

Chapter 1

Recent Labour Market Developments and Prospects

Special Focus on: Clocking in (and out): Several Facets of Working Time

The amount of time devoted to paid work is at the nexus of several of the key economic and social challenges facing OECD governments. The potential contribution of working-time flexibility to lowering unemployment has been highlighted by the OECD Jobs Strategy, while recent analyses of the sources of economic growth have highlighted the importance of average hours worked. However, longer and flexible working hours may not be fully compatible policy goals, nor are they an unmixed blessing from the perspective of the well-being of workers and their families. How do working hours vary across OECD countries? What are the links between employment rates for women and other under-represented groups, the incidence of part-time work and total hours worked? Is work-life balance threatened by rising employment rates for parents and a “long-hours culture”?

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Introduction

The world economy appears to be moving into a broad and sustainable recovery, although some continental European countries have thus far been largely bypassed. Even in those countries where the recovery is already well underway, labour market conditions have been slow to register improvements. Section 1 of this chapter surveys recent economic developments and prospects, with particular emphasis on labour markets. The special focus section of the chapter then analyses trends in working time since 1970. Several facets of working time are considered from two distinct perspectives: i) how working time patterns interact with employment rates to influence total labour input and growth; and ii) how working hours affect the time use patterns and welfare of workers and their families.

1. Recent labour market developments and prospects

A. Economic outlook to the year 2005

In the OECD area as a whole, real GDP growth was 2.2% in 2003, up modestly from 1.7% in the previous year (Table 1.1). The global recovery is being led by the United States, as often in the past. Under the effect of the buoyancy of economic activity in Asia, and especially China, the recovery also got an early start in Australia, Japan, New Zealand and the United Kingdom, where it continued to gain momentum during 2003. By contrast, the largest euro area economies recorded anaemic growth, albeit less so in France than in Germany and Italy. However, the situation is quite diverse in continental Europe. The Netherlands, Portugal and Switzerland experienced negative growth in 2003, while all new members of the European Union – the Czech Republic, Hungary, Poland and the Slovak Republic – recorded significant growth.

The OECD's short-term projections indicate more rapid growth in the OECD area during 2004-05, averaging a little above 3%, as the recovery matures and broadens (Table 1.1). Growth will continue to strengthen in the United States, Japan and the United Kingdom in 2004, albeit for different reasons. While strong activity in industry, exports and personal spending explain the strength in the recovery in the United States and in Japan, growth in the United Kingdom is driven by buoyant retail sales and improving orders amid subdued industrial production. After having been largely bypassed by the global recovery in 2003, growth will become more robust in continental European economies during 2004 and 2005. Nonetheless, the gap in real GDP growth between Europe and the United States, which widened during 2003, is projected to remain at approximately the same level in 2005. The expansion is also projected to gain strength in Australia, Korea, and New Zealand, as a result of the regional buoyancy, while Turkey's recovery is expected to continue at a better than 5% annual growth rate.

B. Employment and unemployment

Employment growth remained sluggish in 2003, even in those OECD countries where output growth has been quite strong (Table 1.2). Indeed, one-half of all the OECD countries

Table 1.1. **Growth of real GDP in OECD countries**^{a, b}
 Percentage change from previous period

