a relatively high incidence of recurrent unemployment (see Sub-section 1.C above) and a focus, in policy analysis and debate, on possible changes to the contribution and benefit periods (*e.g.* see HDRC, 2001).

However, in nine countries the benefit period is at least twice the contribution period and there are also countries where indefinite-duration unemployment assistance benefits have a major role. Even indefinite-duration benefits create some incentive for repeat unemployment, in the sense that work patterns where work is concentrated into relatively few weeks (with unemployment at other times) will usually maximise benefit income (for any given number of total hours worked over a given period such as a year). In these countries, active labour market policies (including non-monetary benefit eligibility requirements) tend to be the main policy instrument for containing levels of insured unemployment. Thus Norway, in terms of its benefit entitlement conditions, would appear to be at risk of high unemployment in remote and fishing regions in a similar way to Canada, and its active labour market policies – which include a geographic mobility requirement on the unemployed – probably contribute to keeping unemployment rates low.

Operational definitions of long-term unemployment

For any policy that involves timing (e.g. the rule that an individual action plan must be drawn up within the first few weeks of unemployment, see Sub-section 2.B), administrative rules must distinguish the continuation of a *current* unemployment spell from the start of a *new* spell. Thus, in Australia administrative rules allow a person who already has long-term beneficiary status to retain that status after employment spells of up to 25 weeks in duration. In 2000, 60% of unemployment beneficiaries had a long-term beneficiary status (this is usually the same as the registration status used for timing labour market policy interventions), but just over half of them had in fact experienced at least one fortnight in the preceding year when no benefit was paid (OECD, 2001*b*).

In most European countries, administrative statistics appear to record more short breaks in unemployment and report a lower incidence of long-term unemployment than labour force survey statistics.^{36, 37} Two problems which can arise when the “counter” of unemployment duration is set back to zero after even a short break are:

- Measures targeted on the long-term unemployed fail to reach individuals whose long unemployment spell has been only briefly interrupted.
- Policies which achieve mainly “cosmetic” reductions in the long-term unemployment statistics, by briefly interrupting unemployment spells, are incorrectly credited with an impact.

Austria has recently tackled such issues by provisionally defining, for internal use by the PES, a status called “long-term jobless”. Membership of this category arises after 12 months of registered unemployment and/or participation in official training and employment measures. An individual’s unemployment duration is not reset to zero after breaks in unemployment and/or participation that last less than two months. There were 22 210 “long-term unemployed” but 41 316 “long-term jobless” in the first half of 2000 and 12 137 “long-term unemployed” but 31 329 “long-term jobless” in the first half of 2001. Again, this shows that the number of “long-term unemployed” can be doubled when a broader concept is used.

Table 4.11 shows some definitions of entry into (or retention of) long-term unemployment status that are used by the PES in determining participation in major labour market programmes (these definitions are not necessarily those used for well-known register-based unemployment statistics³⁸). A period of employment resets the administrative unemployment duration “counter” back to zero if it lasts:

- Two weeks, or less, in Greece, (possibly) Ireland, Norway, Slovak Republic, (often) Spain, Sweden and (for purposes of compulsory referrals to the New Deal) the United Kingdom.
- Four weeks (long-term unemployed concept) or two months (long-term jobless concept) in Austria.
- Three months in Belgium, the Netherlands and New Zealand and (for the short-term unemployed) Australia, and four months in Finland.
- Six months in Australia (for the long-term unemployed), Germany and (for entitlement to hiring subsidies) Spain and (to qualify for many programmes) France.
- A year in Denmark (for adults) and (to qualify for hiring subsidies) Portugal.

Table 4.11. **Treatment of breaks in unemployment in determining active labour market policy interventions**

	General rules relating to breaks in the unemployment spell including temporary employment	Specific rules for periods of illness and programme participation
Australia	Beneficiary status is retained, with zero benefit payments, during work that lasts for up to 12 weeks. Long-term (more than 1 year) beneficiary status is restored after a break in beneficiary status that lasts up to 13 weeks.	Unemployment benefit continues to be paid during periods of temporary illness. Participation in most programmes (except subsidised employment with a private employer) is assimilated to unemployment.
Austria	The “long-term unemployed” are those who have been registered for 12 months, with breaks up to 28 days assimilated to continuing unemployment. In 2002 the “long-term jobless” category used internally by the PES was defined as people registered as unemployed and/or participating in training or activation measures for a total of 12 months with breaks of up to 62 days continuing unemployment.	For the “long term unemployed” definition, periods of illness or programme participation up to 28 days are assimilated to continuing unemployment. Longer breaks reset the counter to zero. For the “long term jobless” definition, periods of participation in training or activation measures are not counted as unemployment but they do not reset the counter to zero.
Belgium	Breaks in unemployment of less than 3 months duration, for any reason, are disregarded.	No special treatment.
Denmark	The benefit period lasts for 4 years. To start a new benefit period prior to exhaustion, 12 months of work in an ordinary job are needed. Following exhaustion, 6 months of work are needed. Adults are targeted for activation when they have received benefits for 12 months and youths when they have received benefits for 6 months out of the last 9 months.	The first six weeks of a spell of illness are counted as periods of continuing UI receipt, subsequent weeks postpone the period of rights to UI. Periods of participation on programmes are assimilated to continuing benefit receipt.
Finland	A long-term unemployed person is one who has been an unemployed jobseeker in one or several spells for at least 12 months in a period of 16 months.	Illness: not known. Subsidised employment: assimilated to regular employment: however since 1997, 10 months’ contributions have been required to qualify for a new benefit spell and subsidised employment alone is not enough to qualify for a new benefit spell.
France	A previous personalised action plan (PAP) and the count of unemployment duration within that plan are resumed, when re-entry to unemployment occurs after less than 6 months. Otherwise a new PAP is prepared. Eligibility for many employment and training programmes (CIE, SIFE, CQA, CES, CEC) arises when the person has been registered in unemployment for a total of 12 months out of the 18 months preceding admission.	The 18-month reference period is extended by any periods of illness, maternity or occupational accident. In addition, for purposes of CIE (hiring subsidy programme) it is extended by any period of training and for purposes of CQA (adult qualification contract) it is extended by any period in CES (job creation programme), so that people can move directly from one programme to the next.
Germany	Adult long-term unemployed are those who have been unemployed for a total of one year within the last five years, except that the counter is reset to zero after a period of work that lasts over six months.	Periods of illness and participation in programmes (as well as periods out of the labour market and in short-term employment) are not counted as unemployment but they do not reset the counter to zero.
Greece	The long-term unemployed are those who have been unemployed for more than 12 consecutive months.	Not specified.
Hungary	In the case of participation in the active measures the period before and after the break in the unemployment is counted.	For illness: unemployment benefit continues to be paid.
Ireland	The long-term unemployed are those who have received unemployed benefit for over 15 months. “Short breaks or employment” are normally disregarded.	Periods of illness and participation in government employment and training programmes are assimilated to unemployment.
Italy	(Except for people on the mobility list and some kinds of unemployment benefit) most employment incentives are targeted on those who have been registered unemployed for 24 months. After a fixed-term contract, for up to 12 months, the duration counter resumes: any excess over 12 months reduces the duration counter.	Not specified.

Table 4.11. **Treatment of breaks in unemployment in determining active labour market policy interventions** (cont.)

	General rules relating to breaks in the unemployment spell including temporary employment	Specific rules for periods of illness and programme participation
Netherlands	A new spell begins after working for a minimum of 65 days more than 12 hours a week.	Illness and participation in training and employment measures for the unemployed do not break the unemployment spell, except for a limited number of jobs that are created by municipalities for the unemployed but are otherwise regular jobs.
New Zealand	Skills training and wage subsidies are available to those who have been registered as jobseekers for at least 26 weeks. The duration count is temporarily suspended during breaks of up to 3 months: only longer breaks reset the counter to zero.	For illness, the 3-month rule applies. The duration count is also temporarily suspended during attendance at one or more Training Opportunities (TO) courses.
Norway	Programme provision is not generally conditional on any particular duration of unemployment. However the long-term unemployed are defined operationally as those who have been unemployed for more than 26 weeks. Breaks of up to 2 weeks are assimilated to continuing unemployment: longer breaks reset the counter to zero.	Breaks in unemployment due to illness or programme participation are treated the same way as other breaks.
Portugal	Adult unemployed are eligible for job creation incentives if they have been registered unemployed for a total of at least a year and have had fixed-term contract employment not exceeding 12 months, consecutively or at repeated intervals.	Not specified.
Slovak Republic	The long-term unemployed are those who have been unemployed for at least 12 consecutive months.	Periods of illness are assimilated to periods of unemployment. Any other break in unemployment resets the counter to zero.
Spain	Entitlement to subsidies for indefinite-term contracts under the employment promotion programme arises after 12 months of registration for work, disregarding periods in work that last less than six months. Entitlement to active insertion income (paid only to workers aged over 45 years) arises after 12 months of registration for work, disregarding periods in work that last less than 90 days in total.	Not specified.
Sweden	Short-term employment leads to loss of long-term unemployment status.	Periods of temporary illness, when the individual remains available for work, do not alter long-term unemployment status. Prior to 2001, participation in labour market programmes was assimilated to regular employment. Now, it no longer contributes to entitlement for a new spell of UI benefit.
United Kingdom	For many measures, spell duration refers to a continuous spell on unemployment benefit ^a (JSA), <i>e.g.</i> initial referrals to New Deal for Young People (NDYP) are only compulsory for people who have been unemployed continuously for 6 months. For Back to Work Bonus, the duration count can be temporarily suspended during a period in training or on maternity allowance, up to 12 weeks without benefit for another reason, and up to two years on invalidity benefits. Eligibility for Work Base Learning for Adults, as well as voluntary entry to NDYP, arises after 26 weeks unemployed, with breaks of up to 4 weeks (including those due to temporary employment) assimilated to unemployment.	Illness: JSA may be paid for up to two periods each of up to two weeks, in each 12-month period. After longer or more frequent spells of illness a new claim (involving another New Jobseeker Interview) must be made.

a) A fortnight where some days have been worked but also some benefit has been received is not counted as a break. Any work for over 16 hours per week averaged over two weeks, or which pays more than the benefit amount otherwise payable in a given week, interrupts the spell (Unemployment Unit and Youthaid, 1999).

Source: Advice from national authorities; for Belgium, EC (2001); for the United Kingdom, Unemployment Unit and Youthaid (1999, 2000).

In Italy, the nominal duration of unemployment can remain high even after losing a job that has lasted more than 12 months. One idea behind these rules may be that a “large” entitlement should be lost only after a “large” amount of employment: in Denmark, France, Italy, Portugal and Spain, the rules cited above determine access to relatively lengthy (one- to three-year) intervention regimes and hiring incentives.

Relatively short breaks in unemployment are often assimilated to periods of unemployment, so that the duration counter “keeps ticking” during the break. This is what occurs when long-term unemployment status is determined by looking at whether the unemployed person was unemployed a year earlier, subject to some maximum duration of intervening breaks. It is probably a common treatment for employment spells that last only a few days (such that some benefit was paid, or registered unemployment status was retained, in each administrative period), but it appears to also apply to employment of up to four weeks in Austria (long-term unemployed concept), three months in Belgium and three or six months (as regards specific programme) in Spain. During rather longer spells of unsubsidised employment (short of the durations, listed above, that reset the unemployment duration counter to zero), the unemployment duration counter often temporarily “stops ticking”. This applies in Denmark, Finland, France, Germany, Italy, New Zealand, Portugal and (for eligibility for at least one programme) the United Kingdom. This is the outcome if long-term unemployment is defined in terms of total benefit received within the current spell of benefit entitlement (as in Denmark) or the amount of registered unemployment in the last 16 months (as in Finland).

In some countries, although the unemployment duration counter is reset (or at least stops ticking) following a short spell of employment, it keeps ticking during sickness. This is the case in Australia, Denmark (limited to the first six weeks of sickness), Ireland, the Slovak Republic, Sweden and the United Kingdom (limited to two two-week periods per year). In France and Germany, by contrast, the duration counter stops ticking during temporary sickness. Similarly, in some countries (Australia, Denmark, and Ireland) participants in labour market programmes (except for those in subsidised employment in the private sector) are paid an unemployment benefit or similar allowance and the unemployment duration counter keeps ticking during participation. This is also the case for Austria’s long-term jobless concept. In Germany, Hungary and New Zealand, the count of unemployment duration is temporarily suspended during programme participation. By contrast, in Finland, Norway, the Slovak Republic, and probably some other countries, participation in the longer-duration programmes typically resets the unemployment duration counter to zero.

These survey results illustrate that the majority of countries do target measures for the long-term unemployed on people who are not long-term unemployed in the conventional statistical sense. National definitions, perhaps reflecting administrative convenience and *ad hoc* historical precedent, are highly erratic. Two possible guidelines for rethinking and redefining them are:

- Spells of sickness and participation in labour market programmes (if availability-for-work requirements are suspended during participation) could both temporarily “stop the clock”. Then, for example, temporary sickness will push back the timing of any right and/or duty to participate in programmes, but not by more than the duration of the sickness spell. Also, a person who enters a year-long training course early in the unemployment spell will not necessarily qualify upon exit for a hiring subsidy that is targeted on the long-term unemployed; but a person who is initially

entitled to such a hiring subsidy will be able to participate in training, without losing that entitlement.

- Sufficiently long employment spells will by definition reset the unemployment duration counter to zero. The Danish arrangement where (once the relevant duration of unemployment has cumulated) twelve months of unsubsidised employment are needed to avoid entry to the “active period”, is at first sight more logical than the UK arrangement where participation in the New Deal can be postponed for six months – perhaps repeatedly – by undertaking just a few days’ work (or indeed merely not signing on for benefit in one fortnight). Research could clarify this issue, *e.g.* it might be possible to demonstrate that even a brief recent experience of work signals better prospects of longer-term unsubsidised work.

Short-term jobs and long-term subsidies

The PES in some countries undertakes individual preselection of candidates for vacancies, uses formal referral procedures with employers reporting the outcome of job interviews and focuses on placing unemployed people into stable full-time jobs. However in some cases the PES also operates in the market for casual and interim work. In Australia, contracted Job Matching providers receive a payment for each placement achieved and a statistical evaluation here found that “those who accept any employment of more than 15 hours per week do increase their chances of moving to full-time, permanent employment” (DEWRSB, 2001). There can be a case for both approaches, keeping in mind that permanent exit from unemployment is the main ultimate objective.

Another “timing” issue concerns the duration of subsidised employment. Job creation programmes usually create jobs that last for six months to a year, typically interrupting long-term unemployment but generating repeat unemployment instead. Many countries have sheltered workshops that create a certain amount of permanent subsidised employment for the disabled, but programmes creating permanent subsidised jobs for the unemployed are very exceptional. Japan long ago created permanent jobs for workers made redundant by the closure of military bases and coal mines.³⁹ Belgium created some permanent jobs mainly in the 1980s, and the Netherlands in the 1990s (Brodsky, 2001). One “programme” offering regular working conditions that, exceptionally, seems to have been kept open for new hires for many years is the priority list (with duration of unemployment being one of the variables contributing priority points) in Italy for PES referrals of jobseekers to public sector jobs at the lowest level (OECD, 1996). Recently Denmark has introduced subsidies (paying one-third, one-half or two-thirds of wage costs) to support “flexible working arrangements” for people whose capacity for work is permanently restricted and who are not granted a disability benefit: half the hires so far have been in the private sector (SM, 2001). Permanent employment programmes with a low annual inflow determined by very strict targeting criteria probably can be sustainable, but then they will be a last-resort solution, for only a small fraction of disadvantaged jobseekers.

Restricting carousel effects

In labour market policy, mechanisms that generate repeated movements in and out of unemployment can be called “carousel effects”.

In some countries, interactions between UI and the deregulation of fixed-term contracts have probably generated such effects. When an employee who has a permanent contract leaves due to either dismissal for fault (*e.g.* bad timekeeping) or voluntary quit,

benefits are in principle not paid, or paid only subject to a sanction or deferment (OECD, 2000, Table 4.1). To enforce this provision, the PES typically does not pay benefits until it has received an employer statement concerning the nature of the separation. Typical reasons for separation are dismissal with notice and severance pay, dismissal for fault, and voluntary quit. In many countries notice and severance payments are required by law (see OECD, 1999, Chapter 2) and the PES may not accept a statement that none of these situations applied, or may accept it only in exceptional circumstances. These administrative checks on the reason for separation tend to limit separations, since employers seek to minimise dismissals with notice and severance pay, and employees seek to avoid separations that are classified as dismissal for fault or voluntary quit.

By contrast when a fixed-term contract ends, often no particular cost arises for the employer and the PES has no means of determining whether non-renewal of the contract has the character of dismissal for fault or voluntary quit. Benefit entitlements then create incentives for employers to offer fixed-term rather than permanent contracts. Italy and Sweden are examples of countries where fixed-term contracting practices and UI claims have grown hand in hand.⁴⁰ Possible measures to counter this tendency are to remove legal recognition of fixed-term contracts (ensuring that legislation for regular contracts is appropriate), to restrict fixed-term contracts to situations where “objective” reasons are present, or to tax them where “objective” reasons are absent, or to experience-rate UI.⁴¹

Mechanisms that encourage repeat movement between unemployment and labour market programmes are well known. In Denmark, Finland and Sweden, the PES has in the past systematically provided workers nearing UI benefit exhaustion with places on programmes that generate a new period of UI entitlement. Both Denmark and Sweden have now abolished the possibility of requalifying for UI through programme participation, as described in Section 2.B. Finland had to scale back a system of generalised subsidies for private sector hiring of the long-term unemployed in the early 1990s, but it continued to provide places on programmes near the time of UI exhaustion (OECD, 1996). More than half of those who participated in a programme in 1995, and 63% of those who participated in 1998, had already participated in at least one programme since 1991 (Aho *et al.*, 1999, updated to 1998 in a separate memorandum). In 1997 the contribution period required to qualify for UI was increased from 6 months to 10 months so that it was no longer possible to requalify only through participation in a single 6-month programme.

A closely-related issue arises in countries where many unemployed people receive locally or regionally-financed social assistance benefits. Commonly, local or regional authorities hire their social assistance beneficiaries just long enough to qualify them for UI. Among the countries where this practice appears to be widespread or fairly widespread are Belgium, Canada, Germany, and Switzerland, but there may be a few others.⁴² It arises in the Netherlands to a limited extent (see Table 4.11) perhaps because municipalities there have (until recently) been liable for only 10% of the cost of assistance benefits. National authorities may not be able to prevent municipal and regional authorities from hiring clients in regular jobs with payment of UI contributions. However, when repeated cycling arises, the different levels of government have an incentive to co-operate to stop this.⁴³

Although it is generally desirable to restrict carousel effects of the kinds described here, it is important to examine the alternatives. If government is unwilling to reduce levels of income support or wages within programmes, or if such measures would be ineffective, the obvious alternatives to cycling are quasi-permanent income support or programme participation, which may not be better. Rather than only trying to put a stop to

cycling in general, policy reforms need to look at issues such as how to distinguish layoffs for objective economic reasons from voluntary quits and regular employer use of UI, and how to treat repeat unemployment as a form of long-term unemployment where the policy considerations listed in Sub-section 2.B apply.

Conclusions

Countries with a low share of long-term unemployment in total unemployment tend to have a low overall level of unemployment: this relationship is not very tight, but it holds in cross-country comparisons of both the levels and the changes through time in these variables. A study here of longitudinal data for eleven European countries in the mid-1990s has highlighted the central role of long-term unemployment, where total unemployment is high. Many individuals do experience only short, non-repeated spells of unemployment, but they account for only a relatively small proportion of total months of unemployment. About 40% of those who were short-term unemployed at a given point in time (December 1995), according to the conventional definition of unemployment duration, went on to experience 12 or more months of unemployment by the time their current spell had finished. About half of the remainder accumulated 12 months of unemployment in total over a four-year time-span, when months spent in other spells of unemployment are also taken into account. So in the end, on average five out of six people who were unemployed in December 1995 experienced 12 months of unemployment.

The long-term unemployed appear to be relatively more likely to go on to become very-long-term unemployed in some countries, and more likely to leave the labour force in others. In European countries, even among prime-aged males the total inactive population is several times the population in long-term unemployment, as conventionally defined. However for this group the population in potentially-avoidable disability and early retirement and in long-term unemployment are, arguably, roughly similar in size. Patterns of variation across countries seem partly consistent with the hypothesis that long-term unemployment, disability and early retirement behave as substitutes.

Patterns of unemployment benefit availability could explain some cases where very-long-term unemployment is reported, particularly among older workers. However for youths a reverse pattern holds, since in several countries in Southern Europe there are many youths in very-long-term unemployment, who are unlikely to be receiving unemployment benefits. In interpreting such cross-country relationships reverse causality must be considered, *i.e.* it must be asked whether high unemployment has encouraged exclusion from benefits (more likely for youths, who in some countries are expected to rely on parental income support) or the provision of more generous benefits (more likely for older workers). Background factors such as aggregate demand conditions, employment protection legislation and wage determination systems were not analysed here, but may also play an important role.

The second section of the chapter focuses on issues of timing in the design of active labour market policies. Most such policies can be seen as aiming either to “prevent” or “cure” long-term unemployment. There are various arguments both for and against targeting assistance mainly on the long-term unemployed. If exit rates from unemployment decline with the duration of the unemployment spell because of “state dependence” (the experience of unemployment in itself reducing employability), or if the long-term unemployed are hardly employable at all, targeting employment assistance on the short-term unemployed may be appropriate, leaving long-term unemployment to be handled partly

by social measures. However, “lock-in” effects argue against making places on long-term labour market programmes available to the short-term unemployed. When activation measures which involve an element of obligation to participate are considered, an argument for making obligations stricter as the duration of unemployment increases is that this helps to motivate job search among the shorter-term unemployed.

Faced with such conflicting arguments and trade-offs between “prevention” and “cure”, most countries with long-duration benefits adopt a strategy of regular interventions in the unemployment spell, combined with special programmes that are targeted on the long-term unemployed. The idea of delivering intensive assistance early to individuals who are at risk of long-term unemployment, as identified by statistical “profiling”, attracts considerable interest. However profiling techniques are still under development, and it is not clear that current techniques are targeting assistance where it will be most effective. Relatively few countries use profiling extensively, and a combination of standardised eligibility rules and individualised assessment still applies when referrals to training or job-creation programmes are made. Some of the more disadvantaged short-term unemployed could, this chapter suggests, be given earlier admission to labour market programmes currently targeted on the long-term unemployed simply by using a broader definition of long-term unemployment (*e.g.* 12 months of unemployment in the last 18 months).

In countries where unemployment is high without a high incidence of long-term unemployment, the short-term unemployment that makes up the bulk of total unemployment arises mostly in repeat spells. Various “carousel effects” have been identified here. Countries with a relatively short duration of UI entitlements may rely on this to limit the cost of benefit payments, but this allows labour markets to respond to the incentives in the monetary entitlement conditions, which favour patterns of employment alternating with UI claims. Deregulation of fixed-term contracts, leading to growing use of them (Chapter 3) along with increasing UI claims, may also be interpreted as a factor that generates carousel effects.

Other countries, those which provide long-duration benefits, have more often adopted expensive labour market programmes as part of their strategy for limiting benefit claims. At times this has been successful, but one of the main problems has been the emergence of another type of carousel effect, cycling between unemployment and programme participation by the most disadvantaged unemployed. First Denmark and more recently Sweden have taken steps to stop this type of cycling by making participation in labour market programmes, after some time in unemployment, quasi-permanent. In recent decades, only a few programmes have offered permanent subsidised jobs for the unemployed, and the older ones among these were closed to new entrants after a few years. The more recent strategies are more cautious and sophisticated, but they still face some of the same risks.

Wide international variation in rates of disability, early retirement and female labour force participation (Chapter 2) and total employment (Chapter 5) suggests that there is considerable scope for raising employment rates in many countries through policy measures. However the success of reforms to reduce inactivity rates will depend very much upon having already in place policies that can rapidly convert entries into the labour market into entries to employment: such reforms will not be productive if they overwhelm policies that are already finding it difficult to keep long-term unemployment down. It is important to ensure that future policies are grounded in experience, studying and understanding both the difficulties that have arisen in trying to keep unemployment low with high levels of social protection, and the situations where this combination has to some extent proved to be sustainable.

Notes

1. Machin and Manning (1999) note that the rise in unemployment seen in the bulk of these European countries following the first oil-shock has been associated with an increase in the average duration of unemployment, rather than with an increase in the inflows to unemployment.
2. Corak and Heisz (1996) also argue that duration should be measured in terms of the average *completed* duration of unemployment, but (in contrast to Karr, 1997, who measures it for currently-unemployed persons) their measure relates to cohorts of individuals who begin their spell of unemployment at the same time. Such a measure would be sensitive to the frequency of extremely short spells which make little contribution to total unemployment.
3. Chart 4.2 relates to two years, 1990 and 2000, which in most countries were preceded by fairly long periods of employment growth. In time-series, a graph relating unemployment to the conventionally-measured average duration of unemployment shows “loops” because at the start of a recession short-term unemployment increases. Corak and Heisz (1996) show that there is a near-linear relationship between unemployment and their measure of the average completed duration of unemployment spells (see Note 2).
4. In Canada in 1999, just 9% of the unemployed were long-term unemployed, but 34% had not been employed in the last year. The latter figure has grown considerably since the 1980s, which might reflect increased problems in entering or re-entering the labour market, or institutional changes that encouraged more jobless Canadians to look for work (Bédard *et al.*, 2000).
5. See Schwartz *et al.* (2001) for more recent survey information on frequent users of Employment Insurance (EI).
6. In UK data for 1984, 58% of individuals who had been unemployed for less than 6 months and 40% of individuals who had been unemployed for over 12 months returned to unemployment within a year, but by 1990 these percentages had converged to near 50%. The Restart strategy (introduced between 1986 and 1990) increased the rate at which long-term unemployed leave unemployment (in some cases, by entering a labour market programme).
7. According to Winter-Ebmer and Zweimuller (1992), it is a well-known fact that individual spell duration is inversely related to the repetition factor.
8. Winter-Ebmer and Zweimuller include some control variables in their regressions, but nevertheless the serial correlation in individual unemployment experiences that they observe could reflect changes (*e.g.* in personal circumstances or occupation) that increase an individual’s risk of unemployment for some years at a time, rather than a causal impact of past unemployment experience on future experience.
9. The level of the *Allocation spécifique de solidarité* is increased by 44% for unemployed workers aged 55 and over, who are also able to request exemption from job-search requirements (see the *indemnisation du chômage* page at www.service-public.fr). In Spain, assistance benefits are limited in duration for workers aged less than 52. For a concise overview of benefit provisions in EU countries see www.europa.eu.int/comm/employment_social/missoc2001/missoc_238_en.htm and related pages. In Australia a benefit (Mature Age Allowance) providing exemption from job-search requirements was introduced in 1994, and by 1999 the number of unemployment payments to the 60- to 64-year-old age group concerned had increased by 85%, relative to other age groups (OECD, 2001*b*). Reverse causality could also explain cross-country correlations, *i.e.* high unemployment among older workers tends to lead to more generous benefit arrangements for them. Brunet and Richet-Mastain (2002) document the low hiring rates of older workers in France.
10. There are non-cash incentives for unemployed people to register in Italy and Spain, *e.g.* concession rates for public transport and eligibility for hiring subsidies. These are the only EU countries where over 80% of young adults (those aged 20 to 24) live with their parents, according to a limited set of 1987 data cited by Fernandez Córdón (2001), suggesting that parental income support substitutes for cash benefits.
11. In the European Economic Area, 76% of the unemployed are registered, and contact with the Public Employment Service (PES) is much the most common method of job search, concerning 75% of the unemployed (Eurostat, 2001). Many people who are registered unemployed or have UI benefits are not unemployed according to the labour force survey definition (see OECD, 2001*b*, note 141), and PES policies are also relevant to this labour market group. Some old estimates (OECD, 1998) indicate that numbers receiving benefits are low (less than half the numbers unemployed) in Japan, the United States,

- Greece, Portugal and probably Spain (benefit coverage is likely to have increased in Portugal and Spain with the introduction of new assistance benefits). Benefit coverage is also low in Korea and Italy and near zero in Turkey and Mexico.
12. Woodbury and Rubin (1997) list some arguments for subjecting Extended Benefits to strict eligibility requirements and work search tests, saying that their merits are debatable.
 13. Much research has attempted to determine how far negative “duration dependence” (a decline in the monthly rate of exit from unemployment with the duration of unemployment) is due to “unobserved heterogeneity”. (AM, 2000, Box 6.7, gives an illustrative calculation of “unobserved heterogeneity” and a web search finds many papers that apply these concepts). For example, data which do not distinguish between temporary layoff and permanent layoffs give a misleading impression of the extent of negative duration dependence (Jensen and Svarer, 2001). Jansson (2002), citing US and Danish evidence, comments that hazard rates for [exit from unemployment] to new jobs are close to horizontal. Lacroix (1999) finds that there is no negative duration dependence among welfare recipients in Newfoundland after allowing for observed forms of heterogeneity. Negative duration dependence, if any, seems to be a weak tendency that can be reversed by labour market policies: positive duration dependence has been observed in Sweden (when benefit duration was limited to 60 weeks) and Denmark (where benefits become after some time conditional on programme participation).
 14. In some countries, policy analysts emphasise the importance of a very-hard-to-place group of long-term unemployed, needing assistance from several different public authorities (*e.g.* help from social workers as well as employment counsellors). This concern seems to be increasingly expressed when long-term unemployment falls below 1% of the population. In Australia and the Netherlands, where jobseekers are assessed for referral to contracted intensive assistance providers, about 0.1% of the working-age population are referred to special programmes (the Personal Support Program aiming to tackle severe personal barriers in Australia, “social activation” offering socially useful unpaid activities in the Netherlands) for people who are unemployed (rather than disabled) and yet are assessed as having little immediate prospect of a regular job (*e.g.* alcohol abusers).
 15. Gerfin and Lechner (2001) for Switzerland and Sianesi (2002) for Sweden illustrate the pattern where employment rates for programme participants fall behind those of non-participants during the programme, and then catch up – partially or completely – over the next year.
 16. “Activation early in the unemployment period entails a risk of retaining the individual in employability enhancement programmes rather than employment. This is particularly valid for those groups of unemployed persons who are highly like to find employment even without participating” (AM, 2000). See also Räisänen (2001).
 17. See Holmlund (1998). Dormont *et al.* (2001) and Fougère (2001) summarise similar evidence for France.
 18. Exceptionally in Ireland (as in the United Kingdom, many years ago) the long-term rate of Unemployment Assistance benefit (paid after 15 months) is slightly higher than the short-term rate.
 19. These advantages of “workfare” targeted on the long-term unemployed, over a strategy of simply reducing replacement rates, would need to be quite large to justify its much greater cost. Obligations on jobseekers to participate in employment programmes may face criticism but also have public support, *e.g.* see the discussion of assessments of Work for the Dole in OECD (2001*b*). Martin and Grubb (2001) discuss some evidence for “motivation” effects in terms of individuals leaving unemployment around, and often before, the time that their participation in programmes is scheduled to start.
 20. OECD (2000, Chapter 4) describes benefit eligibility conditions in a number of countries.
 21. The idea that a progressive tightening of obligations achieves a more favourable balance between the job-search incentive effects and programme cost and disutility effects is an argument against profiling, insofar as this leads to obligations being applied and costs engaged early in the unemployment spell.
 22. Lalive *et al.* (2000) found that, in Switzerland in 1998 and 1999, after expiry of the unconditional benefit period the rate of entry to training courses by male unemployed increased by 47% and their rate of entry to employment programmes increased by 80%. Programme participation was often limited to a single labour market programme (of six months’ duration or less), rather than being continuous through to the end of the two-year benefit entitlement period.
 23. An evaluation finding that early referral to temporary employment programmes is often more effective than referral at seven months (SECO, 2000) favoured this move to flexibility in timing.
 24. In UK pilot projects, it was found that when the 10% of newly-unemployed clients of the Employment Service with the highest estimated probabilities of remaining unemployed were selected, using a statistical model, 65% of them did not subsequently enter long-term unemployment: and this method identified only 19% of the clients who did in fact become long-term unemployed (Wells, 1998). Payne and Payne (2000) estimated another model and found that the 9% of new claimants with the highest predicted probabilities became long-term unemployed in 52% of cases, while 23% of other new claimants also became

- long-term unemployed. Berger *et al.* (2001) argue that accurate prediction is possible but most US state profiling systems do not use enough exogenous variables to achieve this.
25. According to Martin and Grubb (2001), results from two major studies of the impact of activation measures suggest that proportional impacts on exit rates from unemployment to employment do not vary systematically with the level of labour market disadvantage. This implies that the impact on employment rates in absolute terms (the percentage point increase) does tend to be smaller for the more disadvantaged groups.
 26. In the evaluation reported by Eberts (2001), welfare recipients were referred to three different service agencies either at random (the control treatment) or according to their predicted probabilities of entering employment. Individuals with the lowest estimated employability were referred to the agency (Goodwill) that provided the most hours of assessment and employability planning, with an approach conducive to helping those with fewer job-ready skills. Those with the highest employability were referred to an agency (Behavioral Foundation) which delivered services on a self-directed and self-paced basis. Assigning recipients to service providers in this way raised average employment outcomes compared to those of the control group by an estimated 25% (*i.e.* from 12% to 15%), mainly because Goodwill achieved better outcomes than other agencies for low-probability welfare recipients. These positive findings relate to a pilot programme, evaluated with a relatively small sample.
 27. De Koning *et al.* (2000) describe estimated econometric models used to calculate profiling scores in the Netherlands in the 1990s: region, education, ethnic origin and age were the most important factors determining the probability that a person becomes long-term unemployed. However profiling procedures have been modified since then.
 28. Restrictions on the variables allowed in profiling models are also an issue in the EU, where in many countries “it is forbidden to record so-called soft characteristics and attitudes in a database due to their stigmatising effect. Hence, alcoholic abuse, etc., must be kept separately. There is no doubt that abuses or motivational factors have an important impact on the re-integration to the labour market. One way to reduce the problem is to (...) assign recurrent jobseekers to the same counsellor as before”. (PLS Ramboll, 2001a).
 29. Certain recent policy changes should help to minimise the problem of inaccurate responses by jobseekers: some new clients (older workers, parents, indigenous Australians and those recently released from prison) are now referred for a broader assessment interview to a Personal Advisor who, where appropriate, undertakes a re-classification of the initial JSCI score (FACS, 2002).
 30. Some US state employment service staff are reportedly reluctant to refer some workers to more intensive programmes, because obliging some claimants to participate in more services than others could be seen as unfair (OECD, 1999, pp. 115 and 120). However research suggests that customer satisfaction is higher when individual service plans are created and more intensive services are proposed, as the federal Employment and Training Administration recommends (Wandner and Messenger, 1999).
 31. Swedish employment offices can also place the unemployed into a category “not job ready” (OECD, 2001a, p. 78).
 32. The determination of “placement characteristics” in Germany often takes place fairly early in the unemployment spell, but practices vary by locality. A legal obligation to engage in an assessment arises after six months of unemployment (PLS Ramboll, 2001b).
 33. Le and Miller (2001) (in line with findings by Winter-Ebmer and Zweimuller, 1992), find that a forecasting model that gives high weight to individual labour market history variables performs well in predicting the number of weeks looking for work in the next calendar year. They note that it is the individual’s more recent labour market history that is relevant: a variable summarising labour market performance since the person first left full-time education is barely significant. Thus, gains in forecasting accuracy may be available by using individual history data relating to just the last few years. Their research uses retrospectively self-reported data and merits cross-checking in administrative data, given the low degree of correlation between the two Australian data sources (OECD, 2001b).
 34. Roed and Nordberg (2001) also found that employees with high unemployment benefits had high rates of recall: this “confirms the implicit contract hypothesis and suggests that frequently dismissing firms allocate unemployment to workers with high benefits... it seems that while ordinary unemployment spells are explained primarily by individual search behaviour, recall unemployment spells are largely explained by firm behaviour (or implicit contracts between workers and firms)”. Winter-Ebmer (2002) argues that implicit contracting also influences permanent layoff behaviour, in the case of older workers who can expect to draw benefits through to retirement.
 35. As the contribution period increases, the ratio of the benefit period to the contribution period increases in France (where 14 months of contributions can be followed by 30 months of benefit) and also slightly in Greece; it is constant in Germany and Spain; and it declines in Austria (the UI period increases to 39 weeks only after 6 years of contributions). Canada, the United States, Japan and the Netherlands have

- relatively complex schedules. In most other countries this ratio declines rapidly, since potential benefit duration does not vary at all with the contribution period.
36. Some administrative statistics discount short breaks in the unemployment spell. EC (2001) treats the Belgian rule that unemployment breaks under three months are not counted as exits from registered unemployment as exceptional. In Denmark, the long-term unemployed are defined as those who have been unemployed more than 80% of the year. Policy analysis has also focused attention on the “marginal group” who were unemployed more than 70% of the time (or either unemployed or in a programme more than 80% of the time) over a 3-year period (FM, 1997; AM, 2000).
 37. OECD (1994a, Table S) gave statistics for the incidence of long-term unemployment in registration data for seven European countries: the incidence of long-term unemployment was always lower in registration data than in labour force survey data, with discrepancies exceeding 10 percentage points in Germany, Ireland, and the United Kingdom. Teasdale (1998) notes this discrepancy in UK longitudinal data. Respondents to the German “Structure of unemployment in early 2000 survey” appear not to report breaks in unemployment due to illness or failure to report to the employment office (advice from national authorities). Karr (1997) claims that the duration of unemployment as reported in questionnaire responses will always be longer than the duration of registered unemployment because respondents do not consider interruptions such as illness and failing to register to be interruptions of their unemployment. However some factors could generate the opposite result, *e.g.* part-time work breaks the unemployment spell in labour force survey data but it can be compatible with continuing unemployment in registration data, and policies in some countries (*e.g.* Australia and France) encourage this.
 38. Eurostat (1987) reported that people on courses to improve their qualifications were no longer classified with the registered unemployed, except (in Greece, Italy, Luxembourg, Denmark, Spain and the Netherlands) if participants continue to receive unemployment benefit or if the course is held in PES centres. People in subsidised employment were not counted among the registered unemployed.
 39. OECD (1993) reported that the “temporary” jobs created “turned out to be very difficult to terminate and there is no desire to have further experiences of this sort”.
 40. In Sweden a large rise in the proportion of unemployed people qualifying for UI preceded the recession of the early 1990s, and this might be related to deregulation and increased use of fixed-term contracts (OECD, 1994b, p. 198). In Italy claims for ordinary unemployment benefit with reduced requirements (for people who employed between three and six months in the year) more than doubled between 1991 and 1999 and in 1999 these claims accounted for over half total spending on ordinary unemployment benefit (a quarter of spending on all types of unemployment benefits: numbers on the benefits restricted to victims of layoffs for economic reasons, CIG and mobility, have been falling since 1994). The growth of temporary labour, creating a continuous flow of persons who have acquired the right to benefits, probably contributed to this (MLPS, 2000). As mentioned in Section 1.C these claims are often repeated.
 41. Seasonal employment raises similar issues. Some countries (Australia, France, and Norway) have defined patterns of seasonal work that preclude the receipt of unemployment benefit. In Australia, since 1999 people who have been engaged in high-income seasonal work in the six months prior to claiming allowances have to use that income before accessing allowances. Such definitions seem to be quite difficult to apply in practice. However, benefit legislation usually has no specific provisions for employment on fixed-term contracts.
 42. In Belgium, arrangements allowing local authorities to employ Minimex recipients for long enough for them to accrue entitlement to UI benefits are officially codified in Article 60 of the 1976 legislation which governs social assistance. In Canada, employment programmes for social assistance recipients appear to pay Employment Insurance contributions: for example in Prince Edward Island “There is more tracking by welfare staff now to ensure that [social assistance] individuals qualify for EI through EEP/JCP [Employment Enhancement and Job Creation] placements” (publish.uwo.ca/~pomfret/wtw/html/provsum/phase2.html). In Germany, an estimated 46% of social assistance recipients who are in a labour market programme are in insured work with a regular contract, typically lasting a year, which qualifies the participants for UI. In Switzerland, as of December 1998, the town of Geneva was employing 310 UI exhaustees in temporary jobs with a maximum duration of 12 months (www.ville-ge.ch/geneve/chomage/f_action.htm), which is the minimum duration of contributions to requalify for UI benefits. In Finland, also, municipalities may provide UI exhaustees with enough employment (additional to qualifying employment provided by national PES programmes) to requalify them for UI benefits.
 43. In 2000, Germany passed a Law for the Improvement of Co-operation between the Employment Offices and Social Assistance Authorities with this aim.

Annex 4.A

Data for the Main Labour Status variable in Table 4.2

The full range of possible categories in the Eurostat Main Labour Status variable are as follows:

- Carries out a job or profession, including unpaid work for a family, business or holding, including an apprenticeship or paid traineeship, etc.
- Unemployed.
- Pupil, student, further training, unpaid work experience.
- In retirement or early retirement or has given up business.
- Permanently disabled.
- In compulsory military service.
- Fulfilling domestic tasks.
- Other inactive person.
- Not applicable (child less than 15 years).

The guidelines (Eurostat, 1998) explain that “The ‘main activity status’ gives each person’s self-perception regarding his/her activity status; for instance, it identifies students with small jobs who are more closely associated with other students than with other employed persons”. Most of the EU member states have a single question which follows the above list more or less closely. The guidelines ask for it to be placed after the main questions on “ILO labour force status”, relating to classification as employed, unemployed or out of the labour force. However, in practice, some put it before, and this may have an influence on the results.

In principle, long-term unemployment should be a subset of the “unemployed” category of the Main Labour Status variable. A check shows that there is only a little overlap with other categories of the Main Labour Status variable. The largest overlaps, in terms of men aged 25-54, are with employment (Czech Republic), education (Sweden) and “other inactive” (Belgium), in all cases at around 0.3% of the population of working age.

Annex 4.B

Labour market transitions in European Community Household Panel data

“Seam effects” are a well-known phenomenon in survey data where respondents are asked to recall events that occurred prior to the interview. Frequently, respondents report unchanged labour market status over the reference period back to the previous interview date, so that transitions are reported to occur just after this date. Cognitive research suggests that respondents forget information within the response interval, and bias their reporting when they can no longer remember correct answers (Rips *et al.*, 2000). Respondents may even have no meaningful basis for reporting detailed month-by-month changes in status if survey categories correspond poorly with reality as they perceived it, *e.g.* because the respondent had irregular work while also seeking regular work, but questions do not recognise this status.

In the ECHP, surveys go into the field between March and September and ask respondents to recall their labour market status month by month over the preceding calendar year, so the presence of seam effects at the beginning and end of calendar years is not surprising (Fisher *et al.*, 2000). The analysis here uses ECHP data for the years 1994 to 1997 (waves 2 to 5 of the survey, 1995 to 1998). All spells of long-term unemployment (12 or more continuous months unemployed) were identified and the distribution of these spells by start and termination month was examined (discarding starts/terminations in January 1994 and December 1997, where observations are truncated). The relative frequency of January as a start month and December as a termination month in the unweighted data is shown in Table 4.B.1.

Only in UK and in French data are reported transitions (nearly) equally frequent in all months of the year. In countries where ratios in Table 4.B.1 are over 11, more than half of all entries to and exits from spells of long-term unemployment were reported to occur in January. Reported transition rates are near evenly distributed across the remaining months, rising slightly in the summer months and shortly afterwards (July to October). One important consequence of the seam effects is that – when a person reporting unemployment in each month of one year is counted as being long-term unemployed for the first time in December – the total number of long-term unemployed is on average one-third higher in December than in other months.

Table 4.B.1. **Relative frequency of end-year starts and terminations
of long-term unemployment spells in ECHP data**

	Ratio of starts of long-term unemployment spells in January 1995, 1996 and 1997 to average starts in the preceding 11 months	Ratio of terminations of long-term unemployment spells in December 1994, 1995 and 1996 to average terminations in the following 11 months
Austria	3.4	10.9
Belgium	12.3	23.0
Denmark	8.0	15.4
France	2.2	1.8
Germany	7.8	3.8
Greece	15.8	43.4
Ireland	8.0	6.3
Italy	22.8	28.1
Portugal	6.6	15.3
Spain	18.6	21.9
United Kingdom	0.7	1.2
ECHP^a	9.7	15.6

ECHP: European Community Household Panel.

^a) Unweighted average of countries shown.

Source: OECD calculations based on the European Community Household Panel, waves 2 to 5.