	Share in total OECD GDP 2000	Average 1991-2001	2002	2003	Projections	
					2004	2005
North America						
Canada	3.3	3.3	3.3	1.7	2.8	3.3
Mexico	3.3	3.0	0.7	1.3	3.5	4.2
United States	36.4	3.3	2.2	3.1	4.7	3.7
Asia						
Japan	12.2	1.2	-0.3	2.7	3.0	2.8
Korea	2.9	5.4	6.9	3.1	5.6	5.9
Europe						
Denmark	0.6	2.4	1.0	0.4	1.9	2.6
Finland	0.5	2.7	2.3	1.9	2.5	3.7
Norway	0.6	3.6	1.4	0.3	3.1	2.7
Sweden	0.9	2.2	2.1	1.6	2.5	2.8
Greece	0.6	2.4	3.9	4.2	4.0	3.5
Italy	5.3	1.6	0.4	0.4	0.9	1.9
Portugal	0.6	2.5	0.5	-1.3	0.8	2.4
Spain	3.0	2.7	2.0	2.4	2.9	3.3
Czech Republic	0.5	1.0	2.0	2.9	3.1	3.4
Hungary	0.4	2.4	3.5	2.9	3.3	3.8
Poland	1.5	4.5	1.4	3.7	4.7	4.5
Slovak Republic	0.2	..	4.4	4.2	4.3	4.8
Austria	0.8	2.1	1.4	0.7	1.5	2.4
Belgium	1.0	2.0	0.7	1.1	2.0	2.6
France	5.7	2.0	1.1	0.5	2.0	2.6
Germany ^c	7.6	2.0	0.2	-0.1	1.1	2.1
Iceland	0.0	2.9	-0.6	4.0	3.8	4.8
Ireland	0.4	7.7	6.9	1.4	3.4	4.6
Luxembourg	0.1	4.8	1.3	1.7	2.6	3.6
Netherlands	1.6	2.8	0.2	-0.7	0.9	2.1
Switzerland	0.8	1.2	0.2	-0.5	1.8	2.3
Turkey	1.7	2.7	7.9	5.8	5.2	5.2
United Kingdom	5.5	2.8	1.6	2.2	3.1	2.7
Oceania						
Australia	1.8	3.8	3.4	3.3	3.8	3.5
New Zealand	0.3	3.3	4.3	3.0	3.3	2.5
OECD Europe^d	39.9	2.3	1.4	1.2	2.2	2.7
EU-15	34.1	2.3	1.1	0.9	1.8	2.5
EU-19^d	36.8	2.3	1.1	1.0	2.0	2.6
Total OECD^d	100.0	2.7	1.7	2.2	3.4	3.2

.. 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/dataoecd/29/23/25501352.pdf).

b) Aggregates are computed on the basis of 2000 GDP weights expressed in 2000 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 1991-2001 exclude the Slovak Republic.

Source: OECD Economic Outlook, No. 75, June 2004.

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

Percentage change from previous period

	Employment						Labour force					
	Level 2002 (000s)	Average 1991- 2001	2002	2003	Projections		Level 2002 (000s)	Average 1991- 2001	2002	2003	Projections	
					2004	2005					2004	2005
North America												
Canada	15 412	1.6	2.2	2.2	1.7	1.5	16 687	1.3	2.7	2.2	1.3	1.3
Mexico	19 731	2.6	1.4	1.3	2.0	2.6	20 277	2.6	1.7	1.9	2.3	2.2
United States	136 487	1.5	-0.3	0.9	1.0	1.7	144 869	1.3	0.8	1.1	0.5	1.4
Asia												
Japan	63 304	0.1	-1.3	-0.2	0.0	0.3	66 890	0.4	-0.9	-0.3	-0.3	-0.1
Korea	22 169	1.5	2.8	-0.1	1.7	1.2	22 877	1.6	2.0	0.2	1.6	0.9
Europe												
Denmark	2 733	0.3	0.4	-1.0	0.0	0.4	2 864	-0.1	0.7	0.2	0.4	0.2
Finland	2 364	0.0	0.2	-0.3	0.0	1.4	2 600	0.2	0.1	-0.4	-0.2	0.7
Norway	2 286	1.3	0.4	-0.8	0.5	1.0	2 379	1.1	0.7	-0.1	0.4	0.8
Sweden	4 242	-0.4	0.1	-0.2	-0.4	0.9	4 418	-0.3	0.1	0.7	0.6	0.6
Greece	3 925	0.8	0.1	2.2	1.7	1.4	4 369	1.1	-0.3	1.4	0.9	0.9
Italy	21 613	0.1	1.5	1.0	0.5	1.3	23 776	0.2	0.9	0.6	0.3	1.2
Portugal	5 077	0.8	0.3	-0.9	0.3	1.4	5 349	0.8	1.3	0.5	0.5	0.9
Spain	16 258	2.0	2.0	2.7	2.8	2.8	18 340	1.9	3.0	2.6	2.3	2.0
Czech Republic	4 730	-0.5	1.0	-0.7	-0.5	0.0	5 104	-0.1	0.0	-0.1	0.0	0.0
Hungary	3 830	-1.5	0.1	1.3	1.1	1.3	4 068	-1.3	0.2	1.3	1.1	1.1
Poland	13 782	-1.5	-3.0	-1.2	0.7	1.1	17 213	-0.5	-0.9	-1.6	0.8	0.5
Slovak Republic	2 127	..	0.2	1.8	1.0	1.3	2 614	..	-0.7	0.3	0.0	0.0
Austria	4 066	0.3	-0.2	0.3	0.3	0.9	4 302	0.3	0.5	0.5	0.5	0.8
Belgium	4 186	0.7	-0.3	-0.4	0.3	1.0	4 517	0.8	0.4	0.4	0.5	0.7
France	24 644	0.8	0.5	-0.2	0.2	0.5	27 082	0.7	0.9	0.6	0.3	0.3
Germany ^b	38 671	0.4	-0.6	-1.1	-0.3	0.6	42 067	0.6	0.1	-0.4	-0.2	0.3
Iceland	157	1.5	-1.5	1.5	2.1	3.0	162	1.5	-0.4	1.6	1.8	2.7
Ireland	1 765	4.2	1.4	1.2	1.4	1.6	1 847	3.0	1.9	1.5	1.5	1.6
Luxembourg	191	1.4	1.7	1.0	0.7	1.0	197	1.5	2.1	1.9	1.3	1.2
Netherlands	7 141	2.0	1.1	-0.6	-0.9	1.2	7 311	1.6	1.4	0.6	0.7	1.3
Switzerland	4 180	0.3	0.6	-0.1	0.7	1.1	4 314	0.4	1.2	0.9	0.5	0.6
Turkey	21 854	1.1	-0.8	-2.6	0.8	1.4	24 318	1.1	1.4	-2.2	1.1	2.0
United Kingdom	27 865	0.6	0.7	0.9	0.8	0.7	29 384	0.3	0.8	0.7	0.6	0.7
Oceania												
Australia	9 369	1.7	2.0	2.4	1.8	1.7	10 001	1.4	1.5	1.9	1.6	1.5
New Zealand	1 877	2.2	2.9	2.4	1.8	1.1	1 980	1.7	2.8	1.8	1.8	1.3
OECD Europe^c	217 685	0.5	0.1	-0.1	0.5	1.1	238 595	0.6	0.7	0.1	0.6	0.9
EU-15	164 740	0.7	0.5	0.2	0.5	1.0	178 422	0.7	0.9	0.6	0.5	0.8
EU-19^c	189 209	0.5	-0.9	0.1	0.5	1.0	207 422	0.6	-0.6	0.4	0.5	0.7
Total OECD^c	486 034	0.9	0.1	0.3	0.8	1.3	522 175	0.9	0.7	0.5	0.6	1.0

.. 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 1991-2001 exclude the Slovak Republic.

Source: OECD Economic Outlook, No. 75, June 2004.

experienced negative employment growth in 2003, including Japan, Korea and Turkey, where real GDP growth ranged between 3% and 5%. Hiring also lagged in the United States, where there has been much concern about a “jobless recovery”. Firms may have delayed their hiring decisions because they are still reaping the latent productivity gains stemming from the investment undertaken in the late 1990s or due to geopolitical worries, and uncertainties concerning the timeliness and robustness of recovery, but now appear posed to quicken hiring. In Europe, job losses in the recent downturn were smaller than in past cycles, and that helps to explain the weakness of job creation at the early stages of the recovery. By contrast, employment growth exceeded 2% in Australia, Canada, Greece, New Zealand and Spain. As the recovery broadens and deepens, employment performance should strengthen during 2004-05. By 2005, employment growth is expected to be positive in all OECD countries and to average 1%, very near the average level observed during the 1990s. The gap in employment growth between Europe and the United States is projected to narrow somewhat, but not to fully close. While employment in Europe is expected to grow at 1.1% in 2005, employment growth in the United States is projected at a higher 1.7%. Growth rates exceeding 2% are expected only in Iceland, Mexico and Spain. Labour force growth is also projected to quicken moderately in most countries, although it will remain negative in Japan.