— Table 4.B.2. **Average unemployment rate and incidence of long-term unemployment —**
in ECHP data compared with Labour Force Survey data^a

	Unemployment rates			Share of long-term unemployment in total unemployment		
	EU Labour Force Survey ^b	ECHP (reweighted)	Difference	EU Labour Force Survey ^b	ECHP (reweighted)	Difference
Austria	4.1	5.0	0.9	25.1	29.5	4.4
Belgium	9.8	14.4	4.6	60.6	66.4	5.8
Denmark	7.0	10.3	3.3	28.4	46.8	18.3
France	12.2	10.2	-2.0	38.9	45.3	6.4
Germany	8.9	9.6	0.8	47.7	46.2	-1.6
Greece	9.4	10.0	0.7	53.6	36.1	-17.4
Ireland	12.1	14.8	2.7	60.6	67.3	6.7
Italy	11.6	15.4	3.9	64.3	55.2	-9.1
Portugal	7.1	7.4	0.3	50.7	37.8	-13.0
Spain	22.5	22.4	-0.1	53.0	40.3	-12.7
United Kingdom	8.4	5.8	-2.6	41.9	37.6	-4.3
Average^c	10.3	11.4	1.1	47.7	46.2	-1.5
Median^d	9.4	10.2	0.8	50.7	45.3	-1.6

ECHP: European Community Household Panel.

a) Unweighted average in 1994-97.

b) OECD standardised unemployment rates.

c) Unweighted average of the countries shown.

d) Unweighted median of the countries shown.

Source: ECHP waves 2 to 5; OECD QLFS standardised unemployment rates and OECD unemployment duration database.

In order to minimise biases arising from the inclusion of responses by respondents who are not accurately reporting transitions, three weighting factors were applied: one (often well below 1) for records with any long-term unemployment spell that started in January or ended in December, a second (often well above 1) for records with one or more long-term unemployment spells that started or ended only in other months, and a third (close to 1) for all other records. These weighting factors were calculated for each country, such that after reweighting the ratios in Table 4.B.1 became one (on average across starts and terminations) by construction, with total months of unemployment and total months of long-term unemployment in the sample both unchanged.

Benchmark comparisons of ECHP unemployment rates and incidences of long-term unemployment with similar data from labour force surveys are shown in Table 4.B.2. ECHP unemployment rates are slightly higher than standardised unemployment rates on average, and the cross-country correlation between ECHP and labour force survey unemployment rates is high (although it declines considerably if Spain is excluded). The ECHP (reweighted) data for the incidence of long-term unemployment are close to labour force survey estimates on average, but with large differences for individual countries: in particular, the ECHP incidence of long-term unemployment is higher in Denmark, and lower in the four countries of Southern Europe.

Annex 4.C

The use of statistical profiling techniques in OECD Member countries

Table 4.C.1. Statistical profiling techniques in Member countries

	Advance identification of those prone to long-term unemployment	Choice of interventions to prevent long-term unemployment	Is statistical profiling used to predict outcomes? If not, why?
Australia	Via the Jobseeker Classification Instrument (JSCI). The JSCI score is a weighted sum of 18 factors, including duration of unemployment, age, educational attainment, recency of work experience, aboriginal status, geographic location, disability/medical condition, and language and literacy. Centrelink staff ask a series of structured questions to obtain information on the 18 factors.	The JSCI is used to stream Job-Network-eligible jobseekers into either Job Search Training or Intensive Assistance. Certain of the structured questions act as “triggers” for further assessment by Centrelink. However, Job Network members are responsible for detailed assessment of a jobseeker’s needs.	The JSCI was developed using a statistical analysis to identify factors that increase the likelihood of remaining unemployed for more than 12 months, using system-based data from 1995 and 1996, and a mailed survey questionnaire in 1997 to determine later labour market status. Weights were re-estimated with effect in 2002. The JSCI Supplementary Assessment may be administered and used to allocate points to the JSCI. An Occupational Psychologist may override the JSCI score in exceptional circumstances.
Austria	People who have been unemployed for 3 months and some special categories (youth school leavers from special schools, women with unresolved child care problems, people with disabilities) are automatically directed to the Counselling Zone. But more important are assessments by counsellors (with the help of an interview manual) and customers’ wishes and the time a person has been looking for a job are also taken into account.	The Service Zone offers a basic package of information and help with finding a job for all unemployed people: those directed to the Counselling Zone also receive intensive support and advice. On the basis of specific counselling, many different problems are tackled <i>e.g.</i> careers guidance, childcare solutions, external individualised support, activation measures, training and employment schemes.	Not used, because the only “hard and fast” criteria identifying risk of LTU are disabilities and, in the case of young people, no training. Otherwise the main causes of a higher risk are a lack of “soft skills” as well as personal circumstances, character traits and behaviour. These factors do not show up in data but can easily be identified by counsellors and in the course of case management.
Czech Republic	Legislation defines a number of categories to receive particular attention from the employment office: youths with only obligatory schooling and no longer in education, people responsible for children aged under 15 years, jobseekers laid off through structural change, those aged over 50 and those unemployed for over 6 months.	The main interventions are reconversion, socially useful jobs, support in setting up in independent work, sheltered workshops, and youth traineeships: use varies with the risk group <i>e.g.</i> sheltered workshops for the disabled. Prior to any referral the jobseeker must have attended individual consultation, a job club, or a specialist assessment centre.	Unemployment duration and repeated unemployment are important characteristics of hard-to-place jobseekers but not the only ones. The use of interventions is determined by the local office on the basis of the concrete situation of the local labour market and probable placement of the long-term unemployed.
Denmark	Regional labour market offices monitor the labour market and define target groups on this basis. The UI funds notify persons in the target group to the PES. From 2001, greater emphasis is given to individual selection on the basis of an interview after 3 months unemployed. The PES in two regions uses special pro-formas for interviews to identify more characteristics (largely “soft”, <i>e.g.</i> motivation, unrealistic job wishes).	On basis of interviews between 3 and 6 months, an individual action plan is drawn up in the majority of cases.	Lack of reliable data and applicable methods for calculating the risk of LTU have been the main obstacles to statistical profiling. A method based on hazard rates from a duration-analytical perspective as a function of individual characteristics and history of unemployment, in the Ministry of Labour’s DREAM data set, is currently being tested. However further development work is needed, and a statistical system would only supplement assessments by individual PES officers.

Table 4.C.1. **Statistical profiling techniques in Member countries** (*cont.*)

	Advance identification of those prone to long-term unemployment	Choice of interventions to prevent long-term unemployment	Is statistical profiling used to predict outcomes? If not, why?
Finland	As early as possible, the jobseeker is invited to an interview where a skill-mapping and personal job-seeking plan are made. There is an obligation to participate in drawing up the plan after five months at the latest. From 2001, in relevant cases, this can be replaced by an "activation plan" which also involves municipality.	The jobseeking plan should be as concrete as possible (job-seeking course, vocational training, subsidised work, etc.). It is a precondition for assignment to employment promotion measures.	Profiling of the unemployed has been discussed very much but the general opinion is that classifying clients or predicting outcomes will be problematic, for both officials and clients. However a method for estimating the quality and quantity of service needs is under development and will be tested during the year 2002.
France	From 2001, a personalised action plan (PAP) is established through an in-depth interview which takes place within a month after registration.	The PAP identifies services the jobseeker needs and any potential risk of LTU.	Two approaches are envisaged: (a) a statistical approach, used to enhance and facilitate the employment officer's assessment: in some 70% of cases it appears possible to forecast LTU using administrative data; (b) the formalisation of the interview procedure.
Germany	There exist national "placement-relevant criteria", i.e. whether an unemployed person is considered to be "someone whom may be placed without restriction", whether "support is necessary/useful" or "qualification measures have to be provided". The AQTIV Act envisages from 2002 a "profiling" procedure at the beginning of unemployment to identify jobseeker strengths and weaknesses and the risk of LTU.	The "placement-relevant criteria" are starting-points for a classification of unemployed people according to the type of services to be provided. After 6 months the employment office must establish, together with the unemployed person, by which measures, benefits or own efforts LTU can be avoided. The AQTIV "profiling" procedure will set out the individual placement strategy in an integration agreement.	There is no forecasting procedure on a national scale, but a number of regions are testing techniques. The AQTIV Act foresees a uniform and sound procedure for the identification of the risk of LTU.
Greece	Reference to introduction of "personalised approach".		Not yet developed.
Hungary	No formal method.	The main interventions are: 1. subsidy for intensive job search, 2. labour market services (providing information, labour exchange, counselling for finding job).	Not yet developed.
Iceland	Those who are unemployed for 6 to 7 months attend a 4-day course to prevent them from becoming LTU.	Some labour market measures are intended for certain groups e.g. women in rural areas or young people.	Not necessary in view of small number of unemployed in Iceland.
Ireland	No system of advance identification.	Referrals to measures are made on the basis of the actual duration of unemployment.	A pilot scheme is being examined.
Italy	No.	Individual characteristics of unemployed are to be taken into account, with special attention to the LTU.	No.
Japan	No.	No.	No. The reasons for unemployment are very varied, so the emphasis is placed on individual situations.
Korea	The subsidy for employment promotion was targeted originally on workers unemployed for a year or more who had been referred to jobs three times. Since 2001 all those unemployed for more than six months are eligible.	Appreciation of counsellors.	A programme to predict the probability of LTU has been used since July 2000. It uses age, education, health, sex, relation with head of household, marital status, and 5 work experience and 3 local labour market variables. An evaluation of its predictive power is not yet available. The system is voluntary for the unemployed and advisory for counsellors.
Luxembourg	Early identification is through the "psycho-social support scheme" applied after a maximum of 3 months to youths and 6 months to adults.	Psychologists, teachers, social workers and doctors provide personalised support.	No. Thanks to the low level of unemployment, the services can easily see the registered population at any time.

Table 4.C.1. Statistical profiling techniques in Member countries (cont.)

	Advance identification of those prone to long-term unemployment	Choice of interventions to prevent long-term unemployment	Is statistical profiling used to predict outcomes? If not, why?
Mexico	State employment services detect people that have more difficulties for job search training.	Access to other programmes is by personal application conditional on screening criteria.	Data are used for aggregate analysis of the labour market to guide public policy, not for individual prediction. Automated evaluation of the capabilities of employment applicants is under consideration.
Netherlands	The “chance meter” is based on a questionnaire, with instructions to the counsellor on how to calculate a score. The score classifies the person into one of four groups. Groups 2 and 3 are considered placeable but at risk of LTU.	Group 1 receives no intervention until after six months of unemployment. In other cases the counsellor decides on appropriate labour market or other measures.	The questionnaire responses are scored as described, but an econometric model is not used.
New Zealand	The counsellor enters the jobseeker's answers to multiple-choice questions into the SOLO computer system, which allocates a Service Group Indicator (SGI) rating. Staff may overwrite SGI assessments, but they have to provide a reason for doing so. The key difference between SGI 1 (highly employable) and 2 (easily employable) is willingness. The key differences between SGI 3 (employable) and SGI 4 (employable with assistance) are capacity and opportunity. SGI 4 is considered to be at risk of LTU.	Short-term jobseekers who achieve a certain SGI rating may be eligible for more expensive help (e.g. wage subsidies). The Case Manager carries out a secondary assessment of SGI 4 people to help select the appropriate intervention. Access to particular programmes is subject to ministerial eligibility criteria, which are based on some of the SGI ratings, categorical factors (age, disability, literacy barriers, etc.), and disadvantage in the local labour market (as assessed by the Case Manager).	All items in the SGI scoring system were selected according to “their capacity to predict unemployment and their usefulness in client management as determined by staff consultation, regression analysis and the review of literature”. OPRA Consulting Group (1998) concluded that it is possible, with the right tools, to predict fairly accurately those at risk and those not at risk. There has been some tracking of cohorts to investigate whether SGI rating predicts time on benefit.
Norway	An individual approach is used, with an interview after three months unemployed.	The underlying principle is that services should be offered related to the individual jobseeker's situation and competencies.	No. It is better to trust the discretion of the local officer particularly when there is low unemployment and more time to process each case. Profiling would complicate co-operation between the local office and jobseeker in the development of the individual action plan.
Portugal	Registered unemployed are given a code from 1 to 5: codes 4 or 5 are more likely to enter LTU. These indicators are combined with information about the local labour market.	For each standardised group, guidelines describe appropriate operating strategies. Job centres apply qualitative knowledge of the local market and applicant files, and set up personalised and integrated interventions.	The profiling method was evaluated on the basis of a survey of unemployed people, and another of the “CTE” finding that unemployed difficult to place in the labour market did have expected profile.
Slovak Republic	Counsellors identify the risk of LTU informally on the basis of four factors: a) a long history of permanent employment; b) low education; c) personal, social and health obstacles; d) attitude and opinions on the “world of labour”.		Statistical systems are being improved, both for purposes of aggregate analysis, and to make measures more effective through better knowledge of the characteristics and behaviour of different groups among the unemployed.
Spain	No formal method – action plan based on intensive interviews.		Only on aggregate basis, as part of assessment of employability of person.
Sweden	No formal method.	No formal method. However, employment service officers do make estimates as to whether a person is likely to become LTU or not and provide the Activities Guarantee Programme (since August 2000) if this is the case. There is also the Employment Support programme of subsidies.	No, but it appears that some method of aggregate statistical profiling, used for the distribution of resources, may be developed as the basis for a system to “support the employment officer better make use of her/his knowledge and experience”. They note that commuting patterns are an important element on which they have no data at the National Labour Market Board, so not all important variables could be included. But they say that “a systemic pattern has to be developed in the way employment officers judge various cases”.

Table 4.C.1. **Statistical profiling techniques in Member countries** (*cont.*)

	Advance identification of those prone to long-term unemployment	Choice of interventions to prevent long-term unemployment	Is statistical profiling used to predict outcomes? If not, why?
United Kingdom	No formal process, but access to mainstream programmes for everyone after 6 months. For adults the range and the intensity of help builds up from that point, culminating in access (compulsory) to the New Deal for long-term unemployed adults at 18 months. For young people, access to the New Deal for Young People occurs at 6 months.		Not used because considered insufficiently precise. Issue has been investigated thoroughly, and papers are available.
United States	Formal method – worker profiling programme established by law in 1993, made mandatory for State Agencies charged with administration of state unemployment compensation law.	No formal method, but DoL is testing an automated decision support system for staff in One-Stop Centres. It will help workers search for work in their “prior occupation and related occupations” and help to determine which services will help them find work in a cost-effective manner. Not clear that this is just for the LTU.	Identification of those individuals who are likely to exhaust their UI benefits and would benefit from reemployment services, using individual characteristics and local labour market conditions. Leads to mandatory orientation and assessment – at which time PES staff may use their judgement. Studies of predictive power exist.

Source: Secretariat summary of responses to a questionnaire addressed to national labour market authorities in 2001.

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Chapter 5

And the twain shall meet: cross-market effects of labour and product market policies

Best-practice policies in the labour and product markets are much researched topics, but relatively little attention has been paid to the *cross-market* effects of these policies, that is, to the influence of product market policies on outcomes in the labour market and *vice versa*. This chapter analyses cross-market policy effects and assesses their relevance for improving labour market policies and outcomes. Product market regulations limiting competition are shown to have important effects on labour market performance. First, anti-competitive regulation appears to lower overall employment, with the product market regulatory environment accounting for up to 3 percentage points of deviations of the non-agricultural employment rate from the OECD average for some countries. Second, industry wage premia increase as product market competition is reduced, except that wage premia are somewhat lower in the most regulated, non-manufacturing industries (e.g. public-owned utilities). Third, there is some evidence that product market deregulation may reduce job security for workers in the most regulated industries, but labour market policies (e.g. EPL and unemployment benefit systems) appear to be more important for determining the level of employment security. No empirical support is found for concerns that product market liberalisation could result in a permanent increase in earnings inequality. The chapter also demonstrates that labour market policies have important implications for product market performance. In particular, EPL and wage bargaining arrangements affect the intensity of innovation activity in the private business sector. Strict EPL appears to reduce R&D intensity in countries where industrial relation systems are relatively decentralised, but to encourage R&D in high-tech industries of countries with relatively centralised/co-ordinated wage bargaining. In sum, the chapter's empirical analysis suggests that cross-market effects are important and ought to be factored into policy choices.

INTRODUCTION.....	247
MAIN FINDINGS.....	248
1. EFFECTS OF PRODUCT MARKET REGULATIONS ON LABOUR MARKET OUTCOMES	249
2. EFFECTS OF LABOUR MARKET POLICIES AND INSTITUTIONS ON PRODUCT MARKET OUTCOMES.....	272
CONCLUSIONS.....	283
<i>Annex 5.A.</i> Data definitions and sources	289
<i>Annex 5.B.</i> Econometric methods.....	294
BIBLIOGRAPHY	295

List of Boxes

5.1.	Product market reform and labour market performance: transmission channels.....	250
5.2.	Describing regulatory reform in OECD countries	251

List of Tables

5.1.	Labour and product market determinants of the non-agricultural employment rate, 1982-1998.....	253
5.2.	Effects of policies and institutions on wage premia	257
5.3.	Measures of insecurity used in the analysis.....	263
5.4.	Policies, institutions and insecurity.....	266
5.5.	Measures of inequality used in the analysis.....	270
5.6.	Policies, institutions and inequality	272
5.7.	Policies, institutions and innovation	275
5.8.	Effects of policies and institutions on R&D intensity	277
5.9.	Net effects of EPL and bargaining co-ordination on R&D intensity	278
5.10.	Labour and product market policies and specialisation in high R&D and high wage-premia industries..	282
5.A.1.	Policy and institutional indicators used in empirical analysis	290
5.A.2.	Industry-specific product market regulation: coverage and sources.....	292
5.A.3.	Product market regulatory reform, 1978-1998	293
5.A.4.	Labour market policies and institutions: definitions and sources.....	293

List of Charts

5.1.	Employment rates in non-agricultural business sector and product market regulations, 1998.....	252
5.2.	Contribution of product market liberalisation to changes in the employment rate, 1978-1998	254
5.3.	Wage premia and regulation in non-manufacturing industries.....	258
5.4.	Overall product market regulation and insecurity, 1998.....	265
5.5.	Overall product market regulation and inequality, 1998	271
5.6.	Labour market regimes and innovation	276
5.7.	Contribution of labour and product market policies and institutions to R&D intensity	279
5.8.	R&D intensity: within-sector and industry-composition effects	281
5.9.	Specialisation in high-wage and high-R&D industries.....	282

Introduction

Labour market performance, in terms of employment and unemployment outcomes, has varied widely across OECD countries in recent decades (OECD, 1994*a*, 1999*b*), as have the levels and growth rates of GDP and productivity (OECD, 2000*a*). A broad range of policies and institutional arrangements are thought to influence these differences in labour and product market performance (OECD, 2000*b*). Accordingly, the OECD has undertaken extensive research and policy analysis on best-practice policies in both the labour and product markets, notably, to support the *OECD Jobs Strategy* (OECD, 1994*a*, 1994*b*, 1999*b*; Martin, 2000) and the OECD Project on Regulatory Reform (OECD, 1997*b*, 1999*a*, 2001*a*; Gonenc *et al.*, 2000). However, relatively little attention has been paid to the *cross-market* effects of these policies, that is, to the influence of product market policies on outcomes in labour markets and *vice versa*. The aim of this chapter is to identify some of the channels through which cross-market policy effects come about and assess their relevance for improving labour market policies and outcomes.¹

The main focus of the chapter's analysis is on the implications of the vigour of product market competition for labour market performance. The implications of product market regulations for overall employment, industry wage premia, employment security and earnings inequality are analysed in Section 1. Section 2 then illustrates the potential effects of labour market policies on product market performance, through an analysis of the linkages between labour market arrangements and the innovation potential of the business sector. The empirical strategy adopted to study cross-market policy effects is to bring together the large set of indicators of labour market policies and institutions and product market regulations that were assembled in the context of the *OECD Jobs Strategy* (OECD, 1999*b*) and the OECD Regulatory Reform Project (OECD, 1997*b*; OECD, 1999*a*). Interactions between the labour and product markets are then analysed by means of reduced-form regression models, each of which relates a measure of labour or product market performance to various indicators of regulations and institutions in the two markets. These indicators cover mainly *i*) industry-specific and economy-wide product market regulations that restrict market mechanisms, including international trade;² *ii*) hiring and firing restrictions (EPL); *iii*) tax and benefit policies (tax wedges, unemployment insurance); and *iv*) industrial relations arrangements (bargaining co-ordination and centralisation, unionisation, administrative extension of collective agreements).

This analysis is exploratory in nature. The interactions between labour and product markets are numerous and complex, and estimated coefficients for reduced-form regression equations may not provide reliable estimates of the causal impact of policies on economic performance. Three sources of difficulty in identifying policy effects deserve particular emphasis: *i*) many potentially important factors have not been included among the regressors and the included variables may, in part, be proxying for these omitted factors (*omitted-variable bias*); *ii*) *multicollinearity* is often high among different policy variables³ making it difficult to estimate their separate effects; and *iii*) policy settings may be, in part, a response to economic performance (*endogeneity bias*).⁴ These potential difficulties in identifying policy effects may be exacerbated by gaps in the data available, which mean that it is never possible to estimate regression coefficients on the bases of variation across all three of the relevant dimensions, namely, across countries, sectors and

time.⁵ The scope of the analysis in this chapter is also limited in two important ways. First, the analyses deal exclusively with *long-run* policy effects and do not address the important issue of the adjustment costs occasioned by regulatory reform. Second, no attempt is made to investigate many potentially important interactions between labour and product market arrangements, nor interactions between them and other markets (*e.g.* capital markets⁶) or with macro policies.

Main findings

- Even controlling for a number of policy and institutional factors affecting the labour market, anti-competitive product market regulations (*e.g.* establishing entry barriers in potentially competitive markets or restricting price competition) were found to have significant negative effects on the non-agricultural employment rates of OECD countries. The empirical results suggest that, in some countries, the product market regulatory environment may account for up to 3 percentage points of deviations of the employment rate from the OECD average.
- The estimated wage premia in manufacturing industries were found to increase with weaker product market competition and product market regulations that curb competitive pressures or establish barriers to entry (*e.g.* tariff and non-tariff barriers or licensing restrictions). However, in non-manufacturing industries, the relationship between wage premia and regulation appears to be “hump-shaped”, with premia declining where public ownership and stringent regulation are most developed (such as in utilities). Such results could imply that regulation is successful in preventing rents and rent-sharing, but are more likely to reflect regulatory failures leading to low-productivity traps and/or the existence of non-pecuniary rents.
- Labour market policies (*e.g.* concerning EPL and unemployment benefit systems) appear to be more important for employment security than product regulations. The net effect of product market regulations on overall employment security could not be clearly identified, although it would seem that increasing competition may lead to less security in the most regulated industries. In particular, there is some evidence that anti-competitive product market regulations may tend to reduce the incidence of job losses that result in long-term unemployment. However, these considerations related to insecurity among the employed need to be seen jointly with the evidence concerning the employment impacts of product market regulations.
- No empirical support was found for concerns that product market liberalisation could result in a permanent increase in earnings inequality. However, this finding is especially preliminary and, even if confirmed by later research, would not imply that there are not significant winners and losers from deregulation.
- The evidence also points to significant effects of employment protection legislation and industrial relations regimes (*e.g.* bargaining arrangements, business associations, business codes of conduct, etc.) on innovation activity in manufacturing. However, EPL, the degree of co-ordination in wage bargaining and the technology level of the industry concerned interact in complex ways to influence the incentives for engaging in R&D. Strict employment protection policies appear to reduce R&D intensity in countries where industrial relation systems are relatively decentralised,

but may encourage R&D in high-tech industries of countries with relatively centralised/co-ordinated industrial relations systems. These differences may reflect differences in the innovation process across industries as well as the role of industrial relations arrangements in affecting how firms satisfy the need for skilled labour to cope with innovation.

- There is some evidence of a systematic cross-country relationship between differences in labour and product market regulations and differences in industry specialisation, with countries having stricter regulations specialising in industries with relatively lower R&D intensity and wages.

1. Effects of product market regulations on labour market outcomes

By affecting actual and/or potential competition, product market arrangements may have significant implications for the labour market. There are multiple channels through which product market regulations and regulatory reform can affect labour market performance (see Box 5.1). This section looks at some of these market interactions, controlling for cross-country and (when relevant and possible) cross-industry differences in labour market arrangements. The focus is on the effects of anti-competitive regulations (*e.g.* those that create product market rents), which are proxied by a detailed set of economy-wide and industry-specific regulatory indicators, having both a cross-country and time-series dimension (see Annex 5.A). In the following sections, these indicators, and other related measures of product market competition, are used to analyse the effects of product market regulations on the evolution of overall employment rates during the past two decades, inter-industry wage differentials, employment insecurity and earnings inequality.

A. Employment

Although the primary implications of stronger product market competition are to increase output and productivity, competition may also affect aggregate employment in a variety of ways (see Box 5.1). Economic analysis suggests that, in most cases, an increase in employment is the expected outcome (Blanchard and Giavazzi, 2001). However, the effects on employment will depend on the particular policies that brought about an increase in product market competition as well as on the underlying labour market policies and institutions.⁷ Moreover, the effects on employment are likely to be different in the short and long run, when firm turnover and intersectoral reallocations of labour have fully unfolded.⁸ Therefore, the effects of competition on employment are ultimately an empirical issue.

This section analyses the long-run effects of product market competition on employment rates in 20 OECD countries over the 1982-98 period.⁹ Differences in product market competition across countries and over time are proxied by differences or changes in the friendliness of product market regulations to market mechanisms. Focusing on product market regulation instead of other proxies for competition (such as concentration rates, mark-ups or business surveys) has the advantage of relating employment performance directly to the policy factors that affect market competition, once other structural factors (such as country-specific technological characteristics) have been accounted for. Evidence on the implications of cross-country differences in product market regulations for aggregate employment was produced by Boeri *et al.* (2000) and Nicoletti *et al.* (2001b).

Box 5.1. **Product market reform and labour market performance: transmission channels**

Competitive pressures among existing firms. Product market deregulation increases competitive pressures among incumbent firms, raising the elasticity of product demand. At the firm level, for given wages, higher demand elasticity raises output and labour demand. At the aggregate level, if the number of firms remains constant, this results in both higher real wages and higher employment, since aggregate labour demand increases (Nickell, 1999). However, once firm turnover is accounted for, these effects depend on the impact of the number of firms. Under certain conditions, a decrease (increase) in the number of firms could offset (reinforce) the initial effects of product market deregulation on the elasticity of demand, real wages and employment (Blanchard and Giavazzi, 2001).

New entry. Product market deregulation lowers entry costs, encouraging new entry. In general this is likely to lead to a permanent increase in aggregate demand elasticity, real wages and employment (Blanchard and Giavazzi, 2001). The effect on real wages, however, depends crucially on the size of initial rents and the way they are shared between firms and workers (*i.e.* on the relative bargaining power of workers) (Spector, 2000). Furthermore, in decentralised labour markets, the employment effects of increased product market competition may be hump-shaped because, as competitive pressures increase, employment volatility may rise (firm-level adjustments to shocks relying increasingly on changing quantities, rather than mark-ups), possibly leading to higher equilibrium efficiency wages and lower aggregate employment, as well as to increased employment insecurity (Amable and Gatti, 2002).

Labour and product market rents. Heightened competition tends to dissipate rents deriving from market power, thereby reducing the scope for rent-seeking behaviour by workers or employers. Where rents were shared with workers in the form of wage premia, these phenomena tend to disappear having negative effects on wages but potentially positive effects on employment. The elimination of non-pecuniary rents (*e.g.* labour hoarding or managerial slack) may lead to lay-offs in the short-run, but effects on employment are likely to be positive in the long-run when new entry and job reallocation have taken place. Lower wage premia may also reduce unemployment persistence by increasing the sensitivity of wages to labour market slack (Nickell *et al.*, 1994) and lower frictional unemployment by reducing “wait unemployment” (Kletzer, 1992) and “queuing” phenomena, due to lower effective replacement rates (measured against market wages). Lower wage premia may also alter the distribution of earnings, potentially affecting the level of inequality.

Entrepreneurship and industry composition. As barriers to entry are lowered, the supply of a particular type of capital, entrepreneurial ability, may increase. The level of employment may be positively affected by the increased rate of enterprise creation and survival (Krueger and Pischke, 1998; OECD, 1998*a*; Pissarides, 2002), as may the rate of productivity growth (OECD, 2001*b*). Similarly, barriers to entry and other forms of regulation may alter the industry composition of employment, since these restrictions tend to be more stringent in some industries than in others (Bertrand and Kramarz, 2001).

Drawing on Nicoletti and Scarpetta (2002), this section updates these analyses and takes a further step by looking at the effects of product market *regulatory reform*. To this end, information on regulatory developments in seven energy and service industries was used

Box 5.2. Describing regulatory reform in OECD countries

Past developments in product market regulation are measured using data on regulations and market conditions in seven energy and service industries over the 1970-98 period: gas, electricity, post, telecommunications (mobile and fixed services), passenger air transport, railways (passenger and freight services) and road freight. The coverage of regulatory areas varies across industries (see table below). While regulatory barriers to entry are reported for all industries, the coverage of other regulatory dimensions is tailored to each industry, reflecting both industry characteristics and data availability. Market structure is documented for gas, telecommunications and railways to provide information about the actual enforcement of regulatory provisions.

Countries are classified in each period along a 0-6 scale from least to most restrictive on each of the regulatory and market dimensions covered in the analysis. Industry-specific time-series indicators of regulatory and market environment were created by taking a simple average of the regulatory and market features covered in each industry and the aggregate time-series indicator used in regression analysis was obtained by averaging over all industries in each country. The resulting indicators can be interpreted as a proxy for the overall regulatory policies followed by OECD countries over the sample period. (Details on sources and methodology are provided in Annex 5.A.)

Sectoral composition of aggregate time-series indicators of regulatory reform

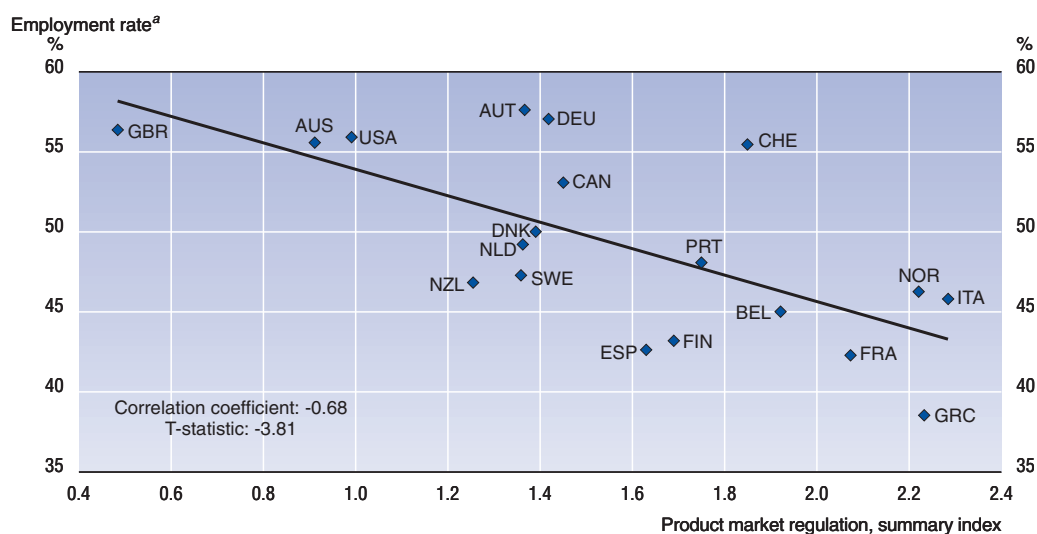
	Entry	Public ownership	Market structure	Vertical integration	Price controls
Airlines	X	X			
Railways	X	X	X	X	
Road	X				X
Gas	X	X	X	X	
Electricity	X	X		X	
Post	X	X			
Telecommunications	X	X	X		

to extend the (static) summary indicators of economy-wide regulation presented in OECD (1999a) into a time-varying regulatory indicator, which was constructed for each country in the sample (see Box 5.2).

Over the past two decades, regulatory reform (as measured by both the absolute variation and the percentage decline in the regulatory indicator) was deepest in Australia, New Zealand, the United Kingdom and the United States, while policies changed relatively little in southern European countries, Ireland and Switzerland (Table 5.A.3). Three main country groupings can be identified looking at the evolution of regulatory indicators: the United States, which began regulatory reform at the turn of the 1980s; Canada, New Zealand and the United Kingdom, which began reforming during the 1980s; and most other countries, which changed regulatory policies over the 1990s.

Chart 5.1 relates the more comprehensive, cross-sectional indicator of product market regulation to non-agricultural business-sector employment rates in 1998.¹⁰ There is strong negative cross-country relationship between product market regulation and employment

Chart 5.1. **Employment rates in non-agricultural business sector and product market regulations, 1998**



a) Non-agricultural business sector.

Source: Nicoletti and Scarpetta (2002).

rates, which is suggestive of a linkage between greater competition and higher employment.¹¹ In order to examine this association more closely and to take account of changes in regulation over time, a reduced-form, panel regression model of non-agricultural employment – based on the standard Layard-Nickell-Jackman (1991) framework – was estimated. Employment rates are related to the indicator of the stringency of product market regulations, controlling for a number of other policy and institutional factors that have been identified in the literature as contributing to the equilibrium level of employment (OECD, 1994a, 1994b, 1999b; Nickell and Layard, 1999). Here, only those for which data exist for a significant number of countries over time were considered (see Annex 5.A for data definitions and sources): *i*) an indicator of the average (gross) unemployment benefit replacement rate (average of different duration and family conditions of the unemployed person); *ii*) the system of wage bargaining including the union density (the proportion of workers who are member of trade unions) and the form of bargaining; *iii*) the level of taxes on the use of labour;¹² and *iv*) a summary indicator of the strictness of EPL. The output gap was also included to control for cross-country asymmetries and time-series changes in business-cycle conditions. Finally, all equations include a control for the public employment rate and country-specific effects that capture the influence of omitted variables on cross-country differences in employment rates.

Table 5.1 summarises the estimation results. As for the effects of labour market policies and institutions, the findings are only partly consistent with those of, *inter alia*, Nickell and Layard (1999), Elmeskov *et al.* (1998), Nicoletti *et al.* (2001b) and OECD (1999b), most likely in part due to differences in country coverage and sample period and the choice of the dependent variable, as well as data revisions. Furthermore, the significance of individual policy and institutional variables often depends on model specification. The overall evidence concerning the impact of income support systems, tax wedges

Table 5.1. **Labour and product market determinants of the non-agricultural employment rate, 1982-1998**

OLS regressions with country fixed effects

	No control for product market regulation		Controlling for product market regulation		
Labour market and business cycle					
Output gap	0.50** (13.05)	0.52** (13.47)	0.49** (12.90)	0.50** (13.33)	0.47** (12.86)
Public employment rate	0.93** (8.01)	0.78** (6.29)	1.01** (8.64)	0.86** (6.97)	1.03** (9.15)
Tax wedge	-0.03 (-0.90)	-0.01 (-0.17)	-0.14** (-2.95)	-0.12* (-2.52)	-0.16** (-3.52)
Union density	-0.22** (-11.38)	-0.22** (-11.30)	-0.20** (-9.29)	-0.19** (-9.18)	-0.20** (-9.20)
High corporatism	0.68 (1.48)	0.66 (1.41)	0.78 (1.70)	0.71 (1.54)	0.27 (0.59)
Medium corporatism	-0.83 (-1.86)	-0.60 (-1.34)	-0.32 (-0.68)	-0.04 (-0.09)	-0.68 (-1.51)
Unemployment benefit	-0.07* (-2.41)	-0.05 (-1.58)	-0.06* (-2.10)	-0.04 (-1.47)	-0.06* (-2.33)
Employment protection legislation (EPL)	-2.22** (-5.42)		-1.33** (-2.80)		-1.92** (-4.12)
EPL x low corporatism ^a		-0.93 (-0.68)		-0.85 (-0.64)	
EPL x medium corporatism ^a		-4.08** (-5.89)		-3.26** (-4.55)	
EPL x high corporatism ^a		-1.13* (-2.11)		0.06 (0.10)	
Product market regulation (PMR)					
PMR global index			-0.70** (-3.56)	-0.76** (-3.86)	
PMR x low corporatism ^a					-2.25** (-6.84)
PMR x medium corporatism ^a					-0.52* (-2.13)
PMR x high corporatism ^a					-0.16 (-0.68)
F-test on fixed effects	196	172	68.8	59.7	65.9
Observations	335	335	335	335	335
Countries	20	20	20	20	20

*, ** denote significance at the 5% and 1% level, respectively. T-statistics are in parentheses. All equations include a constant.

^a) Corporatism is a composite measure of centralisation and co-ordination in wage bargaining.

Source: Nicoletti and Scarpetta (2002).

and bargaining systems on employment rates is somewhat weaker than in most previous studies, while the estimated effect of unionisation is stronger. In line with some previous studies, the regression results point to a significant and negative impact of EPL on employment rates, although the impact appears to be limited to countries with an intermediate degree of centralisation/co-ordination of wage bargaining (*i.e.* where sectoral wage bargaining is predominant without co-ordination).¹³

Turning to product-labour market interactions (Table 5.1, columns 3-5), anti-competitive product market regulations are estimated to have a negative and highly significant impact on the employment rate. The significance and the size of the coefficient estimates of the other variables are little affected by the inclusion of the time-series indicator of regulatory reform, with two main exceptions: the coefficient of EPL, whose size is halved relative to results in the basic specification excluding product market regulation; and the coefficient on the tax wedge which is now statistically significant. This points to the importance of properly specifying the equation due to important interactions between the different

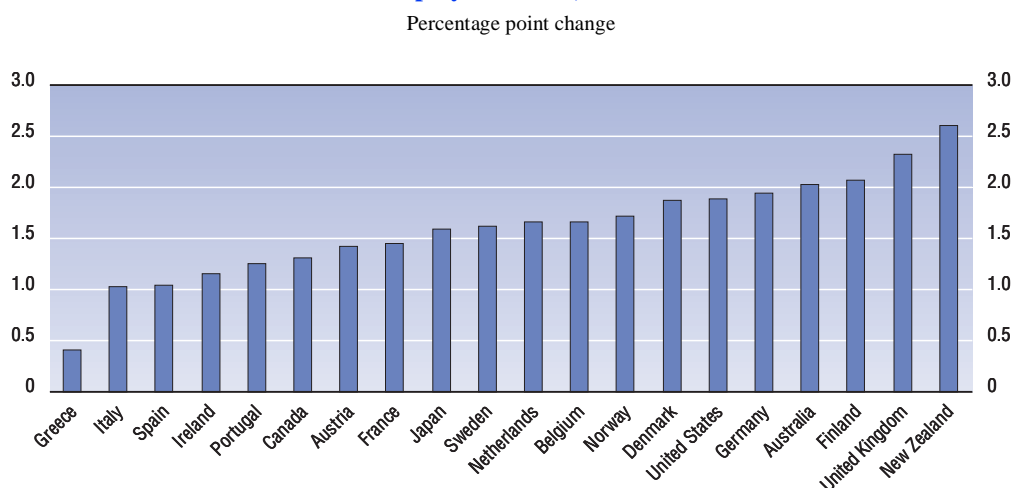
explanatory factors. Finally, it is noteworthy that product market regulations curbing competition appear to be less harmful for employment in situations characterised by corporatist labour market regimes, where product market rigidities may be partially compensated by co-ordination/centralisation of bargaining mechanisms (*e.g.* by reducing the extraction of rents in wage premia).

Using these regression coefficients to decompose cross-country differences in employment rates, it is found that differences in product market regulations account for 7% of the deviation in employment rates in the non-agricultural business-sector from the mean of OECD countries (see Nicoletti and Scarpetta, 2002). To put this into perspective, differences in the tax wedge account for about 14% of that deviation and the combined impact of all labour market policies is substantially larger than that of product market regulation in most countries. However, the effect of product market regulations appears to be more pronounced in some countries. For instance, in Italy, where on average employment rates were 5% smaller than the mean of OECD countries, anti-competitive product market regulations explain about one third of this gap.¹⁴ Conversely, in the United States and the United Kingdom, low levels of product market regulation account for about one fourth of the better than average employment rate performance (respectively 10 and 7 percentage points greater than the mean of the OECD countries).

Conclusions on employment

On balance, the regression results suggest that product market competition has beneficial effects for employment, at least in the long run. Indeed, regulatory reforms appear to have played a significant role in increasing employment in the OECD area over the past two decades (Chart 5.2). This is notably the case of countries where pro-competition

Chart 5.2. **Contribution of product market liberalisation to changes in the employment rate,^a 1978-1998**



a) The figure reports the estimated impact on the employment rate of the non-agricultural business sector of pro-competitive regulatory reform in 7 non-manufacturing industries (gas, electricity, post, telecommunications, passenger air transport, railways and road freight). Depending on the industry, changes in the following dimensions have been considered: barriers to entry, public ownership, market structure, vertical integration and price controls.

Source: OECD (2001d).

policy developments have been particularly extensive. Thus, product market reforms in New Zealand and the United Kingdom are estimated to have added around 2½ percentage points to their employment rate in the non-agricultural business sector over the 1982-98 period.¹⁵ On the other hand, countries that have been more hesitant in strengthening the role of market forces have experienced correspondingly smaller regulatory-reform-induced gains in employment, with Greece, Italy and Spain only adding around ½ to 1 percentage point to their employment rate via such reforms. Despite these sizeable effects, it should be emphasised that labour market policies and institutions appear to be even more important determinants of employment rates than is product market regulation. Accordingly, regulatory reforms in *both* the labour and product markets appear to be needed to raise significantly employment rates in many OECD countries.

B. Industry wage premia

There is a large amount of evidence pointing to the existence of significant inter-industry wage differentials in OECD countries (see Krueger and Summers, 1988; Gittleman and Wolff, 1993; OECD, 1996a, and the references therein; Haisken-DeNew and Schmidt, 1999). These partly reflect differences in worker characteristics (age, gender, education, etc.), working conditions (location, health hazards, etc.), and the characteristics of firms (technology, size, etc.), but they can also reflect differences in competitive pressures and employee bargaining power across countries and industries, which result in different degrees of rent sharing. Therefore, studying the linkage between anti-competitive product market regulations and wage premia is important to understand the implications of regulatory policies.

Empirical evidence on the influence of product market regulation on inter-industry wage differentials is scant, especially at the cross-country level. A few studies have analysed the effects of product market competition on wage premia in single countries or in specific regulated industries. In manufacturing, market power is found to be associated with higher premia (*e.g.* Nickell *et al.*, 1994, for the United Kingdom). However, results for non-manufacturing regulated industries are mixed: while de-regulation is often found to lead to decreases in average earnings (Peoples, 1998), in some cases regulation is found to be associated with lower pay levels and de-regulation is found to lead to either no or positive effects on wage premia (see *e.g.* Hendricks, 1977, 1994, for the United States). Other studies looked at the effects of trade openness on manufacturing wage premia for single countries (*e.g.* Gaston and Trefler, 1994, 1995, and Pizer, 2000, for the United States) or across countries (*e.g.* Oliveira-Martins, 1993). OECD (1996a) is the only comprehensive study to date covering cross-country, cross-industry and time-series dimensions. However, that study focused on the effects of product market competition, rather than regulation, on relative wages.¹⁶

This section presents a cross-industry and cross-country empirical analysis of the implications of product market regulations for wage premia.¹⁷ The analysis is cross-sectional and, therefore, is aimed at checking whether there is evidence that labour market rents are relatively high where regulation is most restrictive of competition. To this end, both the cross-country and cross-industry variations in regulations are exploited. It should be stressed at the outset that the analysis cannot directly account for non-pecuniary rents, such as labour hoarding or low work effort, which appear to be important in highly regulated industries, but for which adequate measures are lacking.

The empirical strategy follows closely the two-step approach taken in OECD (1996a).¹⁸ First, wage premia are estimated, country by country, regressing wages on industry dummies and a set of observable characteristics of workers in each industry. These estimates are based on detailed data on hourly wages earned by different categories of workers, distinguished by type of contract (full-time or part-time), age, sex and educational levels. Second, the estimated wage premia are regressed on a set of industry and/or country-specific explanatory variables pooling together countries and industries. Second-step estimates explicitly account for the influence of labour and product market policies and institutions on wage premia. The analysis focuses on a single year (in or around 1996) and the data cover 11 OECD countries (10 EU countries and the United States) and 41 two-digit industries in both manufacturing and non-manufacturing sectors, where the variability of product market conditions is largest.

The estimated industry wage premia are jointly significant at conventional levels and their individual standard errors are generally low and broadly uniform across industries and countries.¹⁹ Consistent with previous findings (Gittleman and Wolff, 1993; OECD, 1996a), the cross-industry structure of wage premia is remarkably similar across countries: *i*) the highest premia are generally found in the manufacturing of tobacco and petroleum products, in utilities (gas and electricity), in the supply of financial and computer-related services and in air transport; *ii*) the lowest premia are found in the manufacturing of apparel and leather products, in retail trade and, especially, in hotels and restaurants; and *iii*) the inter-industry dispersion of wage premia is substantial in all countries, with wage dispersion having the same magnitude in manufacturing and non-manufacturing industries, separately. The estimated wage premia may reflect both efficiency wages and pure rent sharing deriving from workers' bargaining power in the presence of product market rents.²⁰ However, only the pure rent element can be expected to fall with product market competition.