In 2003, unemployment in the OECD area increased by 0.2 percentage point, representing 1.2 million persons, and attained 7.1% of the labour force, representing more than 37 million unemployed persons (Table 1.3). This probably represents the peak level for the current business cycle, since unemployment is projected to recede modestly during the next two years, falling to 6.7% in 2005 (still nearly 36 million people). Unemployment had already begun to fall in Australia, Japan, New Zealand and the United Kingdom during 2003, even as it continued to inch upwards in the United States and most continental European countries, notably France and Germany. The projected fall in the US unemployment rate, from 6% of the labour force in 2003 to 5.2% in 2005, is only partly explained by improving employment growth, since historically low labour force growth of the last several years is projected to continue. In Japan, unemployment rate is expected to fall below 5% in 2005, despite little net job creation, due to a shrinking labour force. In Europe, unemployment is expected to remain at high levels in 2005: over 14 million people in the EU-15 and over 18 million people in the EU-19. Unemployment rates will begin to fall only as employment growth strengthens in 2005. However, little or no progress in lowering unemployment is projected for many European countries during the next two years. Indeed, unemployment is projected to be higher in 2005 than in 2003 in the Czech Republic, Denmark, Luxembourg, the Netherlands, Sweden and Turkey, while it will fall by more than one-half of a percentage point only in Finland, Greece, the Slovak Republic, Spain and Switzerland. In non-European countries, outside Japan and the United States, unemployment is projected to decrease in 2004-05 in Australia, Canada, Korea and Mexico.

C. Compensation and labour costs

In 2003, the growth in nominal compensation per employee in the business sector accelerated moderately in the OECD-area, rising from 2.3% to 2.8% (Table 1.4). The OECD projections indicate that this mild acceleration will continue during the next two years, with compensation rising by 3.5% in 2005, which is still below that the 4.2% average growth rate during 1991-2001. In OECD Europe, nominal compensation growth is projected to plateau at its 2001 level, of approximately 3%. However, this average masks the fact that in about half of the European countries the pace of compensation growth will either slow