Second-step regressions relate the estimated wage premia to two sets of variables: *i*) controls for firm heterogeneity; and *ii*) indicators of product market competition and workers' bargaining power, reflecting the overall size of the rents earned by firms operating in imperfectly competitive markets and the ability of workers to capture part of those rents. Industry-specific controls for firm heterogeneity include average firm size, R&D intensity, export intensities and occupational composition of the workforce (which has not been fully accounted for in first-step regressions), as well as industry effects.²¹ Controls for competitive pressures include industry-specific indicators of product market regulation, entry rates and import penetration rates. Industry-specific union densities control for the bargaining power of workers. Given the differences between manufacturing and non-manufacturing industries in data availability, the characteristics of firms and market environments (for instance in terms of trade openness and industry regulation), the analysis of the determinants of wage premia was performed separately for these two sets of industries. In most respects, the estimation equations were similar, but the measures of product market regulation were substantially different: product market regulation was proxied by tariff and non-tariff barriers in manufacturing, but by a summary index of domestic product market regulation in non-manufacturing (see Annex 5.A).

Table 5.2 summarises the results of second-step panel regressions for manufacturing and non-manufacturing industries. Several conclusions can be drawn from the regression:

- *Product market regulations that limit competition, including trade barriers, increase wage premia.* In the models for manufacturing industries, both tariff and non-tariff barriers tend to push up wage differentials, perhaps reflecting the

Table 5.2. **Effects of policies and institutions on wage premia**

Results of panel regressions

Dependent variable: Estimated hourly wage premia for full-time workers

Method	Manufacturing sector		Non-manufacturing sector	
	Industry fixed effects	Industry random effects	Industry fixed effects	Industry random effects
Tariff barriers	0.33* (2.51)	0.19** (3.19)		
Non-tariff barriers	0.12* (2.43)	-0.01 (-0.52)		
Product market regulation			0.29* (2.37)	0.20* (2.14)
Non-linear effect of regulation ^a			-0.63** (-3.64)	-0.55** (-3.01)
Import penetration rate ^b	-0.03* (2.48)	-0.03** (-3.41)		
Export intensity ^b	0.02 (1.69)	0.003 (0.32)		
Union density ^b			0.03 (1.52)	0.03 (1.95)
Union density x average share of unskilled workers ^c	0.10** (5.23)	0.11** (5.37)		
Size ^b	0.05** (3.67)	0.06** (5.80)		
R&D ^b	0.002 (0.33)			
Average entry rate		-1.9** (-3.11)		-0.02** (-4.30)
Average skill ^b		0.19** (10.90)		
Average size ^b				0.10** (7.88)
Industry dummies	Yes	No	Yes	No
Country dummies	Yes	Yes	Yes	Yes
RESET	2.31		1.67	
R-squared	0.87		0.80	
F-test on industry dummies	14.8**		14.9**	
Cook-Weisberg	0.29		1.81	
Breusch-Pagan		60.7**		21.0**
Hausman		92.6**		1.07
Observations	206	206	84	84
Countries	11	11	10	10
Industries	29	29	12	12

*, ** denote significance at the 5% and 1% level, respectively.

T-statistics in parentheses. All equations include a constant. Samples are adjusted for outliers.

a) Defined as the product of the industry-specific product market regulation indicators and their deviations from their industry means.

b) In logarithm.

c) Product of the average union density in manufacturing for the country, by the (country-independent) average share of unskilled workers in that industry.

Source: Jean and Nicoletti (2002).

appropriation by workers of the rents implied by market power or cost advantages for domestic producers.²² This effect comes over and above the potential impact barriers may have on import penetration. Similarly, the linear term for product market regulation in non-manufacturing indicates higher wage premia in more regulated industries. (The non-linear term is discussed below.)

- *Product market competition curbs wage premia.* Import penetration has a significant negative effect on wage differentials in manufacturing. Moreover, wage premia tend to be lower in industries characterised by higher entry rates.

Chart 5.3. Wage premia and regulation in non-manufacturing industries

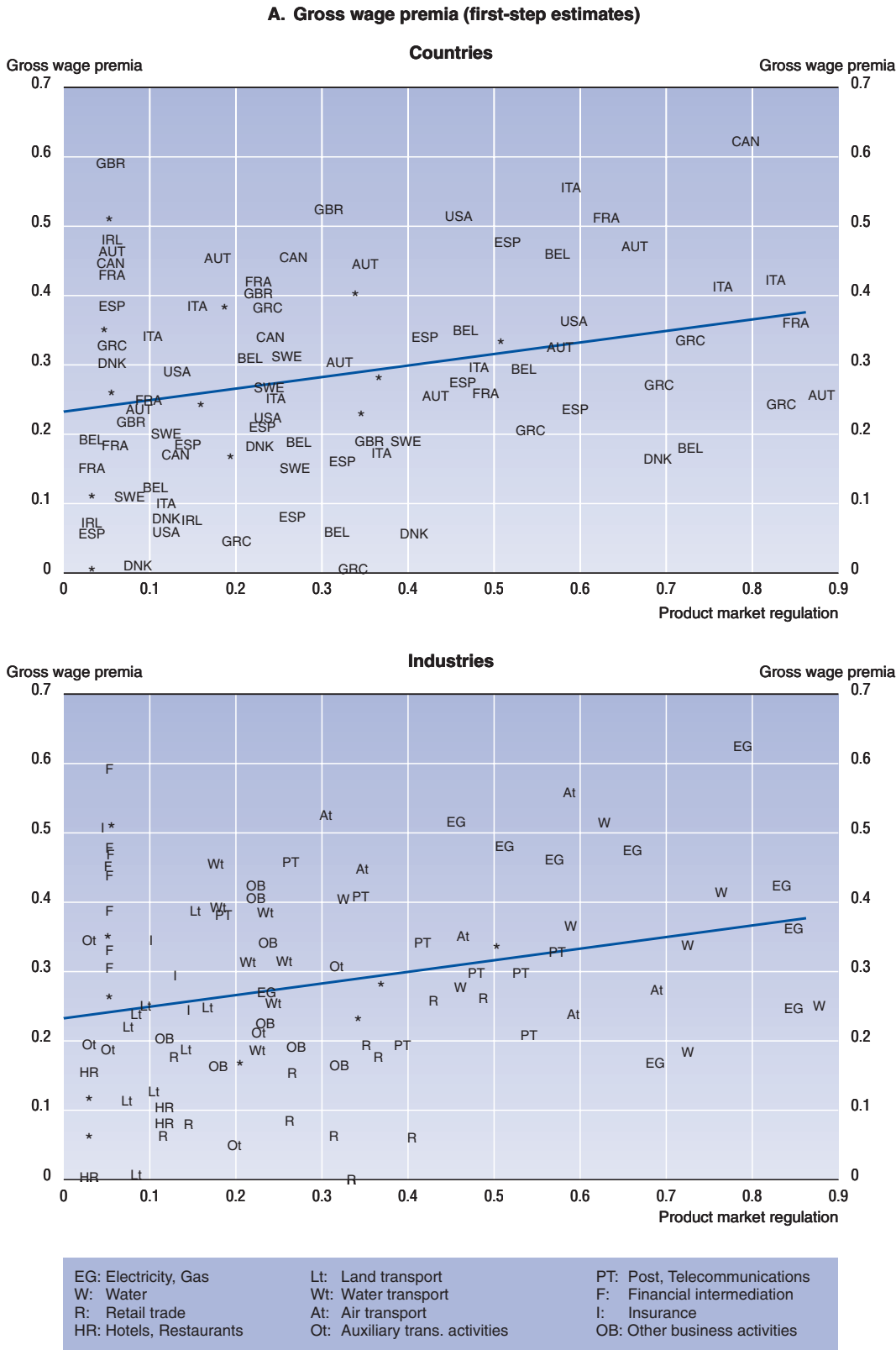
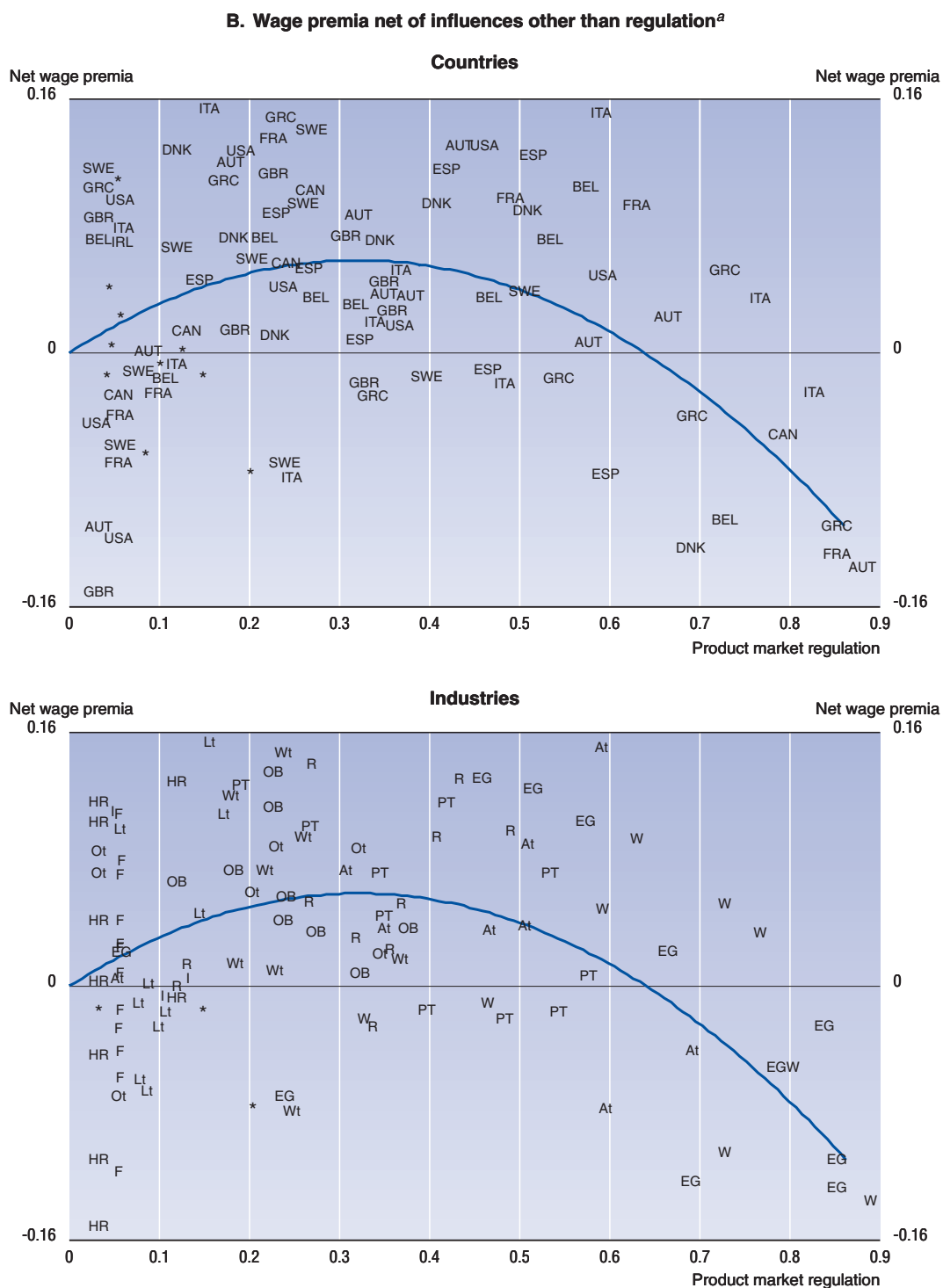


Chart 5.3. Wage premia and regulation in non-manufacturing industries (cont.)



* Two or more observations.

a) Net wage premia are the gross wage premia net of the country and industry fixed effects.

Source: Jean and Nicoletti (2002).

- *Wage premia in manufacturing tend to be higher as the share of unionised unskilled workers increases.* The positive and significant coefficient estimated for the interaction variable suggests that the effect of unionisation on wages is relatively stronger for unskilled workers or, alternatively, that the bargaining power of unions decreases with the share of skilled labour.²³
- *Structural influences on industry wage premia include average firm size and occupational structure.* Wage premia increase with firm size²⁴ and the share of skilled workers, possibly reflecting efficiency-wage phenomena.

The non-linear impact of product market regulation on wage premia in non-manufacturing is explored in Chart 5.3. Panel A of this chart provides a baseline by plotting the first-step estimates of industry wage premia against the industry-specific summary indicator of product market regulation, showing the picture for both industries and countries. There is evidence of a positive correlation between the two phenomena (the correlation coefficient is 0.3 and is significant at conventional levels), though it is blurred by the relatively high dispersion of wage premia.

The bivariate association is only partly confirmed by the results of the panel regressions, which provide a picture of a strong but more complex relationship between wage premia and regulation in non-manufacturing industries. Panel B of Chart 5.3 plots the relationship between the regression-adjusted wage premia and product market regulation, which is shown to be “hump-shaped”.²⁵ The decreasing part of the hump-shape mostly describes the relationship between regulation and wages in countries/industries that are dominated by public-owned and tightly regulated firms (*e.g.* public-owned utilities and national airlines without domestic competitors). This could reflect the success of regulation in curbing product market rents and rent-sharing in the most regulated industries, but a more likely explanation is that pervasive regulation increases regulatory failure, leading to both low labour productivity and low wages. A supplementary explanation of the hump-shaped relationship is that regulation creates product market rents that are shared with workers in both pecuniary and non-pecuniary ways, but that non-pecuniary rents become progressively more important as regulation becomes tighter and interferes with all dimensions of business activity (ownership, objectives, input and output choices), such as in many public-owned utilities.²⁶

Conclusions on wage premia

OECD labour markets are characterised by sizeable inter-industry wage differentials, which cannot be explained solely by differences in worker and firm characteristics. Product market conditions appear to be important determinants of the implied wage premia, which therefore are likely to reflect, in part, the sharing of product market rents between firms and workers. In most industries, wage premia are higher when regulatory barriers curb product market competition. For instance, the empirical estimates for manufacturing imply that, for the average OECD country, a reduction of one point in average trade tariffs or a 10% increase in import penetration would each lower wage premia by around 0.3 percentage point. In non-manufacturing industries, the picture is more complex, since wage premia first rise and then fall as regulatory barriers to competition become more stringent. This may result from the successful elimination of labour and product market rents as regulation becomes more comprehensive, but is more likely to reflect non-pecuniary rents and/or low efficiency outcomes in heavily regulated utility industries. In non-manufacturing industries with intermediate initial levels of regulation, the estimates

suggest that full product market liberalisation (as measured by a fall to zero of the average value of the regulatory indicator) can lower wage premia by up to 8 percentage points.

C. Insecurity

The perception that efficiency-oriented regulatory reforms may result in increased insecurity and inequality appears to play an important role in the political economy of regulation (Agell, 1999). In response to these concerns, this section analyses the effects of product market regulations on insecurity and the following section analyses the effects of these regulations on inequality.²⁷ Improved understanding of these potential links, including possible trade-offs between the goals of efficiency, security and equity, should help in making more informed choices when setting regulatory policy. Political support for efficiency-enhancing policies might also be reinforced if it could be shown that they do not have important adverse impacts on security and equity goals, or – at a minimum – have been designed so as to minimise these impacts.

The key practical difficulty confronting this analysis is the need to assemble measures of employment insecurity and earnings inequality that are reasonably comparable for a significant number of OECD countries and available at a level of industrial disaggregation that corresponds to that for which the indices of product market regulations have been assembled. As discussed below, the measures that have been assembled have three important limitations. First, these measures do not reflect fully the complexity of the underlying concepts of insecurity and inequality. Second, the coverage of countries and industries is not as broad as for the analysis in Sections 1.A-B. Finally, data are only available at one point in time (in the late 1990s). Consequently, only the *long-run* effects of product market regulations are considered, despite the potential importance of *transitional* dislocations resulting from deregulation (Card, 1998). With the notable exception of the impact of trade liberalisation on earnings inequality (OECD, 1997a; Pizer, 2000), the long-run effects have received little attention from researchers. These limitations mean that the empirical analysis in this and the following section should be viewed as providing only a preliminary assessment of the potential importance of links between product market deregulation and increased insecurity or inequality, rather than precise quantitative estimates of policy trade-offs.

How might product market regulations affect insecurity? As discussed above, prior research has focussed on the implications of product market regulations and competition for labour market performance at the *aggregate* and *sectoral* levels (e.g. the effects on aggregate employment and industry wage premia), rather than their implications for the employment insecurity of *individual* workers. Nevertheless, this research is suggestive of several channels through which product market regulations could affect employment insecurity. Potentially important linkages between product market competition and insecurity, include:

- A regulatory structure conducive to vigorous product market competition might reduce the extent to which employers are willing or able to offer stable jobs. Hicks (1935) famously observed that “the best of all monopoly profits is a quiet life”, and workers employed by firms with substantial market power may also enjoy greater stability in their careers. For example, greater market power may mean that firms and – by extension – their workforces are less exposed to adverse demand shocks (e.g. loss of market share due to heightened competition from new entrants to the industry).²⁸

- The earnings losses associated with redundancies might be reduced by regulatory reforms that cause the equilibrium unemployment rate to decline. The latter result occurs in some recent theoretical models (*e.g.* Blanchard and Giavazzi, 2001; Gersbach and Schniewind, 1999; Layard and Nickell, 1990). It should be noted, however, that these models do not analyse how the predicted change in the unemployment rate affects the duration of unemployment following job loss. Nonetheless, the strong empirical association between lower unemployment rates and lower unemployment durations (Machin and Manning, 1999) suggests such a link, as does the finding that displaced workers fare better when the unemployment rate is lower (Farber, 2001).
- The wage premia received by workers in heavily regulated industries (Section 1.B) may cause workers displaced from these industries to experience especially long spells of unemployment. Such workers may prefer to queue for new jobs in the same industry, rather than searching for jobs in other sectors where there may be more vacancies, because changing industries is associated with large reductions in pay (Kletzer, 1998; see also the discussion of “wait unemployment” in Box 5.1).
- Amable and Gatti (2002) analyse a general equilibrium model that illustrates several of these channels: product market deregulation results in a higher rate of job loss, but also shorter unemployment durations. It is not clear, however, whether these results are robust to alternative assumptions about wage setting or labour mobility. Nonetheless, the Amable and Gatti model confirms that product market regulations may affect insecurity through influencing *both* the incidence of job loss and the size of the income losses that result. It also suggests that interaction effects may be important. In particular, the effect of product market regulations on labour turnover may depend on the nature of wage-setting institutions.²⁹

Measures of insecurity

As used here, “insecurity” refers to the risk that a worker will experience a significant fall in earnings due to involuntary job loss.³⁰ The expected cost of job loss for a worker who is currently employed can be expressed as the product of the probability of job loss and the mean cost of losing a job:

$$E(\text{cost-of-job-loss}) = Pr(\text{job-loss}) \times E(\text{cost} \mid \text{job-loss}) \quad [1]$$

where job loss is intended to refer to separations that are *involuntary* from the perspective of the worker. The (conditional) cost of job loss will tend to be higher in labour markets where the duration of non-employment is greater and/or displaced workers have to accept larger pay cuts to become re-employed.

Discussions of employment insecurity often consider only the risk of job loss (*i.e.* the first right-hand-side term in equation 1). However, the expected cost of job loss provides a more comprehensive measure of the extent to which job displacement creates insecurity for workers and their families. Weighting the probability of experiencing a redundancy by the economic consequences of job loss may be especially important for making inter-industry and international comparisons of insecurity, which is the strategy used here to analyse the impact of labour and product market regulations on insecurity. This will be the case if there is a trade-off between the frequency of job loss and the resulting costs (*e.g.* if more competitive markets are characterised by relatively high rates of involuntary job loss, but also by relatively quick re-employment at similar wages).³¹

Panel data that follow workers over an extended period of time are required to measure the incidence and costs of job loss in a fully satisfactory manner. Unfortunately, attempts to construct such measures using three years of longitudinal data from the European Community Household Panel (ECHP) were to no avail.³² Accordingly, most of the insecurity measures analysed here are derived from labour force surveys which offer superior country coverage and larger samples for calculating measures that are disaggregated by industry. These proxy measures are somewhat crude, but allow an initial assessment to be made of whether labour and product market regulations affect either the incidence of job loss or the earnings lost while searching for a new job.

Table 5.3 provides an overview of the six insecurity measures used in the analysis. The first three measures provide information about the extent of worker turnover, which serve as proxy indicators of the probability of job loss (*i.e.* the first right-hand-side term in equation 1). An important limitation of these measures is that they do not differentiate between involuntary job loss and voluntary quits. Note also that the first measure (*i.e.* the share of workers hired in the previous year) may also reflect ease of re-entry. The fourth measure is the incidence of long-term unemployment, which serves as a proxy for the magnitude of earnings losses following job loss (*i.e.* the second right-hand-side term in equation 1). However, this measure accounts neither for any differences in unemployment duration between job losers and other job searchers nor for any earnings losses once re-employed. The final two indicators are proxy measures for the expected cost of job loss (*i.e.* the combined effect of the probability and cost of job loss): the fifth measure is the

Table 5.3. **Measures of insecurity used in the analysis**

Description of variable	Source of data	Industry coverage ^a	Country coverage	Comments on interpretation
Measures of the risk of job loss:				
1. Workers with a year or less of job tenure (percentage of total employment)	Labour force survey data	9 (5)	15	Higher values indicate greater worker turnover which is used as a proxy for an increased probability of job loss.
2. Average job tenure (years)	Labour force survey data	9 (5)	16	Higher values indicate greater job stability which is used as a proxy for a decreased probability of job loss.
3. Workers with temporary jobs (percentage of total employment)	Labour force survey data	9 (5)	17	Higher values used as a proxy for a greater share of workers facing imminent job loss.
Measures of the cost of job loss:				
4. Incidence of long-term unemployment (percentage of all unemployed who have been searching for a year or longer)	Labour force survey data	13 (13)	13	Higher values indicate that earnings losses following job loss are greater. However, no consideration is taken of wages once re-employed.
Measures combining the risk and cost of job loss:				
5. Incidence of job losses resulting in long-term unemployment	Labour force survey data	13 (13)	13	Reflects both the rate of involuntary job loss and the probability that workers losing a job are still unemployed one year later. Normalised as a relative rate by industry for the regression analysis.
6. Mean satisfaction of workers with job security on their current jobs	European Community Household Panel	5 (3)	10	Workers appraisal of job security on their current jobs, with higher values corresponding to greater satisfaction (1-6 scale).

a) Number of service industries for which both the insecurity measure and the global index of product market regulation are available. The value in parentheses is the number of cases in which there is an exact match of industry definitions between the two variables. Regressions using only the exact-match industries give similar results to those also using industries where the match was approximate (see Nicoletti *et al.*, 2001a, for details).

rate of job loss leading to long-term unemployment (*i.e.* job losers who are still unemployed a year later, as a share of total employment);³³ and the sixth measure is a subjective appraisal by workers of job security on their current job. While none of these six measures represents a fully satisfactory estimate of the corresponding term(s) in equation 1, they should be sufficiently positively correlated with the desired concepts to provide valid qualitative evidence.³⁴

National average values of these six proxy measures of employment insecurity are plotted in Chart 5.4. Cross-country differences are considerable, with national comparisons differing somewhat between the different measures. The cross-country associations between these insecurity measures and the global index of the extent to which product market regulations restrict competition are also displayed. These bivariate associations are often weak, but offer suggestive evidence that stricter product market competition may be associated with greater job security, as proxied by the tenure variables reported in the first two panels of Chart 5.4. However, many factors, in addition to product market regulation, that may account for international differences in labour turnover and employment insecurity have not been accounted for.³⁵ The multivariate analysis that follows provides a clearer indication of whether product market regulations have a causal impact on labour turnover and insecurity.

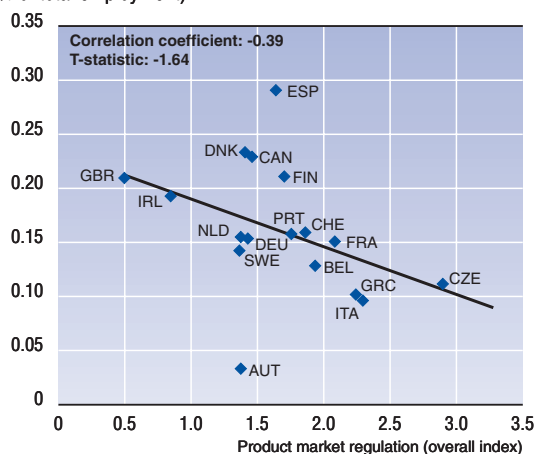
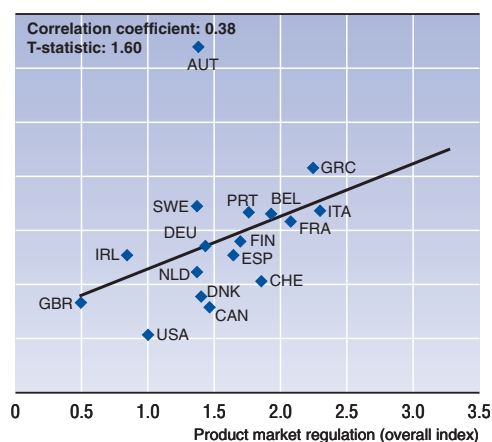
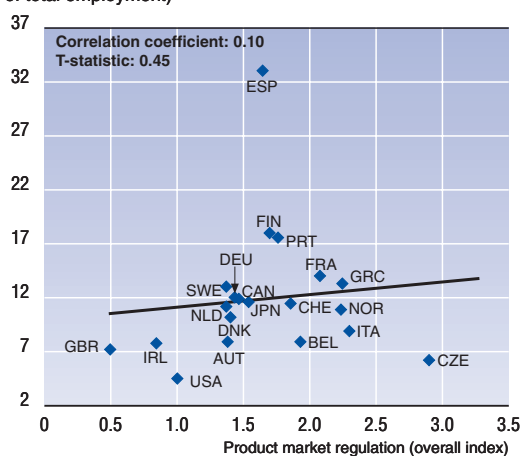
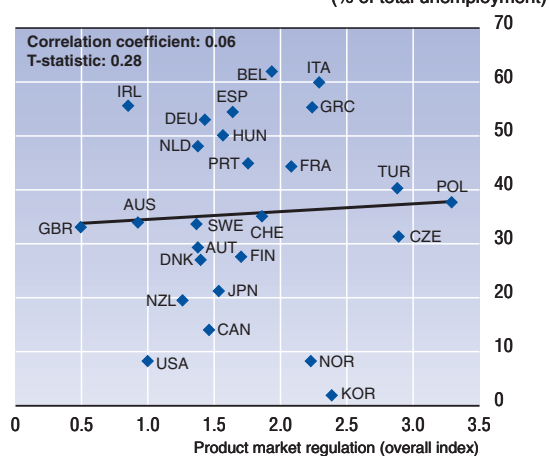
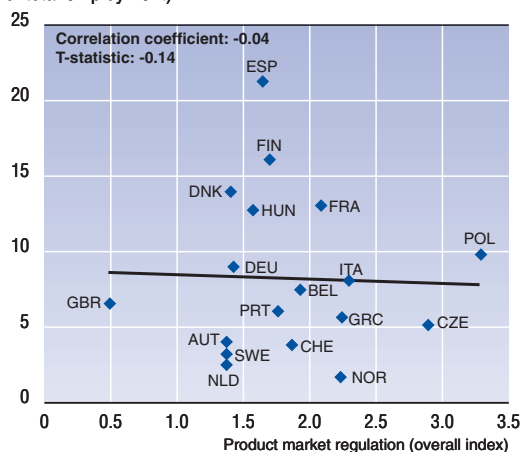
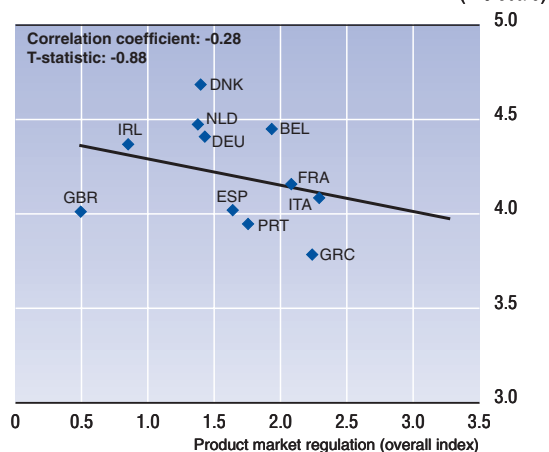
Regression analysis

Reduced-form regression models are used here to analyse the impacts of regulations and institutions on earnings insecurity at the end of the 1990s.³⁶ The six proxy measures of insecurity are used as the dependent variables, while the regressor of greatest interest is the global index of product market regulations. Industry-specific values are used for both the measures of insecurity and the product market regulations. Several different approaches were tried to capture potential non-linearities in the effect of product market regulations on insecurity. Models allowing the marginal effect of changes in the global index of product market regulations to differ, depending on whether the reference level of competition is high or low, performed best and are reported here.³⁷ The regression analysis also controls for three aspects of labour market regulations and institutions: EPL, union density and the generosity of unemployment insurance benefits. In order to control for business-cycle effects on labour turnover, the GDP gap is also included in the regression equation.

Estimation results are presented for a *basic* model, including the regulatory and institutional regressors, as well as for an *augmented* model that also controls for industry and country effects. As discussed in Annex 5.B, the augmented model may avoid misspecification biases by accounting for omitted variables that differ by industry or country. However, two problems related to the inclusion of industry and country effects in this analysis should be noted:

- Technological characteristics of industries that directly affect labour turnover may also be important determinants of inter-industry differences in product market regulations (*e.g.* the scale economies and capital intensity of the electric, gas and water supply industry). As a result, caution is called for when attempting to differentiate between the effects of regulatory and technological factors on employment security.
- Due to data limitations, it was sometimes impossible to estimate a model including both industry and country effects. In such cases, only industry effects are estimated since they tend to be more statistically significant and to have the greatest effect on

Chart 5.4. Overall product market regulation and insecurity, 1998

Workers with a year or less of job tenure
(% of total employment)Average job tenure
(years)Workers with temporary jobs
(% of total employment)Incidence of long-term unemployment
(% of total unemployment)Incidence of job losses resulting in long-term unemployment
(% of total employment)Mean satisfaction with job security
(1-6 scale)

Source: Nicoletti et al. (2001a).

the coefficients of the variables measuring labour and product market regulations and institutions.³⁸

Table 5.4 presents the regression results using the six measures of employment insecurity. In all cases, the industry and country effects are statistically significant suggesting that the augmented model is more appropriate than the basic model. However, the Hausman test indicates a possible mis-specification related to the country random effects for the augmented model explaining the share of temporary jobs. Re-estimating this model while omitting the country random effects has very little effect on the estimation results.³⁹

The estimation results for the three proxy measures of the risk of job loss suggest that regulations reducing product market competition may sometimes result in greater job security (Panel A of Table 5.4). However, this effect appears to be limited to the most regulated industries (only being supported by the upper-spline coefficients). Furthermore, the estimated effects are smaller and statistically insignificant when industry and country effects are introduced into the model. This confirms that it is difficult to assess whether the association between strict product market regulations and high job security is, in part, causal or is fully accounted for by other characteristics of tightly-regulated industries.

Table 5.4. **Policies, institutions and insecurity^a**

Results for panel regressions of service industries

Panel A. Measures of the risk of job loss

	Workers with a year or less of job tenure (% of total employment)		Average job tenure (years)		Workers with temporary jobs (% of total employment)	
	Basic	Augmented ^b	Basic	Augmented ^b	Basic	Augmented ^b
Product market regulation						
PMR global index (lower spline) ^c	0.09 (0.70)	-0.10 (-0.76)	-1.72 (-0.57)	-2.47 (-0.47)	0.14 (1.40)	-0.11 (-0.90)
PMR global index (upper spline) ^c	-0.17** (-4.82)	-0.01 (-0.20)	9.47** (10.05)	2.20 (1.36)	-0.10** (-3.81)	-0.05 (-1.29)
Labour market and business cycle						
EPL global index	-0.02* (-2.32)	-0.02 (-1.36)	0.99** (3.85)	1.12** (4.41)	0.03** (4.56)	0.03** (5.60)
Union density	0.00 (-1.64)	0.00 (-0.31)	0.03* (2.84)	0.01 (1.41)	0.00 (-1.50)	0.00 (-0.12)
Unemployment insurance (net replacement rates)	0.00 (1.74)	0.00 (0.45)	-0.04* (-2.78)	-0.02 (-0.80)	0.00 (0.14)	0.00 (0.89)
Output gap	-0.01 (-0.65)	0.00 (-0.16)	-0.14 (-0.63)	-0.28 (-1.37)	-0.01 (-1.74)	-0.01 (-1.66)
RESET	0.29		1.02		6.57**	
R-squared	0.27	0.62	0.43	0.74	0.33	0.58
F-test on fixed effects		249.8**		172.7**		94.81**
Breusch-Pagan		104.2**		67.7**		8.11**
Hausman		0.41		0.10		123.4**
Observations	116	114	127	125	129	129
Countries	15	15	16	16	17	17
Industries	9	9	9	9	9	9

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsh distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.3 for the definitions of the insecurity measures (*i.e.* the dependent variables).

b) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

c) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

Should the upper-bound estimates provided by the basic model be valid, the impact of product market regulations would be large enough to be of considerable importance. Starting at the median value, a one standard deviation increase in the regulation index implies that average tenure increases by approximately one and one-half years (or 0.45 of a standard deviation). However, the augmented model implies an effect that is less than one-fourth as strong and is consistent with there being no effect at all. It should also be noted that any increase in job stability due to product market regulations appears to be limited to a few tightly-regulated industries, such as electric, gas and water supply, where public ownership is common and may lead employers to offer workers non-pecuniary rents, such as life-time job guarantees (Section 1.B).

Among the labour market variables, only EPL appears to have a systematic impact on the risk of job loss. Stricter EPL lowers overall worker turnover and raises average tenures, but also encourages an expansion in the share of workers on temporary contracts.⁴⁰ Job security may be enhanced for workers with regular contracts (*i.e.* “insiders”), but diminished for workers unable to obtain “permanent” jobs (*i.e.* “outsiders”). These estimated effects are large enough to be economically important. For example, the EPL

Table 5.4. **Policies, institutions and insecurity^a** (cont.)

Results for panel regressions of service industries

Panel B. Measures of the cost of job loss

	Incidence of long-term unemployment (% of total unemployment)		Incidence of job losses resulting in long-term unemployment (relative rate by industry) ^b		Mean satisfaction with job security (1-6 scale)	
	Basic	Augmented ^c	Basic	Augmented ^d	Basic	Augmented ^e
Product market regulation						
PMR global index (lower spline) ^e	-0.45* (-2.40)	-0.04 (-0.09)	0.79 (1.35)	1.51 (1.60)	-0.48 (-1.17)	1.86* (2.57)
PMR global index (upper spline) ^e	0.15 (1.30)	0.31 (1.66)	-1.17** (-4.22)	-0.68* (-2.04)	-1.40 (-1.43)	-1.26 (-1.05)
Labour market and business cycle						
EPL global index	0.06* (2.64)	0.06** (4.14)			-0.04 (-0.99)	-0.06 (-1.53)
Union density	0.00 (0.08)	0.00 (-0.04)	0.00 (0.24)	0.00 (1.54)	0.01* (2.44)	0.00 (2.17)
Unemployment insurance (net replacement rates)	0.00 (0.74)	0.00 (1.55)			0.02* (2.57)	0.02* (2.66)
Output gap	-0.03 (-1.59)	-0.03 (-1.48)			-0.10 (-2.09)	-0.08 (-1.71)
RESET	2.17	1.90	0.40		0.60	0.41
R-squared	0.18	0.29	0.10	0.59	0.45	0.63
F-test on fixed effects		95 000**		178.2**		6.26**
Breusch-Pagan				5.07*		
Hausman				6.20		
Observations	135	133	142	142	48	47
Countries	13	13	13	13	10	10
Industries	13	13	13	13	5	5

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.3 for the definitions of the insecurity measures (*i.e.* the dependent variables).

b) Regressors with no inter-industry variation within a country are not used for this dependent variable, since there cannot be common effects across all industries in their relative risk of job loss.

c) Basic model augmented to include industry fixed effects. It is estimated by OLS, the standard errors being adjusted for clustering.

d) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

e) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

coefficients in the two models explaining average job tenure imply that a one standard deviation increase in the EPL strictness index implies that average tenure increases by a little more than one year (or 0.3 of a standard deviation).

Regression results for the dependent variables that reflect the cost of job loss are reported in Panel B of Table 5.4. The theoretical prediction that stricter product market regulations result in longer unemployment spells is only weakly supported for the most regulated industries. The results for the incidence of job losses resulting in long-term unemployment – a measure reflecting both the risk of job loss and the duration of post-displacement joblessness – are stronger, suggesting that the reduction in the risk of job loss associated with stricter product market regulations outweighs any increase in unemployment durations, generating a net decrease in employment insecurity. This result is only significant when regulation is already tight, however. The estimation results using workers' subjective appraisals of job security suggest that employees in the industries subject to intermediate levels of regulation feel the most secure, *ceteris paribus*.

Consistent with earlier research, stricter EPL is significantly associated with an increased incidence of long unemployment spells, with a one standard deviation increase in EPL raising the long-term unemployment rate by 5 to 6 percentage points (or 0.3 of a standard deviation). This may explain why stricter EPL is not associated with greater worker satisfaction with job security on their current jobs. By contrast, more generous unemployment insurance benefits and higher union density do cause workers to report greater satisfaction with job security, perhaps because their families' incomes are better protected, should they lose their jobs. This effect is quite large. A standard deviation increase in the net replacement rate implies nearly a 0.6 standard deviation increase in the satisfaction index.

Conclusions for insecurity

Despite its preliminary character, this analysis suggests that product market regulation may have economically significant effects on employment insecurity. However, the evidence that strict product market regulations reduce employment insecurity is not terribly robust and is subject to two caveats of importance for drawing policy lessons. First, the concentration of any gains in employment security on workers in the most regulated industries suggests that relatively few workers benefit. Second, product market regulations this strict appear to have important efficiency costs (OECD, 1997b). These considerations suggest that constraints on competition in product markets do not provide a particularly cost-effective policy lever for raising employment security. This conclusion is reinforced by the finding that certain labour market policies appear to be more important determinants of employment security than is the level of product market competition. In particular, EPL has important effects on both the risk of job loss and unemployment durations, while more generous unemployment benefits and higher union density appear to enhance subjective appraisals of job security.

In sum, this analysis suggests that security goals deserve some attention when implementing regulatory reforms in product markets. Deregulatory initiatives – particularly those targeted at industries where competition levels have been low – may give rise to long-run increases in employment insecurity that policy makers may wish to address with measures that are directly targeted at improving the functioning of the labour market. This suggests a potential complementarity between product market reforms that increase competition and improvements in the assistance available to job losers to find new jobs

(e.g. job-search assistance or training) or policies to cushion the adverse impact of job loss on family incomes (e.g. unemployment insurance).

D. Inequality

As used here, “inequality” refers to earnings and income inequality, with the primary focus being on *earnings* inequality (i.e. the dispersion of earnings across individual workers) since that is the aspect of inequality the most closely related to the labour market.⁴¹ The vast recent literature on earnings inequality has not identified product market regulations as ranking among the principal determinants of earnings inequality (Katz and Autor, 1999). Nonetheless, the level of product market competition might affect earnings inequality through the following channels:

- Product market regulations restricting competition are often associated with wage premia (Section 1.B). It follows that restrictions on product market competition typically affect the distribution of earnings, but the effect on overall earnings inequality appears to be difficult to predict.⁴²
- Regulatory changes in product markets that increase competitive pressures will tend to reduce the rents available for unions to capture through collective bargaining, potentially leading to declines in union power or more decentralised wage bargaining that, in turn, result in greater wage dispersion. Such a development may be less probable in countries where union membership rates are high or centralised/co-ordinated collective bargaining is well established.
- The impacts of product market regulations on the innovation potential of firms (see Section 2) may, in turn, affect earnings inequality. In particular, increased competition may result in more rapid development and diffusion of new production technologies. Since such technologies (and R&D, itself) are typically intensive in the use of skilled labour, this shift in relative demand will, *ceteris paribus*, raise the relative wage of skilled labour and increase earnings inequality.
- The effects of labour and product market regulations on the overall level and sectoral composition of employment (see Sections 1.A and 2.B, respectively) will tend to affect the distribution of employment and unemployment across groups of workers or households, potentially altering the distribution of labour incomes.

Measures of inequality

Table 5.5 describes the three inequality measures used in the analysis. Earnings inequality is measured both in terms of the overall dispersion of earnings (measure 1) and the incidence of low-paid employment (measure 2). The poverty rate among workers is also considered (measure 3), where poverty is defined as a size-adjusted family income less than one-half the national median value.⁴³ An important limitation of these measures is that none takes account of how product market regulations may affect the living standards of families with no working members, who are at an elevated risk of poverty (OECD, 2001c). Restrictions on competition that result in lower aggregate employment (Section 1.A) will tend to increase the number of such families. Unfortunately, it proved impossible to incorporate this aspect of inequality into the industry-based framework adopted in this study, because non-working families usually lack a meaningful industrial affiliation.

Table 5.5. **Measures of inequality used in the analysis**

Description of variable	Source of data	Industry coverage ^a	Country coverage	Comments on interpretation
Measures of earnings inequality:				
1. Wage inequality (ratio of 80th percentile earnings to 20th percentile earnings)	European Community Household Panel	5 (3)	10	Higher values for D8/D2 indicate greater intra-industry earnings inequality. (The percentile values are calculated separately for each industry.)
2. Workers with low-paid jobs (percentage of workers earning less than two-thirds of national median value)	European Community Household Panel	5 (3)	10	Higher values indicate a greater incidence of workers earning substantially less than a typical worker in their home country. This measure reflects both inter- and intra-industry earnings inequality.
Measures of the income inequality:				
3. Rate of working poverty (percentage of workers living in families in poverty)	European Community Household Panel	5 (3)	10	Higher values indicate a greater share of workers whose earnings do not raise the size-adjusted incomes of their families to one-half of the national median value.
a) Number of service industries for which both the inequality measure and the global index of product market regulation are available. The value in parentheses is the number of cases in which there is an exact match of industry definitions between the two variables. Regressions using only the exact-match industries give similar results to those also using industries where the match was approximate (see Nicoletti <i>et al.</i> , 2001a, for details).				

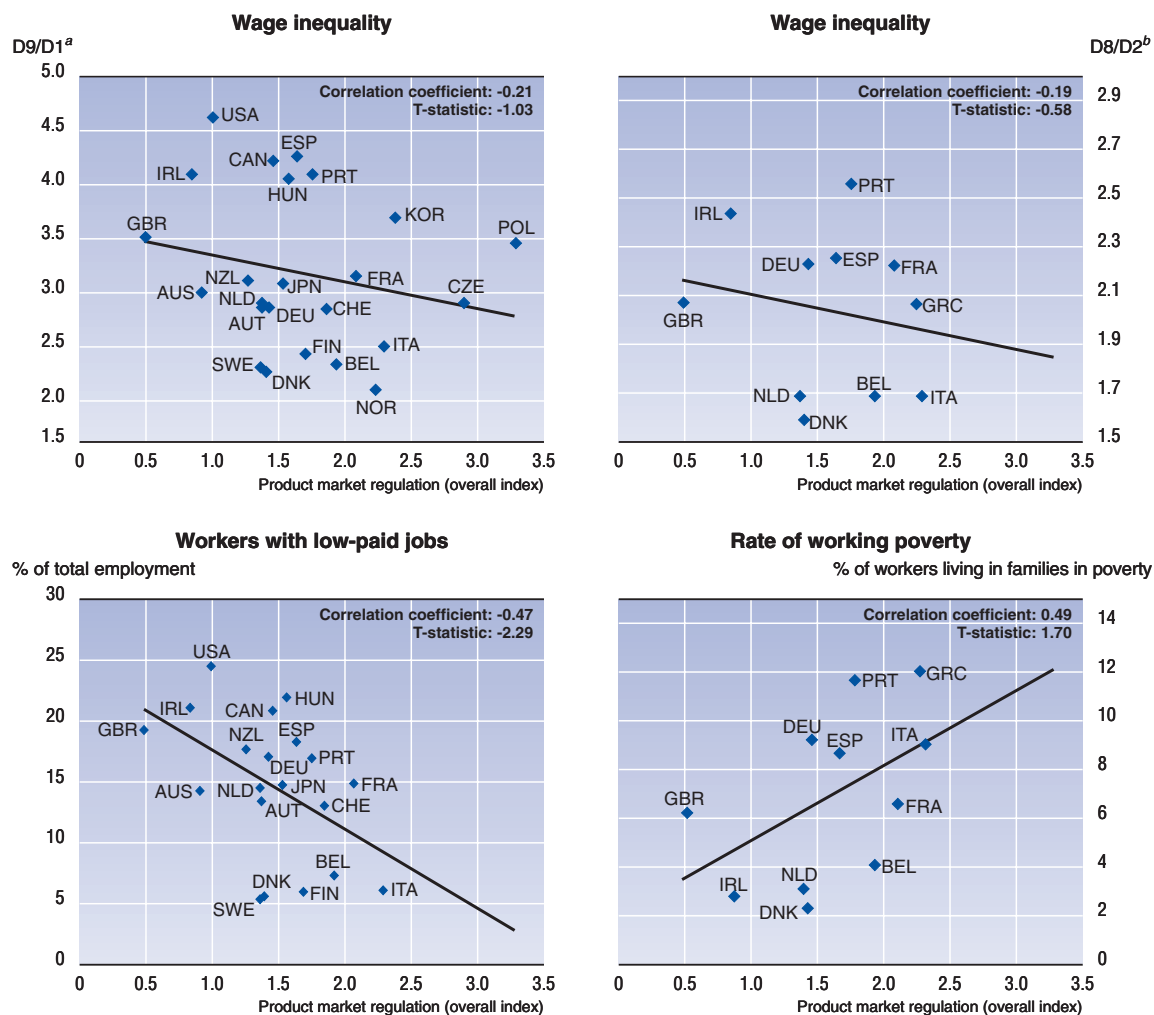
Chart 5.5 displays the three inequality measures and their cross-country association with the overall index of product market regulations.⁴⁴ There is considerable cross-country variation in the inequality measures with wage inequality – particularly, the incidence of low-paid employment – tending to be lower in countries with stricter regulation. By contrast, the incidence of in-work poverty seems to increase with the regulation of product markets.⁴⁵ Overall, these bivariate associations are relatively consistent with the hypothesis that greater competition in product markets might lead to greater earnings inequality. However, multivariate analysis is required to assess whether these bivariate associations reflect a potential trade-off between efficiency and equity goals.

Regression analysis

Table 5.6 presents regression results using the three measures of inequality as the dependent variable. The estimation results suggest that the bivariate associations between inequality and product market regulations shown in Chart 5.5 probably do not reflect important causal links between the vigour of product market competition and earnings or income inequality. No statistically significant effect of regulation is found in augmented and preferred specifications, when industry dummies are added to the model, although a negative coefficient is estimated in the basic specification when the rate of working poverty is used as dependent variable.

Higher union density is associated with a reduced incidence of low-paid employment and, perhaps, a decrease in overall earnings dispersion, consistent with previous research findings that unions compress the wage structure (Blau and Kahn, 1999; Fortin and Lemieux, 1997). Both higher union density and more generous unemployment insurance benefits may be associated with reductions in the share of workers whose families are poor, although the unionisation effect disappears with controls for industry effects. The estimated effect of higher unemployment benefits – which serves here as a proxy for the overall generosity of the welfare state – is quite strong, with a one standard deviation

Chart 5.5. Overall product market regulation and inequality, 1998



a) D9/D1 refers to the ratio of wage rates at the breakpoint between the ninth and the tenth deciles and the breakpoint between the first and the second deciles.

b) D8/D2 refers to the ratio of wage rates at the breakpoint between the eighth and the ninth deciles and the breakpoint between the second and the third deciles.

Source: Nicoletti *et al.* (2001a).

increase in the replacement rate implying a 0.45 standard deviation decrease in the incidence of working poverty, approximately twice as strong as the larger of the two estimates of the impact of union density on working poverty.

Conclusions for inequality

This analysis provides little support for the hypothesis that product market regulations have a long-run impact on inequality in the labour market. Deregulation in product markets may nonetheless occasion significant economic losses in the transition to a more competitive equilibrium, for example, those experienced by workers whose wages had

Table 5.6. **Policies, institutions and inequality^a**

Results for panel regressions of service industries

	Wage inequality (D8/D2) ^b		Workers with low-paid jobs (% of total employment)		Rate of working poverty (% of workers living in families in poverty)	
	Basic	Augmented ^c	Basic	Augmented ^d	Basic	Augmented ^e
Product market regulation						
PMR global index (lower spline) ^e	-0.17 (-0.27)	-1.62 (-1.09)	-0.12 (-0.46)	-0.04 (-0.13)	0.09 (1.22)	-0.18 (-0.75)
PMR global index (upper spline) ^e	1.95 (1.62)	1.27 (0.91)	-0.30 (-0.87)	-0.17 (-0.79)	-0.20* (-2.40)	-0.01 (-0.05)
Labour market and business cycle						
EPL global index	0.04 (0.92)	0.03 (0.58)	-0.01* (-2.96)	-0.02 (-0.98)	0.01 (1.96)	0.01 (1.11)
Union density	0.00 (-0.80)	0.00 (-1.71)	0.00* (-2.28)	0.00** (-2.80)	0.00* (-2.30)	0.00 (-0.72)
Unemployment insurance (net replacement rates)	0.00 (0.14)	0.00 (0.17)	0.00 (0.79)	0.00 (0.06)	0.00* (-3.12)	0.00 (-2.12)
Output gap	-0.04 (-0.65)	-0.05 (-0.91)	-0.02 (-1.92)	-0.02 (-0.96)	0.01 (1.36)	0.01 (1.30)
RESET	2.00	1.90	5.01**		0.62	1.92
R-squared	0.18	0.31	0.19	0.87	0.36	0.65
F-test on fixed effects		2.55		330**		7.81**
Breusch-Pagan				10.40**		
Hausman				0.13		
Observations	46	46	48	46	46	48
Countries	10	10	10	10	10	10
Industries	5	5	5	5	5	5

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.5 for the definitions of the inequality measures (*i.e.* the dependent variables).

b) D8/D2 refers to the ratio of wage rates at the breakpoint between the eighth and the ninth deciles and the breakpoint between the second and the third deciles.

c) Basic model augmented to include industry fixed effects. It is estimated by OLS, the standard errors being adjusted for clustering.

d) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

e) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

included a premium that reflected monopoly rents. However, this appears to be a transitional concern that has few, if any, implications for choosing the product market regulations best suited to generate broadly based prosperity. By contrast, generous public income transfer programmes and a high degree of unionisation appear to have equalising effects on certain aspects of earnings and income in the long run.

2. Effects of labour market policies and institutions on product market outcomes

The primary criterion for judging labour market policies is their contribution to better labour market performance. However, these policies may also affect outcomes in the product market. If the cross-market effects of labour market policy are sufficiently important, then they should also be taken into account when making policy choices. A comprehensive analysis of these cross-market effects is beyond the scope of this chapter. However, this section illustrates their potential importance by examining the effects of

labour market regulations and arrangements on the innovation potential of firms and the business economy as a whole.

A. Innovation potential of manufacturing industries

Innovation activity, measured for instance by R&D intensity, has been shown to be one of the most significant explanations of differences in GDP growth across countries and over time (see Cameron, 1998, 2000; Ahn and Hemmings, 2000; Guellec and Van Pottelsberghe, 2001; and Bassanini and Scarpetta, 2001). The economic analysis of the determinants of innovation has focused mostly on the relationship between incentives to innovate and product market competition (*e.g.* Dasgupta and Stiglitz, 1980; Nelson and Winter, 1982; Schmalensee, 1989; Nickell, 1996; Aghion and Howitt, 1998; and Boone, 2000). From an empirical point of view, recent evidence suggests a positive relationship between product market competition and innovation, at each given level of protection of intellectual property rights (Geroski, 1990; Nickell, 1996; Blundell *et al.*, 1995, 1999). Conversely, Aghion *et al.* (2001*b*) present firm-level and cross-country evidence that supports a hump-shaped relationship between competition and innovation (proxied by patent performance).⁴⁶

Labour market arrangements too may affect the propensity of an economy to innovate (see *e.g.* Soskice, 1997; Eichengreen and Iversen, 1999; Acemoglu and Pischke, 1999*b*). The most likely labour market influences on innovation come from hiring and firing rules and the industrial relations regime, though minimum wages and the generosity of unemployment insurance can also play a role via their impact on wage structure and workers' bargaining power and attitude towards risk (Acemoglu and Pischke, 1999*c*; Acemoglu, 2000). For instance, restrictive EPL can curb innovation rents by hindering labour adjustments, which often occur after incumbent firms have implemented innovations (see *e.g.* Audretsch and Thurik, 2001; Caroli *et al.*, 2001; Hobijn and Jovanovic, 2001). Labour market arrangements that favour the sharing of innovation rents, for instance by increasing the bargaining power of insiders or tying negotiations to enterprise performance, also may inhibit innovative activity by reducing the expected returns from innovations.

Hiring and firing rules and industrial relations regimes can have independent effects on innovation activity, but the intensity (and perhaps even the sign) of this effect is likely to depend on the way these policies and institutions interact with each other. For instance, important effects on innovation may come from the way EPL and industrial relations regimes affect the quality and the availability of skilled labour, which is often seen as a complementary input to new technologies. If technological change is skill-biased, incumbent firms need to shift from one optimal skill mix to another in order to implement an innovation effectively. Essentially, two strategies are open to the successfully innovating incumbent: either it trains its existing workforce or it lays-off part of its staff and hires more skilled workers, possibly "poaching" other firms' pools of skilled labour.⁴⁷ Restrictive EPL and highly co-ordinated industrial relations regimes generally encourage firms to resort to internal labour reallocations and undertake firm-sponsored training. This is because in such regimes job turnover is impaired (Bertola, 1992), the ties between workers and their employers often inhibit poaching,⁴⁸ and firms can reap the difference between the marginal productivity of skilled workers and their earnings, due to wage compression over the skill dimension (Acemoglu and Pischke, 1998, 1999*a*, 1999*b*).⁴⁹ Con-

versely, lax EPL and decentralised industrial relations regimes raise job turnover and tend to increase wage dispersion and skill premia. This discourages firm-sponsored training and leads firms to acquire the necessary skilled workers on the external labour market. Therefore, given the complementarity between innovation and skills at the firm level, each combination of EPL and industrial relations regimes may lead to specific propensities of industries to innovate, national industry specialisation and, ultimately, economy-wide innovation potentials.

Since both labour and product market influences can act in opposite directions, their net effects on innovation are controversial and can only be assessed empirically. This section develops a cross-country econometric analysis of the linkages between policies, institutions and innovation patterns, making use of the industry dimension where available.⁵⁰ Both the country and industry dimensions are important because labour market arrangements differ mainly across countries, but links between institutions and performance might differ significantly across industries. For instance, in low-tech industries, where elasticities of demand are generally low (at the industry level), innovation is mainly aimed at cutting costs rather than expanding capacity, often resulting in lay-offs. Hence, in these industries, firing restrictions are more likely to reduce innovation activity than in high-tech industries. The use of the industry dimension also makes it possible to control for differences in technological opportunity among different sectors.

The analysis at the industry level covers only the manufacturing sector, given the dearth and low quality of data concerning innovation activity for the non-manufacturing industries. Furthermore, the focus is mainly on R&D intensity, since it is the only available variable that is comparable across countries and industries simultaneously. R&D expenditure is at best an indicator of innovation input rather than of innovation output. For this reason, the analysis also looks at the influence of policies and institutions on patenting and the intensity of expenditure on information technologies (IT), though only at the aggregate level since no industry disaggregation is available for these variables on a cross-country basis.⁵¹

Table 5.7 reports the results of cross-country regressions relating business-sector R&D intensity, patents per capita and IT intensity to indicators of labour and product market policies and institutions. Given the relatively few degrees of freedom available and the absence of adequate controls, these regressions should be interpreted as exploratory data analysis aimed at identifying the policy and institutional covariates of innovation. The cross-country estimates show no consistent relationship between product market regulations and the measures of business-sector innovative activity. In most regressions, R&D intensity, IT adoption and patenting are decreasing in the degree of state control, but increasing in the extent of barriers to entrepreneurship (except in the case of IT adoption). At the same time no association with trade barriers can be detected at this level of aggregation. The estimates suggest that R&D intensity is related to EPL and centralisation or co-ordination of wage bargaining in opposite ways: it is decreasing in the severity of job protection and increasing in centralisation or co-ordination.

To further explore the possible interactions between EPL and industrial relations, Chart 5.6 bundles the business-sector R&D intensities of countries in the sample into four sub-groups, depending on whether they have lax EPL/low co-ordination in industrial relations, strict EPL/low co-ordination, lax EPL/high co-ordination or strict EPL/high co-ordination.⁵² The chart suggests that there is an interaction between EPL and co-ordination

Table 5.7. **Policies, institutions and innovation**

Cross-country OLS regressions

Dependent variable	R&D intensity ^a			IT intensity ^b			Patenting ^c		
Model includes controls for:	Product market regulation	Product and labour market regulation		Product market regulation	Product and labour market regulation		Product market regulation	Product and labour market regulation	
Product market regulation									
State control	−0.66** (−3.52)	−0.99** (−5.43)	−0.61** (−3.82)	−0.29* (−2.45)	−0.41** (−3.02)	−0.22 (−1.84)	−0.91* (−2.06)	−2.11** (−3.91)	−1.36** (−3.00)
Barriers to entrepreneurship	0.38 (1.70)	0.93** (4.34)	0.61** (2.83)	−0.22 (−1.55)	0.09 (0.54)	−0.07 (−0.44)	0.27 (0.53)	1.30* (2.05)	0.67 (1.09)
Trade barriers	0.08 (0.41)			0.01 (0.11)			−0.69 (−1.61)		
Labour market									
EPL		−0.40* (−2.50)	−0.41* (−2.24)		−0.26* (−2.20)	−0.23 (−1.73)		−0.48 (−1.00)	−0.47 (−0.90)
Coordination of wage bargaining			0.56** (3.19)			0.13 (0.98)			0.99* (1.99)
Centralisation of wage bargaining		1.00** (4.19)			0.44* (2.50)			1.92** (2.73)	
Jarque-Bera	1.50	1.76	0.59	0.39	0.22	0.52	2.92	2.69	1.18
R-squared	0.40	0.69	0.62	0.42	0.59	0.50	0.39	0.50	0.43
Adjusted R-squared	0.32	0.64	0.55	0.34	0.54	0.43	0.31	0.40	0.32
Observations	26	26	26	26	26	26	26	26	26

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

The sample includes all OECD countries except Iceland, Luxembourg, Mexico and Slovak Republic.

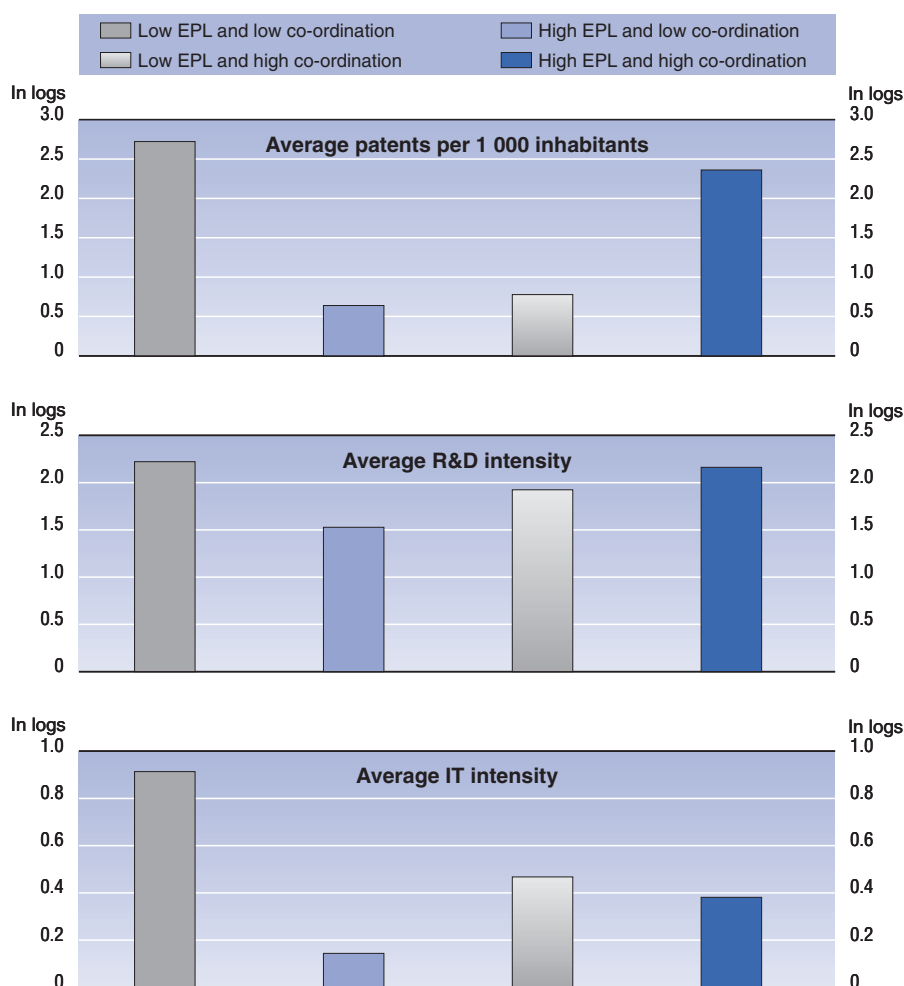
a) Logarithm of the ratio of business expenditure in R&D to GDP.

b) Logarithm of the ratio of expenditure in information technology to GDP.

c) Logarithm of patents per capita.

Source: Nicoletti *et al.* (2001a).

Chart 5.6. Labour market regimes and innovation



EPL: Employment protection legislation.

Note: Countries classified by ascending EPL:

Low EPL and low co-ordination: USA, GBR, CAN, NZL, AUS, CHE, HUN, BEL, FIN.

High EPL and low co-ordination: SWE, FRA, ESP, TUR, PRT.

Low EPL and high co-ordination: IRL, DNK, CZE, POL.

High EPL and high co-ordination: AUT, JPN, KOR, NLD, NOR, DEU, GRC, ITA.

Source: Nicoletti *et al.* (2001a).

in industrial relations for both patents and, to a lesser extent, R&D intensity, with the highest performances corresponding to polarised regimes, while no interaction is suggested for IT.⁵³

The evidence found at the aggregate level can be better explored in cross-section regressions combining the country and industry dimensions. Table 5.8 presents estimates of the determinants of R&D intensity in a sample of 18 manufacturing industries and 18 OECD countries. The estimated models account for the effects of EPL, industrial relations regimes and their potential interactions, but control also for outward and inward-oriented product market regulations (at both the industry and economy-wide levels). In addition, they control for firm size (the share of employment in large enterprises) and trade openness (proxied by import penetration). All regressions also include industry dum-

Table 5.8. **Effects of policies and institutions on R&D intensity**

Results of panel regressions for 18 manufacturing industries

Dependent variable: R&D intensity^a

Method	Fixed effects	Random effects without interactions	Random effects with interactions
Product market			
Employment share of large firms ^a	1.39** (3.41)	1.66** (4.64)	1.58** (4.40)
Import penetration ^a	0.39** (3.48)	0.34** (2.76)	0.34** (2.89)
Non-tariff barriers	-0.02** (-2.81)	-0.03** (-2.82)	-0.03** (-3.20)
Tariff barriers ^a	0.18* (2.07)	-0.04 (-0.40)	-0.06 (-0.58)
State control	..	-0.42** (-5.36)	-0.40** (-5.18)
Barriers to entrepreneurship	..	0.75** (7.93)	0.74** (7.90)
Labour market			
Employment protection legislation (EPL)	..	-0.29** (-3.74)	
Bargaining co-ordination	..	0.21** (2.73)	
EPL in high-tech industries	..		-0.48** (-3.75)
EPL in low-tech industries	..		-0.16 (-1.40)
Bargaining co-ordination in high-tech industries	..		-0.34 (-1.85)
Bargaining co-ordination in low-tech industries	..		0.73** (4.00)
EPL x bargaining co-ordination in high-tech industries	..		0.23** (2.64)
EPL x bargaining co-ordination in low-tech industries	..		-0.21** (-2.58)
Industry dummies	Yes	Yes	Yes
Country dummies	Yes	No	No
RESET	1.95		
R-squared	0.88		
Chi2-test on country dummies	13.5**		
Chi2-test on industry dummies	17.8**	200.1**	141.8**
Breusch-Pagan		72.9**	70.3**
Hausman		3.55	13.9
Observations	255	255	255
Countries	18	18	18

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant. Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988). High-tech industries correspond to industries 24 and 29-35 of the ISIC Rev. 3 Classification.

a) In logarithm.

Source: Nicoletti *et al.* (2001a).

mies to control for unexplained industry characteristics (*e.g.* technological opportunity) and either fixed or random country effects. Finally, the potential interaction between EPL, industrial relations regimes and the technological characteristics of different industries was dealt with by introducing a dummy variable that identifies high-technology industries, defined according to the standard OECD classification (Hatzichronoglou, 1997).

Consistent with previous evidence, R&D intensity is positively associated with the share of large firms; it also increases with trade openness, perhaps pointing to the existence of positive knowledge spillovers.⁵⁴ Among product market regulations, non-tariff barriers,

state control and barriers to entrepreneurship are the most significant, with non-tariff barriers negatively affecting R&D and state control and barriers to entrepreneurship having opposite effects on R&D, confirming the results found in the aggregate regressions.⁵⁵

EPL and co-ordination in industrial relations have significant effects on R&D intensity, and their signs are consistent with those found in the aggregate regressions. *Ceteris paribus*, R&D appears to decrease with the stringency of EPL and to increase with the degree of co-ordination. At the same time, no effect on R&D of the interaction between EPL and co-ordination in industrial relations can be found pooling all industries together. Results change, however, if separate coefficients for high and low-technology industries are estimated, suggesting that pooling may be inappropriate to gauge the effects of interactions between EPL and co-ordination on R&D. While the estimates for control variables and product market regulations do not change, interaction terms now have significant and opposite effects on the two sets of industries. At any given level of EPL and co-ordination in industrial relations, their combination appears to have a positive effect on R&D intensity in high-tech industries and a negative effect in low-tech industries. Co-ordination tends to offset the negative influence of EPL in high-tech industries, perhaps due to the fact that EPL is less binding for innovative activity when firms resort to the internal labour market. As mentioned above, this is less likely to occur in industries with low elasticities of demand, partly explaining the negative effect found in low-tech industries.

To throw further light on this issue, an alternative specification was tested in which the effects of EPL differ according to the three levels of co-ordination, relaxing the hypothesis of linearity of co-ordination effects. The aim of this specification, which is preferred by model specification tests over the linear one, is to sort out situations in which policy-makers who wish to change EPL policies should worry about the possible effects of these policy changes on innovation performance, taking the existing regime of industrial relations as given. The estimated net effects on R&D of EPL and co-ordination in industrial relations are described in Table 5.9. The results indicate that increases in EPL strictness appear to discourage investment in R&D, except in the case of high-tech

Table 5.9. **Net effects of EPL and bargaining co-ordination on R&D intensity**

	High-tech industries	Low-tech industries
A. Effects of EPL in the context of:		
High bargaining co-ordination	0.25* (1.9)	-0.29** (-2.1)
Intermediate bargaining co-ordination	-0.61*** (-3.6)	-0.79*** (-4.8)
Low bargaining co-ordination	-2.28** (-2.0)	-0.53 (-0.7)
B. Effects of bargaining co-ordination in the context of:		
High EPL	3.04** (2.0)	0.82 (1.0)
Low EPL	1.46 (1.4)	0.60 (1.1)

EPL: Employment protection legislation.

*, **, *** denote significance at the 10%, 5% and 1% level, respectively. T-statistics in parentheses. Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988).

Note: The table reports estimated total effects of EPL (co-ordination) for given values of co-ordination (EPL). The estimated model allows for non-linear interaction between EPL and co-ordination. Panel B reports estimated average effects of raising co-ordination by one level for 2 groups of countries (high-EPL and low-EPL countries). High-EPL and low-EPL are defined here with respect to the average value of EPL.

Source: Nicoletti et al. (2001a).

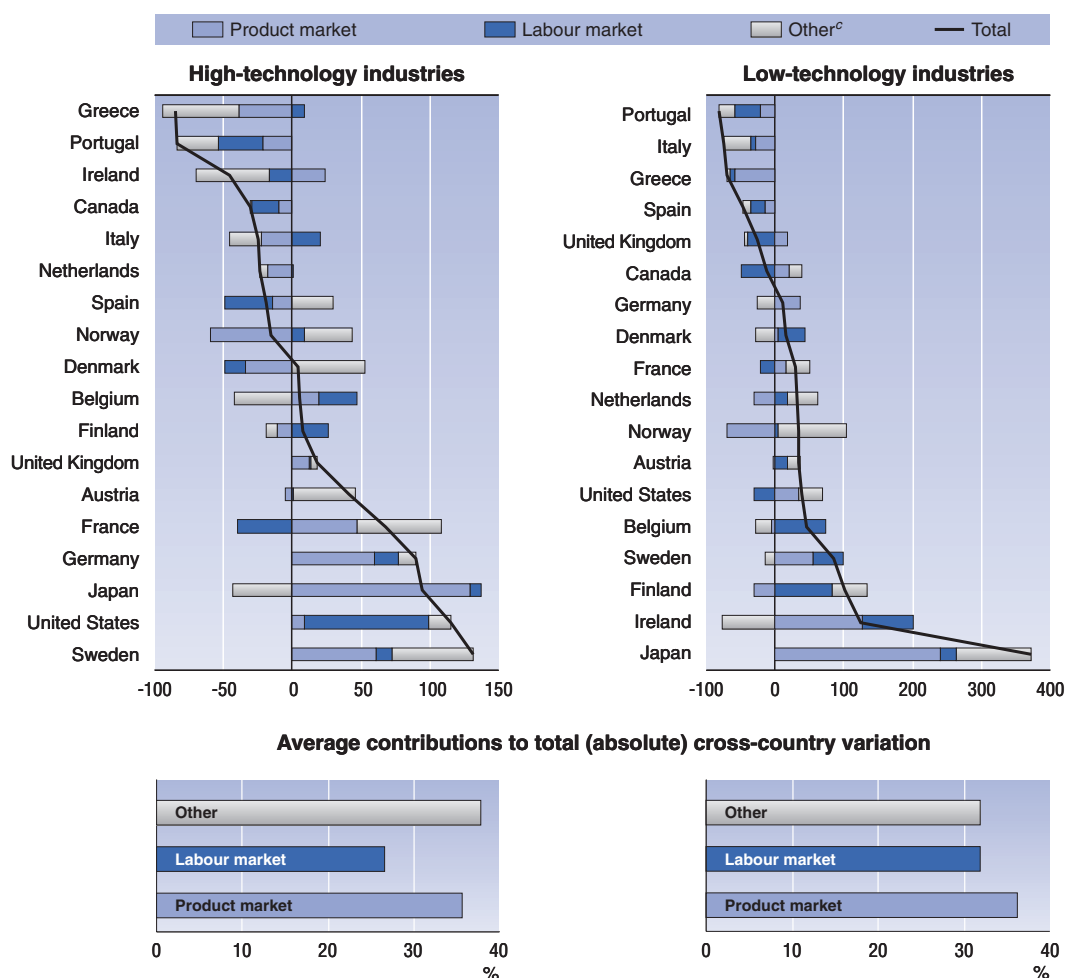
industries in countries with co-ordinated wage bargaining, where stricter EPL appears to encourage such investments (Panel A).⁵⁶ The cross-market effect of co-ordination on innovative activity is unambiguously positive in high-tech industries of high EPL economies, while its effect in all the other cases is ambiguous (Panel B).

Conclusions on innovation

The policy and institutional environment in the labour market appears to be about as important as product market conditions in determining innovation activity in OECD countries. The quantitative effects of labour and product market influences implied by the empirical estimates are often of comparable size (Chart 5.7), suggesting that the design of

Chart 5.7. **Contribution of labour and product market policies and institutions to R&D intensity^a**

Percentage deviations from OECD average^b



a) Based on the non-linear specification.

b) Adjusted for industry composition.

c) Other controls, random effect plus residual.

Source: Nicoletti et al. (2001a).

labour market policies should take into account their potential repercussions on innovative activity. In high-technology industries, generally accounting for around 70% of all R&D, the estimated effect of labour market factors is particularly strong in the United States, on the positive side, and France, Portugal and Spain, on the negative side.

The cross-market interactions between innovative activity and labour market policies and institutions are complex. The analysis in this section explored some of the possible channels through which these interactions operate, focusing on hiring and firing rules and industrial relations regimes. Based on aggregate data, there seems to be a U-shaped relationship between innovative activity and labour market regimes, defined by different combinations of EPL and co-ordination in industrial relations. R&D intensity is relatively high either in high EPL/high co-ordination countries or in low EPL/low co-ordination countries, while other combinations of policies and institutions appear to be associated with lower overall innovative activity. This non-linearity emerges also at the industry level, making the comparative statics of changes in policies and institutions difficult to analyse. At the level of aggregation at which data are available, it is impossible to point out which (if any) of the two extreme combinations of EPL and co-ordination in industrial relations is superior from the point of view of innovation outcomes.

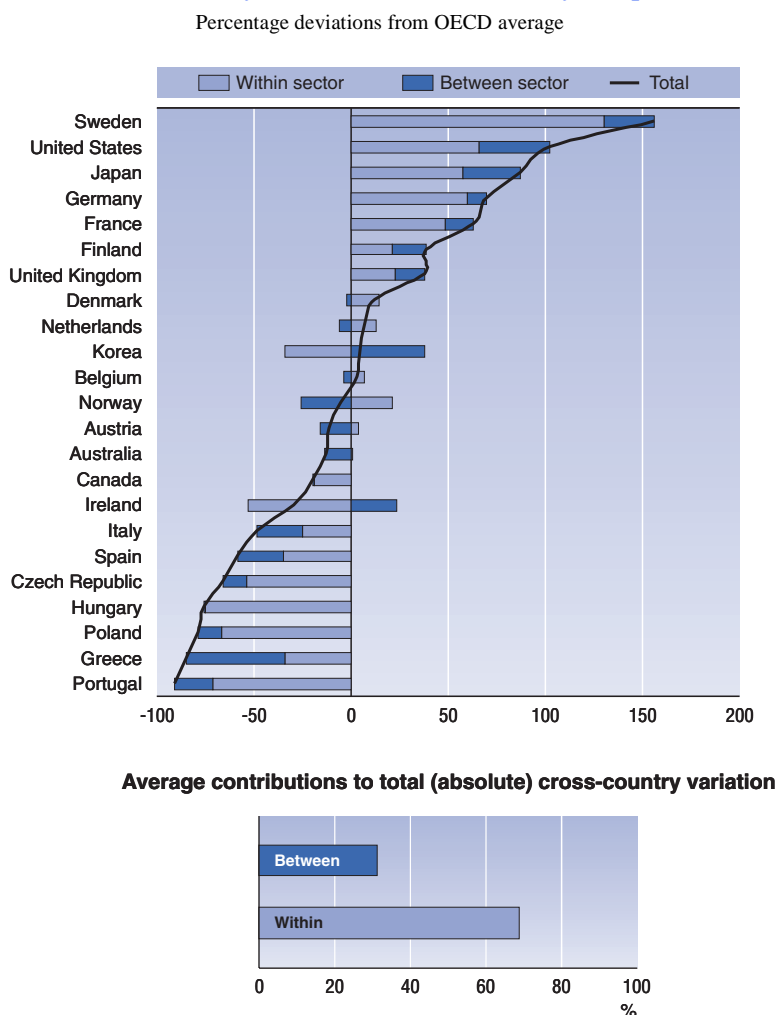
B. Specialisation in high-R&D and high-wage industries

Industry composition effects on R&D intensity

Country differences in average R&D intensity depend on both industry-specific factors and the industry composition of GDP. So far, the analysis has focused mainly on innovation activity at the level of single industries, exploring the effects of labour market arrangements on cross-industry and cross-country differences in R&D intensity. However, at least in the long run, industry composition could be conceivably as important as industry-specific factors in determining aggregate outcomes. Moreover, policies and institutions in the labour and product markets can affect industry composition.

Chart 5.8 decomposes for each country the percentage deviation from the OECD average in R&D intensity into within-industry and between-industry elements.⁵⁷ The results suggest that, overall and at the level of aggregation examined, differences in industry composition explain only a relatively small part of the differences in R&D intensity across countries. Nonetheless, industry composition effects on R&D intensity are important in several countries, with Finland, Ireland, Japan, Korea, Sweden, the United Kingdom and the United States, having a larger share of inherently R&D intensive sectors, and Austria, Greece, Italy, Norway and Spain having an industry mix that tends to curb R&D intensity relative to the OECD average.

Table 5.10 (column 1) explores the possible relationship between intersectoral reallocation effects and labour and product market policies and institutions by means of simple bivariate correlations.⁵⁸ A number of policies and institutions appear to be associated with a mix of industries having lower innovation content. Some of these negative correlations confirm the results of the industry-level analysis, such as with the strictness of EPL, state control and overall product market regulation. Other results suggest that the tax wedge and the administrative extension of collective agreements may also be negatively correlated with industry composition effects on R&D. These results might reflect the fact that these labour and product market policies affect the speed of reallocation of resources among industries characterised by different technological opportunity, giving a comparative

Chart 5.8. **R&D intensity: within-sector and industry-composition effects**

Source: Nicoletti *et al.* (2001a).

advantage in high-tech industries to countries in which taxation is lower and firing restrictions and product market regulations are less stringent.

Industry composition effects on average wage premia

Just as some countries demonstrate a comparative advantage in R&D intensive industries, the share of total employment attributable to high wage-premia industries may also vary across countries and be influenced by labour and product market regulations. Using the estimates of inter-industry wage premia from Section 1.B, OECD countries can be compared according to their specialisation in industries typically characterised by high wage premia. For each country, the indicator of specialisation weights the share of employment in each manufacturing industry by the average (across countries) of the corresponding wage premia estimated in the countries included in the sample. Using a similar indicator, countries can also be compared according to their specialisation in high-R&D

Table 5.10. **Labour and product market policies and specialisation in high R&D and high wage-premia industries**

Cross-country correlation coefficients

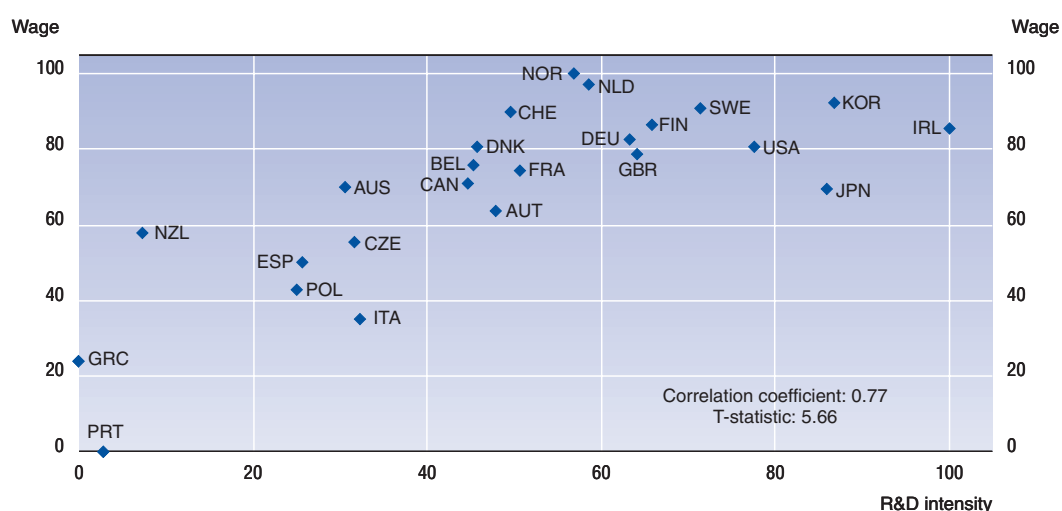
	Effect of industry mix on aggregate R&D intensity	Effect of industry mix on average wage premia
Tax wedge	-0.43 *	-0.08
Unemployment benefits	-0.13	0.24
Administrative extension of collective agreements	-0.65 **	0.02
Employment protection legislation	-0.47 *	-0.43 **
Excess regulation on corporations	-0.64 **	-0.51 **
Product market regulation	-0.45 *	-0.36 *
State control	-0.79 **	-0.50 **
Barriers to entrepreneurship	0.19	-0.03
Barriers to trade	-0.19	-0.19

* and ** denote significance at the 5% and 1% level, respectively.

Source: Nicoletti *et al.* (2001a).

industries.⁵⁹ Chart 5.9 shows that the two indicators are highly correlated across countries, with countries that specialise in high-R&D industries also specialising in industries with high wage premia. This relationship suggests that specialisation in the two dimensions may be driven by the same forces, consistent with theories of co-determination of efficiency wages and choice of technology (Acemoglu and Shimer, 2000).⁶⁰

Table 5.10 (column 2) explores the possible relationship between specialisation in high-wage industries and policies and institutions in a simple bivariate framework. The index of specialisation is related across countries to product market regulations and labour

Chart 5.9. **Specialisation in high-wage and high-R&D industries^a**

a) Indices of employment specialisation according to average inter-industry wage premia and average R&D intensities (as estimated by industry dummies in fixed-effect regressions).

Source: Nicoletti *et al.* (2001a).

market policies and institutions. The resulting correlations suggest that countries where product market regulations and employment protection legislation are relatively strict also tend to specialise in industries characterised by low wage premia. Similar negative correlations were found between labour and product market regulations and industry composition effects on aggregate R&D intensity (column 1). Given the close relationship between specialisation in high-R&D and high-wage industries, a possible interpretation of these bivariate correlations is that regulatory settings that discourage specialisation in high-wage industries also may impair a country's innovation potential. This interpretation should however be considered highly tentative since other factors could drive differences in specialisation patterns across countries and these bivariate correlations take no account of the interaction effects that emerged as being critical in the within-industry regression analysis for R&D intensity.

Conclusions

Policies in labour and product markets are predominantly intended to influence outcomes in the markets to which they directly apply. However, the empirical analyses reported in this chapter suggest that policy interactions between labour and product markets can have significant effects, sometimes having an impact comparable to within-market policy effects. For instance, in the United States, labour and product market arrangements appear to have been equally important in determining R&D intensities above the OECD average. Conversely, anti-competitive product market regulations and an unfavourable combination of labour market policies appear to have contributed equally to keeping employment rates below the OECD average in some European countries. Therefore, accounting for the more important cross-market effects of labour and product market policies appears to be an important element of good policy design.

How best to account for these cross-market effects is far from obvious, given their complexity and the limits of current understanding. The chapter's analysis suggests some broad orientations for thinking about such issues:

- *There appears to be an overall complementarity between regulatory reform in the product market and employment policy.* In particular, the removal of barriers to trade and competition in potentially competitive product markets can be a complement to labour market reforms aimed at increasing long-run employment levels of OECD countries. The analysis in this chapter suggests that part of the effects on employment derive from a decline in the rent-sharing component of wages. Further beneficial effects on employment and real wages may also be expected from an increased specialisation in industries that have a higher growth potential.
- *Regulatory reform in the product market may require adjustments in labour market policies and programmes.* Policies increasing competition in the product market clearly result in increased lay-offs in the short-run and may lead to permanently higher rates of job loss in industries that previously were highly regulated. Accordingly, it is important that both active measures – to speed the re-employment of displaced workers – and passive measures – to insure adequate income security following job loss – be adequate to the task. However, active measures of these types are required independently of the regulatory stance in product markets (see Chapters 1 and 4).

- *Trade-offs may arise when considering the own and cross-market effects of policies.* The preliminary evidence in this chapter suggests that product market reforms that increase competition may sometimes result in decreased employment security for certain groups of workers. These findings suggest that trade-offs may be present when setting regulatory policy, because changes in regulation that enhance efficiency and total employment may also diminish employment security for certain workers. However, the terms of any such trade-off are complex, because labour and product market regulations that enhance security for certain workers (“insiders”) appear also to result in reduced security for others (“outsiders”). Furthermore, the available evidence suggests that the cross-market effects of product market regulations on employment security are less important than own-market effects of labour market policies, particularly EPL and unemployment benefits.
- *Labour and product market policies interact in complex ways that suggest caution in trying to exploit cross-market effects.* Simple cross-country associations suggest that stricter EPL makes it more difficult for firms to innovate with potentially adverse consequences for the economy’s growth prospects. However, the fuller analysis suggests a more complex reality in which employment protection can either impede or facilitate R&D investments, depending on the organisation of wage bargaining and the nature of the technology used by a particular industry.

In sum, policy makers should be alert to the possibility that cross-market effects may be important, but research of these linkages has not yet progressed to the point of generating precise policy prescriptions. Nonetheless, some of the potentially more important linkages have been identified. This provides some guidance to policy makers for avoiding major incompatibilities across labour and product market policies and for capitalising on complementarities. Since the poet Rudyard Kipling wrote the famous words, “East is East and West is West, and never the twain shall meet”, contacts – and, hopefully, mutual understanding – have grown between the different peoples of the world. Similar progress in the integration of policy making in labour and product markets is to be hoped for.

Notes

1. The analysis presented in this chapter draws from a broader OECD study analysing cross-market policy effects and their implications for policy making (Nicoletti *et al.*, 2001a).
2. To make intersectoral and time-series macro analyses feasible, the previously available indicators of product market regulation are supplemented and extended to cover a finer industry breakdown and several time periods (see Annex 5.A).
3. For example, Nicoletti *et al.* (1999) show that the cross-country correlation between overall product market regulation and EPL is strongly positive.
4. Endogeneity bias is probably more severe in studies of the cross-market effects of product market conditions that regress labour market outcomes on mark-ups or concentration indices (which serve as proxies for product market competition), since these outcomes are jointly determined with employment and wages (OECD, 1996a).
5. Different combinations of two of these three dimensions are used in each case, as is described in Sections 1 and 2. See Nicoletti *et al.* (2001a) for detailed discussion of the econometric techniques used to minimise these problems, as well as for extensive robustness checks of the results presented here.
6. Bednarzik (2001) presents evidence that international differences in capital market efficiency make an important contribution to explaining differences in employment rates.
7. For instance, a lowering of entry costs (*e.g.* implied by regulatory barriers) is likely to have a larger positive long-run effect on employment than a mere increase in the intensity of competitive pressures (*e.g.* induced by changes in competition policies), because it implies an increase in the number of firms at equilibrium (Blanchard and Giavazzi, 2001). In flexible labour markets, employment may become more volatile in the short-run as product market competition is increased, but labour readjustments to a new equilibrium may also be quicker.
8. For instance, productivity improvements induced by competitive pressures are often obtained through labour shedding in the short-run, but output expansion and new entry are likely to offset these employment losses only over time. Similarly, downward pressure on labour and product market rents stimulates employment as wage premia decline in sheltered industries (see Section 1.B), but may also translate into lay-offs and/or increased work effort where rent sharing was non-pecuniary in form.
9. See Nicoletti and Scarpetta (2002) for a fuller presentation of the analysis presented in this section.
10. Agricultural employment is not considered in the chart given the large proportion of self-employed in that sector who are only marginally affected by the product market regulations included in the summary indicators.
11. The association is very similar when 1998 values for the less comprehensive, time-series indicator of product market regulation are plotted against employment rates (Nicoletti and Scarpetta, 2002).
12. The *tax wedge* will have an impact on equilibrium employment only in the presence of market imperfections. For example, workers may be able to resist offsetting wage cuts in a collective bargaining framework; unemployment benefits are in some cases fixed or subject to floors and ceilings which weaken their relationship with earnings; and non-labour income effects may be important (Phelps, 1994; Pissarides, 1998).
13. OECD (1999b) reports an insignificant negative impact of EPL on total employment, but a positive and significant impact on self-employment, implying a negative impact on dependent employment, that is qualitatively consistent with the negative effect found here for non-agricultural employment.
14. Regulatory reforms that occurred in Italy after 1998 (see OECD, 2001e, for details) are not taken into account in these calculations.
15. The values shown in Chart 5.2 are based on the estimated coefficients from the specification with no interaction terms (Table 5.1, column 3). See also OECD (2001d).
16. As was mentioned in the introduction, endogeneity bias may be especially severe when mark-ups and concentration indices are used as proxies for product market competition, since these variables are co-determined with wages. Also, OECD (1996a) only analysed average monthly wages in manufacturing industries and the controls used to account for worker and firm characteristics were limited.
17. See Jean and Nicoletti (2002) for a fuller presentation of the analysis presented in this section.
18. This approach was pioneered by Katz and Summers (1989), who applied it to micro data.