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

	Percentage of labour force					Millions				
	Average 1991-2001	2002	2003	Projections		Average 1991-2001	2002	2003	Projections	
				2004	2005				2004	2005
North America										
Canada	9.2	7.6	7.6	7.3	7.1	1.4	1.3	1.3	1.3	1.2
Mexico	3.5	2.7	3.3	3.5	3.1	0.6	0.5	0.7	0.7	0.7
United States	5.5	5.8	6.0	5.5	5.2	7.4	8.4	8.8	8.1	7.8
Asia										
Japan	3.5	5.4	5.3	5.0	4.6	2.3	3.6	3.5	3.3	3.0
Korea	3.5	3.1	3.4	3.3	3.0	0.7	0.7	0.8	0.8	0.7
Europe										
Denmark	6.4	4.6	5.6	6.0	5.8	0.2	0.1	0.2	0.2	0.2
Finland	12.3	9.1	9.1	8.9	8.3	0.3	0.2	0.2	0.2	0.2
Norway	4.5	3.9	4.5	4.4	4.2	0.1	0.1	0.1	0.1	0.1
Sweden	6.3	4.0	4.9	5.8	5.4	0.3	0.2	0.2	0.3	0.2
Greece	9.9	10.2	9.5	8.8	8.4	0.4	0.4	0.4	0.4	0.4
Italy	10.7	9.1	8.8	8.6	8.5	2.5	2.2	2.1	2.1	2.1
Portugal	5.4	5.1	6.4	6.6	6.1	0.3	0.3	0.3	0.4	0.3
Spain	14.7	11.4	11.3	10.9	10.2	2.3	2.1	2.1	2.1	2.0
Czech Republic	5.7	7.3	7.8	8.3	8.3	0.3	0.4	0.4	0.4	0.4
Hungary	8.5	5.9	5.9	5.9	5.7	0.4	0.2	0.2	0.2	0.2
Poland	13.3	19.9	19.6	19.7	19.2	2.3	3.4	3.3	3.4	3.3
Slovak Republic	..	18.6	17.4	16.6	15.5	..	0.5	0.5	0.4	0.4
Austria	5.2	5.5	5.7	5.9	5.8	0.2	0.2	0.2	0.3	0.3
Belgium	8.4	7.3	8.1	8.3	8.0	0.4	0.3	0.4	0.4	0.4
France	10.8	9.0	9.7	9.9	9.6	2.8	2.4	2.6	2.7	2.6
Germany	7.7	8.1	8.7	8.8	8.5	3.1	3.4	3.7	3.7	3.6
Iceland	3.5	3.3	3.3	3.1	2.8	0.0	0.0	0.0	0.0	0.0
Ireland	10.5	4.4	4.7	4.8	4.8	0.2	0.1	0.1	0.1	0.1
Luxembourg	2.6	3.0	3.8	4.3	4.5	0.0	0.0	0.0	0.0	0.0
Netherlands	5.1	2.3	3.5	5.0	5.1	0.3	0.2	0.3	0.4	0.4
Switzerland	3.2	3.1	4.0	3.8	3.4	0.1	0.1	0.2	0.2	0.2
Turkey	7.5	10.1	10.5	10.7	11.2	1.7	2.5	2.5	2.6	2.7
United Kingdom	7.8	5.2	5.0	4.8	4.8	2.2	1.5	1.5	1.4	1.4
Oceania										
Australia	8.4	6.3	5.9	5.7	5.5	0.8	0.6	0.6	0.6	0.6
New Zealand	7.5	5.2	4.7	4.7	4.9	0.1	0.1	0.1	0.1	0.1
OECD Europe^{b, c}	9.0	8.8	9.0	9.1	8.9	20.3	20.9	21.6	21.8	21.5
EU-15^b	9.1	7.7	8.0	8.0	7.8	15.4	13.7	14.4	14.4	14.1
EU-19^{b, c}	9.4	8.8	9.0	9.0	8.8	18.7	18.2	18.8	18.9	18.5
Total OECD^b	6.9	6.9	7.1	6.9	6.7	33.7	36.1	37.3	36.7	35.7

.. Data not available.

a) See note a) to Table 1.1.

b) Unemployment rate aggregates are computed using labour force weights.

c) Averages for 1991-2001 exclude the Slovak Republic.

Source: OECD Economic Outlook, No. 75, June 2004.

Table 1.4. **Business sector labour costs in OECD countries**^{a, b}
Percentage change from previous period