19. In all countries the estimated wage profiles are consistent with standard Mincerian equations, with wages increasing with age and education levels and a significant gender effect.
20. In an efficiency-wage perspective, wage premia correspond to the compensation paid by firms for avoiding the costs of monitoring, collecting information, etc. Even conceptually, the distinction between efficiency-wage and rent-sharing elements is difficult. To the extent that rent sharing is a device to avoid the costs of labour unrest, it can also be seen as part of efficiency wages (Krueger and Summers, 1988).
21. Several of the variables controlling for firm heterogeneity (*e.g.* entry rates, firm size and workforce skills) are industry-level measures that have been averaged across the countries for which data are available. Since these variables have no cross-country variation, they cannot be included in regression models that also include industry fixed effects.
22. The estimated effect for non-tariff barriers is insignificant in the random-effects model, but the Hausman specification test indicates that the fixed-effects model is more reliable.
23. Acemoglu *et al.* (2001) argue that this reduction in bargaining power is related to the wider outside options for skilled workers, which undermines the coalition among skilled and unskilled labour in support of unions.
24. The positive relationship between wages and firm size, even after controlling for observable worker characteristics and other job attributes, is a common empirical finding (for a review, see Oi and Idson, 1999).
25. The regression-adjusted (net) industry wage premia are calculated as the first-step (gross) wage premia net of the country and industry-specific effects, as estimated by the fixed-effects regression equation (Table 5.2, column 3), when the insignificant union density variable has been dropped.
26. Non-pecuniary rents can take the form of low work intensity (*e.g.* lack of monitoring), inefficient utilisation of inputs (*e.g.* labour hoarding) and other business practices that induce firms to operate within the efficiency frontier (so-called X-inefficiency), while increasing the utility of workers. These phenomena may be especially pronounced where regulation is strongest. For instance, public-owned firms are typically more exposed to political interference, with profit maximisation being overridden by other objectives, which may imply some degree of X-inefficiency (Haskel and Sanchis, 1995). Similarly, “public service” considerations and strong union participation make high pay levels and pay inequalities less politically acceptable, than high non-pecuniary rents.
27. As in Sections 1.A-1.B, the main emphasis is placed on the cross-market effects of product market regulations. However, own-market effects are also briefly considered, despite their having received more attention in prior research [*e.g.* Bertola, 1999; OECD, 1999c; and Pissarides, 2001 analyse the impact of EPL on employment and earnings stability, while Blau and Kahn (1999) and OECD (1997a) analyse the impact of collective bargaining on wage inequality]. Controlling for cross-market effects should make it possible to estimate own-market effects more accurately and to assess whether interaction effects between labour and product market regulations are important. See Nicoletti *et al.* (2001a) for a fuller presentation of the analysis presented in this and the following section.
28. To the extent that such increases in employment security imply deviations from profit maximisation, they are a form of non-pecuniary rents, as discussed in Section 1.B.
29. Many of the static models in the theoretical literature also imply that the impacts of product market regulations on aggregate employment and unemployment are strongly influenced by wage-setting institutions (Nickell, 1999). Similarly, the empirical literature suggests that a portion of the rents that accrue to firms with market power typically are passed on to unionised workers in the form of higher wages, but that rent capture is much less evident for non-unionised workers.
30. Although not analysed here, earnings can also fall in the absence of job loss (*e.g.* labour income will fall for workers on continuing jobs who experience declines in hours worked or pay rates). Although nominal wage cuts appear to be rare, workers covered by incentive pay schemes (*e.g.* profit-sharing) may face a greater risk of earnings declining while remaining with the same employer.
31. The two-sided search equilibrium models surveyed by Mortensen and Pissarides (1999a and b) provide a unified framework for analysing how the incidence and duration of unemployment are affected by policy changes, such as the introduction of EPL (Pissarides, 2001). A comparison of displaced workers in Belgium and Denmark provides evidence that stricter EPL is, in fact, associated with a lower job loss rate and longer unemployment durations (Albaek *et al.*, 1998).
32. Only small samples of job losers are observed for any given industry-country combination and the effects of job loss on future employment and earnings can only be observed over a short period of time.
33. Conceptually, this measure corresponds most closely to the expected cost of job loss as defined in equation 1. However, it is calculated from somewhat imprecise retrospective questions in the European Union Labour Force Survey.

34. This supposition is probably most questionable for the three measures of labour turnover because a depressing effect of product or labour market regulations on the quit rate could be mistakenly interpreted as a fall in the job loss rate. For example, if product market regulation results in a positive wage premium being paid in a particular industry (see Section 1.B), that premium is likely to discourage quits, without necessarily implying any improvement in job security.
35. For example, the apparent link between less product market competition and less labour turnover shown in the first two panels in Chart 5.4 might reflect, in actuality, the depressing effect of stricter EPL on lay-offs, because countries with stricter EPL also tend to have more restrictive product market regulations (Nicoletti *et al.*, 1999).
36. Regression results are reported for panels of service industries using data for 1998. Cross-sectional regressions, using aggregate national values, and panel regressions for manufacturing industries both proved uninformative due to limitations in the available data (see Nicoletti *et al.*, 2001a for a fuller discussion).
37. The effect of product market competition on insecurity is modelled by a linear spline with a single kink point at the sample median value of the global index for product market regulations.
38. The relatively small number of countries and industries for which insecurity measures could be matched to the variables measuring labour and product market regulations and institutions means that only a modest number of observations are available for statistical estimation. The estimation problems created by low degrees of freedom are exacerbated by substantial multicollinearity among some of the regressors.
39. The data are not adequate to estimate a model including fixed effects for both industry and country.
40. Although stricter EPL on regular jobs creates an incentive for employers to circumvent these restrictions by expanding their use of temporary contracts, previous analysis by the OECD (1999c) was unable to verify such an effect across OECD countries.
41. Product market regulations can also affect income distribution through channels that do not involve the labour market. For example, price decreases resulting from regulatory reform in a particular industry will advantage families who are intensive consumers of its products.
42. There is evidence that increased product market competition due to imports caused wage inequality to rise during recent decades in the United States (Borjas and Ramey, 1995), because wage rents were reduced most for production workers with lower levels of education. However, this may not be a general pattern, since Fortin and Lemieux (1997) find that product market deregulation contributed little to overall wage inequality in the United States.
43. Since *relative* definitions are adopted for low pay and poverty, international differences in average earnings and income are not reflected in these inequality measures. The low pay definition is adopted from the analysis of earnings inequality and mobility in the 1996-97 issues of the *Employment Outlook* and the poverty definition from the analysis of poverty dynamics in the 2001 issue of the *Employment Outlook* (OECD, 1996b, 1997a and 2001c).
44. A second measure of earnings dispersion is also shown in Chart 5.5, namely the ratio of earnings at the 90th percentile to earnings at the 10th percentile. The 90-10 ratio is included because it is available for a wider range of OECD countries and is a more common measure of earnings dispersion than the 80-20 ratio. The small sample sizes available in the European Community Household Panel meant that the 90-10 ratio could not be reliably calculated at the industry level, as is required for the regression analysis.
45. A greater prevalence of low-paid jobs needs not translate into a higher poverty rate since workers with low earnings may be members of families with other sources of income (*e.g.* earnings from other workers or public income transfers).
46. Perfect competition makes firms indifferent *vis-à-vis* the choice whether to innovate or not, but the possibility to appropriate rents coupled with competitive struggle makes innovation desirable. When rent protection becomes strong enough, incentives to innovate fade out again. Therefore, if a market moves from monopoly to perfect competition, innovative activity first increases and then decreases.
47. Existing empirical evidence on poaching reports that there are wage gains to switching jobs in the US (Topel and Ward, 1992; McCue, 1996) but not in Germany (Zimmermann, 1998). Furthermore, Blinder and Krueger (1996) report that inter-firm job mobility in Japan is virtually non-existent due to customary practices of firms. Conversely, they report that many Japanese multinational firms have been forced to revise training strategies in their American affiliates shortly after their establishment, due to poaching by other firms.
48. Recent research (for a survey, see Acemoglu and Pischke, 1999b) suggests that poaching may be inhibited by several factors: *i*) centralised and/or co-ordinated wage bargaining settings may extend contracts and/or customary practices to cover almost all firms and workers; *ii*) information may be lacking on previous training of job candidates; *iii*) frictions and search costs may be high; *iv*) skills may be partly firm-specific; *v*) lay-offs and quits may suffer from adverse selection.

49. Incentives to undergo firm-sponsored training exist only if the difference between the productivity of workers and the wages paid by the firm is greater in the case of skilled workers rather than unskilled workers. Lynch (1994), Blinder and Krueger (1996), Soskice (1997), Acemoglu and Pischke (1999a, 1999b) and OECD (1993 and 2000c) report evidence of higher firm-sponsored training in more co-ordinated countries. Consistently, Davis (1992), Blau and Kahn (1996), Blinder and Krueger (1996), Gottschalk and Smeeding (1997), OECD (1997a) and Kahn (1998) report evidence linking a compressed wage structure to centralisation/co-ordination of wage-bargaining systems.
50. See Bassanini and Ernst (2002a) and Nicoletti *et al.* (2001a) for a fuller presentation of the analysis presented in this section.
51. Other important features of innovation, which are ignored here, are science-industry links, co-operation between firms and financial market arrangements (*e.g.* venture capital). See OECD (2000d).
52. To suit the analysis of innovation, the proxy for industrial relations regimes takes into account both the centralisation and co-ordination dimensions and, henceforth, in this section industrial relations regimes are said to be co-ordinated when bargaining is either co-ordinated, centralised or both, and de-centralised when bargaining is neither centralised nor co-ordinated. The aim is to capture the repercussions of industrial relations regimes on innovation through their effect on wage structures and firm strategies for upgrading skills (such as resort to external or internal labour markets, poaching skills of competitors, etc.). On the one hand, a high level of co-ordination of business associations and the code of conduct between firms tend to make the poaching of skills less likely; on the other hand, both bargaining centralisation and co-ordination tend to compress wage structures.
53. IT intensity can be seen as a proxy for technology adoption and organisational change, rather than innovation. Organisational change is more frequent than innovation in low-tech industries, often leading to downsizing (Caroli *et al.*, 2001). Therefore it is not surprising that firing restrictions seem to have a more negative impact on IT intensity than on other indicators of innovation performance.
54. Trade openness increases product variety in domestic markets and induces imitation by domestic producers. Imitation requires spending in R&D (Cohen and Levinthal, 1989).
55. High non-tariff barriers are likely to affect the elasticity of substitution between imported and domestically produced products, thereby lowering incentives to innovate when domestic and foreign firms have similar levels of competitiveness (the case of “neck and neck” competition, see Aghion *et al.* 1997, 2001a; and Boone, 2000).
56. Bassanini and Ernst (2002b) extend this analysis by differentiating between high-tech industries where the knowledge base is general and innovations are frequently realised by start-ups (*i.e.* “Mark I” industries, such as software development) and high-tech industries characterised by a knowledge base that is cumulative and more firm specific (*i.e.* “Mark II” industries, such as aircraft manufacturing). The beneficial interaction between EPL and bargaining co-ordination is shown to be largely due to Mark II industries, where the technology is especially suited to skill development within the firm rather than via external recruitment.
57. Details of the decomposition methodology are provided in Nicoletti *et al.* (2001a).
58. Due to data limitations, no multivariate analysis of the determinants of industry composition effects is possible.
59. Due to data limitations, specialisation indicators do not include non-manufacturing industries. The indicators are increasing in the degree of high-wage and high-R&D industry specialisation. See Nicoletti *et al.* (2001a) for details on the methodology used to construct them.
60. R&D investment calls for skilled labour and skilled labour calls for high wage premia; conversely, high wage premia may induce the choice of innovative labour-saving technologies.

Annex 5.A

Data definitions and sources

Table 5.A.1 provides details on the cross-country and cross-industry variability of the policy and institutional indicators used in the chapter's empirical analysis, which is performed at both the aggregate level (in a cross-section of 26 OECD countries) and at the industry level (using a panel of up to 18 OECD countries and 30 manufacturing and non-manufacturing industries). From the perspective of labour market analysis, the chief novelty in this database is the presence of detailed measures of product market regulations limiting competition. For this purpose, the existing cross-country data on industry-specific product market regulations (see the papers in OECD, 2001a) were significantly extended to cover most of the energy and marketable service industries (a total of 21 industries and industry aggregates). Depending on the industry, the summary regulatory indicators cover barriers to entry, public ownership, price controls, government involvement in business operation, market concentration and vertical integration. In manufacturing, the industry-specific regulatory indicators cover only tariff and non-tariff barriers to trade. The indicators generally report the situation in the years 1995 to 1998. For a subset of non-manufacturing industries, summary indicators cover a relatively long time-series of regulations.

Further information on the industry-specific indicators of product market regulations is provided in Table 5.A.2, including industry and country coverage, the aspects of regulation that are encompassed and data sources. As described in Section 1.A, the analysis of the aggregate employment rate exploits variation over time in a less detailed summary indicator of product market regulation. The evolution of the time-series indicator of regulatory strictness during 1978-98 is presented in Table 5.A.3. Finally, Table 5.A.4 provides definitions and sources for the major labour market policy and institutional variables used in the chapter's analysis.

Table 5.A.1. Policy and institutional indicators used in empirical analysis

Indicator	Scale	Max.	Min.	Observations	Mean	Coefficient of variation
Economy-wide product market regulation, 1998						
Summary indicator	0-6	3.28 (POL)	0.49 (GBR)	26	1.73	0.38
State control	0-6	4.25 (POL)	0.55 (GBR)	26	2.33	0.42
Involvement in business operation	0-6	4.50 (GRC)	0.46 (IRL)	26	2.27	0.43
Public ownership	0-6	5.07 (POL)	0.03 (GBR)	26	2.39	0.52
Barriers to entrepreneurship	0-6	3.37 (TUR)	0.48 (IRL)	26	1.75	0.42
Excess regulation on corporations ^a	-6 to 6	2.0 (GRC, ESP)	-2.5 (BEL)	26	0.15	6.47
Barriers to trade	0-6	4.18 (CZE)	0.62 (GBR)	26	1.47	0.69
Time series of product market regulation,^b 1978-98						
Summary indicator	0-6	6.00 (1978, FRA)	1.02 (1998, GBR)	441	4.36	0.26
Industry-specific product market regulation						
Summary indicator (ISIC 40-74), 1998	0-1					
Across countries (cross-industry average)		0.50 (POL)	0.13 (GBR)	26		0.27
Across industries (cross-country average)		0.71 (Elec.)	0.01 (Hotels, rest.)	13		0.89
Total		0.86 (Elec. *)	0.00 (Sale, repair, W/sale, hotels, rest., support trans. **)	292	0.25	0.97
Tariff barriers (ISIC 15-35), 1996	Percentage					
Across countries (cross-industry average)		28.1 (POL)	4.35 (JPN)	26		0.41
Across industries (cross-country average)		60.4 (Tobacco)	2.90 (Office machi.)	21		1.35
Total		246.3 (Tobacco, POL)	0.00 (***, JPN)	546	10.08	1.79
Non-tariff barriers (ISIC 15-35), 1996	Percentage					
Across countries (cross-industry average)		16.6 (USA)	0.00 (POL)	26		0.65
Across industries (cross-country average)		59.0 (Textiles)	0.00 (Tobacco)	21		2.38
Total		97.0 (Textiles, PRT)	0.00 (****)	546	7.28	2.98
Economy-wide labour market policies and institutions, 1996						
Corporatism	1-3	3 (a)	1 (d)	26	2.04	0.43
Coordination	1-3	3 (b)	1 (e)	26	2.25	0.35
Centralisation	75	3 (c)	1 (d)	26	1.81	0.38
Union density	Percentage	52.9 (BEL)	9.1 (FRA)	9	25.0	0.50
Employment protection legislation (individual dismissals)	0-6	3.7 (PRT)	0.2 (USA)	22	2.15	0.51
Employment protection legislation (collective dismissals)	Dummy	1	0	19	—	—
Administrative extension	Percentage	85.9 (FRA)	-7.0 (DNK)	18	30.0	0.98
Tax wedge	Percentage	47.9 (BEL)	9.6 (KOR)	23	34.5	0.30
Gross replacement rates (average 1993-97)	Percentage	69.4 (DNK)	5.2 (ITA)	26	30.2	0.45

Table 5.A.1. **Policy and institutional indicators used in empirical analysis** (*cont.*)

Indicator	Scale	Max.	Min.	Observations	Mean	Coefficient of variation
Industry-specific labour market institutions						
Union density (ISIC 40-74)	Percentage					
Countries		70.1 (SWE)	9.6 (FRA)	11	34.5	0.52
Industries		61.5 (Comm.)	19.3 (W/sale, retail, hotel and rest.)	20	34.4	0.43
Total		100 [(f) BEL, SWE]	1.7 (Finance, USA)	180	33.9	0.74

a) Difference between the indicators of strictness of administrative barriers on corporations and on sole proprietor firms.

b) Summary of regulatory developments in seven service industries.

* Countries concerned: (41) AUT, CAN, DEU, FIN, KOR, NLD, NZL, POL.

** Countries concerned: (50-51) BEL, CHE, CZE, DEU, DNK, FRA, GBR, GRC, ITA, JPN, KOR, NLD, NOR, NZL, PRT, TUR, USA.

(55) AUS, AUT, BEL, CHE, CZE, DEU, ESP, FIN, FRA, GBR, GRC, HUN, IRL, JPN, KOR, NLD, NOR, NZL, PRT, SWE, TUR, USA.

(63) BEL, GBR, HUN, KOR, NLD.

*** Office machinery, Radio and television, Motor vehicles, Other transport equipment.

**** In numerous cases.

(a) Countries concerned: AUT, CZE, DEU, DNK, GRC, IRL, ITA, NLD, NOR, POL.

(b) Countries concerned: AUT, CZE, DEU, DNK, GRC, IRL, ITA, JPN, KOR, NLD, NOR, POL.

(c) Countries concerned: CZE, ITA, NOR, POL.

(d) Countries concerned: AUS, CAN, CHE, GBR, JPN, KOR, NZL, TUR, USA.

(e) Countries concerned: CAN, GBR, NZL, TUR, USA.

(f) BEL: electricity, gas, water; SWE: electricity, gas, water and construction.

Source: Nicoletti *et al.* (2001a).

Table 5.A.2. Industry-specific product market regulation: coverage and sources

Industry	ISIC code Revision 3	Period	Regulatory and market dimensions covered ^a	Industrial segments covered	Countries covered	Main sources ^b
<i>Electricity</i>	401	1998 1975-98	P, E, PO, MS, VI E, PO, VI	Prod., Trans., Dist.	24-25 21	OECD OECD, EC, PI, WB
<i>Gas manufacture and distribution</i>	402	1998 1975-98	P, E, PO, MS, VI E, PO, MS, VI	Prod., Trans., Dist.	26 21	OECD, EC, PI, WB
<i>Energy</i>	40	1998	E, PO, VI	Prod., Trans., Dist.	25	OECD, EC, PI, WB
<i>Water works and supply</i>	41	1998	E, PO, VI		23	OECD, EC, PI, WB
<i>Electricity, gas and water</i>	40-41	1998	E, PO, VI		23	OECD, EC, PI, WB
<i>Wholesale trade</i>	50-51	1998	E, PO		25	OECD
<i>Retail trade</i>	52	1998	E, CBO		28	OECD
<i>Restaurant and hotels</i>	55	1998	E		25	OECD
<i>Railways</i>	601	1998 1975-98	P, E, PO, MS, VI E, PO, MS, VI	Passenger, freight	27 21	OECD, ECMT
<i>Road freight</i>	602	1998 1975-98	P, E, CBO P, E		27-29 21	OECD OECD, ECMT
<i>Land transport</i>	60	1998	P, E		27	OECD, ECMT
<i>Water transport</i>	61	1998	E, CBO		22	APC
<i>Air transport carriers</i>	62	1998 1975-98	E, PO, MS E, PO	Passenger	27 21	OECD OECD, EC
<i>Transport</i>	60-62	1998	E		22	OECD, ECMT, EC, APC
<i>Supporting services to transport</i>	63	1998	E, PO		21	OECD
<i>Post</i>	641	1998 1975-98	P, E, PO, VI	Letter, parcel, express	22-26 21	OECD, EC, UPU
<i>Telecoms</i>	642	1998 1975-98	P, E, PO, MS, VI E, PO, MS	Fixed, mobile	20-29 21	OECD
<i>Communication</i>	64	1998	P, E, PO, MS		26	OECD
<i>Financial institutions</i>	65	1998	E, CBO		23	OECD, APC
<i>Insurance</i>	66	1998	P, E	Life, general, health	12	OECD
<i>Legal services</i>	7 411	1998	E, CBO		22	APC
<i>Accounting services</i>	7 412	1998	E, CBO		23	APC
<i>Architectural and engineering services</i>	7 421	1998	E, CBO		23	APC
<i>Professional business services</i>	74	1998	E, CBO		22	APC

a) P = Price regulation
 E = Barriers to entry
 PO = Public ownership
 CBO = Constraints to business operation
 MS = Market structure
 VI = Vertical integration

Source: Nicoletti *et al.* (2001a).

b) ECMT = European Conference of Ministers of Transportation
 EC = European Commission
 WB = World Bank
 PI = Privatisation International
 APC = Australian Productivity Commission
 UPU = Universal Postal Union

Table 5.A.3. **Product market regulatory reform, 1978-1998**Time-series regulatory indicators,^a selected OECD countries
(scale 0-6 from the least to the most restrictive)

	1978	1982	1988	1993	1998	1998-1978	Percentage change
Australia	4.5	4.5	4.2	3.3	1.6	-2.9	-0.65
Austria	5.2	5.1	4.5	3.9	3.2	-2.0	-0.39
Belgium	5.5	5.5	5.0	4.3	3.1	-2.4	-0.43
Canada	4.2	4.2	2.8	2.6	2.4	-1.9	-0.44
Denmark	5.6	5.5	5.5	4.0	2.9	-2.7	-0.48
Finland	5.6	5.5	4.8	4.0	2.6	-3.0	-0.53
France	6.0	5.9	5.7	4.7	3.9	-2.1	-0.35
Germany	5.2	5.2	4.7	3.8	2.4	-2.8	-0.54
Greece	5.7	5.7	5.7	5.5	5.1	-0.6	-0.10
Ireland	5.7	5.7	5.1	4.8	4.0	-1.7	-0.29
Italy	5.8	5.8	5.8	5.3	4.3	-1.5	-0.25
Japan	5.2	5.2	3.9	3.2	2.9	-2.3	-0.44
Netherlands	5.3	5.5	5.5	4.1	3.0	-2.4	-0.44
New Zealand	5.1	5.1	3.6	2.2	1.4	-3.7	-0.73
Norway	5.0	5.0	4.3	3.2	2.5	-2.5	-0.49
Portugal	5.9	5.9	5.4	4.9	4.1	-1.8	-0.30
Spain	4.7	4.7	4.6	4.2	3.2	-1.5	-0.31
Sweden	4.5	4.4	4.2	3.5	2.2	-2.3	-0.51
Switzerland	4.5	4.5	4.5	4.4	3.9	-0.6	-0.14
United Kingdom	4.3	4.2	3.5	1.9	1.0	-3.3	-0.76
United States	4.0	3.3	2.5	2.0	1.4	-2.7	-0.66

a) Simple averages of indicators for 7 industries : gas, electricity, post, telecoms, air transport, railways, road freight. Depending on the industry the following dimensions have been included: barriers to entry, public ownership, market structure, vertical integration, price controls.

Source: Nicoletti *et al.* (2001a).

Table 5.A.4. **Labour market policies and institutions: definitions and sources**

Indicator	Definition	Source
Corporatism	Index of corporatism	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Coordination	Index of bargaining coordination	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Centralisation	Index of bargaining centralisation	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Union density	Ratio of union members to total employment	Elmeskov, Martin and Scarpetta (1998)
Employment protection legislation (individual dismissals)	Index of strictness of employment protection legislation	Nicoletti, Scarpetta and Boylaud (1999)
Employment protection legislation (collective dismissals)	Index of strictness of regulations concerning collective dismissals	OECD (1999a) and Watson Wyatt (1997)
Coverage of collective agreements	Percentage of workers covered	OECD (1997a)
Tax wedge	Employees' and employers' social security contributions and personal income tax less transfer payments as percentage of gross labour costs	OECD database on the tax/benefits position of employees
Gross replacement rate	Average gross replacement rate as percentage of earnings	OECD database on benefit entitlements and gross replacement rates

Annex 5.B

Econometric methods

Panel regression techniques are used extensively in this chapter to study the own and cross-market effects of policies and institutions on performance. However, only the analysis of the aggregate employment rate implements these techniques in the most familiar manner, in which the panel consists of multiple observations over time for a cross-section of units (in this case, countries). In the cross-country/cross-industry regressions, each data point (a country-industry couple) is a different unit of observation, and the panel can be conceived of as either multiple observations on the same cross-section of industries (with each country constituting an addition observation), or *vice versa*, depending on which formulation is most instructive for the outcome being analysed. In order to minimise biases due to omitted variables, country and industry effects were incorporated into the regression equations to the maximum extent feasible.

In the cross-country/cross-industry regressions, some variables may be defined only along the country or industry dimension (*e.g.* macroeconomic and many labour market policy variables have no cross-industry variation). Hence, these variables take the same value on clusters of observations. This creates difficulties both for identifying the causal effect of these variables and for assessing the precision of the estimated coefficients:

- *Identification.* The causal impacts of variables lacking an industry dimension (*e.g.* EPL) were estimated either by relying exclusively on their cross-country variability or by exploiting the interactions between these national indicators and industry characteristics, such as average firm size or use of high technologies.
- *Standard errors.* The use of OLS to estimate models with repeated units of observation or variables that take the same value on clusters of observations can yield biased and inconsistent estimates of standard errors that tend to overstate the statistical significance of the estimated coefficients (Moulton, 1986). In Nicoletti *et al.* (2001a), three estimating approaches are used to solve this problem: the fixed-effects estimator, in which the model is specified with dummies that control for repeated units or clusters of observations (*e.g.* country or industry fixed effects); the OLS estimator adjusted for clustering, which makes it possible to analyse the effects of variables that are constant on clusters of observations (such as variables that are uniform across industries); and the GLS random-effects estimator, in which the country-specific effects are assumed to be independently distributed random variables with mean zero and constant variance. This chapter presents some of the models that proved most instructive and reliable.*

* To discriminate among the different regression results, Nicoletti *et al.* (2001a) analyse a complex battery of specification tests. In addition, regression results are tested for robustness against exclusion of outlier observations and changes in the list of regressors included in the model.

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Statistical annex

Sources and definitions

Most of the statistics shown in these tables can be found as well in several other (paper or electronic) publications or references, as follows:

- the annual edition of *OECD Labour Force Statistics, 1981-2001* (forthcoming);
- the OECD On-Line Labour Force Statistics database that shows both raw data (see URL: <http://www.oecd.org/scripts/cde/members/LFSDATAAuthenticate.asp>) and derived statistics (<http://www.oecd.org/scripts/cde/members/LFSINDICATORSAuthenticate.asp>), and, finally;
- the newly released *OECD Labour Market Statistics CD-ROM: 2001 Edition*.

These publications, which include information on definitions, notes and sources used by Member countries, include longer time series and more detailed disaggregations by age group, gender, duration of unemployment, etc., than are shown in this annex.

Sources and definitions for statistical annex tables are specified at the bottom of each table.

Please note that the data on employment, unemployment and the labour force are not necessarily the same as the series used for analyses and forecasting by the OECD Economics Department and reproduced in Tables 1.2 and 1.3 of Chapter 1 of this publication.

Interested users can refer to the CD-ROM, which contains data series describing the labour supply: population, labour force, employment and unemployment disaggregated by gender and age, educational attainment, employment status and sector of activity, participation and unemployment rates, statistics on part-time employment and duration of unemployment. The CD-ROM contains a number of additional series on labour market results and on features of the institutional and regulatory environment affecting the functioning of labour markets. Among these are the following:

- annual hours of work data for comparisons of trends over time;
- earnings by percentile for deriving measures of earnings dispersion for full-time workers by gender;
- statutory minimum wages;
- compensation per employee, wage rates;
- taxation of wages;
- public expenditure on labour market programmes and number of beneficiaries;
- gross and net replacement rates of wages and salaries by unemployment benefits derived from simulation models based on country-specific tax and benefits systems;
- indicators of the strictness of Employment Protection Legislation (EPL) based on institutional procedures regarding dismissal practices for regular workers and legislation on fixed-term and temporary work agency contracts;
- trade union density rates and collective bargaining coverage in OECD Member countries.

Finally, a limited selection of macro-economic indicators for labour market analysis covering: GDP, unit labour costs, price deflators, exchange rates, Purchasing Power Parities (PPP), etc., is included.

Details concerning the CD-ROM and how to order it can be found at the following URL: <http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/812002043C3>.

Conventional signs

- .. Data not available
- . Decimal point
- | Break in series
- Nil or less than half of the last digit used

Note on statistical treatment of Germany

In this statistical annex, data up to end-1990 are for western Germany only; unless otherwise indicated, they are for the whole of Germany from 1991 onwards.

Table A. Standardised unemployment rates in 26 OECD countries

	As a percentage of total labour force											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Australia	6.7	9.3	10.5	10.6	9.5	8.2	8.2	8.3	7.7	7.0	6.3	6.7
Austria	..	..	..	4.0	3.8	3.9	4.4	4.4	4.5	4.0	3.7	3.6
Belgium	6.6	6.4	7.1	8.6	9.8	9.7	9.5	9.2	9.3	8.6	6.9	6.6
Canada	8.1	10.3	11.2	11.4	10.4	9.4	9.6	9.1	8.3	7.6	6.8	7.2
Czech Republic	..	..	..	4.4	4.4	4.1	3.9	4.8	6.5	8.8	8.9	8.2
Denmark	7.2	7.9	8.6	9.6	7.7	6.8	6.3	5.3	4.9	4.8	4.4	4.3
Finland	3.2	6.6	11.6	16.4	16.7	15.2	14.5	12.6	11.4	10.2	9.7	9.1
France	8.6	9.1	10.0	11.3	11.8	11.4	11.9	11.8	11.4	10.7	9.3	8.6
Greece	..	..	..	10.5	10.9	10.5	10.6	10.4	9.8	9.0	8.1	7.6
Germany ^a	4.8	4.2	6.6	7.9	8.4	8.2	8.9	9.9	9.3	8.6	7.9	7.9
Hungary	..	..	9.9	12.1	11.0	10.4	10.1	8.9	8.0	7.1	6.5	5.8
Ireland	13.4	14.7	15.4	15.6	14.3	12.3	11.7	9.9	7.5	5.6	4.2	3.8
Italy	8.9	8.5	8.7	10.1	11.0	11.5	11.5	11.6	11.7	11.2	10.4	9.5
Japan	2.1	2.1	2.2	2.5	2.9	3.1	3.4	3.4	4.1	4.7	4.7	5.0
Korea	..	..	..	..	..	..	..	..	..	..	4.3	3.9
Luxembourg	1.7	1.7	2.1	2.6	3.2	2.9	3.0	2.7	2.7	2.4	2.4	2.4
Netherlands	5.9	5.5	5.3	6.2	6.8	6.6	6.0	4.9	3.8	3.2	2.8	2.4
New Zealand	7.8	10.3	10.3	9.5	8.1	6.3	6.1	6.6	7.5	6.8	6.0	5.3
Norway	5.3	5.6	6.0	6.1	5.5	5.0	4.9	4.1	3.3	3.2	3.5	3.6
Poland	..	..	..	14.0	14.4	13.3	12.3	11.2	10.6	..	16.1	18.2
Portugal	4.8	4.2	4.3	5.6	6.9	7.3	7.3	6.8	5.2	4.5	4.1	4.1
Spain	16.1	16.2	18.3	22.5	23.9	22.7	22.0	20.6	18.6	15.8	14.0	13.0
Sweden	1.7	3.1	5.6	9.1	9.4	8.8	9.6	9.9	8.3	7.2	5.9	5.1
Switzerland	..	2.0	3.1	4.0	3.8	3.5	3.9	4.2	3.5	3.0	2.6	..
United Kingdom	6.9	8.6	9.8	10.2	9.4	8.5	8.0	6.9	6.2	5.9	5.4	5.0
United States	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.8
European Union ^b	..	8.1	9.0	10.5	10.9	10.5	10.6	10.4	9.8	9.0	8.1	7.6
OECD Europe ^b	..	..	..	10.5	10.8	10.4	10.4	10.1	9.5	9.1	8.6	8.3
Total OECD ^b	..	..	..	7.9	7.8	7.4	7.4	7.1	7.0	6.8	6.3	6.5

a) Up to and including 1992, western Germany; subsequent data concern the whole of Germany.

b) For above countries only.

Note: In so far as possible, the data have been adjusted to ensure comparability over time and to conform to the guidelines of the International Labour Office. All series are benchmarked to labour-force-survey-based estimates. In countries with annual surveys, monthly estimates are obtained by interpolation/extrapolation and by incorporating trends in administrative data, where available. The annual figures are then calculated by averaging the monthly estimates (for both unemployed and the labour force). For countries with monthly or quarterly surveys, the annual estimates are obtained by averaging the monthly or quarterly estimates, respectively. For several countries, the adjustment procedure used is similar to that of the Bureau of Labor Statistics, U.S. Department of Labor. For EU countries, the procedures are similar to those used in deriving the Comparable Unemployment Rates (CURs) of the Statistical Office of the European Communities. Minor differences may appear mainly because of various methods of calculating and applying adjustment factors, and because EU estimates are based on the civilian labour force.

For a fuller description, please refer to the following URL: <http://www.oecd.org/oecd/pages/home/displaygeneral/0,3380,EN-document-5-nodirectorate-no-1-29298-5,00.html>.

Source: OECD Quarterly Labour Force Statistics, No. 1, (2002), Paris.

Table B. **Employment/population ratios, activity and unemployment rates^a**

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	67.9	66.3	67.2	67.7	69.1	68.9	73.0	72.4	73.0	72.9	73.8	73.8	7.0	8.5	7.9	7.0	6.3	6.7
Austria	..	67.2	67.4	68.2	67.9	67.8	..	70.9	71.3	71.6	71.3	70.7	..	5.2	5.5	4.7	4.7	4.0
Belgium	54.4	57.0	57.3	58.9	60.9	59.7	58.7	62.6	63.2	64.6	65.2	63.6	7.3	9.0	9.4	8.7	6.6	6.2
Canada	70.3	68.0	68.9	70.1	71.1	70.9	76.6	74.9	75.2	75.9	76.3	76.5	8.2	9.2	8.4	7.6	6.9	7.3
Czech Republic	..	68.7	67.5	65.9	65.2	65.3	..	72.1	72.2	72.2	71.6	71.1	..	4.8	6.5	8.7	8.8	8.2
Denmark	75.4	75.4	75.3	76.5	76.4	75.9	82.4	79.8	79.3	80.6	80.0	79.2	8.5	5.4	5.1	5.2	4.5	4.2
Finland	74.1	62.8	64.0	66.0	67.0	67.7	76.5	72.1	72.4	73.6	74.3	74.6	3.2	12.8	11.6	10.3	9.9	9.2
France	59.9	58.9	59.4	59.8	61.1	62.0	66.0	67.2	67.4	67.8	68.0	68.0	9.2	12.3	11.9	11.8	10.1	8.8
Germany	64.1	63.8	64.7	65.4	66.3	65.9	68.4	70.8	71.4	71.6	72.2	71.6	6.2	9.9	9.3	8.7	8.1	8.0
Greece	54.8	54.8	55.6	55.4	55.9	55.6	59.1	60.8	62.5	62.9	63.0	62.1	7.2	9.8	11.0	12.0	11.3	10.4
Hungary	..	52.7	53.8	55.7	56.4	56.6	..	57.8	58.4	59.9	60.2	60.0	..	8.7	7.8	7.0	6.4	5.7
Iceland ^{b,c}	79.9	80.0	82.2	84.2	84.6	84.6	82.1	83.1	84.5	85.9	86.6	86.6	2.7	3.8	2.7	1.9	2.3	2.3
Ireland	52.1	56.3	59.6	62.5	64.5	65.0	60.1	62.9	64.8	66.3	67.4	67.5	13.3	10.5	8.0	5.8	4.4	3.7
Italy	52.6	51.6	52.2	52.9	53.9	54.9	59.5	58.5	59.2	59.8	60.3	60.7	11.5	11.8	11.9	11.5	10.6	9.6
Japan	68.6	70.0	69.5	68.9	68.9	68.8	70.1	72.6	72.6	72.4	72.5	72.6	2.2	3.5	4.2	4.9	5.0	5.2
Korea	61.2	63.7	59.5	59.7	61.6	62.1	62.8	65.4	64.0	63.9	64.3	64.6	2.5	2.7	7.0	6.5	4.2	3.9
Luxembourg	59.1	59.9	60.2	61.6	62.7	63.0	60.1	61.5	61.9	63.1	64.2	64.2	1.6	2.5	2.8	2.4	2.4	1.9
Mexico ^c	58.0	61.1	61.4	61.2	60.9	60.1	59.9	63.3	63.2	62.5	62.3	61.5	3.1	3.5	3.0	2.1	2.2	2.2
Netherlands	61.1	67.5	69.4	70.9	72.9	74.1	66.2	71.5	72.6	73.6	74.9	75.7	7.7	5.6	4.4	3.6	2.7	2.1
New Zealand	67.3	70.5	69.5	70.0	70.7	71.8	73.0	75.6	75.2	75.2	75.2	75.9	7.8	6.7	7.6	6.9	6.1	5.4
Norway ^b	73.1	77.0	78.3	78.0	77.9	77.5	77.1	80.2	80.9	80.6	80.7	80.3	5.3	4.0	3.2	3.2	3.5	3.5
Poland	..	58.8	58.9	57.5	55.0	53.5	..	66.4	66.1	65.9	65.8	65.7	..	11.5	7.0	12.8	16.4	18.6
Portugal	67.5	64.7	66.4	67.3	68.1	68.7	70.9	69.7	70.1	70.6	71.1	71.8	4.9	7.2	5.2	4.6	4.2	4.3
Slovak Republic	..	61.1	60.5	58.1	56.8	56.9	..	69.4	69.3	69.5	69.9	70.5	..	11.9	12.6	16.4	18.8	19.3
Spain ^b	51.1	50.7	52.4	55.0	57.4	58.8	60.9	63.9	64.5	65.3	66.7	65.8	16.1	20.7	18.7	15.7	13.9	10.5
Sweden ^b	83.1	70.7	71.5	72.9	74.2	75.3	84.6	78.7	78.1	78.5	78.9	79.3	1.8	10.2	8.4	7.1	5.9	5.1
Switzerland ^c	79.7	76.9	78.0	78.4	78.3	79.1	79.7	80.3	81.0	80.9	80.5	81.2	1.8	4.2	3.7	3.1	2.7	2.5
Turkey	54.5	51.2	51.1	51.0	48.2	45.1	59.4	54.9	54.9	55.4	51.8	50.6	8.2	6.9	7.0	7.9	6.8	10.9
United Kingdom ^b	72.5	70.8	71.2	71.7	72.4	71.3	77.8	76.2	75.9	76.3	76.6	74.9	6.8	7.1	6.2	6.1	5.6	4.8
United States ^b	72.2	73.5	73.8	73.9	74.1	73.1	76.5	77.4	77.4	77.2	77.2	76.8	5.7	5.0	4.5	4.3	4.0	4.8
European Union ^d	61.4	60.9	61.7	62.6	63.8	64.1	67.4	68.1	68.6	69.1	69.6	69.2	8.3	10.7	10.0	9.3	8.4	7.4
OECD Europe ^d	61.0	60.0	60.6	61.1	61.4	61.1	66.7	66.7	67.0	67.4	67.3	66.8	8.1	10.1	9.5	9.3	8.8	8.6
Total OECD ^d	65.1	65.0	65.2	65.5	65.8	65.3	69.4	70.0	70.1	70.2	70.2	69.8	6.0	7.1	6.9	6.7	6.3	6.4

a) Ratios refer to persons aged 15 to 64 years who are in employment or in the labour force divided by the working age population, or in unemployment divided by the labour force.

b) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table B. **Employment/population ratios, activity and unemployment rates^a** (cont.)**Men aged 15-64 years**

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	78.5	74.7	75.2	76.1	76.6	76.0	84.4	81.8	82.1	82.1	82.0	81.7	6.9	8.7	8.4	7.3	6.6	6.9
Austria	..	75.9	75.9	76.7	76.2	75.9	..	80.0	80.2	80.5	80.1	79.0	..	5.1	5.4	4.7	4.8	4.0
Belgium	68.1	67.1	67.0	67.5	69.8	68.5	71.3	72.2	72.5	73.0	73.8	72.7	4.6	7.1	7.6	7.5	5.3	5.7
Canada	77.8	73.8	74.3	75.5	76.3	75.9	84.9	81.4	81.4	82.0	82.1	82.1	8.3	9.4	8.7	7.9	7.0	7.6
Czech Republic	..	77.4	76.3	74.3	73.6	73.6	..	80.5	80.3	80.2	79.4	79.0	..	3.9	5.0	7.3	7.4	6.8
Denmark	80.1	81.3	80.2	81.2	80.7	80.2	87.1	85.2	83.5	85.0	84.0	83.3	8.0	4.6	3.9	4.5	4.0	3.7
Finland	76.7	65.2	66.8	68.4	69.4	70.0	79.6	74.6	75.1	75.9	76.4	76.7	3.6	12.5	11.1	9.8	9.2	8.7
France	69.7	66.3	66.6	66.8	68.1	69.0	75.0	74.3	74.1	74.4	74.4	74.3	7.0	10.8	10.2	10.2	8.5	7.1
Germany	75.7	72.1	72.9	73.7	74.8	73.0	79.0	79.5	79.9	80.3	81.1	79.3	4.1	9.3	8.8	8.2	7.7	7.9
Greece	73.4	71.9	71.6	70.9	71.3	70.9	76.8	76.9	77.1	76.9	77.1	76.2	4.4	6.4	7.2	7.7	7.5	6.9
Hungary	..	60.3	60.6	62.6	63.3	63.5	..	66.6	66.3	67.8	68.0	67.8	..	9.5	8.5	7.5	7.0	6.3
Iceland ^{b,c}	85.2	84.2	86.0	88.2	88.2	88.0	87.3	87.1	87.9	89.4	89.8	90.0	2.4	3.3	2.3	1.4	1.8	2.1
Ireland	67.5	67.8	71.0	73.5	75.6	76.0	77.5	75.8	77.4	78.3	79.1	79.0	13.0	10.6	8.3	6.1	4.5	3.9
Italy	69.2	66.8	67.1	67.6	68.2	68.7	75.1	73.5	73.9	74.1	74.3	74.2	7.9	9.0	9.1	8.8	8.2	7.4
Japan	81.3	82.4	81.7	81.0	80.9	80.5	83.0	85.4	85.3	85.3	85.2	85.0	2.1	3.5	4.3	5.0	5.1	5.4
Korea	73.9	76.0	71.7	71.5	73.3	73.4	76.2	78.2	77.8	77.1	76.9	76.8	3.0	2.8	7.9	7.3	4.8	4.4
Luxembourg	76.4	74.3	74.6	74.4	75.0	74.9	77.4	75.7	76.0	75.7	76.4	76.1	1.2	1.9	1.9	1.7	1.8	1.6
Mexico ^c	84.1	84.7	84.8	84.8	84.0	83.4	86.4	87.2	87.1	86.4	85.8	85.2	2.6	2.8	2.6	1.8	2.1	2.1
Netherlands	75.2	77.9	79.6	80.3	82.1	82.7	79.7	81.4	82.4	82.6	83.9	84.2	5.7	4.4	3.4	2.7	2.2	1.8
New Zealand	76.1	78.5	77.1	77.3	78.0	78.9	83.0	84.1	83.5	83.2	83.2	83.4	8.3	6.7	7.7	7.1	6.2	5.5
Norway ^b	78.6	81.7	82.8	82.1	81.7	81.0	83.4	85.0	85.6	85.0	84.8	84.0	5.8	3.9	3.2	3.4	3.6	3.6
Poland	..	66.1	65.8	63.6	61.2	59.2	..	73.2	72.8	72.3	71.7	71.5	..	9.8	9.5	12.0	14.6	17.2
Portugal	80.1	72.5	75.3	75.5	76.2	76.7	82.8	77.5	78.6	78.7	78.9	79.4	3.3	6.4	4.1	4.0	3.3	3.4
Slovak Republic	..	68.4	67.8	64.3	62.2	62.1	..	76.9	77.2	76.9	76.8	77.4	..	11.1	12.2	16.3	19.0	19.8
Spain ^b	71.0	66.1	68.3	70.8	72.7	73.8	80.4	78.6	79.1	79.6	80.4	79.8	11.8	15.8	13.6	11.0	9.6	7.5
Sweden ^b	85.2	72.4	73.5	74.8	76.1	77.0	86.7	81.0	80.7	80.9	81.2	81.4	1.8	10.6	8.8	7.5	6.3	5.4
Switzerland ^c	90.0	85.9	87.2	87.2	87.3	87.6	91.1	89.8	90.1	89.6	89.4	89.2	1.2	4.4	3.2	2.7	2.3	1.8
Turkey	76.9	74.7	74.1	72.8	71.0	66.0	83.6	79.9	79.6	79.1	76.2	74.3	8.0	6.5	7.0	8.0	6.8	11.2
United Kingdom ^b	82.1	77.5	78.1	78.4	79.1	77.9	88.3	84.4	83.9	84.1	84.3	82.2	7.1	8.2	6.9	6.8	6.1	5.3
United States ^b	80.7	80.1	80.5	80.5	80.6	79.3	85.6	84.2	84.2	84.0	83.9	83.4	5.7	4.9	4.5	4.1	3.9	4.9
European Union ^d	74.2	70.8	71.6	72.3	73.4	73.2	79.9	78.2	78.4	78.7	79.1	78.3	6.7	9.5	8.7	8.1	7.2	6.5
OECD Europe ^d	74.8	71.1	71.6	71.8	72.2	71.2	80.6	78.1	78.1	78.3	78.2	77.3	6.7	8.9	8.3	8.3	7.7	7.8
Total OECD ^d	78.0	76.0	76.1	76.2	76.4	75.6	82.7	81.3	81.3	81.3	81.1	80.5	5.4	6.5	6.4	6.2	5.8	6.1

a) Ratios refer to persons aged 15 to 64 years who are in employment or in the labour force divided by the working age population, or in unemployment divided by the labour force.

b) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table B. **Employment/population ratios, activity and unemployment rates^a** (cont.)

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	57.1	57.8	59.2	59.3	61.6	61.7	61.5	63.0	63.9	63.6	65.5	65.8	7.2	8.1	7.3	6.7	5.9	6.3
Austria	..	58.5	59.0	59.7	59.7	59.8	..	61.8	62.5	62.7	62.5	62.3	..	5.3	5.6	4.8	4.6	4.1
Belgium	40.8	46.7	47.5	50.2	51.9	50.7	46.1	52.9	53.8	56.0	56.6	54.5	11.5	11.6	11.7	10.3	8.3	6.9
Canada	62.7	62.2	63.6	64.7	65.8	66.0	68.3	68.3	69.1	69.8	70.5	70.8	8.1	8.9	8.0	7.3	6.7	6.8
Czech Republic	..	59.9	58.7	57.4	56.9	57.0	..	63.7	64.0	64.1	63.7	63.2	..	6.0	8.2	10.5	10.6	9.9
Denmark	70.6	69.4	70.3	71.6	72.1	71.4	77.6	74.2	75.1	76.1	75.9	75.0	9.0	6.5	6.4	5.9	5.0	4.8
Finland	71.5	60.4	61.2	63.5	64.5	65.4	73.5	69.5	69.7	71.2	72.1	72.5	2.7	13.1	12.1	10.8	10.6	9.7
France	50.3	51.7	52.4	53.0	54.3	55.2	57.2	60.2	60.8	61.4	61.7	61.8	12.1	14.1	13.8	13.6	11.9	10.8
Germany	52.2	55.3	56.3	56.8	57.7	58.6	55.5	61.9	62.5	62.6	63.2	63.8	6.0	10.7	9.9	9.3	8.7	8.2
Greece	37.5	39.1	40.3	40.7	41.3	41.2	42.6	46.0	48.5	49.7	49.7	48.8	12.0	15.1	16.8	18.2	16.9	15.6
Hungary	..	45.5	47.3	49.0	49.7	49.8	..	49.3	50.8	52.3	52.7	52.4	..	7.7	6.9	6.3	5.6	5.0
Iceland ^{b,c}	74.5	75.6	78.3	80.2	81.0	81.1	76.8	79.1	80.9	82.3	83.3	83.1	3.0	4.4	3.3	2.5	2.8	2.5
Ireland	36.6	44.7	48.2	51.3	53.3	54.0	42.6	49.8	52.1	54.3	55.7	56.0	14.0	10.4	7.5	5.5	4.2	3.5
Italy	36.2	36.4	37.3	38.3	39.6	41.1	44.0	43.5	44.6	45.5	46.3	47.3	17.7	16.3	16.4	15.8	14.6	13.1
Japan	55.8	57.6	57.2	56.7	56.7	57.0	57.1	59.7	59.8	59.5	59.6	60.1	2.3	3.6	4.2	4.7	4.7	5.1
Korea	49.0	51.6	47.4	48.1	50.1	50.9	49.9	52.8	50.4	50.8	51.8	52.6	1.9	2.4	5.8	5.3	3.4	3.2
Luxembourg	41.4	45.4	45.6	48.5	50.0	50.8	42.4	47.1	47.6	50.2	51.7	52.0	2.5	3.7	4.2	3.3	3.2	2.2
Mexico ^c	34.2	39.7	40.0	39.6	40.1	39.4	35.7	41.7	41.5	40.7	41.2	40.4	4.3	4.7	3.6	2.7	2.5	2.4
Netherlands	46.7	56.9	58.9	61.3	63.4	65.3	52.4	61.3	62.5	64.4	65.7	66.9	10.9	7.2	5.8	4.9	3.5	2.5
New Zealand	58.5	62.7	62.1	63.0	63.5	64.8	63.2	67.3	67.1	67.4	67.5	68.5	7.3	6.7	7.5	6.6	5.9	5.3
Norway ^b	67.2	72.2	73.6	73.8	74.0	73.8	70.7	75.3	76.1	76.1	76.5	76.4	4.9	4.1	3.3	3.0	3.2	3.4
Poland	..	51.8	52.2	51.6	48.9	47.8	..	59.9	59.7	59.8	59.9	59.9	..	13.5	12.6	13.8	18.4	20.2
Portugal	55.4	57.2	58.0	59.4	60.3	61.1	59.6	62.2	62.0	62.8	63.7	64.6	7.0	8.2	6.6	5.3	5.3	5.4
Slovak Republic	..	54.0	53.5	52.1	51.5	51.8	..	62.0	61.7	62.3	63.2	63.8	..	12.9	13.2	16.4	18.6	18.8
Spain ^b	31.6	35.2	36.5	39.1	42.0	43.8	41.8	49.2	49.9	50.9	52.9	51.6	24.4	28.5	26.7	23.2	20.6	15.3
Sweden ^b	81.0	68.9	69.4	70.9	72.2	73.5	82.5	76.3	75.5	76.0	76.4	77.1	1.8	9.7	8.0	6.7	5.4	4.7
Switzerland ^c	66.4	67.8	68.8	69.6	69.3	70.4	68.2	70.6	71.8	72.2	71.6	73.0	2.6	4.0	4.2	3.6	3.2	3.5
Turkey	32.9	27.5	27.9	29.1	25.3	24.1	36.0	29.9	30.1	31.6	27.2	26.7	8.7	8.0	7.1	7.9	6.8	10.0
United Kingdom ^b	62.8	64.1	64.2	64.9	65.5	64.7	67.3	68.0	67.9	68.4	68.9	67.6	6.6	5.8	5.3	5.1	4.8	4.2
United States ^b	64.0	67.1	67.4	67.6	67.9	67.1	67.8	70.7	70.7	70.7	70.8	70.5	5.6	5.1	4.7	4.4	4.2	4.7
European Union ^d	48.2	50.9	51.8	52.9	54.1	54.9	54.8	58.0	58.7	59.4	60.1	60.1	10.8	12.3	11.8	11.0	10.0	8.7
OECD Europe ^d	47.1	48.8	49.5	50.4	50.6	50.9	52.8	55.3	55.7	56.4	56.4	56.3	10.3	11.7	11.1	10.7	10.3	9.6
Total OECD ^d	52.4	54.2	54.5	54.9	55.3	55.2	56.4	58.8	59.0	59.2	59.4	59.3	6.9	7.8	7.6	7.3	6.9	6.8

a) Ratios refer to persons aged 15 to 64 years who are in employment or in the labour force divided by the working age population, or in unemployment divided by the labour force.

b) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. **Employment/population ratios, activity and unemployment rates****Both sexes (Percentages)**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia	Unemployment rates	13.2	14.5	13.5	12.3	12.7	5.1	6.3	5.4	5.0	5.3	5.4	6.1	5.8	4.0	4.7
	Labour force participation rates	70.4	67.6	68.4	69.0	69.4	79.9	80.0	79.6	80.5	80.6	44.1	46.6	46.9	49.0	48.6
	Employment/population ratios	61.1	57.8	59.2	60.5	60.6	75.8	75.0	75.3	76.5	76.4	41.8	43.7	44.2	47.1	46.3
Austria	Unemployment rates	..	7.5	5.9	6.3	6.0	..	5.0	4.5	4.3	3.6	..	6.4	4.8	6.7	5.6
	Labour force participation rates	..	58.5	58.4	56.1	54.7	..	84.7	85.1	85.3	85.2	..	29.9	30.7	31.4	29.0
	Employment/population ratios	..	54.2	54.9	52.5	51.4	..	80.4	81.3	81.6	82.2	..	28.0	29.2	29.2	27.4
Belgium	Unemployment rates	14.5	20.4	22.6	15.2	15.3	6.5	8.4	7.4	5.8	5.4	3.6	5.3	5.7	3.2	3.0
	Labour force participation rates	35.5	32.6	32.9	35.7	33.6	76.7	81.2	82.5	82.8	80.9	22.2	23.8	26.2	25.9	26.0
	Employment/population ratios	30.4	26.0	25.5	30.3	28.5	71.7	74.4	76.4	77.9	76.6	21.4	22.5	24.7	25.0	25.2
Canada	Unemployment rates	12.4	15.1	14.0	12.6	12.8	7.3	7.1	6.4	5.7	6.2	6.0	6.9	5.9	5.4	5.8
	Labour force participation rates	69.7	61.9	63.5	64.4	64.7	84.2	84.3	84.6	84.8	85.1	49.3	48.6	49.9	51.2	51.3
	Employment/population ratios	61.1	52.5	54.6	56.3	56.4	78.0	78.3	79.2	79.9	79.8	46.3	45.3	46.9	48.4	48.3
Czech Republic	Unemployment rates	..	12.4	17.0	17.0	16.6	..	5.5	7.5	7.7	7.2	..	3.8	4.8	5.2	4.9
	Labour force participation rates	..	49.1	48.3	46.1	43.2	..	88.5	88.6	88.4	88.4	..	38.6	39.4	38.2	39.0
	Employment/population ratios	..	43.0	40.1	38.3	36.1	..	83.7	81.9	81.6	82.1	..	37.1	37.5	36.3	37.1
Denmark	Unemployment rates	11.5	7.2	10.0	6.7	8.3	7.9	4.6	4.3	4.1	3.5	6.1	5.1	4.2	4.0	4.0
	Labour force participation rates	73.5	71.6	73.3	71.9	67.2	91.2	87.5	88.2	87.9	87.5	57.1	53.1	56.6	56.9	58.9
	Employment/population ratios	65.0	66.4	66.0	67.1	61.7	84.0	83.4	84.4	84.3	84.5	53.6	50.4	54.2	54.6	56.6
Finland	Unemployment rates	9.2	23.8	21.5	21.5	19.9	2.1	9.5	8.4	8.0	7.4	2.6	14.0	10.2	9.4	8.9
	Labour force participation rates	57.3	45.8	49.4	50.8	50.4	89.7	87.1	87.7	87.9	88.0	43.7	42.0	43.7	46.6	50.3
	Employment/population ratios	52.1	34.9	38.8	39.8	40.3	87.9	78.9	80.3	80.9	81.5	42.5	36.2	39.2	42.3	45.9
France	Unemployment rates	19.1	25.4	26.5	20.7	18.7	8.0	10.8	10.6	9.2	8.1	6.7	8.7	8.7	7.9	6.1
	Labour force participation rates	36.4	27.8	28.2	29.3	29.9	84.1	86.2	86.2	86.2	86.3	38.1	36.2	37.5	37.3	38.8
	Employment/population ratios	29.5	20.8	20.7	23.2	24.3	77.4	76.8	77.0	78.3	79.3	35.6	33.0	34.2	34.3	36.5
Germany	Unemployment rates	4.5	9.0	8.2	7.7	8.4	4.6	8.4	7.8	7.3	7.5	7.7	14.7	14.4	13.5	11.2
	Labour force participation rates	59.1	51.3	52.0	52.5	52.2	77.1	85.1	85.7	86.5	86.4	39.8	45.0	44.4	44.7	41.5
	Employment/population ratios	56.4	46.7	47.7	48.4	47.8	73.6	78.0	79.0	80.2	80.0	36.8	38.4	38.0	38.6	36.8
Greece	Unemployment rates	23.3	29.7	31.7	29.5	28.0	5.1	9.0	9.8	9.6	8.8	1.6	3.2	4.4	3.8	4.1
	Labour force participation rates	39.4	40.0	39.3	38.1	36.2	72.2	76.8	77.6	77.6	77.2	41.5	40.4	40.2	40.6	39.6
	Employment/population ratios	30.3	28.1	26.8	26.9	26.0	68.5	69.9	70.0	70.2	70.4	40.8	39.1	38.4	39.0	38.0
Hungary	Unemployment rates	..	13.5	12.4	12.1	10.8	..	6.8	6.2	5.6	5.1	..	4.8	2.7	3.0	3.0
	Labour force participation rates	..	40.8	40.7	39.0	36.3	..	75.4	77.1	77.4	77.1	..	17.4	19.9	22.9	24.8
	Employment/population ratios	..	35.3	35.7	34.3	32.4	..	70.3	72.3	73.0	73.1	..	16.6	19.4	22.2	24.1
Iceland^{a, b}	Unemployment rates	4.9	6.0	4.4	4.7	4.8	2.2	2.1	1.4	1.7	1.7	2.1	1.6	1.4	1.7	2.0
	Labour force participation rates	59.5	65.5	68.1	71.6	70.2	90.1	90.8	92.1	92.2	92.3	87.2	88.1	87.1	85.7	87.3
	Employment/population ratios	56.6	61.6	65.1	68.2	66.8	88.1	88.9	90.9	90.6	90.7	85.4	86.7	85.9	84.2	85.6

Table C. Employment/population ratios, activity and unemployment rates (*cont.*)

		Both sexes (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	17.7	11.6	8.5	6.4	6.2	12.5	7.3	5.3	4.0	3.2	8.4	5.1	4.3	2.5	2.6
	Labour force participation rates	50.3	48.6	50.7	51.6	50.1	68.5	76.1	77.3	78.5	78.9	42.1	43.8	45.7	46.3	47.9
	Employment/population ratios	41.4	43.0	46.4	48.2	47.0	60.0	70.6	73.2	75.3	76.4	38.6	41.6	43.8	45.2	46.6
Italy^c	Unemployment rates	31.5	32.1	31.1	29.7	27.0	7.3	9.1	8.9	8.3	7.6	1.8	3.8	4.2	4.1	4.4
	Labour force participation rates	43.5	40.1	39.6	39.5	37.6	70.0	68.8	69.5	70.1	71.0	22.3	19.3	19.0	19.2	19.4
	Employment/population ratios	29.8	27.2	27.3	27.8	27.4	64.9	62.5	63.3	64.3	65.6	21.9	18.6	18.3	18.4	18.6
Japan	Unemployment rates	4.3	7.7	9.3	9.2	9.7	1.6	3.4	4.0	4.1	4.4	2.7	5.0	5.4	5.6	5.7
	Labour force participation rates	44.1	48.3	47.2	47.0	46.5	80.9	82.1	81.9	81.9	82.2	64.7	67.1	67.1	66.5	65.8
	Employment/population ratios	42.2	44.6	42.9	42.7	42.0	79.6	79.2	78.7	78.6	78.6	62.9	63.8	63.4	62.8	62.0
Korea	Unemployment rates	7.0	16.0	14.2	10.2	9.7	1.9	6.3	5.8	3.7	3.4	0.8	4.0	4.5	2.7	2.1
	Labour force participation rates	35.0	31.3	31.3	31.8	32.3	74.6	75.0	74.7	75.2	75.2	62.4	61.5	60.9	59.2	59.2
	Employment/population ratios	32.5	26.3	26.8	28.5	29.1	73.2	70.3	70.4	72.4	72.7	61.9	59.0	58.1	57.6	58.0
Luxembourg	Unemployment rates	3.6	6.4	6.8	6.4	6.7	1.4	2.5	2.0	2.0	1.4	0.6	0.6	1.0	1.4	0.3
	Labour force participation rates	44.8	35.3	34.0	34.0	34.6	72.8	76.7	78.3	79.8	79.8	28.4	25.1	26.5	27.6	24.9
	Employment/population ratios	43.1	33.1	31.7	31.8	32.3	71.8	74.7	76.7	78.2	78.7	28.2	25.0	26.3	27.2	24.8
Mexico^b	Unemployment rates	5.4	5.3	3.4	4.4	4.1	2.2	2.2	1.8	1.5	1.6	1.0	1.0	0.8	1.2	1.0
	Labour force participation rates	52.2	54.0	52.5	51.8	49.8	65.9	69.8	69.1	69.3	68.9	54.6	54.4	55.7	53.5	52.7
	Employment/population ratios	49.3	51.1	50.8	49.6	47.7	64.4	68.3	67.8	68.3	67.8	54.1	53.9	55.2	52.8	52.1
Netherlands	Unemployment rates	11.1	8.8	7.4	5.3	4.4	7.2	3.7	3.0	2.3	1.7	3.8	2.3	2.7	1.9	1.5
	Labour force participation rates	59.6	66.1	67.7	72.2	73.6	76.0	82.3	83.0	83.6	84.2	30.9	33.8	36.3	38.6	39.9
	Employment/population ratios	53.0	60.3	62.7	68.4	70.4	70.6	79.3	80.6	81.7	82.8	29.7	33.0	35.3	37.9	39.3
New Zealand	Unemployment rates	14.1	14.6	13.8	13.2	11.8	6.0	6.1	5.4	4.5	4.1	4.6	4.6	5.0	4.7	3.5
	Labour force participation rates	67.9	65.2	63.3	63.0	63.5	81.2	81.8	82.1	82.3	82.7	43.8	58.4	59.9	60.0	62.9
	Employment/population ratios	58.3	55.7	54.6	54.7	56.0	76.3	76.8	77.6	78.6	79.3	41.8	55.7	56.9	57.2	60.7
Norway^a	Unemployment rates	11.8	9.1	9.6	10.2	10.5	4.2	2.4	2.4	2.6	2.6	2.2	1.8	1.1	1.3	1.6
	Labour force participation rates	60.5	63.8	63.9	64.7	63.1	85.9	87.9	87.6	87.6	87.4	63.1	68.4	68.0	68.0	68.5
	Employment/population ratios	53.4	57.9	57.8	58.1	56.5	82.3	85.8	85.5	85.3	85.1	61.7	67.2	67.3	67.1	67.4
Poland	Unemployment rates	..	23.2	30.0	35.2	41.0	..	9.5	10.8	13.9	15.8	..	5.9	7.7	9.4	9.7
	Labour force participation rates	..	37.3	34.7	37.8	37.4	..	82.9	82.6	82.4	82.2	..	34.3	35.2	31.3	32.1
	Employment/population ratios	..	28.6	24.3	24.5	22.1	..	75.0	73.7	70.9	69.3	..	32.3	32.5	28.4	29.0
Portugal	Unemployment rates	9.6	10.2	8.7	8.6	9.2	3.8	4.4	4.0	3.5	3.5	2.1	3.3	3.1	3.2	3.2
	Labour force participation rates	60.7	47.6	47.3	46.7	47.9	81.5	83.9	84.1	84.9	85.3	48.0	51.7	52.4	52.7	52.0
	Employment/population ratios	54.8	42.7	43.2	42.7	43.5	78.4	80.2	80.8	81.9	82.4	47.0	50.0	50.8	51.0	50.3
Slovak Republic	Unemployment rates	..	25.1	33.8	37.0	39.1	..	10.2	13.1	15.5	15.9	..	7.5	9.5	12.3	12.3
	Labour force participation rates	..	46.8	46.8	46.0	45.8	..	87.4	87.6	88.4	88.9	..	24.6	24.6	24.3	25.4
	Employment/population ratios	..	35.0	31.0	29.0	27.9	..	78.5	76.1	74.7	74.8	..	22.8	22.3	21.3	22.3

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)**Both sexes (Percentages)**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Spain^a	Unemployment rates	30.1	33.9	28.3	25.3	20.8	13.1	16.6	14.0	12.3	9.3	8.1	10.3	9.7	9.4	6.3
	Labour force participation rates	54.9	46.9	48.0	48.5	46.8	70.3	76.3	76.8	78.0	76.5	40.0	39.2	38.8	40.9	41.9
	Employment/population ratios	38.3	31.0	34.4	36.3	37.1	61.1	63.6	66.1	68.4	69.5	36.8	35.1	35.1	37.0	39.2
Sweden^a	Unemployment rates	4.5	16.8	14.2	11.9	11.8	1.3	7.6	6.2	4.9	4.1	1.5	6.5	6.7	6.1	4.9
	Labour force participation rates	69.1	50.0	51.1	52.3	54.3	92.8	88.0	88.0	88.1	88.2	70.5	67.5	68.6	69.4	70.4
	Employment/population ratios	66.0	41.6	43.8	46.1	47.9	91.6	81.3	82.6	83.8	84.6	69.4	63.0	64.0	65.1	67.0
Switzerland^b	Unemployment rates	3.2	5.8	5.6	4.8	5.6	1.6	3.3	2.6	2.3	2.1	1.1	3.1	2.5	2.7	1.7
	Labour force participation rates	71.6	67.2	68.6	68.3	67.8	85.9	87.9	87.5	87.4	87.8	63.8	66.6	66.4	65.1	68.2
	Employment/population ratios	69.3	63.3	64.7	65.0	64.0	84.5	84.9	85.2	85.4	86.0	63.1	64.5	64.7	63.3	67.1
Turkey	Unemployment rates	16.0	14.2	15.2	13.2	19.9	5.4	4.9	5.8	5.0	8.6	3.1	1.8	1.8	2.4	3.5
	Labour force participation rates	54.7	45.1	46.4	41.6	40.0	65.1	62.1	62.1	59.3	58.3	44.1	41.1	41.3	36.2	34.2
	Employment/population ratios	45.9	38.7	39.3	36.1	32.0	61.6	59.0	58.5	56.3	53.3	42.7	40.3	40.6	35.3	32.9
United Kingdom^d	Unemployment rates	10.1	12.4	12.3	11.8	10.5	5.8	5.0	4.9	4.4	3.9	7.2	5.3	5.1	4.4	3.3
	Labour force participation rates	78.0	69.4	69.2	69.7	61.1	83.9	83.3	83.8	84.1	83.9	53.0	51.0	52.1	52.8	54.0
	Employment/population ratios	70.1	60.8	60.7	61.5	54.7	79.1	79.1	79.7	80.4	80.7	49.2	48.3	49.4	50.5	52.2
United States^a	Unemployment rates	11.2	10.4	9.9	9.3	10.6	4.6	3.5	3.2	3.1	3.8	3.3	2.6	2.7	2.5	3.1
	Labour force participation rates	67.3	65.9	65.5	65.9	64.6	83.5	84.1	84.1	84.1	83.7	55.9	59.3	59.3	59.2	60.2
	Employment/population ratios	59.8	59.0	59.0	59.8	57.8	79.7	81.1	81.4	81.5	80.6	54.0	57.7	57.7	57.7	58.4
European Union^d	Unemployment rates	16.1	18.5	17.3	15.4	13.9	6.7	8.7	8.1	7.3	6.5	6.0	9.2	8.9	8.2	6.4
	Labour force participation rates	54.0	47.6	48.0	48.6	47.1	78.3	80.8	81.3	81.8	81.7	41.4	41.1	41.6	42.2	41.9
	Employment/population ratios	45.1	38.8	39.7	41.2	40.6	72.7	73.8	74.7	75.8	76.4	38.1	37.3	37.9	38.7	39.2
OECD Europe^d	Unemployment rates	16.0	17.7	17.7	16.6	17.1	6.5	8.2	8.0	7.6	7.4	5.6	8.1	7.9	7.6	6.2
	Labour force participation rates	54.3	46.4	46.7	46.3	44.9	77.0	79.2	79.6	79.6	79.4	42.0	40.3	40.8	40.7	40.4
	Employment/population ratios	45.4	38.2	38.4	38.7	37.2	71.7	72.8	73.2	73.6	73.5	39.0	37.0	37.6	37.6	37.9
Total OECD^d	Unemployment rates	11.7	12.8	12.5	11.8	12.4	4.8	5.9	5.7	5.3	5.5	3.9	5.4	5.4	5.1	4.7
	Labour force participation rates	55.4	52.0	51.9	51.9	50.7	78.7	80.1	80.1	80.2	80.0	50.9	50.7	51.2	50.8	50.8
	Employment/population ratios	48.9	45.3	45.4	45.7	44.4	74.8	75.4	75.6	75.9	75.6	48.6	48.0	48.4	48.2	48.4

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. Employment/population ratios, activity and unemployment rates

Men (Percentages)

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia	Unemployment rates	13.9	15.7	14.7	13.1	13.3	4.9	6.7	5.5	5.2	5.5	6.3	7.0	6.3	4.9	5.6
	Labour force participation rates	73.0	69.9	70.8	69.8	71.1	93.1	90.4	90.0	90.3	89.9	63.2	60.5	61.7	61.5	60.0
	Employment/population ratios	62.8	59.0	60.3	60.6	61.6	88.5	84.3	85.0	85.6	85.0	59.2	56.3	57.8	58.5	56.7
Austria	Unemployment rates	..	7.4	5.5	6.9	6.2	..	4.9	4.5	4.2	3.4	..	6.6	5.3	7.1	5.7
	Labour force participation rates	..	61.7	62.6	60.7	59.3	..	93.8	93.8	93.6	93.5	..	42.5	43.9	44.5	40.2
	Employment/population ratios	..	57.1	59.2	56.5	55.6	..	89.2	89.6	89.7	90.3	..	39.6	41.6	41.4	37.9
Belgium	Unemployment rates	10.1	18.3	22.7	12.9	14.3	4.0	6.6	6.1	4.6	4.8	3.1	5.3	4.5	3.4	3.9
	Labour force participation rates	37.0	35.7	35.5	38.7	37.2	92.2	91.7	91.8	92.1	90.9	35.4	33.9	36.8	36.3	36.6
	Employment/population ratios	33.3	29.2	27.5	33.7	31.8	88.5	85.7	86.2	87.9	86.5	34.3	32.1	35.1	35.1	35.1
Canada	Unemployment rates	13.6	16.6	15.3	13.9	14.5	7.2	7.2	6.5	5.7	6.3	6.2	7.0	6.3	5.4	6.0
	Labour force participation rates	72.2	63.5	65.3	65.9	66.1	93.1	91.0	91.1	91.1	91.1	64.3	58.8	60.7	61.0	61.2
	Employment/population ratios	62.3	52.9	55.4	56.7	56.5	86.4	84.4	85.1	85.9	85.4	60.3	54.7	56.9	57.7	57.6
Czech Republic	Unemployment rates	..	10.7	15.9	16.7	16.0	..	3.9	5.9	6.0	5.5	..	3.6	4.6	5.0	4.4
	Labour force participation rates	..	55.7	54.2	51.3	48.2	..	95.1	95.1	94.9	95.0	..	55.1	56.2	54.5	55.0
	Employment/population ratios	..	49.8	45.6	42.8	40.5	..	91.4	89.5	89.3	89.7	..	53.2	53.6	51.7	52.6
Denmark	Unemployment rates	11.4	6.7	9.5	6.5	7.3	7.5	3.2	3.7	3.5	2.9	5.1	4.2	3.2	3.9	4.0
	Labour force participation rates	76.5	71.5	76.7	75.2	69.4	94.5	91.9	92.7	91.5	91.4	69.1	61.1	61.9	64.5	65.7
	Employment/population ratios	67.8	66.7	69.5	70.3	64.3	87.4	88.9	89.3	88.3	88.7	65.6	58.5	59.9	61.9	63.1
Finland	Unemployment rates	10.4	23.2	21.0	21.2	19.6	2.5	9.0	7.9	7.2	6.9	1.8	14.0	11.0	9.3	8.9
	Labour force participation rates	58.1	46.5	49.7	50.4	50.0	92.9	90.2	90.6	90.7	91.0	47.1	44.5	45.0	48.1	51.2
	Employment/population ratios	52.1	35.7	39.3	39.8	40.2	90.6	82.1	83.4	84.1	84.7	46.3	38.3	40.1	43.7	46.7
France	Unemployment rates	15.3	21.8	24.2	18.4	16.2	5.9	9.2	8.9	7.5	6.3	6.0	8.2	8.7	7.6	5.6
	Labour force participation rates	39.6	30.7	31.9	32.6	33.1	95.4	94.5	94.1	94.2	94.1	45.8	41.3	42.7	41.7	43.8
	Employment/population ratios	33.6	24.0	24.2	26.6	27.8	89.8	85.8	85.7	87.1	88.1	43.0	37.9	39.0	38.5	41.4
Germany	Unemployment rates	4.0	9.7	8.6	8.1	9.1	3.7	7.8	7.2	6.7	7.3	7.0	13.6	13.4	12.6	10.3
	Labour force participation rates	61.2	55.9	56.6	57.1	56.7	90.2	94.1	94.8	95.8	94.3	55.9	55.4	54.9	55.2	50.6
	Employment/population ratios	58.7	50.5	51.7	52.5	51.6	86.9	86.8	88.0	89.4	87.5	52.0	47.9	47.5	48.2	45.4
Greece	Unemployment rates	15.1	21.4	23.0	22.1	21.0	3.2	5.7	6.2	6.1	5.5	1.8	2.9	4.1	3.5	4.1
	Labour force participation rates	44.1	43.5	41.3	41.0	38.5	94.3	94.4	94.5	94.3	94.0	59.5	57.5	57.1	57.3	57.0
	Employment/population ratios	37.4	34.2	31.8	31.9	30.4	91.3	89.0	88.7	88.6	88.8	58.4	55.8	54.8	55.3	54.6
Hungary	Unemployment rates	..	14.8	13.2	13.0	11.5	..	7.3	6.7	6.2	5.7	..	4.7	3.4	3.7	3.8
	Labour force participation rates	..	46.5	46.2	44.4	41.6	..	82.8	84.4	84.5	84.3	..	26.9	30.8	34.5	36.3
	Employment/population ratios	..	39.6	40.0	38.7	36.8	..	76.8	78.7	79.2	79.5	..	25.6	29.7	33.2	34.9
Iceland ^{a, b}	Unemployment rates	5.8	6.4	4.4	5.7	5.4	1.8	1.3	0.7	1.1	1.3	1.0	1.8	0.9	0.5	2.0
	Labour force participation rates	60.1	63.8	66.2	70.1	70.3	97.0	96.1	97.1	96.1	96.3	93.5	93.3	94.1	94.7	92.8
	Employment/population ratios	56.6	59.7	63.3	66.1	66.6	95.2	94.8	96.4	95.1	95.0	92.6	91.6	93.2	94.2	91.0

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)

		Men (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	19.0	11.9	8.6	6.1	6.4	12.0	7.7	5.7	4.3	3.4	8.5	5.4	4.2	2.6	2.6
	Labour force participation rates	53.2	52.5	54.4	56.1	55.1	91.8	91.5	91.6	92.0	91.8	65.0	63.0	64.4	64.7	66.4
	Employment/population ratios	43.1	46.2	49.8	52.7	51.5	80.9	84.4	86.4	88.1	88.7	59.5	59.6	61.7	63.0	64.6
Italy^c	Unemployment rates	26.2	27.2	26.6	25.4	23.2	4.5	6.8	6.6	6.2	5.7	1.6	3.8	4.2	4.4	5.0
	Labour force participation rates	46.1	46.1	45.1	44.6	42.4	90.9	85.9	86.2	86.4	86.6	36.0	31.7	31.3	31.4	31.1
	Employment/population ratios	34.0	33.5	33.1	33.2	32.6	86.8	80.0	80.5	81.0	81.7	35.4	30.5	30.0	30.0	29.5
Japan	Unemployment rates	4.5	8.2	10.3	10.4	10.7	1.4	3.1	3.7	3.9	4.2	3.4	6.3	6.7	6.8	7.0
	Labour force participation rates	43.4	48.8	47.7	47.4	46.5	97.5	97.3	97.1	97.1	96.9	83.3	85.2	85.2	84.1	83.4
	Employment/population ratios	41.4	44.8	42.8	42.5	41.6	96.2	94.3	93.6	93.4	92.8	80.4	79.8	79.5	78.4	77.5
Korea	Unemployment rates	9.5	20.8	17.9	12.9	12.2	2.5	7.1	6.6	4.3	3.9	1.2	5.4	6.2	3.7	3.0
	Labour force participation rates	28.4	26.3	26.5	26.7	26.4	94.6	93.6	92.3	92.0	91.6	77.2	75.5	73.6	70.8	71.3
	Employment/population ratios	25.7	20.8	21.7	23.3	23.1	92.2	86.9	86.2	88.0	88.0	76.3	71.4	69.0	68.2	69.2
Luxembourg	Unemployment rates	2.7	5.8	6.2	5.7	7.8	1.0	1.7	1.4	1.4	1.1	0.6	0.0	0.7	2.0	0.5
	Labour force participation rates	45.7	37.2	36.0	37.4	37.1	95.0	94.4	94.2	94.2	94.2	43.2	35.1	35.6	38.6	35.5
	Employment/population ratios	44.5	35.1	33.7	35.3	34.2	94.0	92.8	92.9	92.8	93.2	42.9	35.1	35.4	37.9	35.3
Mexico^b	Unemployment rates	5.2	4.7	2.7	4.2	3.6	1.5	1.9	1.6	1.4	1.6	1.0	1.1	1.1	1.4	1.2
	Labour force participation rates	71.2	71.8	69.8	68.4	66.2	96.8	96.7	96.4	96.3	96.2	85.9	83.3	82.5	80.9	80.5
	Employment/population ratios	67.5	68.4	67.9	65.6	63.9	95.4	94.8	94.8	95.0	94.6	85.1	82.4	81.7	79.8	79.5
Netherlands	Unemployment rates	10.3	8.3	6.6	4.7	4.2	4.9	2.6	2.1	1.7	1.4	2.8	1.8	2.1	1.7	1.7
	Labour force participation rates	60.0	67.3	67.4	73.4	74.7	93.4	93.5	93.4	93.8	94.0	45.8	47.0	49.8	50.8	51.4
	Employment/population ratios	53.8	61.7	62.9	69.9	71.5	88.8	91.0	91.5	92.2	92.7	44.5	46.2	48.8	49.9	50.5
New Zealand	Unemployment rates	14.9	15.6	14.6	14.1	12.1	6.6	6.1	5.5	4.4	4.0	5.0	4.8	5.5	5.4	4.0
	Labour force participation rates	71.4	67.9	66.9	65.9	66.5	93.4	91.4	91.1	91.4	91.3	56.8	70.5	71.6	72.2	74.3
	Employment/population ratios	60.7	57.3	57.2	56.6	58.5	87.3	85.9	86.0	87.3	87.6	53.9	67.1	67.7	68.3	71.3
Norway^d	Unemployment rates	12.4	8.9	9.6	9.5	10.6	4.7	2.3	2.6	2.9	2.7	3.0	2.0	1.3	1.8	1.7
	Labour force participation rates	63.9	66.4	66.7	67.5	64.8	92.3	92.4	91.8	91.4	91.4	72.8	76.0	74.5	74.4	73.6
	Employment/population ratios	56.0	60.5	60.2	61.0	57.9	88.0	90.2	89.4	88.8	88.9	70.7	74.5	73.6	73.1	72.3
Poland	Unemployment rates	..	21.5	28.3	33.3	40.1	..	8.0	10.0	12.1	14.2	..	6.2	8.7	9.1	10.4
	Labour force participation rates	..	41.0	37.9	40.9	40.5	..	89.3	88.7	88.3	88.0	..	44.5	45.8	40.4	41.5
	Employment/population ratios	..	32.2	27.2	27.3	24.2	..	82.2	79.8	77.6	75.5	..	41.7	41.8	36.7	37.1
Portugal	Unemployment rates	7.1	8.0	7.0	6.2	7.2	2.3	3.4	3.4	2.7	2.6	2.2	3.5	3.9	3.7	3.2
	Labour force participation rates	66.5	50.7	51.2	51.4	53.0	94.3	93.2	93.0	92.8	92.8	66.5	65.7	64.6	64.9	63.6
	Employment/population ratios	61.8	46.7	47.6	48.2	49.2	92.1	90.0	89.8	90.3	90.4	65.0	63.4	62.1	62.5	61.6
Slovak Republic	Unemployment rates	..	26.6	35.3	39.7	41.8	..	9.4	12.8	15.2	16.0	..	7.1	10.4	13.5	12.6
	Labour force participation rates	..	51.8	50.9	49.4	50.2	..	93.7	93.7	93.9	94.0	..	42.0	41.1	41.0	43.0
	Employment/population ratios	..	38.0	32.9	29.8	29.2	..	84.9	81.7	79.6	79.0	..	39.0	36.8	35.4	37.6

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)

		Men (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Spain^a	Unemployment rates	23.2	27.0	21.7	19.4	16.1	9.3	11.6	9.2	8.0	6.3	8.4	9.6	9.3	8.6	5.6
	Labour force participation rates	61.7	52.1	53.3	53.6	52.7	94.3	92.8	92.9	93.0	91.6	62.4	58.2	57.8	60.5	61.4
	Employment/population ratios	47.4	38.0	41.8	43.2	44.2	85.5	82.0	84.3	85.6	85.9	57.2	52.6	52.4	55.2	57.9
Sweden^a	Unemployment rates	4.5	17.5	14.8	12.3	12.7	1.3	7.8	6.5	5.2	4.4	1.3	7.8	7.3	6.9	5.3
	Labour force participation rates	69.3	51.4	52.6	53.3	54.2	94.7	90.5	90.3	90.6	90.6	75.4	71.3	72.3	72.8	73.5
	Employment/population ratios	66.1	42.4	44.8	46.7	47.3	93.5	83.4	84.4	85.8	86.6	74.4	65.8	67.1	67.8	69.6
Switzerland^b	Unemployment rates	3.0	4.7	5.6	5.6	5.8	0.8	2.8	2.2	1.6	1.0	1.4	4.0	2.5	3.0	1.8
	Labour force participation rates	72.9	70.8	67.9	70.5	68.6	97.8	97.1	97.2	96.7	96.3	86.4	81.6	80.9	79.3	82.5
	Employment/population ratios	70.7	67.5	64.1	66.5	64.6	97.0	94.3	95.1	95.2	95.3	85.2	78.4	78.9	77.0	81.0
Turkey	Unemployment rates	16.6	14.9	15.8	13.7	20.7	5.2	5.0	5.9	5.0	9.0	4.0	2.3	2.6	3.1	4.3
	Labour force participation rates	71.8	59.7	60.3	56.4	53.9	94.2	92.7	91.7	89.4	87.4	61.3	58.0	55.9	52.6	50.8
	Employment/population ratios	59.9	50.8	50.8	48.6	42.7	89.3	88.1	86.3	84.9	79.5	58.8	56.7	54.4	51.0	48.6
United Kingdom^a	Unemployment rates	11.1	14.0	14.1	13.2	12.0	5.6	5.4	5.4	4.8	4.1	8.4	6.8	6.4	5.5	4.4
	Labour force participation rates	83.5	73.2	73.2	73.7	65.0	94.8	91.4	91.6	91.9	91.3	68.1	62.6	63.5	63.3	64.4
	Employment/population ratios	74.2	63.0	62.9	63.9	57.2	89.5	86.4	86.7	87.5	87.6	62.4	58.3	59.4	59.8	61.6
United States^a	Unemployment rates	11.6	11.1	10.3	9.7	11.4	4.6	3.3	3.0	2.9	3.7	3.8	2.8	2.7	2.4	3.4
	Labour force participation rates	71.8	68.4	68.0	68.6	67.1	93.4	91.8	91.7	91.6	91.3	67.8	68.1	67.9	67.3	68.1
	Employment/population ratios	63.5	60.8	61.0	62.0	59.4	89.1	88.8	89.0	89.0	87.9	65.2	66.2	66.1	65.6	65.8
European Union^d	Unemployment rates	13.9	16.9	16.0	14.1	13.1	5.1	7.3	6.8	6.0	5.5	6.1	8.9	8.7	8.0	6.3
	Labour force participation rates	57.7	51.6	52.1	52.7	51.2	93.3	91.9	92.1	92.4	91.8	56.2	52.4	52.7	53.1	52.2
	Employment/population ratios	49.3	42.9	43.8	45.3	44.5	88.2	85.1	85.8	86.8	86.8	51.8	47.7	48.1	48.8	48.9
OECD Europe^d	Unemployment rates	14.2	16.5	16.6	15.4	16.5	5.0	7.0	6.9	6.4	6.5	5.7	7.8	7.9	7.4	6.1
	Labour force participation rates	60.2	52.4	52.6	52.4	50.8	93.5	91.8	91.8	91.7	91.0	57.5	52.4	52.7	52.4	51.8
	Employment/population ratios	51.3	43.8	43.9	44.3	42.4	88.5	85.4	85.5	85.9	85.1	53.4	48.3	48.6	48.5	48.6
Total OECD^d	Unemployment rates	11.2	12.5	12.2	11.6	12.5	4.1	5.2	5.1	4.7	5.1	4.3	5.7	5.8	5.5	5.2
	Labour force participation rates	60.9	57.4	57.2	57.2	55.8	94.3	92.8	92.7	92.6	92.2	66.7	63.9	64.1	63.4	63.1
	Employment/population ratios	54.0	50.2	50.2	50.5	48.8	90.3	87.9	88.0	88.2	87.5	63.5	60.2	60.4	59.9	59.8

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. **Employment/population ratios, activity and unemployment rates****Women (Percentages)**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia	Unemployment rates	12.4	13.2	12.0	11.5	12.0	5.5	5.7	5.3	4.6	5.0	3.0	4.4	4.7	2.4	3.3
	Labour force participation rates	67.7	65.1	65.9	68.2	67.7	66.6	69.6	69.2	70.7	71.4	24.9	32.4	31.7	36.3	36.9
	Employment/population ratios	59.3	56.5	58.0	60.4	59.5	62.9	65.6	65.6	67.4	67.8	24.2	31.0	30.3	35.4	35.7
Austria	Unemployment rates	..	7.6	6.4	5.6	5.8	..	5.2	4.6	4.4	3.8	..	5.7	3.4	5.9	5.2
	Labour force participation rates	..	55.5	54.2	51.5	50.1	..	75.5	76.3	76.8	76.9	..	18.1	18.3	18.9	18.3
	Employment/population ratios	..	51.3	50.7	48.6	47.2	..	71.6	72.8	73.5	74.0	..	17.1	17.6	17.8	17.4
Belgium	Unemployment rates	19.2	23.0	22.4	18.2	16.6	10.3	10.7	9.0	7.4	6.1	5.0	5.4	8.1	2.8	0.9
	Labour force participation rates	34.1	29.4	30.1	32.6	30.0	60.8	70.5	72.9	73.2	70.7	9.9	14.2	16.1	15.8	15.8
	Employment/population ratios	27.5	22.6	23.4	26.7	25.0	54.5	62.9	66.4	67.8	66.4	9.4	13.4	14.8	15.4	15.6
Canada	Unemployment rates	11.0	13.6	12.6	11.3	11.0	7.6	6.9	6.3	5.8	6.0	5.7	6.7	5.3	5.5	5.6
	Labour force participation rates	67.3	60.2	61.7	62.9	63.3	75.4	77.6	78.2	78.6	79.1	34.9	38.7	39.4	41.6	41.8
	Employment/population ratios	59.9	52.1	53.9	55.8	56.3	69.7	72.2	73.2	74.0	74.3	33.0	36.1	37.3	39.3	39.4
Czech Republic	Unemployment rates	..	14.8	18.5	17.4	17.3	..	7.3	9.5	9.9	9.1	..	4.4	5.1	5.4	5.8
	Labour force participation rates	..	42.1	42.1	40.6	38.0	..	81.9	82.0	81.8	81.8	..	23.9	24.4	23.7	24.6
	Employment/population ratios	..	35.8	34.3	33.6	31.5	..	76.0	74.2	73.7	74.3	..	22.9	23.2	22.4	23.2
Denmark	Unemployment rates	11.6	7.6	10.5	7.0	9.3	8.4	6.1	4.9	4.7	4.1	7.5	6.4	5.6	4.2	4.0
	Labour force participation rates	70.4	71.6	70.1	68.8	65.0	87.8	82.9	83.5	84.3	83.5	45.9	44.3	50.6	48.2	51.9
	Employment/population ratios	62.2	66.1	62.8	64.0	59.0	80.3	77.8	79.4	80.4	80.1	42.4	41.5	47.8	46.2	49.8
Finland	Unemployment rates	8.3	24.5	22.2	21.8	20.2	1.6	10.1	9.0	8.8	8.0	2.8	13.9	9.4	9.4	8.8
	Labour force participation rates	56.9	45.1	49.1	51.1	50.8	86.5	84.0	84.8	85.0	85.0	40.8	39.7	42.4	45.2	49.5
	Employment/population ratios	52.2	34.1	38.2	39.9	40.5	85.1	75.6	77.1	77.6	78.2	39.7	34.2	38.4	40.9	45.1
France	Unemployment rates	23.9	30.0	29.7	23.7	21.8	10.7	12.7	12.6	11.1	10.1	7.6	9.3	8.7	8.3	6.6
	Labour force participation rates	33.1	24.8	24.4	26.0	26.5	72.9	78.0	78.5	78.4	78.7	31.1	31.3	32.6	33.0	34.1
	Employment/population ratios	25.2	17.4	17.1	19.8	20.7	65.1	68.0	68.6	69.6	70.8	28.8	28.4	29.7	30.3	31.8
Germany	Unemployment rates	5.0	8.2	7.7	7.2	7.5	6.0	9.2	8.5	8.0	7.7	9.1	16.4	15.9	15.0	12.5
	Labour force participation rates	56.8	46.4	47.1	47.6	47.4	63.4	75.9	76.3	76.9	78.3	24.7	34.5	34.0	34.1	32.4
	Employment/population ratios	54.0	42.6	43.5	44.2	43.9	59.6	68.9	69.7	70.8	72.2	22.4	28.8	28.6	29.0	28.4
Greece	Unemployment rates	32.6	39.3	41.0	37.7	35.7	8.6	13.9	15.2	14.7	13.5	1.2	3.7	5.0	4.4	4.0
	Labour force participation rates	35.3	36.6	37.4	35.4	33.9	51.5	59.9	61.5	61.7	61.3	24.3	24.5	24.4	25.5	23.7
	Employment/population ratios	23.8	22.2	22.1	22.0	21.8	47.1	51.6	52.1	52.6	53.0	24.0	23.6	23.1	24.4	22.7
Hungary	Unemployment rates	..	11.6	11.3	10.9	9.8	..	6.1	5.6	5.0	4.5	..	5.1	1.3	1.6	1.4
	Labour force participation rates	..	34.9	35.0	33.3	30.8	..	68.2	70.0	70.4	70.0	..	10.0	11.4	13.5	15.5
	Employment/population ratios	..	30.9	31.1	29.7	27.8	..	64.0	66.1	66.9	66.9	..	9.5	11.3	13.3	15.3
Iceland^{a, b}	Unemployment rates	3.9	5.6	4.4	3.6	4.3	2.6	2.9	2.1	2.4	2.2	3.4	1.4	1.9	3.2	1.9
	Labour force participation rates	58.8	67.3	70.1	73.2	70.0	83.0	85.4	87.0	88.2	88.1	81.1	83.0	80.3	76.8	81.7
	Employment/population ratios	56.5	63.5	67.0	70.5	67.0	80.8	82.9	85.1	86.0	86.2	78.3	81.9	78.8	74.4	80.2