	Compensation per employee					Unit labour costs				
	Average 1991-2001	2002	2003	Projections		Average 1991-2001	2002	2003	Projections	
				2004	2005				2004	2005
North America										
Canada	3.0	2.7	1.5	2.5	3.6	1.1	1.3	1.8	1.1	1.5
Mexico	16.4	5.2	5.0	4.6	4.4	15.8	6.0	5.1	3.3	2.8
United States	3.8	2.1	3.0	4.3	4.8	1.9	-1.7	-0.4	0.2	2.7
Asia										
Japan	0.3	-2.2	-0.3	0.3	0.4	-0.8	-3.1	-3.6	-2.9	-2.1
Korea	7.8	10.5	8.9	6.1	7.1	3.4	5.9	5.2	1.9	2.1
Europe										
Denmark	3.4	1.8	3.9	3.5	3.4	0.8	1.0	2.1	2.1	0.9
Finland	3.3	1.3	3.5	3.6	3.9	0.1	-0.4	0.6	0.5	1.1
Norway	4.3	5.7	4.3	3.8	4.2	1.8	3.9	2.3	0.0	1.5
Sweden	4.9	2.2	2.0	2.8	4.0	1.8	-0.3	-0.6	-0.4	1.8
Greece	8.9	6.8	5.7	6.1	6.0	7.0	2.5	3.6	3.6	3.6
Italy	3.4	2.2	3.3	3.0	2.9	1.7	3.3	3.4	2.6	2.1
Portugal	6.9	3.8	3.1	2.2	2.5	4.8	3.4	3.8	1.7	1.6
Spain	4.8	4.2	4.8	4.3	4.2	3.4	3.6	3.9	3.5	2.9
Czech Republic	6.3	6.7	6.8	6.8	6.0	..	5.8	2.5	2.7	2.3
Hungary	17.2	11.9	10.9	9.3	8.3	12.1	7.1	9.2	7.1	5.7
Poland	27.7	4.0	3.0	4.5	4.9	19.4	-1.1	-2.4	0.4	1.6
Slovak Republic	14.7	7.1	5.7	6.7	5.4	..	2.4	2.6	3.6	1.7
Austria	3.0	2.4	1.9	1.9	2.3	0.8	0.6	1.4	0.6	0.7
Belgium	2.9	4.4	1.7	2.9	2.0	1.6	3.0	-0.1	1.0	0.3
France	1.8	2.5	2.6	2.8	2.9	0.5	1.8	1.6	0.8	0.7
Germany ^c	3.3	1.5	1.6	1.3	1.6	1.6	0.6	0.6	-0.1	0.0
Iceland	5.4	5.9	3.7	4.8	7.0	3.8	4.7	1.1	3.1	5.0
Ireland	4.2	4.3	3.9	4.0	4.9	0.5	-1.5	3.9	1.8	1.7
Luxembourg	3.5	2.7	2.2	2.5	3.0	2.3	4.9	1.9	1.3	1.4
Netherlands	3.2	4.7	3.7	2.3	0.1	1.9	4.7	4.0	-0.4	-1.1
Switzerland	2.4	2.0	1.7	1.3	1.4	1.4	2.3	2.2	0.0	-0.1
Turkey	..	..	..	..	..	..	..	..	..	..
United Kingdom	4.5	2.8	4.3	5.2	4.7	2.5	1.9	2.8	2.6	2.4
Oceania										
Australia	3.5	3.9	3.2	3.9	3.8	1.1	2.4	2.3	1.7	2.0
New Zealand	1.6	2.7	3.2	3.9	3.5	0.7	1.2	1.9	2.2	1.9
OECD Europe^d	4.6	2.8	3.1	3.1	3.0	2.5	1.9	2.0	1.4	1.3
EU-15	3.6	2.7	3.1	3.1	3.0	1.9	2.0	2.2	1.4	1.3
EU-19^d	4.8	2.9	3.2	3.3	3.2	2.6	2.0	2.1	1.5	1.3
Total OECD less high-inflation countries^{d, e}	3.4	2.1	2.8	3.3	3.5	1.5	0.0	0.5	0.4	1.4
Total OECD^d	4.2	2.3	2.8	3.3	3.5	2.3	0.2	0.6	0.5	1.5

.. Data not available.

a) See note a) to Table 1.1.

b) Aggregates are computed on the basis of 2000 GDP weights expressed in 2000 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) Countries shown. Unit labour costs averages for 1991-2000 exclude the Czech and Slovak Republics.

e) High inflation countries are defined as countries which had 10% or more inflation in terms of GDP deflator on average between 1991 and 2001 on the basis of historical data. Consequently, Hungary, Mexico, Poland and Turkey are excluded from the aggregate.

Source: OECD Economic Outlook, No. 75, June 2004.

down or speed up significantly. The projections indicate that the marked acceleration observed in the United Kingdom in 2003, will continue into 2004 before easing in 2005. Outside Europe, the projections indicate an acceleration of growth in compensation per employee in the United States and, to a lesser extent, Australia, Canada and New Zealand. In Japan, compensation per employee fell by 2.2% in 2002, but this decline slowed considerably in 2003 and modest positive growth is expected during 2004-05.

In the OECD area as a whole, the growth of unit labour costs in 2003 remained moderate at 0.6%, albeit slightly higher than in the previous year (Table 1.4). The increase should be similar in 2004, before accelerating to 1.5% in 2005 as labour markets tighten. The acceleration is stronger than average in the United States, from a decline of 1.7% in 2002 to an increase of 2.7% in 2005, due to a stronger than average recovery and a reduction in the very high rate of productivity gains achieved early in the recovery. Despite experiencing its strongest recovery in several decades, unit labour costs in Japan are projected to continue to fall through 2005. In OECD European as a whole, growth in unit labour costs is projected to decelerate in 2004, in reaction to continuing high economic slack, and to remain modest in 2005. However, the United Kingdom which will continue to record more rapid growth in unit labour costs, reflective of tighter labour market conditions, while unit labour costs are projected to fall in the Netherlands, where unemployment is rising. The growth of unit labour costs is projected to decelerate in Korea and Mexico.