Table C. Employment/population ratios, activity and unemployment rates (*cont.*)

		Women (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	16.1	11.1	8.3	6.9	5.8	13.5	6.6	4.8	3.6	3.0	8.3	4.5	4.4	2.4	2.7
	Labour force participation rates	47.3	44.6	46.9	46.9	44.9	45.4	60.8	63.0	65.0	66.1	19.9	24.6	26.9	27.8	29.2
	Employment/population ratios	39.6	39.7	43.0	43.7	42.3	39.3	56.8	60.0	62.7	64.1	18.2	23.5	25.7	27.1	28.4
Italy^c	Unemployment rates	37.8	39.0	37.4	35.4	32.2	12.2	12.9	12.7	11.7	10.7	2.3	3.8	4.0	2.9	2.5
	Labour force participation rates	40.8	33.9	34.0	34.3	32.6	49.5	51.7	52.9	53.9	55.4	10.1	8.1	7.9	8.0	8.7
	Employment/population ratios	25.4	20.7	21.3	22.1	22.1	43.5	45.0	46.2	47.6	49.5	9.9	7.8	7.5	7.8	8.5
Japan	Unemployment rates	4.1	7.3	8.2	7.9	8.7	2.1	3.8	4.4	4.4	4.7	1.4	2.9	3.3	3.6	3.7
	Labour force participation rates	44.8	47.8	46.7	46.6	46.4	64.2	66.6	66.4	66.5	67.3	47.2	49.9	49.8	49.7	49.2
	Employment/population ratios	43.0	44.3	42.9	43.0	42.4	62.9	64.0	63.6	63.6	64.1	46.5	48.5	48.2	47.9	47.3
Korea	Unemployment rates	5.5	12.9	11.9	8.5	8.2	0.9	4.9	4.4	2.7	2.5	0.3	1.9	2.1	1.4	0.9
	Labour force participation rates	40.7	35.7	35.4	36.1	37.4	54.2	56.0	56.6	57.8	58.4	49.6	48.2	48.9	48.2	47.4
	Employment/population ratios	38.5	31.1	31.2	33.1	34.4	53.7	53.2	54.1	56.3	57.0	49.4	47.2	47.8	47.5	47.9
Luxembourg	Unemployment rates	4.7	7.1	7.4	7.3	5.4	2.0	3.9	2.9	2.9	1.9	0.6	1.9	1.5	0.0	0.0
	Labour force participation rates	44.0	33.4	31.9	30.6	32.1	49.7	58.4	62.0	64.9	65.1	13.8	15.6	17.7	16.8	14.4
	Employment/population ratios	42.0	31.0	29.5	28.3	30.3	48.7	56.2	60.2	63.0	63.8	13.7	15.3	17.5	16.8	14.4
Mexico^b	Unemployment rates	5.8	6.4	4.5	4.7	5.0	3.8	2.7	2.1	1.7	1.7	1.0	0.5	0.2	0.7	0.5
	Labour force participation rates	34.5	37.1	36.1	36.1	34.3	38.2	45.8	44.8	45.6	45.3	24.4	28.3	29.5	28.6	27.6
	Employment/population ratios	32.5	34.7	34.5	34.4	32.6	36.8	44.6	43.9	44.8	44.6	24.2	28.1	29.4	28.4	27.4
Netherlands	Unemployment rates	11.9	9.3	8.2	5.9	4.5	10.9	5.1	4.1	3.0	2.1	6.3	3.5	3.9	2.1	1.1
	Labour force participation rates	59.2	64.9	68.0	70.9	72.4	57.9	70.7	72.4	73.0	74.2	16.8	20.5	22.8	26.4	28.3
	Employment/population ratios	52.2	58.9	62.5	66.7	69.2	51.6	67.1	69.4	70.9	72.6	15.8	19.8	21.9	25.8	28.0
New Zealand	Unemployment rates	13.2	13.5	12.8	12.1	11.5	5.4	6.2	5.3	4.6	4.1	4.0	4.1	4.1	3.5	2.8
	Labour force participation rates	64.3	62.5	59.6	59.9	60.2	69.3	72.6	73.5	73.8	74.5	30.7	46.3	48.3	48.0	51.8
	Employment/population ratios	55.8	54.0	52.0	52.7	53.3	65.6	68.1	69.6	70.3	71.5	29.5	44.4	46.3	46.3	50.3
Norway^a	Unemployment rates	11.0	9.4	9.5	10.9	10.3	3.9	2.4	2.2	2.3	2.5	1.9	1.6	0.8	0.7	1.4
	Labour force participation rates	56.9	61.1	61.0	61.8	61.3	79.2	83.2	83.2	83.5	83.3	53.9	61.0	61.5	61.6	63.2
	Employment/population ratios	50.7	55.3	55.2	55.0	55.0	76.1	81.2	81.4	81.6	81.2	52.8	60.0	61.1	61.2	62.3
Poland	Unemployment rates	..	25.2	32.0	37.3	42.0	..	11.2	11.8	16.0	17.6	..	5.5	6.1	9.7	8.7
	Labour force participation rates	..	33.7	31.5	34.8	34.4	..	76.5	76.7	76.5	76.5	..	25.7	26.1	23.7	24.1
	Employment/population ratios	..	25.2	21.4	21.8	20.0	..	67.9	67.6	64.3	63.1	..	24.3	24.5	21.4	22.0
Portugal	Unemployment rates	12.8	12.8	10.8	11.6	11.9	5.8	5.7	4.6	4.4	4.4	1.8	2.9	2.0	2.6	3.1
	Labour force participation rates	54.4	44.5	43.4	41.9	42.8	69.4	75.0	75.7	77.3	78.1	32.3	39.6	41.9	42.2	41.9
	Employment/population ratios	47.5	38.8	38.7	37.1	37.7	65.4	70.7	72.1	73.9	74.7	31.7	38.4	41.1	41.1	40.6
Slovak Republic	Unemployment rates	..	23.4	32.1	33.8	35.7	..	11.2	13.4	15.8	15.8	..	8.7	6.7	8.7	11.2
	Labour force participation rates	..	41.9	42.8	42.6	41.5	..	81.1	81.5	82.9	83.9	..	10.4	11.1	10.7	11.0
	Employment/population ratios	..	32.1	29.0	28.2	26.6	..	72.1	70.6	69.8	70.7	..	9.5	10.3	9.8	9.8

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)**Women (Percentages)**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Spain^a	Unemployment rates	39.7	43.0	36.9	32.9	27.0	20.6	24.4	21.2	18.9	13.7	7.2	12.1	11.0	11.3	8.0
	Labour force participation rates	47.5	41.4	42.4	43.3	40.7	46.9	59.6	60.7	62.8	61.2	19.5	21.4	21.2	22.6	23.6
	Employment/population ratios	28.7	23.6	26.8	29.0	29.7	37.2	45.1	47.8	51.0	52.8	18.1	18.8	18.9	20.1	21.8
Sweden^a	Unemployment rates	4.4	16.1	13.6	11.4	10.8	1.2	7.3	5.9	4.6	3.7	1.6	5.2	5.9	5.3	4.5
	Labour force participation rates	68.9	48.5	49.5	51.2	54.4	90.8	85.3	85.7	85.6	85.6	65.8	63.6	64.8	65.9	67.3
	Employment/population ratios	65.9	40.7	42.8	45.4	48.5	89.7	79.1	80.6	81.7	82.5	64.8	60.3	61.0	62.4	64.3
Switzerland^b	Unemployment rates	3.4	7.0	5.7	3.9	5.5	2.6	4.0	3.2	3.1	3.4	0.6	1.9	2.5	2.3	1.6
	Labour force participation rates	70.3	63.5	69.3	66.0	64.5	73.7	78.6	77.6	78.0	79.3	43.8	52.4	52.5	51.3	56.2
	Employment/population ratios	67.9	59.1	65.4	63.4	61.0	71.8	75.5	75.1	75.6	76.6	43.5	51.4	51.1	50.1	55.3
Turkey	Unemployment rates	15.0	13.0	14.2	12.2	18.3	5.9	4.8	5.5	4.7	7.0	1.0	0.7	0.2	0.5	1.6
	Labour force participation rates	39.4	31.1	32.9	27.4	26.5	36.0	30.4	31.5	28.1	28.2	26.6	24.9	27.4	20.5	18.4
	Employment/population ratios	33.5	27.1	28.3	24.0	21.7	33.9	28.9	29.8	26.8	26.2	26.4	24.7	27.4	20.4	18.1
United Kingdom^a	Unemployment rates	9.0	10.5	10.2	10.1	8.7	6.0	4.5	4.3	4.0	3.6	5.0	3.1	3.2	2.8	1.8
	Labour force participation rates	72.4	65.4	65.0	65.6	57.2	73.0	75.1	75.9	76.1	76.4	38.7	39.8	41.1	42.6	44.0
	Employment/population ratios	65.9	58.5	58.4	58.9	52.2	68.6	71.7	72.6	73.1	73.6	36.7	38.5	39.8	41.4	43.2
United States^a	Unemployment rates	10.7	9.8	9.5	8.9	9.7	4.6	3.8	3.4	3.3	3.8	2.8	2.4	2.6	2.5	2.7
	Labour force participation rates	62.9	63.3	62.9	63.2	62.2	74.0	76.5	76.8	76.8	76.4	45.2	51.2	51.5	51.8	53.0
	Employment/population ratios	56.1	57.2	57.0	57.6	56.2	70.6	73.6	74.1	74.3	73.5	44.0	50.0	50.1	50.5	51.6
European Union^D	Unemployment rates	18.8	20.4	19.0	17.0	15.0	9.1	10.5	9.8	8.9	7.9	5.9	9.7	9.2	8.4	6.6
	Labour force participation rates	50.2	43.4	43.8	44.5	43.0	63.1	69.7	70.5	71.1	71.6	27.6	30.3	30.9	31.6	31.9
	Employment/population ratios	40.7	34.5	35.5	36.9	36.5	57.1	62.3	63.6	64.8	66.0	25.3	27.3	28.0	29.0	29.8
OECD Europe^d	Unemployment rates	17.8	19.1	18.7	17.7	17.5	8.6	9.9	9.5	9.2	8.6	5.2	8.3	7.9	7.7	6.2
	Labour force participation rates	48.7	40.5	41.0	40.5	39.2	60.4	66.6	67.3	67.3	67.6	28.1	29.3	30.1	30.0	30.2
	Employment/population ratios	39.9	32.8	33.3	33.3	32.4	54.9	60.0	60.9	61.2	61.8	26.1	26.9	27.7	27.7	28.3
Total OECD^d	Unemployment rates	12.3	13.1	12.7	11.9	12.2	5.8	6.7	6.4	6.1	6.0	3.2	4.7	4.7	4.6	4.1
	Labour force participation rates	50.1	46.6	46.6	46.6	45.7	63.4	67.5	67.8	67.9	68.0	36.3	38.5	39.1	39.2	39.4
	Employment/population ratios	43.9	40.5	40.7	41.1	40.2	59.6	62.9	63.4	63.8	63.9	34.8	36.7	37.3	37.4	37.8

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table D. Employment/population ratios, activity and unemployment rates
by educational attainment, 2000

		Persons aged 25-64 (percentages)								
		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Australia	Unemployment rates	7.5	4.5	3.6	8.0	4.1	3.7	7.0	5.5	3.4
	Labour force participation rates	65.8	80.3	85.9	80.2	88.8	92.3	55.5	65.8	80.3
	Employment/population ratios	60.8	76.7	82.9	73.8	85.2	88.8	51.6	62.2	77.5
Austria	Unemployment rates	6.3	3.0	1.6	6.9	2.8	1.4	5.9	3.2	1.9
	Labour force participation rates	57.4	76.9	88.1	70.9	84.8	90.5	49.3	68.0	84.4
	Employment/population ratios	53.8	74.6	86.7	66.1	82.4	89.2	46.4	65.8	82.8
Belgium	Unemployment rates	9.8	5.3	2.7	7.7	3.9	2.3	13.5	7.0	3.1
	Labour force participation rates	56.0	79.3	87.7	70.8	87.5	92.0	41.2	70.6	83.5
	Employment/population ratios	50.5	75.1	85.3	65.4	84.0	89.9	35.6	65.6	80.9
Canada	Unemployment rates	9.9	5.8	3.8	9.6	5.7	3.7	10.5	6.0	3.9
	Labour force participation rates	61.1	80.8	86.0	73.1	87.7	91.0	48.4	73.3	81.7
	Employment/population ratios	55.0	76.1	82.7	66.1	82.7	87.6	43.3	68.9	78.5
Czech Republic	Unemployment rates	19.3	6.7	2.5	20.8	5.1	2.0	18.4	8.8	3.1
	Labour force participation rates	58.1	81.0	89.0	71.1	88.2	94.6	52.0	73.2	81.5
	Employment/population ratios	46.9	75.5	86.8	56.3	83.7	92.7	42.5	66.7	78.9
Denmark	Unemployment rates	6.3	3.9	2.6	4.9	3.3	2.7	7.8	4.7	2.6
	Labour force participation rates	66.7	84.2	90.8	74.5	87.1	93.1	59.8	80.9	88.7
	Employment/population ratios	62.5	80.9	88.4	70.9	84.2	90.6	55.1	77.1	86.4
Finland	Unemployment rates	12.1	8.9	4.7	11.0	7.9	3.9	13.3	10.1	5.4
	Labour force participation rates	65.2	82.2	88.6	68.9	85.8	91.1	60.8	78.2	86.4
	Employment/population ratios	57.3	74.9	84.4	61.3	79.0	87.6	52.7	70.3	81.8
France	Unemployment rates	13.9	7.9	5.1	11.9	6.1	4.6	16.2	10.2	5.5
	Labour force participation rates	66.2	82.2	87.5	76.9	88.0	91.4	57.2	75.6	84.0
	Employment/population ratios	57.0	75.8	83.1	67.8	82.6	87.1	47.9	67.9	79.4
Germany	Unemployment rates	13.7	7.8	4.0	15.3	7.4	3.6	12.1	8.3	4.7
	Labour force participation rates	58.6	76.3	86.9	75.5	83.2	90.0	48.2	69.4	81.9
	Employment/population ratios	50.6	70.4	83.4	64.0	77.1	86.8	42.4	63.7	78.0
Greece	Unemployment rates	7.9	10.9	7.2	5.3	6.8	4.9	12.5	16.9	10.3
	Labour force participation rates	60.2	72.7	87.1	82.2	89.1	90.0	41.1	57.3	83.6
	Employment/population ratios	55.4	64.7	80.8	77.9	83.0	85.6	36.0	47.6	75.0
Hungary	Unemployment rates	9.9	5.3	1.3	11.8	5.6	1.3	8.0	4.9	1.2
	Labour force participation rates	40.1	76.3	83.6	48.8	83.2	88.8	34.2	68.5	78.9
	Employment/population ratios	36.2	72.2	82.5	43.0	78.5	87.6	31.4	65.1	77.9

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2000** (*cont.*)

		Persons aged 25-64 (percentages)								
		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Iceland	Unemployment rates	2.5	1.5	0.8	1.5	1.0	0.3	3.4	2.4	1.3
	Labour force participation rates	89.0	90.7	95.8	96.1	94.7	98.1	83.8	84.7	93.5
	Employment/population ratios	86.8	89.3	95.0	94.7	93.8	97.8	80.9	82.6	92.3
Ireland	Unemployment rates	6.8	2.5	1.9	7.0	2.4	1.6	6.2	2.7	2.2
	Labour force participation rates	60.7	75.7	86.9	79.7	92.2	94.7	39.7	62.2	79.1
	Employment/population ratios	56.6	73.8	85.2	74.1	90.0	93.1	37.3	60.5	77.4
Italy	Unemployment rates	10.0	7.4	5.9	7.7	4.9	4.0	15.1	10.6	8.1
	Labour force participation rates	53.2	76.6	86.5	74.7	86.0	91.4	32.7	67.0	81.3
	Employment/population ratios	47.9	71.0	81.4	69.0	81.8	87.7	27.7	59.9	74.7
Japan	Unemployment rates	6.0	4.7	3.5	6.6	5.0	3.1	5.0	4.3	4.2
	Labour force participation rates	71.4	77.4	82.4	86.6	95.4	97.6	56.3	61.6	64.3
	Employment/population ratios	67.1	73.8	79.5	80.9	90.7	94.6	53.4	59.0	61.6
Korea	Unemployment rates	3.4	3.8	3.4	4.8	4.2	3.7	2.2	3.0	2.4
	Labour force participation rates	70.2	71.5	78.1	84.7	89.4	91.0	61.3	51.3	55.7
	Employment/population ratios	67.8	68.8	75.5	80.6	85.6	87.6	60.0	49.8	54.4
Luxembourg	Unemployment rates	3.1	1.6	1.0	2.7	1.0	0.7	3.6	2.6	1.4
	Labour force participation rates	59.8	74.3	85.2	77.2	87.4	90.4	45.4	59.7	78.1
	Employment/population ratios	57.9	73.2	84.3	75.1	86.6	89.8	43.7	58.1	77.0
Mexico	Unemployment rates	1.3	1.6	2.0	1.3	1.2	1.8	1.3	1.9	2.5
	Labour force participation rates	64.0	67.0	84.7	94.1	95.7	94.8	37.6	57.8	71.2
	Employment/population ratios	63.2	65.9	83.0	92.9	94.6	93.1	37.1	56.7	69.4
Netherlands	Unemployment rates	3.5	2.1	1.8	2.7	1.6	1.6	4.5	2.9	2.2
	Labour force participation rates	61.8	81.8	88.1	78.8	89.0	91.8	48.0	73.9	82.9
	Employment/population ratios	59.6	80.1	86.5	76.7	87.6	90.4	45.8	71.8	81.1
New Zealand	Unemployment rates	7.8	3.5	3.6	8.6	3.2	3.6	6.8	4.0	3.6
	Labour force participation rates	65.8	83.2	83.8	79.6	91.1	91.0	54.2	74.1	78.0
	Employment/population ratios	60.7	80.3	80.8	72.8	88.2	87.7	50.5	71.1	75.2
Norway	Unemployment rates	2.2	2.6	1.9	2.3	3.0	2.0	2.2	2.2	1.7
	Labour force participation rates	66.8	85.0	91.6	75.1	89.2	93.9	59.0	80.3	89.3
	Employment/population ratios	65.3	82.7	89.9	73.4	86.6	92.0	57.7	78.5	87.8
Poland	Unemployment rates	20.6	13.9	4.3	19.6	11.5	4.0	21.8	16.8	4.5
	Labour force participation rates	53.9	77.3	88.3	64.7	83.5	90.9	45.0	70.8	86.3
	Employment/population ratios	42.8	66.6	84.5	52.0	74.0	87.3	35.2	58.9	82.4

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2000** (*cont.*)

		Persons aged 25-64 (percentages)								
		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Portugal	Unemployment rates	3.6	3.3	2.8	2.9	2.2	2.3	4.3	4.4	3.1
	Labour force participation rates	75.8	86.7	92.9	86.5	88.8	94.8	65.5	84.5	91.5
	Employment/population ratios	73.1	83.8	90.3	84.0	86.8	92.7	62.7	80.7	88.6
Slovak Republic	Unemployment rates	36.3	14.3	4.6	41.7	13.9	5.3	32.2	14.7	3.7
	Labour force participation rates	48.5	82.4	89.7	61.5	88.2	92.9	41.8	76.1	86.4
	Employment/population ratios	30.9	70.6	85.6	35.8	75.9	88.0	28.3	64.9	83.1
Spain	Unemployment rates	13.7	11.0	9.5	9.4	6.4	6.1	21.9	17.4	13.6
	Labour force participation rates	62.4	80.9	87.9	83.9	91.6	92.0	41.9	69.7	83.6
	Employment/population ratios	53.9	72.0	79.5	76.1	85.7	86.4	32.7	57.6	72.2
Sweden	Unemployment rates	8.0	5.3	3.0	7.6	5.7	3.6	8.5	4.9	2.5
	Labour force participation rates	73.9	86.2	89.4	79.4	89.0	90.2	67.3	83.4	88.6
	Employment/population ratios	68.0	81.7	86.7	73.3	83.9	87.0	61.6	79.3	86.4
Switzerland	Unemployment rates	5.0	2.0	1.3	4.9	1.5	1.1	5.2	2.6	1.9
	Labour force participation rates	69.0	83.6	92.2	86.1	93.8	95.6	59.0	75.1	84.0
	Employment/population ratios	65.5	81.9	90.9	81.9	92.4	94.5	56.0	73.2	82.5
Turkey	Unemployment rates	4.7	5.6	3.7	4.9	4.6	3.5	3.9	11.0	4.1
	Labour force participation rates	55.2	65.2	81.5	84.4	87.7	87.3	22.0	25.9	71.1
	Employment/population ratios	52.6	61.6	78.5	80.2	83.6	84.2	21.1	23.1	68.1
United Kingdom	Unemployment rates	8.9	4.5	2.1	11.6	4.8	2.2	6.0	4.1	2.1
	Labour force participation rates	58.9	82.8	89.8	68.0	88.7	92.4	51.6	76.8	86.5
	Employment/population ratios	53.7	79.1	87.8	60.1	84.5	90.4	48.5	73.7	84.7
United States	Unemployment rates	7.9	3.6	1.8	7.1	3.7	1.8	9.1	3.5	1.7
	Labour force participation rates	62.7	79.5	86.5	74.9	86.2	91.7	50.4	73.3	81.5
	Employment/population ratios	57.8	76.7	85.0	69.6	83.1	90.0	45.8	70.7	80.2
European Union ^a	Unemployment rates	10.6	6.5	4.3	8.8	5.6	3.5	13.1	7.6	5.3
	Labour force participation rates	60.3	79.6	87.9	77.0	86.7	91.3	45.7	72.3	84.0
	Employment/population ratios	53.9	74.5	84.2	70.2	81.9	88.1	39.7	66.8	79.6
OECD Europe ^a	Unemployment rates	10.0	7.2	4.1	8.4	6.2	3.4	12.6	8.6	5.0
	Labour force participation rates	58.8	79.1	87.8	77.7	86.5	91.2	41.7	71.2	83.7
	Employment/population ratios	52.9	73.3	84.2	71.2	81.1	88.1	36.4	65.1	79.5
Total OECD ^a	Unemployment rates	7.4	5.6	3.0	6.6	5.2	2.8	8.9	6.1	3.4
	Labour force participation rates	61.7	78.6	85.8	81.1	87.8	92.6	44.3	69.4	78.4
	Employment/population ratios	57.1	74.2	83.2	75.8	83.3	90.0	40.4	65.2	75.8

a) For above countries only.

Source : OECD, *Education at a Glance - OECD Indicators 2002*.

Table E. Incidence and composition of part-time employment^a

Percentages										
Part-time employment as a proportion of employment										
	Men					Women				
	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia ^{b, c}	11.3	14.4	14.3	14.8	15.8	38.5	40.7	41.4	40.7	41.6
Austria	..	2.7	2.8	2.6	2.7	..	22.8	24.4	24.4	24.8
Belgium	4.6	4.9	7.3	7.1	5.6	29.8	32.2	36.6	34.5	33.4
Canada	9.1	10.6	10.3	10.3	10.4	26.8	28.8	28.0	27.3	27.1
Czech Republic	..	1.7	1.7	1.6	1.6	..	5.4	5.6	5.6	5.4
Denmark	10.2	9.8	8.9	8.9	9.1	29.6	25.4	22.7	23.5	20.8
Finland	4.7	6.7	6.6	7.1	7.3	10.6	13.0	13.5	13.9	14.0
France	4.4	5.8	5.8	5.3	5.1	21.7	25.0	24.7	24.3	23.8
Germany	2.3	4.6	4.8	4.8	..	29.8	32.4	33.1	33.9	..
Greece	4.0	5.3	4.5	3.0	2.6	11.5	15.4	13.5	9.4	8.5
Hungary	..	1.9	2.1	1.7	1.7	..	5.0	5.1	4.8	4.0
Iceland ^d	7.5	9.8	9.1	8.8	9.7	39.7	38.6	35.2	33.7	32.6
Ireland	4.2	8.2	7.9	7.9	7.1	20.5	31.2	31.9	32.3	33.0
Italy	3.9	4.9	5.3	5.7	5.4	18.2	22.4	23.2	23.4	23.7
Japan ^{b, e}	9.5	12.9	13.4	11.8	13.7	33.4	39.0	39.7	39.4	41.0
Korea ^b	3.1	5.1	5.9	5.2	5.3	6.5	9.2	10.5	9.9	10.5
Luxembourg	1.6	2.6	1.6	2.1	1.8	19.1	29.6	28.3	28.9	29.9
Mexico	..	8.2	7.2	7.1	7.6	..	28.3	26.9	25.6	25.8
Netherlands	13.4	12.4	11.9	13.4	13.8	52.5	54.8	55.4	57.2	58.1
New Zealand	7.9	10.7	11.4	11.2	11.2	34.6	38.0	37.7	36.4	36.5
Norway	6.9	7.9	8.2	8.7	9.0	39.8	35.9	35.0	33.6	32.6
Poland ^b	..	8.0	9.6	8.8	7.4	..	16.6	19.2	17.9	16.6
Portugal	3.1	5.1	5.0	4.8	5.1	11.8	15.8	14.6	14.7	14.3
Slovak Republic	..	1.0	0.9	1.0	1.1	..	3.2	2.9	3.0	2.8
Spain	1.4	2.9	2.9	2.7	2.7	11.5	16.6	16.8	16.5	16.6
Sweden	5.3	5.6	7.3	7.3	7.1	24.5	22.0	22.3	21.4	29.3
Switzerland ^{d, f}	6.8	7.2	7.7	8.4	8.9	42.6	45.8	46.5	44.7	44.7
Turkey	4.9	3.1	4.1	5.5	4.6	18.8	11.6	13.9	19.0	17.4
United Kingdom	5.3	8.2	8.5	8.4	..	39.5	41.2	40.6	40.8	..
United States ^g	8.3	8.2	8.1	7.9	8.1	20.0	19.1	19.0	18.2	18.2
European Union ^g	4.2	5.8	6	6.0	5.6	27.0	29.8	29.9	30.0	25.2
OECD Europe ^g	4.4	5.4	5.8	6.0	5.4	26.8	26.4	26.9	27.4	22.6
Total OECD ^g	6.6	7.7	7.8	7.6	8.1	25.0	25.8	25.9	25.7	24.1
Part-time employment as a proportion of total employment						Women's share in part-time employment				
	1990	1997	1998	1999	2000	1990	1997	1998	1999	2000
Australia ^{b, c}	22.6	25.9	26.1	26.2	27.2	70.8	68.6	68.9	68.3	67.5
Austria	..	11.5	12.3	12.2	12.4	..	86.9	87.2	88.1	88.0
Belgium	14.2	16.3	19.9	19.0	17.6	79.9	82.4	79.0	79.0	81.8
Canada	17.0	18.9	18.5	18.1	18.1	70.1	69.7	69.7	69.3	69.1
Czech Republic	..	3.3	3.4	3.3	3.2	..	70.0	70.9	72.5	72.0
Denmark	19.2	17.0	15.3	15.7	14.5	71.5	68.7	68.4	69.8	66.5
Finland	7.5	9.6	9.9	10.4	10.5	67.2	63.6	64.9	63.8	63.4
France	12.2	14.8	14.7	14.2	13.8	79.8	79.3	79.0	80.1	80.4
Germany	13.4	16.6	17.1	17.6	..	89.7	84.1	84.1	84.5	..
Greece	6.7	9.0	7.8	5.4	4.8	61.1	63.1	64.4	65.5	66.8
Hungary	..	3.4	3.5	3.2	2.8	..	69.2	68.7	71.4	68.3
Iceland ^d	22.2	23.2	21.2	20.4	20.4	81.6	77.4	77.1	77.0	74.5
Ireland	9.8	18.0	18.3	18.5	18.4	71.8	73.6	75.7	76.0	74.5
Italy	8.8	11.2	11.8	12.2	12.2	70.8	71.9	71.5	70.5	72.6
Japan ^{b, e}	19.2	23.6	24.1	23.1	24.9	70.5	67.5	67.0	69.7	67.5
Korea ^b	4.5	6.8	7.8	7.1	7.5	58.7	54.8	55.2	57.2	58.4
Luxembourg	7.6	12.8	12.1	13.0	13.1	86.5	87.3	91.8	90.4	91.7
Mexico	..	15.0	13.8	13.5	13.8	..	63.5	65.4	65.1	63.8
Netherlands	28.2	30.0	30.4	32.1	33.0	70.4	75.8	77.4	76.2	76.3
New Zealand	19.6	23.0	23.4	22.6	22.7	77.1	74.3	73.3	72.9	73.2
Norway	21.8	20.8	20.7	20.3	20.1	82.7	79.6	78.8	77.0	76.0
Poland ^b	..	11.8	13.9	12.8	11.6	..	62.2	61.6	61.7	64.7
Portugal	6.8	9.9	9.3	9.2	9.2	74.0	71.3	70.8	71.7	69.9
Slovak Republic	..	2.0	1.8	1.9	1.9	..	71.9	73.2	71.2	68.9
Spain	4.6	7.7	7.9	7.8	7.9	79.5	75.9	77.0	78.6	78.9
Sweden	14.5	13.5	14.5	14.0	17.8	81.1	78.1	73.7	72.9	79.2
Switzerland ^{d, f}	22.1	24.2	24.8	24.4	24.8	82.4	83.4	82.6	80.6	80.1
Turkey	9.2	5.6	7.1	9.0	8.0	62.5	60.7	60.6	55.1	57.8
United Kingdom	20.1	23.0	22.9	23.0	..	85.1	80.4	79.6	79.9	..
United States ^g	13.8	13.4	13.3	12.8	13.0	68.2	68.0	68.4	68.0	67.5
European Union ^g	13.3	15.9	16.2	16.3	13.8	80.9	79.0	78.8	79.0	76.7
OECD Europe ^g	13.2	14.1	14.6	14.9	12.4	79.6	77.2	76.8	76.5	74.0
Total OECD ^g	14.3	15.4	15.5	15.3	14.9	73.4	71.1	71.1	71.6	68.9

a) Part-time employment refers to persons who usually work less than 30 hours per week in their main job.

Data include only persons declaring usual hours.

b) Data are based on actual hours worked. For Poland until 2000 only.

c) Part-time employment based on hours worked at all jobs.

d) Data 1990 refer to 1991.

e) Less than 35 hours per week.

f) Data are for wage and salary workers only.

g) For above countries only.

Sources and definitions:

For Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, data are from the European Union Labour Force Survey. See OECD the "Definition of Part-time Work for the Purpose of International Comparisons", Labour Market and Social Policy Occasional Paper No. 22, available on Internet (<http://www.oecd.org/els/employment/docs.htm>).

Table F. Average annual hours actually worked per person in employment ^a

	1979	1983	1990	1997	1998	1999	2000	2001
Total employment								
Australia	1 904	1 853	1 866	1 861	1 856	1 860	1 855	1 837
Belgium	..	1 684	1 679	1 607	1 611	1 553	1 530	1 528
Canada	1 832	1 780	1 788	1 787	1 779	1 785	1 801	..
Czech Republic	..	..	..	2 067	2 075	2 088	2 092	2 000
Denmark	..	..	1 492	1 520	1 519	1 544	1 504	1 482
Finland ^b	..	1 809	1 763	1 780	1 761	1 765	1 721	1 694
Finland ^c	1 837	1 787	1 728	1 737	1 730	1 726	1 730	1 691
France	1 806	1 712	1 657	1 605	1 603	1 596	1 590	1 532
Germany ^d	..	..	1 560	1 513	1 507	1 496	1 482	1 467
Western Germany	1 732	1 697	1 583	1 489	1 484	1 475	1 461	1 446
Greece	..	1 983	1 912	1 924	1 921	1 940	1 921	1 921
Iceland	..	..	..	1 839	1 817	1 873	1 885	1 847
Ireland	..	1 909	1 922	1 797	1 722	1 693	1 690	1 674
Italy	1 715	1 692	1 674	1 640	1 629	1 625	1 622	1 606
Japan	2 126	2 095	2 031	1 865	1 842	1 810	1 821	..
Korea	..	2 734	2 514	2 436	2 390	2 497	2 474	2 447
Mexico	..	..	..	1 927	1 878	1 921	1 888	1 863
Netherlands	..	..	1 454	1 380	1 364	1 345	1 381	1 346
New Zealand	..	..	1 820	1 823	1 825	1 842	1 817	1 817
Norway	1 514	1 485	1 432	1 401	1 400	1 395	1 376	1 364
Slovak Republic	..	..	..	2 055	2 034	2 022	2 023	2 026
Spain	..	..	..	1 813	1 834	1 816	1 814	1 816
Sweden	1 517	1 520	1 549	1 628	1 629	1 636	1 625	1 603
Switzerland	..	..	..	1 589	1 589	1 597	1 568	..
United Kingdom	1 815	1 713	1 767	1 737	1 731	1 719	1 708	1 711
United States	1 838	1 824	1 838	1 849	1 850	1 846	1 835	1 821
Dependent employment								
Canada	1 801	1 762	1 771	1 782	1 773	1 780	1 797	..
Czech Republic	..	..	..	1 989	1 995	2 014	2 018	1 922
Finland ^b	..	..	1 666	1 687	1 672	1 673	1 638	1 616
France	1 669	1 570	1 543	1 501	1 051	1 499	..	..
Germany ^d	..	..	1 494	1 433	1 427	1 415	1 400	1 384
Western Germany	1 649	1 617	1 509	1 405	1 401	1 390	1 377	1 361
Hungary	..	1 829	1 710	1 786	1 788	1 795	1 795	1 766
Iceland	..	..	..	1 790	1 762	1 810	1 820	1 779
Italy	1 636	1 614	1 599	1 577	1 559	1 554	1 557	1 543
Japan ^e	2 114	2 098	2 052	1 919	1 900	1 879	1 842	1 859
Japan ^f	..	..	2 064	1 891	1 871	1 840	1 853	1 836
Mexico	..	..	..	1 978	1 942	1 976	1 935	1 915
Netherlands	1 591	1 530	1 433	1 355	1 340	1 343	..	..
Slovak Republic	..	..	..	2 017	1 998	1 984	1 986	1 993
Spain	..	..	..	1 749	1 767	1 753	1 753	1 757
United Kingdom	1 750	1 652	1 704	1 702	1 703	1 695	1 684	..
United States	1 816	1 809	1 820	1 832	1 833	1 828	1 818	1 805

a) The concept used is the total number of hours worked over the year divided by the average numbers of people in employment. The data are intended for comparisons of trends over time; they are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources. Part-time workers are covered as well as full-time.

b) Data estimated from the Labour Force Survey.

c) Data estimated from national accounts.

d) The year 1990 refers to 1991.

e) Data refer to establishments with 30 or more regular employees.

f) Data refer to establishments with 5 or more regular employees.

Table F. **Average annual hours actually worked per person in employment**^a (*cont.*)*Sources and definitions:*

Secretariat estimates for Belgium, Denmark, Greece, Ireland, Italy, Netherlands and Portugal for annual hours worked for the total economy based on the European Labour Force Survey. Estimates of annual working time per employed persons are based on the Spring European Labour Force Survey (EULFS) as the main source of data for various components of working time (overtime, illness, maternity leave, etc.). The data from the EULFS correspond to one single reading in the year, which requires the use of external sources for hours not worked due to public holidays and annual leave. A correction is also made to account for an estimated 50 per cent underreporting, on average, of hours lost due to Illness and Maternity leave in the EULFS. In sum, the estimates are computed by multiplying weekly usual hours worked by the number of effective weeks worked during the year (taking into account vacation and time not worked due to other reasons).

Australia: Data supplied by the Australian Bureau of Statistics from the Labour Force Survey. Annual hours are adjusted to take account of public holidays occurring during the reporting period. The method of estimation is consistent with the national accounts.

Canada: Data series supplied by Statistics Canada, based mainly on the monthly Labour Force Survey supplemented by the Survey of Employment Payrolls and Hours, the annual Survey of Manufacturers and the Census of Mining.

Czech Republic: Data supplied by the Czech Statistical Office and based on the quarterly Labour Force Sample Survey. Main meal breaks (one half hour a day) are included.

Finland: Data supplied by Statistics Finland. National accounts series based on an establishment survey for manufacturing, and the Labour Force Survey for other sectors and for the self-employed. Alternative series based solely on the Labour Force Survey.

France: Data series supplied by the Institut National de la Statistique et des Études Économiques (INSEE), produced within the framework of the national accounts. Estimates for year 2000 and 2001 made by the Secretariat by prolonging the trend in data based on alternative estimates derived from the European Labour Force Survey (see notes for Belgium, Denmark, etc.).

Germany and western Germany: Data series from 1991 onward that extend coverage of part-time work with few hours of work. Data supplied by the Institut für Arbeitsmarkt- und Berufsforschung, calculated within a comprehensive accounting structure, based on establishment survey estimates of weekly hours worked by full-time workers whose hours are not affected by absence, and extended to annual estimates of actual hours by adjusting for a wide range of factors, including public holidays, sickness absence, overtime working, short-time working, bad weather, strikes, part-time working and parental leave. Data prior to 1991 are spliced with old annual hours of work estimates for 1991.

Iceland: Data are provided by Statistics Iceland and are based on the Icelandic Labor Force Survey. Annual actual hours worked per person in employment are computed by multiplying daily actual hours worked by annual actual working days net of public holidays and annual vacations. The latter are for a typical work contract by sector of activity.

Italy: Data are Secretariat estimates based on the European Labour Force Survey for 1985 to 1999 (see notes for Belgium, Denmark, etc.). From 1960 to 1985, trend in data is taken from the series provided by ISTAT and based on a special establishment survey total employment discontinued in 1985.

Japan: Data for total employment are Secretariat estimates based on data from the Monthly Labour Survey of Establishments, extended to agricultural and government sectors and to the self-employed by means of the Labour Force Survey. Data for dependent employment supplied by Statistics Bureau, Management and Coordination Agency, from the Monthly Labour Survey, referring to all industries excluding agriculture, forest, fisheries and government services.

Korea: Data supplied by the Ministry of Labour from the Report on monthly labour survey.

Mexico: Data supplied by STPS-INEGI from the bi-annual National Survey of Employment, based on the assumption of 44 working weeks per year.

Netherlands: From 1977 onwards, figures are "Annual Contractual Hours", supplied by Statistics Netherlands, compiled within the framework of the Labour Accounts. Overtime hours are excluded. For 1970 to 1976, the trend has been derived from data supplied by the Economisch Instituut voor het Midden en Kleinbedrijf, referring to persons employed in the private sector, excluding agriculture and fishing.

New Zealand: Data supplied by Statistics New Zealand and derived from the quarterly Labour Force Survey, whose continuous sample design avoids the need for adjustments for public holidays and other days lost.

Norway: Data supplied by Statistics Norway, based on national accounts and estimated from a number of different data sources, the most important being establishment surveys, the Labour Force Surveys and the public sector accounts.

Spain: New series supplied by Instituto Nacional de Estadística and derived from the quarterly Labour Force Survey. Series break at 1986/87 due to changes in the survey.

Sweden: New series from 1996 are supplied by Statistics Sweden derived from national accounts data, based on both the Labour Force Survey and establishment surveys.

Switzerland: Data supplied by Office fédéral de la statistique. The basis of the calculation is the Swiss Labour Force Survey which provides information on weekly hours of work during one quarter of the year. The estimates of annual hours are based also on supplementary, annual information on vacations, public holidays and overtime working and have been extended to correspond to national accounts concepts.

United Kingdom: Since 1994, data refer to the United Kingdom (including Northern Ireland). Break in series 1994/95 due to small change in the way estimates of employment are derived. For 1992 to 1995, the levels are derived directly from the continuous Labour Force Survey. For 1984 to 1991, the trend in the data is taken from the annual Labour Force Survey. From 1970 to 1983, the trend corresponds to estimates by Professor Angus Maddison.

United States: Please note the change in the estimates made the Secretariat to United States hours data compared to those published in the previous edition. Secretariat estimates are based on unpublished data supplied by the Bureau of Labor Statistics (BLS). Estimates of annual hours actually worked per job on the basis of the Current Employment Statistics (CES) and the Current Population Survey (CPS) are multiplied by one plus the rate of multiple jobholding from the CPS to produce estimates of annual working time on a per worker basis, as it is the case for most countries.

Table G. **Incidence of long-term unemployment**^{a, b, c, d, e}
As a percentage of total unemployment

	1990		1998		1999		2000		2001	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	41.0	21.6	52.2	33.6	48.4	29.4	43.6	27.9	38.7	21.5
Austria	..	..	44.0	30.3	39.3	25.9	39.7	25.9	36.2	23.5
Belgium	81.4	68.7	76.3	61.7	73.5	60.5	71.8	56.3	66.5	51.7
Canada	20.2	7.2	24.1	13.8	24.1	11.6	19.5	11.2	16.8	9.5
Czech Republic	..	..	54.6	31.2	61.9	37.1	69.9	48.8	71.3	52.7
Denmark	53.2	29.9	41.4	26.9	38.5	20.5	38.1	20.0	38.5	22.2
Finland ^f	32.6	9.2	42.2	27.5	46.4	29.6	46.5	29.0	42.2	26.2
France	55.5	38.0	64.3	44.2	55.6	40.4	62.0	42.6	57.2	37.6
Germany	64.7	46.8	69.6	52.6	67.2	51.7	67.6	51.5	..	..
Greece	71.9	49.8	74.8	54.9	74.3	55.3	73.5	56.4	69.0	52.8
Hungary	..	..	71.0	49.8	70.4	49.5	69.7	48.9	68.1	46.7
Iceland ^f	13.6	6.7	22.9	16.1	20.2	11.7	18.6	11.8	21.1	12.5
Ireland	81.0	66.0	..	..	76.1	55.3	..	..	..	..
Italy	85.2	69.8	77.3	59.6	77.2	61.4	77.6	61.3	77.4	63.4
Japan	39.0	19.1	39.3	20.9	44.5	22.4	46.9	25.5	46.2	26.6
Korea	13.9	2.6	14.7	1.6	18.6	3.8	14.3	2.3	13.0	2.3
Luxembourg ^g	(66.7)	(42.9)	(55.2)	(31.3)	(53.8)	(32.3)	(37.0)	(22.4)	(43.5)	(27.6)
Mexico	..	..	3.3	0.9	6.8	1.7	4.9	1.1	4.1	1.1
Netherlands	63.6	49.3	83.5	47.9	80.7	43.5	..	..	..	..
New Zealand	39.5	20.9	37.9	19.4	39.0	20.8	36.2	19.2	34.0	18.3
Norway	40.8	20.4	20.5	8.2	16.2	6.8	16.3	5.0	16.6	4.9
Poland	..	..	60.4	37.4	57.1	34.8	63.0	37.9	66.1	43.1
Portugal	62.4	44.8	64.5	44.7	63.8	41.2	60.0	42.9	58.0	38.1
Slovak Republic	..	..	68.0	51.3	69.2	47.7	74.4	54.6	67.6	48.2
Spain	70.2	54.0	70.5	54.3	67.8	51.2	64.8	47.6	61.8	44.0
Sweden	22.2	12.1	49.2	33.5	45.2	30.1	41.5	26.4	36.7	22.3
Switzerland ^f	27.5	17.0	49.2	34.8	61.2	39.6	45.7	29.0	47.3	29.9
Turkey	72.6	47.0	60.7	40.1	49.8	28.4	35.9	21.1	37.7	23.1
United Kingdom	50.3	34.4	47.3	32.7	45.4	29.6	43.2	28.0	43.6	27.7
United States	10.0	5.5	14.1	8.0	12.3	6.8	11.4	6.0	11.8	6.1
European Union ^h	65.3	48.6	66.7	49.2	63.7	47.4	63.8	46.9	60.4	43.7
OECD Europe ^h	64.8	46.9	64.5	45.9	61.0	43.2	61.4	43.2	58.2	40.4
Total OECD ^h	44.6	30.9	48.6	33.4	47.2	31.8	46.9	31.6	41.8	27.5

a) While data from labour force surveys make international comparisons easier, compared to a mixture of survey and registration data, they are not perfect. Questionnaire wording and design, survey timing, differences across countries in the age groups covered, and other reasons mean that care is required in interpreting cross-country differences in levels.

b) The duration of unemployment database maintained by the Secretariat is composed of detailed duration categories disaggregated by age and sex. All totals are derived by adding each component. Thus, the total for men is derived by adding the number of unemployed men by each duration and age group category. Since published data are usually rounded to the nearest thousand, this method sometimes results in slight differences between the percentages shown here and those that would be obtained using the available published figures.

c) Data are averages of monthly figures for Canada, Sweden and the United States, averages of quarterly figures for the Czech Republic, Hungary, Norway, New Zealand, Poland, the Slovak Republic, and Spain, and averages of semi annual figures for Turkey. The reference period for the remaining countries is as follows (among EU countries it occasionally varies from year to year): Australia, August; Austria, April; Belgium, April; Denmark, April-May; Finland, autumn prior to 1995, spring between 1995 and 1998, and averages of monthly figures since 1999; France, March; Germany, April; Greece, March-July; Iceland, April; Ireland, May; Italy, April; Japan, February; Luxembourg, April; Mexico, April; the Netherlands, March-May; Portugal, February-April; Switzerland, second quarter; and the United Kingdom, March-May.

d) Data refer to persons aged 15 and over in Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Poland, Portugal, the Slovak Republic, Switzerland and Turkey; and aged 16 and over in Iceland, Spain, the United Kingdom and the United States. Data for Finland refer to persons aged 15-64 (excluding unemployment pensioners). Data for Hungary refer to persons aged 15-74, for Norway to persons aged 16-74 and for Sweden to persons aged 16-64.

e) Persons for whom no duration of unemployment was specified are excluded.