2. Clocking in (and out): several facets of working time

A. Introduction

The amount of time that is devoted to paid work is at the nexus of several of the key economic and social challenges facing OECD governments.¹ One of these challenges is to raise employment rates in the context of population ageing. When OECD Labour Ministers met in Paris in September 2003 to discuss this challenge, they emphasised that increased working-time flexibility can make an important contribution to raising employment (OECD, 2003a). For example, expanding options to work part-time can make it easier for mothers with young children to combine working and parenting (Jaumotte, 2003; OECD, 2003b), while greater flexibility of working hours can help firms adjust to changing work loads. Indeed, the third policy guideline of the OECD Jobs Strategy (OECD, 1994) recommended that governments take measures with the aim of “increasing working-time flexibility”.

The importance of working time for economic growth performance has received increased attention recently. The strong revival in the productivity performance of the United States since the mid-1990s has stimulated an outpouring of research on the determinants of growth across countries. This body of research has clearly established a remarkable fact: namely, that the sizeable US advantage in real GDP per capita, particularly as compared to the most advanced European economies, is largely due to differences in *total hours worked per capita*² (Blanchard, 2004; OECD, 2003c), rather than to higher output per hour worked. That the long-term decline in average annual working hours had stalled – and even reversed – since the mid-1980s in the United States and a few other OECD member countries, while it continued elsewhere in the OECD area – albeit often at a somewhat slower pace –, was already well known (see for example, OECD 1998a). However, it had not been appreciated that this divergence was becoming a major factor in determining relative growth performance. That realisation heightens the interest in understanding the factors influencing the evolution of per capita hours worked, including policies that could raise it.³

One complication for assessing policy choices is that longer and more flexible working hours may not be an unmixed blessing from the perspective of the well-being of workers and their families. The flip-side of the growth advantage associated with an increase in per capita hours of work is the “time crunch” faced by working parents and the possibility that a “long-hours” culture is undermining the work-life balance of workers exercising certain professions. Similarly, working hours flexibility may be detrimental to family life to the extent that it takes the form of non-standard work schedules dictated by the logic of just-in-time staffing for the “24/7” economy, rather than an increased choice for workers to select the work schedule that best reconciles their work with their family life (Presser, 2003).

The purpose of this special section is to improve the cross-country empirical basis for assessing a few of the facets of working time that have an important impact on total labour input, employment rates and work-life balance. It begins by adopting an economy-wide perspective which emphasises total hours worked as a factor input that results in output and income. Harmonised data on total hours worked per capita are presented and the cross-country evolution of labour utilisation since 1970 is documented. Attention then turns to decomposing total hours worked into its underlying components, including the respective contributions of average annual hours per worker and the employment rate, on the one hand, and between the hours of work supplied by different demographic groups (or full and part-time workers), on the other hand. The remainder of the section adopts the worker’s perspective and analyses some of the key components of the work year and work week, as well as the incidence of non-standard work schedules. The section concludes with a discussion of working hours from a family perspective and some evidence concerning the impact of work schedules on family life.