Table G. **Incidence of long-term unemployment among men**^{a, b, c, d, e} (cont.)

As a percentage of male unemployment

	1990		1998		1999		2000		2001	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	42.6	24.4	55.1	36.5	50.9	31.8	45.9	30.6	40.3	24.1
Austria	..	..	40.3	30.0	43.6	32.7	39.0	28.2	34.0	23.8
Belgium	79.5	66.1	75.0	59.5	73.2	60.1	70.2	55.9	68.2	52.5
Canada	20.4	8.0	25.6	15.0	23.3	12.8	20.9	12.2	17.9	10.5
Czech Republic	..	..	52.9	30.9	58.0	32.7	68.4	47.5	70.0	52.0
Denmark	48.9	27.8	40.9	23.9	38.6	20.9	36.5	20.1	39.1	26.2
Finland ^f	36.8	9.7	46.3	31.7	49.2	33.1	49.6	32.2	45.0	30.0
France	53.1	35.4	62.3	43.3	53.7	39.0	60.6	41.2	56.9	37.6
Germany	65.2	49.1	66.0	49.9	65.3	49.9	65.9	50.1	..	..
Greece	61.8	39.9	68.9	44.7	69.0	48.6	67.1	49.4	61.8	47.0
Hungary	..	..	71.5	50.2	70.9	50.6	71.3	51.0	70.2	48.4
Iceland ^f	5.1	1.3	21.4	13.6	13.9	6.6	17.5	8.8	17.3	11.2
Ireland	84.3	71.1	..	..	77.8	59.5	..	..	..	..
Italy	84.1	68.6	76.4	60.4	76.6	62.1	76.8	61.4	76.1	63.7
Japan	47.6	26.2	45.0	25.8	49.5	27.4	52.8	30.7	53.2	32.1
Korea	16.0	3.3	16.8	1.9	21.3	4.7	16.8	3.1	15.4	2.8
Luxembourg ^g	(80.0)	(60.0)	(57.3)	(38.0)	(61.6)	(38.6)	(40.0)	(26.4)	(51.4)	(31.6)
Mexico	..	..	4.2	1.2	5.8	2.7	4.3	0.5	4.3	1.1
Netherlands	65.6	55.2	81.0	51.3	75.1	47.7	..	..	..	..
New Zealand	44.0	24.5	41.1	22.6	42.5	23.0	39.5	23.1	37.1	21.2
Norway	37.9	19.0	23.1	10.3	17.1	7.3	20.0	6.7	17.8	6.7
Poland	..	..	55.2	32.5	52.4	31.4	59.3	34.1	62.7	39.9
Portugal	56.3	38.2	61.9	43.6	63.5	39.5	60.1	46.7	53.8	35.7
Slovak Republic	..	..	66.4	48.9	67.5	45.3	74.1	54.1	67.7	48.4
Spain	63.3	45.8	65.5	48.2	62.1	45.4	58.5	41.0	56.0	37.9
Sweden	22.2	12.3	52.2	36.3	48.5	33.3	44.3	29.3	39.0	24.2
Switzerland ^f	28.8	15.9	51.7	38.1	59.3	40.6	47.6	28.2	38.8	20.6
Turkey	71.2	44.9	58.3	37.7	47.4	25.2	33.0	18.1	33.7	20.1
United Kingdom	56.8	41.8	53.2	38.0	50.1	34.5	48.1	33.7	48.6	33.0
United States	12.1	7.0	15.2	8.8	13.0	7.4	12.2	6.7	12.1	6.3
European Union ^h	63.5	47.0	64.5	47.6	61.9	46.2	61.9	45.5	58.9	42.9
OECD Europe ^h	64.5	46.5	62.6	44.7	58.9	41.5	58.9	41.2	54.7	37.8
Total OECD ^h	43.7	29.7	47.1	32.0	45.9	30.6	45.5	30.3	40.3	26.3

^f) Data for 1990 refer to 1991.^g) Data in brackets are based on small sample sizes and, therefore, must be treated with care.^h) For above countries only.

Table G. Incidence of long-term unemployment among women^{a, b, c, d, e} (cont.)

As a percentage of female unemployment

	1990		1998		1999		2000		2001	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	38.8	17.8	48.0	29.3	44.9	25.8	40.2	24.0	36.4	17.9
Austria	..	..	48.6	30.7	39.8	24.1	40.6	22.8	38.9	23.2
Belgium	82.5	70.0	77.5	63.5	73.8	60.9	73.1	56.7	64.5	50.8
Canada	19.8	6.1	22.2	12.2	18.9	10.2	17.8	10.0	15.3	8.2
Czech Republic	..	..	55.9	31.5	65.3	40.9	71.2	49.8	72.5	53.4
Denmark	57.7	32.0	41.6	29.0	38.5	20.1	39.6	20.0	38.0	18.8
Finland ^f	26.3	8.4	37.8	23.1	43.7	26.2	43.7	26.2	39.6	22.6
France	57.3	40.0	66.0	45.0	57.4	41.7	63.2	43.7	57.5	37.6
Germany	64.2	44.5	73.7	55.6	69.4	54.0	69.5	53.1	..	..
Greece	78.2	55.9	78.6	61.5	77.7	59.5	77.7	61.0	73.7	56.6
Hungary	..	..	70.1	49.2	69.7	47.9	67.3	45.7	64.8	44.1
Iceland ^g	21.1	11.5	24.1	18.1	24.5	15.2	19.4	14.0	24.8	13.8
Ireland	75.0	56.8	..	..	72.9	47.5	..	..	..	..
Italy	86.0	70.7	78.1	58.8	77.7	60.7	78.3	61.2	78.5	63.1
Japan	26.3	8.8	30.5	13.7	36.9	14.8	37.4	17.1	35.7	18.3
Korea	8.9	0.9	10.3	0.8	13.1	1.9	9.2	0.7	8.1	1.2
Luxembourg ^g	(55.6)	(33.3)	(53.6)	(26.3)	(47.5)	(27.2)	(34.3)	(18.8)	(34.9)	(23.1)
Mexico	..	..	2.2	0.4	8.0	0.4	6.0	2.0	3.9	1.0
Netherlands	62.0	44.6	85.5	45.2	84.9	40.4	..	..	..	..
New Zealand	32.6	15.5	33.7	15.2	34.3	17.9	32.0	14.3	30.1	14.6
Norway	45.0	22.5	17.1	5.7	15.6	6.3	11.4	2.9	10.8	2.7
Poland	..	..	65.1	41.8	61.9	38.3	66.6	41.3	69.5	39.9
Portugal	66.4	49.4	66.6	45.6	64.2	42.9	60.0	40.0	61.0	39.9
Slovak Republic	..	..	69.9	54.0	71.3	50.5	74.8	55.1	67.4	47.8
Spain	76.5	61.5	74.5	59.2	72.0	55.5	69.3	52.2	66.1	48.6
Sweden	22.2	11.8	45.6	30.1	41.2	26.1	37.9	22.8	33.8	20.0
Switzerland ^f	26.6	17.8	46.8	31.7	63.1	38.7	44.0	29.7	52.3	35.5
Turkey	75.6	51.2	66.9	46.4	56.0	36.4	44.1	29.5	50.1	32.5
United Kingdom	40.8	23.7	37.7	24.0	37.6	21.5	35.6	19.0	35.8	19.5
United States	7.3	3.7	12.8	7.1	11.6	6.2	10.5	5.3	11.5	5.7
European Union ^h	66.9	50.1	68.9	50.8	65.5	48.8	65.6	48.2	61.8	44.5
OECD Europe ^h	65.2	47.3	66.6	47.2	63.4	45.2	64.2	45.3	62.2	43.4
Total OECD ^h	45.7	32.2	50.2	35.0	48.6	33.2	48.6	33.1	43.6	29.0

Sources:

Data for Belgium, Denmark, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and the United Kingdom are based on the European Union Labour Force Survey and were supplied by Eurostat.

Austria: Data from the Labour Force Survey supplied by Statistics Austria.

Australia: Data from the Labour Force Survey supplied by the Australian Bureau of Statistics (ABS).

Canada: Data from the Labour Force Survey supplied by Statistics Canada.

Czech Republic: Data from the Labour Force Sample Survey supplied by the Czech Statistical Office.

Finland: Data from the Supplementary Labour Force Survey (biennial from 1989 until 1995, and annual from 1995 to 1998) and from the Labour Force Survey since 1999 supplied by the Central Statistical Office Labour Force Survey since 1999 (CSO).

France: Data from the Enquête Emploi supplied by the Institut National de la Statistique et des Études Économiques (INSEE).

Hungary: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Iceland: Data from the Labour Force Survey supplied by Statistics Iceland.

Japan: Data from the Special Survey of the Labour Force Survey supplied by the Statistics Bureau, Management and Coordination Agency (MCA).

Korea: Data from the Labour Force Survey supplied by the National Statistical Office (NSO).

Mexico: Data from the biennial Encuesta Nacional de Empleo (ENE) supplied by the Secretaría del Trabajo y Previsión Social (STPS).

New Zealand: Data from the Household Labour Force Survey supplied by the Department of Statistics.

Norway: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Poland: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Slovak Republic: Data from the Labour Force Survey supplied by the Statistical Office of the Slovak Republic (SOS).

Spain: Data from the Labour Force Survey supplied by Instituto Nacional de Estadística (INE).

Sweden: Data from the Labour Force Survey supplied by Statistics Sweden.

Switzerland: Data from the Labour Force Survey supplied by the Swiss Federal Statistical Office (SFS).

Turkey: Data from the Household Labour Force Survey supplied by the State Institute of Statistics (SIS).

United States: Data from the Current Population Census (CPS) supplied by the Bureau of Labor Statistics (BLS).

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries

Programme categories and sub-categories	Australia ^a								Austria								Belgium							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1997-98	1998-99	1999-00	2000-01	1997-98	1998-99	1999-00	2000-01	1998	1999	2000	2001	1998	1999	2000	2001	1997	1998	1999	2000	1997	1998	1999	2000
1. Public employment services and administration	0.21	0.20	0.20	0.20					0.13	0.13	0.13	0.14					0.19	0.19	0.18	0.17				
2. Labour market training	0.06	0.02	0.02	0.02	1.96	0.80	0.98	0.96	0.15	0.19	0.17	0.20	1.67^b	3.01^b	3.02^b	3.29^b	0.26	0.25	0.24	0.24	8.55	8.95	9.09	8.81
<i>a)</i> Training for unemployed adults and those at risk	0.06	0.02	0.02	0.02	1.72	0.58	0.79	0.73	0.13	0.16	0.16	0.18	-	-	0.83	-	0.17	0.16	0.16	0.16	2.41	2.82	2.99	2.69
<i>b)</i> Training for employed adults	-	-	-	-	0.24	0.21	0.19	0.23	0.02	0.02	0.02	0.02	-	-	-	-	0.09	0.09	0.09	0.08	6.14	6.13	6.10	6.12
3. Youth measures	0.06	0.05	0.06	0.07	1.98	0.54	0.80	3.11	0.04	0.05	0.04	0.03	0.17	0.20	0.11	0.12	0.01	..	..	-	0.24	..	..	0.32
<i>a)</i> Measures for unemployed and disadvantaged youth	-	-	0.01	0.01	0.29	0.23	0.62	0.89	0.01	0.02	0.02	0.01	-	-	-	-	..	..	..	..	..	..	..	..
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.06	0.05	0.05	0.07	1.69	0.31	0.18	2.23	0.03	0.03	0.02	0.01	-	-	-	-	0.01	..	..	-	0.24	..	..	0.32
4. Subsidised employment	0.13	0.09	0.11	0.11	1.18	0.78	1.08	1.42	0.07	0.09	0.11	0.11	0.32	0.64	0.57	0.79	0.65	0.85	0.79	0.77	5.40	8.61	9.30	9.66
<i>a)</i> Subsidies to regular employment in the private sector	0.04	0.01	0.01	0.01	0.74	-	-	0.07	0.03	0.05	0.05	0.06	-	-	-	-	0.17	0.35	0.27	0.27	2.38	4.37	3.75	3.89
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.02	0.02	0.01	0.07	0.07	0.08	0.16	0.01	0.01	0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.07	0.07	0.09	0.09	0.36	0.71	0.96	1.18	0.03	0.03	0.04	0.03	-	-	-	-	0.48	0.48	0.50	0.48	3.01	2.91	3.08	3.56
5. Measures for the disabled	0.05	0.06	0.05	0.05	0.33	0.81	0.76	0.81	0.05	0.06	0.05	0.06	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	0.12	0.12	0.12	0.12	..	..	..	..
<i>a)</i> Vocational rehabilitation	0.02	0.02	0.02	0.02	0.29	0.28	0.19	0.19	0.02	0.03	0.02	0.03	-	-	-	-	0.02	0.02	0.02	0.02	..	..	..	..
<i>b)</i> Work for the disabled	0.04	0.04	0.04	0.04	-	0.53	0.57	0.62	0.03	0.03	0.03	0.02	-	-	-	-	0.10	0.10	0.10	0.10	..	..	..	..
6. Unemployment compensation	1.24	1.17	1.04	0.98	9.01	..	8.62	8.57	1.21	1.15	1.02	1.01	19.37	18.88	14.60	18.98	2.04	1.89	1.80	1.69	..	..	..	..
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	0.05	0.04	0.04	0.06	0.64	0.59	0.78	1.00	0.60	0.55	0.52	0.49	..	..	..	..
TOTAL	1.75	1.60	1.49	1.43	15.03	..	19.89	22.36	1.71	1.71	1.57	1.60	21.85	23.32	19.08	24.18	3.85	3.86	3.66	3.48	..	..	..	..
Active measures (1-5)	0.51	0.43	0.45	0.46	6.02	9.98	11.26	13.79	0.44	0.52	0.51	0.53	1.83	3.84	3.70	4.21	1.22	1.41	1.34	1.30	..	..	..	..
Passive measures (6 and 7)	1.24	1.17	1.04	0.98	9.01	..	8.62	8.57	1.27	1.19	1.06	1.07	20.02	19.47	15.38	19.98	2.64	2.45	2.32	2.18	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

a) Fiscal years starting on July 1.*b)* Participant inflows for category 5 "Measures for the disabled" are included in category 2 "Labour market training".

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Canada ^a							Czech Republic							Denmark								
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				
	1997-98	1998-99	1999-00	2000-01 ^b	1995-96	1996-97	1997-98	1998	1999	2000	2001	1998	1999	2000	2001	1997	1998	1999	2000	1997	1998	1999	2000
1. Public employment services and administration	0.18	0.19	0.18	0.17				0.08	0.09	0.08	0.08					0.12	0.12	0.12	0.12				
2. Labour market training	0.15	0.18	0.18	0.17	1.93	1.90	1.61	0.01	0.01	0.02	0.02	0.32	0.44	0.64	0.68	0.93	0.97	0.99	0.85	18.47	20.62	19.72	15.90
<i>a)</i> Training for unemployed adults and those at risk	0.15	0.17	0.18	0.17	1.91	1.90	1.61	0.01	0.01	0.02	0.02	0.32	0.44	0.64	0.68	0.64	0.72	0.78	0.67	8.82	12.46	11.64	5.76
<i>b)</i> Training for employed adults	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	0.25	0.21	0.18	9.65	8.16	8.09	10.15
3. Youth measures	0.03	0.03	0.02	0.02	0.54	0.54	..	0.01	0.02	0.02	0.02	0.18	0.21	0.22	0.19	0.10	0.08	0.12	0.10	1.50	1.50	1.88	1.83
<i>a)</i> Measures for unemployed and disadvantageded youth	0.02	0.02	0.01	0.01	0.24	0.16	..	0.01	0.02	0.02	0.02	0.18	0.21	0.22	0.19	0.10	0.08	0.12	0.10	1.50	1.50	1.88	1.83
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.01	0.01	0.01	0.01	0.30	0.39	..	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Subsidised employment	0.07	0.08	0.05	0.03	0.31	0.28	0.34	0.03	0.05	0.09	0.09	0.39	0.60	0.90	0.80	0.30	0.27	0.23	0.17	1.11	1.05	1.00	0.82
<i>a)</i> Subsidies to regular employment in the private sector	0.01	0.01	0.01	-	-	0.06	0.10	0.01	0.02	0.04	0.04	0.13	0.24	0.41	0.33	0.02	0.02	0.02	0.02	0.22	0.25	0.22	0.20
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.01	0.01	0.01	0.07	0.09	0.10	-	0.01	0.01	0.01	-	0.06	0.11	0.09	0.06	0.04	0.02	-	0.10	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.04	0.05	0.04	0.02	0.20	0.12	0.14	0.02	0.03	0.04	0.04	0.23	0.31	0.38	0.39	0.22	0.21	0.19	0.15	0.78	0.78	0.78	0.62
5. Measures for the disabled	0.03	0.02	0.02	0.02	-	-	-	0.01	0.01	0.01	0.01	-	-	-	-	0.21	0.25	0.33	0.33	2.28	2.51	3.05	2.58
<i>a)</i> Vocational rehabilitation	0.03	0.02	0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	0.21	0.25	0.33	0.33	2.28	2.51	3.05	2.58
<i>b)</i> Work for the disabled	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-
6. Unemployment compensation	0.99	0.94	0.78	0.72	..	..	..	0.23	0.30	0.29	0.24	..	..	..	..	2.12	1.69	1.43	1.35	24.42	23.08	21.15	19.61
7. Early retirement for labour market reasons	-	-	-	-	..	..	..	-	-	-	-	-	-	-	-	1.71	1.72	1.70	1.65	1.06	1.06	0.58	0.98
TOTAL	1.45	1.44	1.24	1.13	..	..	..	0.36	0.49	0.51	0.46	..	..	..	..	5.49	5.09	4.91	4.56	48.86	49.83	47.39	41.72
Active measures (1-5)	0.45	0.50	0.45	0.41	2.78	2.72	..	0.13	0.18	0.22	0.21	0.90	1.27	1.76	1.69	1.66	1.68	1.78	1.56	23.37	25.69	25.66	21.13
Passive measures (6 and 7)	1.00	0.95	0.79	0.72	..	..	..	0.23	0.30	0.29	0.24	..	..	..	..	3.83	3.41	3.13	3.00	25.48	24.15	21.72	20.59

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

^{a)} Fiscal years starting on April 1.^{b)} Provisional data.

Table H. **Public expenditure and participant inflows*** in labour market programmes in OECD countries (*cont.*)

Programme categories and sub-categories	Finland								France								Germany							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1998	1999	2000	2001 ^a	1998	1999	2000	2001 ^a	1997	1998	1999	2000	1997	1998	1999	2000	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.13	0.14	0.11	0.12					0.16	0.16	0.17	0.18					0.23	0.23	0.23	0.23				
2. Labour market training	0.44	0.40	0.30	0.29	4.35	4.22	3.40	2.76	0.34	0.31	0.28	0.25	2.73	2.87	2.65	2.41	0.34	0.35	0.34	0.34	1.51	1.32	1.49	1.22
<i>a)</i> Training for unemployed adults and those at risk	0.42	0.36	0.27	0.26	2.40	2.33	2.55	2.58	0.31	0.28	0.25	0.22	2.26	2.26	2.12	1.86	0.34	0.35	0.34	0.34	1.51	1.32	1.49	1.22
<i>b)</i> Training for employed adults	0.02	0.04	0.03	0.03	1.95	1.89	0.85	0.18	0.03	0.04	0.03	0.03	0.48	0.61	0.53	0.55	-	-	-	..	-	-	-	..
3. Youth measures	0.21	0.20	0.18	0.16	2.85	2.49	2.07	1.52	0.26	0.33	0.40	0.42	2.56	2.97	2.96	2.82	0.07	0.08	0.08	0.09	0.88	1.01	1.02	..
<i>a)</i> Measures for unemployed and disadvantageded youth	0.08	0.07	0.06	0.06	1.50	1.25	1.05	0.74	0.07	0.14	0.21	0.24	0.59	0.80	0.70	0.56	0.06	0.07	0.07	0.08	0.60	0.61	0.66	0.66
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.13	0.13	0.11	0.10	1.35	1.23	1.02	0.78	0.19	0.19	0.19	0.18	1.96	2.16	2.27	2.26	0.01	0.01	0.01	0.01	0.28	0.40	0.36	..
4. Subsidised employment	0.51	0.38	0.31	0.29	3.53	2.74	2.24	1.99	0.50	0.43	0.43	0.37	3.92	3.77	3.53	3.11	0.39	0.40	0.32	0.25	2.01	1.59	1.24	1.04
<i>a)</i> Subsidies to regular employment in the private sector	0.18	0.16	0.15	0.15	1.29	1.06	0.91	0.85	0.31	0.24	0.23	0.18	2.19	2.15	1.96	1.66	0.04	0.03	0.03	0.03	0.17	0.10	0.11	0.12
<i>b)</i> Support of unemployed persons starting enterprises	0.03	0.03	0.03	0.03	0.20	0.17	0.16	0.19	-	-	-	-	0.13	0.15	0.16	0.16	0.03	0.04	0.04	0.04	0.25	0.24	0.23	0.24
<i>c)</i> Direct job creation (public or non-profit)	0.29	0.19	0.13	0.12	2.04	1.51	1.17	0.95	0.18	0.18	0.19	0.18	1.53	1.40	1.36	1.24	0.32	0.33	0.25	0.19	1.59	1.25	0.90	0.68
5. Measures for the disabled	0.11	0.10	0.09	0.09	0.89	0.83	0.90	0.88	0.08	0.09	0.09	0.09	0.31	0.26	0.37	0.45	0.25	0.27	0.27	0.29	0.30	0.32	0.30	0.30
<i>a)</i> Vocational rehabilitation	0.06	0.05	0.05	0.05	0.89	0.83	0.90	0.88	0.02	0.02	0.02	0.03	0.31	0.26	0.37	0.45	0.10	0.12	0.11	0.12	0.30	0.32	0.30	0.30
<i>b)</i> Work for the disabled	0.05	0.05	0.04	0.04	-	-	-	-	0.06	0.06	0.06	0.06	..	..	..	..	0.15	0.15	0.15	0.16	-	-	-	-
6. Unemployment compensation	2.13	1.87	1.64	1.52	..	..	..	..	1.49	1.47	1.46	1.38	6.61	6.64	6.60	6.38	2.28	2.12	1.89	1.90	..	..	-	-
7. Early retirement for labour market reasons	0.43	0.47	0.47	0.50	..	..	..	..	0.35	0.32	0.30	0.27	0.34	0.34	0.29	0.25	-	0.01	0.01	0.02	..	..	..	-
TOTAL	3.96	3.56	3.11	2.96	..	..	..	..	3.19	3.11	3.13	2.96	16.47	16.84	16.41	15.42	3.56	3.44	3.14	3.13	..	..	..	..
Active measures (1-5)	1.40	1.22	0.99	0.95	11.62	10.27	8.61	7.16	1.35	1.31	1.37	1.31	9.52	9.86	9.52	8.78	1.27	1.31	1.24	1.20	4.70	4.25	4.04	..
Passive measures (6 and 7)	2.56	2.33	2.11	2.02	..	..	..	..	1.84	1.80	1.75	1.65	6.95	6.98	6.89	6.64	2.28	2.13	1.90	1.92	..	..	..	-

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

^{a)} Provisional data.

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (cont.)

	Greece			Hungary								Italy								Japan ^a			
Programme categories and sub-categories	Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP			
	1996	1997	1998	1998	1999	2000	2001 ^b	1998	1999	2000	2001 ^b	1997	1998	1999	2000	1997	1998	1999	2000	1997 -98	1998 -99	1999 -00	2000 -01
1. Public employment services and administration	0.14	0.12	0.06	0.12	0.11	0.11	0.11					..	..	..	..					0.24	0.21	0.20	0.20
2. Labour market training	0.09	0.06	0.21	0.07	0.07	0.07	0.07	1.30	1.35	1.34	1.62	0.09	0.12	0.07	0.05	1.15	1.26	0.77	-	0.03	0.03	0.03	0.03
<i>a)</i> Training for unemployed adults and those at risk	..	..	0.12	0.07	0.07	0.06	0.07	1.18	1.24	1.26	1.56	..	..	..	..	..	..	..	..	0.03	0.03	0.03	0.03
<i>b)</i> Training for employed adults	..	..	0.07	-	-	-	-	0.12	0.11	0.09	0.06	..	..	..	..	..	..	..	..	-	-	-	-
3. Youth measures	0.09	0.09	0.10	-	-	-	-	-	-	-	-	0.17	0.22	0.24	0.23	2.87	3.45	3.43	3.33	-	-	-	-
<i>a)</i> Measures for unemployed and disadvantaged youth	0.03	0.02	-	-	-	-	-	-	-	-	-	..	0.01	0.01	0.01	-	-	-	-	-	-	-	-
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.07	0.07	0.10	-	-	-	-	-	-	-	-	0.17	0.21	0.23	0.21	2.87	3.45	3.43	3.33	-	-	-	-
4. Subsidised employment	0.10	0.06	0.08	0.20	0.22	0.21	0.29	4.19	4.07	4.03	5.09	0.16	0.24	0.27	0.32	..	2.42	4.15	4.35	0.05	0.05	0.08	0.08
<i>a)</i> Subsidies to regular employment in the private sector	0.07	0.04	0.05	0.09	0.09	0.07	0.09	1.41	1.03	0.98	1.15	0.11	0.17	0.19	0.24	1.42	1.83	3.50	3.80	-	-	-	-
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.02	0.03	-	-	-	0.01	0.08	0.09	0.09	0.24	-	-	0.01	0.04	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	-	-	-	0.11	0.13	0.15	0.19	2.71	2.96	2.95	3.71	0.06	0.06	0.07	0.05	..	0.59	0.63	0.50	-	-	-	-
5. Measures for the disabled	0.03	0.01	0.01	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	0.01	0.01	0.01	0.01
<i>a)</i> Vocational rehabilitation	..	..	0.01	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	-	-	-	-
<i>b)</i> Work for the disabled	..	..	-	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	-	-	-	-
6. Unemployment compensation	0.44	0.49	0.47	0.45	0.47	0.43	0.37	7.33	7.44	7.03	7.14	0.62	0.59	0.56	0.52	6.52	12.01	10.96	10.79	0.41	0.47	0.50	0.55
7. Early retirement for labour market reasons	-	-	-	0.16	0.09	0.04	0.01	-	-	-	-	0.23	0.18	0.13	0.11	1.73	1.73	1.68	1.70	-	-	-	-
TOTAL	0.88	0.84	0.93	1.01	0.97	0.86	0.85	12.82	12.86	12.41	13.85	..	..	..	..	..	..	..	..	0.74	0.76	0.82	0.86
Active measures (1-5)	0.44	0.35	0.46	0.39	0.40	0.39	0.47	5.49	5.42	5.37	6.71	..	..	..	..	..	..	..	..	0.33	0.29	0.31	0.31
Passive measures (6 and 7)	0.44	0.49	0.47	0.62	0.57	0.47	0.38	7.33	7.44	7.03	7.14	0.86	0.76	0.68	0.63	8.25	13.74	12.64	12.49	0.41	0.47	0.50	0.55

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

a) Fiscal years starting on april 1.*b)* Provisional data.

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Korea								Mexico								Netherlands							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.05	0.04	0.04	0.05					..	..	..	..					0.31	0.28	0.25	0.26				
2. Labour market training	0.12	0.11	0.09	0.08	4.66	5.33	6.77	8.09	0.04	0.04	0.04	0.03	2.93	3.41	3.44	1.88	0.30	0.34	0.30	0.31	3.00	3.46	3.62	3.80
<i>a)</i> Training for unemployed adults and those at risk	0.07	0.09	0.06	0.04	1.55	1.68	1.18	1.05	0.03	0.03	0.03	0.03	1.32	1.44	1.54	1.02	0.25	0.28	0.25	0.24	1.20	1.37	1.34	1.37
<i>b)</i> Training for employed adults	0.05	0.02	0.03	0.04	3.11	3.65	5.59	7.04	0.01	0.01	0.01	0.01	1.61	1.98	1.90	0.86	0.05	0.06	0.05	0.07	1.80	2.09	2.28	2.43
3. Youth measures	0.01	0.01	0.01	0.01	0.16	0.14	0.16	0.18	-	-	-	-	-	-	-	-	0.04	0.04	0.04	0.04	0.59	0.64	0.63	0.64
<i>a)</i> Measures for unemployed and disadvantaged youth	0.01	0.01	0.01	0.01	0.16	0.14	0.16	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>b)</i> Support of apprenticeship and related forms of general youth training	-	-	-	-	..	..	..	..	-	-	-	-	-	-	-	-	0.04	0.04	0.04	0.04	0.59	0.64	0.63	0.64
4. Subsidised employment	0.27	0.52	0.32	0.15	5.46	9.71	5.97	4.71	0.03	0.04	0.03	0.02	1.20	1.75	1.39	1.45	0.41	0.40	0.41	0.38	1.91	1.88	1.88	1.78
<i>a)</i> Subsidies to regular employment in the private sector	0.02	0.02	0.01	0.01	3.37	2.24	1.65	1.97	-	-	-	-	-	-	-	-	0.08	0.07	0.06	0.05	1.47	1.39	1.43	1.40
<i>b)</i> Support of unemployed persons starting enterprises	0.04	0.03	0.01	0.01	0.05	0.47	0.29	0.14	..	..	..	..	0.16	0.12	0.10	0.07	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.21	0.48	0.30	0.13	2.04	7.00	4.04	2.60	0.03	0.04	0.02	0.02	1.04	1.63	1.28	1.38	0.33	0.33	0.34	0.33	0.44	0.49	0.45	0.38
5. Measures for the disabled	0.01	0.01	0.01	0.02	0.11	0.11	0.12	0.14	-	-	-	-	-	-	-	-	0.52	0.56	0.57	0.58	0.39	0.73	0.77	0.99
<i>a)</i> Vocational rehabilitation	0.01	0.01	0.01	0.02	0.11	0.11	0.12	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>b)</i> Work for the disabled	-	-	..	..	..	..	..	..	-	-	-	-	-	-	-	-	0.52	0.56	0.57	0.58	0.37	0.71	0.77	0.99
6. Unemployment compensation	0.18	0.19	0.09	0.16	1.92	2.14	1.38	1.69	-	-	-	-	-	-	-	-	2.58	2.33	2.11	1.92	7.33	5.46	4.46	4.03
7. Early retirement for labour market reasons	-	-	-	-	..	..	..	..	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0.64	0.89	0.57	0.47	12.31	17.44	14.41	14.81	..	..	..	..	4.13	5.17	4.82	3.33	4.10	3.89	3.60	3.44	13.23	12.17	11.36	11.23
Active measures (1-5)	0.46	0.70	0.48	0.31	10.39	15.30	13.02	13.11	..	..	..	..	4.13	5.17	4.82	3.33	1.58	1.62	1.55	1.58	5.90	6.71	6.90	7.20
Passive measures (6 and 7)	0.18	0.19	0.09	0.16	1.92	2.14	1.38	1.69	-	-	-	-	-	-	-	-	2.52	2.27	2.05	1.86	7.33	5.46	4.46	4.03

.. Data not available.

- Nil or less than half of the last digit used.

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (*cont.*)

Programme categories and sub-categories	New Zealand ^a								Norway								Poland							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1997-98	1998-99	1999-00	2000-01	1997-98	1998-99	1999-00	2000-01	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.15	0.12	0.08	0.11					0.15	0.15	0.12	0.12					..	..	..	..
2. Labour market training	0.31	0.24	0.18	0.16	..	3.29	6.50	4.50	0.10	0.05	0.08	0.06	1.27	1.03	1.05	0.86	0.02	0.02	0.01	0.01	0.80	0.74	0.57	0.27
<i>a)</i> Training for unemployed adults and those at risk	0.31	0.24	0.18	0.16	..	3.29	6.50	4.50	0.10	0.05	0.08	0.06	1.27	1.03	1.05	0.86	0.02	0.02	0.01	0.01	0.80	0.74	0.57	0.27
<i>b)</i> Training for employed adults	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Youth measures	0.09	0.12	0.13	0.14	2.71	3.22	0.11	4.79	0.02	0.01	0.01	0.01	0.49	0.39	0.41	0.41	0.10	0.09	0.07	0.08	2.56	2.37	..	..
<i>a)</i> Measures for unemployed and disadvantaged youth	0.02	0.07	0.07	0.07	0.29	0.55	0.11	1.22	0.02	0.01	0.01	0.01	0.49	0.39	0.41	0.41	0.04	0.04	0.03	0.03	0.82	0.81	..	..
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.07	0.05	0.07	0.07	2.42	2.68	-	3.56	-	-	-	-	-	-	-	-	0.06	0.05	0.04	0.05	1.74	1.56	..	..
4. Subsidised employment	0.15	0.09	0.11	0.09	..	1.34	2.63	1.97	0.04	0.02	0.01	0.01	0.38	0.25	0.26	0.27	0.16	0.11	0.06	0.05	1.51	1.19	0.90	0.41
<i>a)</i> Subsidies to regular employment in the private sector	0.09	0.04	0.06	0.05	..	0.71	1.06	0.92	0.03	0.01	0.01	0.01	0.33	0.19	0.22	0.22	0.07	0.05	0.03	0.02	0.84	0.74	0.58	0.23
<i>b)</i> Support of unemployed persons starting enterprises	0.01	0.03	0.03	0.03	..	0.40	0.35	0.36	-	-	-	-	0.05	0.06	-	-	0.02	0.02	0.01	0.01	0.06	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.04	0.03	0.02	0.01	..	0.22	1.22	0.69	-	-	-	-	-	-	-	-	0.06	0.03	0.02	0.02	0.60	0.40	0.29	0.17
5. Measures for the disabled	0.03	0.05	0.05	0.05	0.67	0.62	1.33	1.31	0.58	0.59	0.54	0.59	1.84	1.84	2.29	2.54	0.18	0.14	0.10	..	0.23	0.23	0.21	..
<i>a)</i> Vocational rehabilitation	0.01	0.03	0.03	0.01	0.40	0.43	1.00	0.41	0.38	0.40	0.38	0.43	1.20	1.26	1.58	1.78	-	0.01	0.01	..	-	-	0.06	..
<i>b)</i> Work for the disabled	0.01	0.02	0.02	0.04	0.27	0.19	0.33	0.91	0.20	0.19	0.15	0.17	0.64	0.58	0.72	0.76	0.18	0.13	0.09	..	0.20	0.20	0.15	..
6. Unemployment compensation	1.46	1.55	1.58	1.41	13.30	13.69	10.21	8.68	0.49	0.47	0.44	0.44	3.97	4.70	4.46	4.20	0.55	0.64	0.84	1.00	3.01	3.58	4.58	5.28
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	2.18	2.17	2.13	1.96	..	22.17	20.78	21.25	1.38	1.28	1.20	1.23	7.95	8.20	8.47	8.26	..	..	..	..	8.11	8.12	..	..
Active measures (1-5)	0.72	0.61	0.55	0.55	..	8.48	10.57	12.57	0.90	0.81	0.76	0.79	3.98	3.50	4.02	4.06	..	..	..	..	5.11	4.53	..	..
Passive measures (6 and 7)	1.46	1.55	1.58	1.41	13.30	13.69	10.21	8.68	0.49	0.47	0.44	0.44	3.97	4.70	4.46	4.20	0.55	0.64	0.84	1.00	3.01	3.58	4.58	5.28

.. Data not available.

- Nil or less than half of the last digit used

^a Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.^{a)} Fiscal years starting on July 1.

Table H. **Public expenditure and participant inflows^a in labour market programmes in OECD countries** (cont.)

Programme categories and sub-category	Portugal							Spain ^a							Sweden							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1997	1998	1999	2000	1996	1997	1998	1999	2000	2001 ^b	1999	2000	2001 ^b	1998	1999	2000	2001	1998	1999	2000	2001	
1. Public employment services and administration	0.11	0.11	0.11	0.11				0.06	0.09	0.09				0.28	0.27	0.25	0.23					
2. Labour market training	0.27	0.29	0.29	0.15	6.19	7.22	9.92	0.12	0.15	0.14	10.12	10.33	14.57	0.45	0.48	0.31	0.30	4.58	3.79	2.84	2.32	
a) Training for unemployed adults and those at risk	0.08	0.08	0.08	0.07	0.34	0.60	0.63	0.01	0.01	0.01	1.95	2.02	1.55	0.44	0.47	0.30	0.30	3.95	3.21	2.42	2.32	
b) Training for employed adults	0.19	0.22	0.21	0.09	5.86	6.62	9.30	0.11	0.11	0.10	8.17	8.31	13.02	0.01	0.01	0.01	-	0.64	0.58	0.42	-	
3. Youth measures	0.28	0.24	0.28	0.22	2.70	..	..	0.07	0.07	0.06	2.41	1.98	0.08	0.03	0.03	0.02	0.02	0.89	0.73	0.62	0.55
a) Measures for unemployed and disadvantaged youth	0.05	0.07	0.09	0.10	0.27	0.27	0.43	0.06	0.05	0.04	0.98	0.80	0.08	0.03	0.03	0.02	0.02	0.89	0.73	0.62	0.55	
b) Support of apprenticeship and related forms of general youth training	0.22	0.18	0.19	0.12	2.42	..	..	0.01	-	-	1.43	1.18	-	-	-	-	-	-	-	-	-
4. Subsidised employment	0.09	0.09	0.10	0.09	1.19	1.02	1.09	0.42	0.45	0.40	5.09	5.17	1.58	0.61	0.45	0.27	0.24	5.49	3.33	2.97	2.11	
a) Subsidies to regular employment in the private sector	0.01	0.01	0.01	0.01	0.36	-	0.06	0.30	0.30	0.25	3.20	3.64	-	0.14	0.18	0.14	0.19	2.21	2.78	2.66	1.89	
b) Support of unemployed persons starting enterprises	0.02	0.03	0.03	0.03	0.10	0.13	0.11	0.04	0.05	0.05	0.20	0.17	0.18	0.08	0.07	0.05	0.04	0.43	0.36	0.30	0.22	
c) Direct job creation (public or non-profit)	0.05	0.05	0.05	0.05	0.73	0.84	0.91	0.06	0.06	0.06	1.69	1.37	1.40	0.39	0.20	0.07	-	2.85	0.19	-	-	
5. Measures for the disabled	0.03	0.04	0.04	0.04	0.17	0.15	0.06	0.03	0.03	0.03	0.17	0.23	0.24	0.59	0.57	0.52	0.31	1.12	0.85	0.90	0.84	
a) Vocational rehabilitation	0.02	..	..	..	0.12	0.13	-	-	-	-	-	-	-	0.04	0.04	0.03	0.02	0.67	0.51	0.55	0.43
b) Work for the disabled	0.01	..	..	..	-	-	-	0.03	0.03	0.03	0.17	0.23	0.24	0.55	0.53	0.49	0.28	0.45	0.34	0.34	0.41
6. Unemployment compensation	0.69	0.65	0.65	0.69	3.80	3.40	3.36	1.40 ^c	1.34 ^c	1.33 ^c	1.39	1.37	1.46	1.81	1.59	1.33	1.19	..	..	..	..
7. Early retirement for labour market reasons	0.14	0.15	0.15	0.21	0.41	0.50	0.56	^c	^c	^c	..	..	..	0.12	0.09	-	-	..	..	..	..
TOTAL	1.60	1.57	1.62	1.52	14.46	..	..	2.10	2.14	2.06	19.17	19.08	17.93	3.88	3.49	2.70	2.28	..	..	..	..
Active measures (1-5)	0.77	0.77	0.81	0.61	10.25	..	..	0.70	0.81	0.73	17.78	17.72	16.47	1.96	1.81	1.37	1.09	12.09	8.69	7.33	5.81
Passive measures (6 and 7)	0.83	0.80	0.81	0.90	4.21	3.90	3.92	1.40	1.34	1.33	1.39	1.37	1.46	1.93	1.68	1.33	1.19	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

a) Data by category and for total expenditure include expenditure on LMPs administered by the Autonomous Communities and by the municipalities with at least 20 000 inhabitants. The figures by sub-category, which do not include such disbursements, do not add up to the totals by category.*b)* The figures are provisional.*c)* Data for category 7 "Early retirement for labour market reasons" are included in category 6 "Unemployment compensation"

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Switzerland				United Kingdom ^a						United States ^b							
	Public expenditure as a percentage of GDP				Public expenditure as a percentage of GDP			Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1998	1999	2000	2001	1997-98	1998-99	1999-00	1997-98	1998-99	1999-00	1997-98	1998-99	1999-00	2000-01	1997-98	1998-99	1999-00	2000-01
1. Public employment services and administration	0.14	0.14	0.11	0.10	0.16	0.13	0.13				0.06	0.06	0.04	0.04				
2. Labour market training	0.14	0.11	0.09	0.08	0.07	0.05	0.05	0.48	0.51	0.51	0.04	0.04	0.04	0.04	0.78	0.59	..	0.99
<i>a)</i> Training for unemployed adults and those at risk	0.14	0.11	0.09	0.08	0.06	0.04	0.04	0.43	0.45	0.45	0.04	0.04	0.04	0.04	0.78	0.59	..	0.99
<i>b)</i> Training for employed adults	-	-	-	-	0.01	0.01	0.01	-	0.06	0.06	-	-	-	-	-	-	..	-
3. Youth measures	0.01	0.01	0.01	0.01	0.12	0.13	0.15	0.96	1.02	1.02	0.03	0.03	0.03	0.03	0.59	0.56	..	0.45
<i>a)</i> Measures for unemployed and disadvantaged youth	0.01	0.01	0.01	0.01	0.01	0.02	0.04	-	-	-	0.03	0.03	0.03	0.03	0.51	0.48	..	0.36
<i>b)</i> Support of apprenticeship and related forms of general youth training	-	-	-	-	0.11	0.11	0.11	0.96	1.02	1.02	-	-	-	-	0.08	0.08	..	0.09
4. Subsidised employment	0.32	0.25	0.14	0.11	0.01	-	0.01	-	-	-	0.01	0.01	0.01	0.01	..	..	..	..
<i>a)</i> Subsidies to regular employment in the private sector	0.10	0.08	0.06	0.04	-	-	0.01	-	-	-	-	-	-	-	..	..	..	..
<i>b)</i> Support of unemployed persons starting enterprises	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.21	0.16	0.08	0.07	0.01	-	-	-	-	-	0.01	0.01	0.01	0.01	0.07	0.07	..	0.05
5. Measures for the disabled	0.15	0.14	0.14	0.14	0.02	0.02	0.02	0.20	0.18	0.18	0.04	0.04	0.03	0.03	..	..	..	..
<i>a)</i> Vocational rehabilitation	0.15	0.14	0.14	0.14	-	-	0.01	0.12	0.10	0.10	0.04	0.04	0.03	0.03	..	..	..	..
<i>b)</i> Work for the disabled	-	-	-	-	0.02	0.02	0.02	0.08	0.08	0.08	-	-	-	-	-	-	-	-
6. Unemployment compensation	1.10	0.90	0.57	0.48	0.78	0.63	0.56	10.42	10.23	10.22	0.25	0.25	0.23	0.30	..	..	..	..
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1.87	1.55	..	..	1.15	0.96	0.92	12.08	11.97	11.96	0.42	0.42	0.38	0.45	..	..	..	..
Active measures (1-5)	0.77	0.66	..	..	0.38	0.33	0.36	1.66	1.74	1.74	0.17	0.17	0.15	0.15	..	..	..	..
Passive measures (6 and 7)	1.10	0.90	0.57	0.48	0.78	0.63	0.56	10.42	10.23	10.22	0.25	0.25	0.23	0.30	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

a) Excluding Northern Ireland. Fiscal years starting on April 1.*b)* Fiscal years starting on October 1.*Source:* OECD database on labour market programmes. The data are compiled each year by the OECD on the basis of submissions from Member countries. The programmes have been classified into standardized categories and sub-categories. For their definitions, see OECD (1992), *Employment Outlook*, Paris.

Index of previous issues of the *OECD Employment Outlook*, 1983-2001

1983

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Chapter 1. Labour Market Developments

Chapter 2. Labour Market Prospects

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Chapter 2. Labour Market Prospects

Part II. Detailed Analyses of Key Labour Market Issues

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