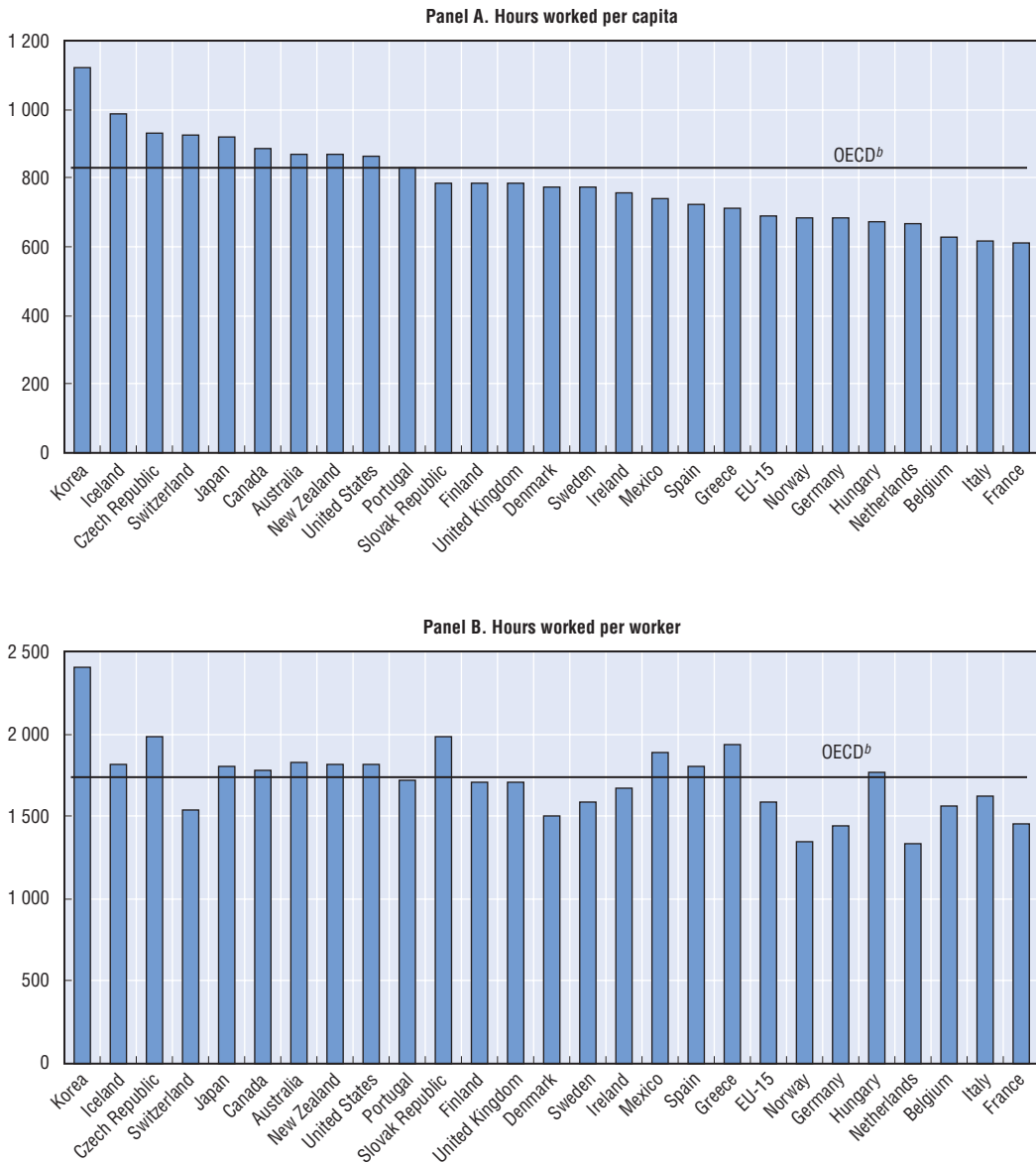
B. The economy-wide perspective: the level and composition of total hours worked

Living standards, so far as they are reflected in real GDP per capita, are influenced by developments in both hourly productivity and total hours worked per capita, sometimes referred to as total labour input or *labour utilisation*. The first purpose of this section is to document labour utilisation patterns, including how they differ between OECD member countries and how they have evolved over the course of the past few decades. The second purpose is to decompose the observed differences in labour utilisation into some of its underlying components, in order to examine its possible determinants.

This analysis makes use of estimates of per-capita hours based on consistent employment and hours per worker data, which have been compiled recently as a component of the OECD Productivity database (see Annex 1.A1). While some problems remain concerning the cross-country comparability of the hours worked estimates (see Annex 1.A1), the international comparisons of labour utilisation presented in this section are informative concerning within-country changes in hours worked over time and larger cross-country differences in hours worked. However, smaller level differences across countries should be treated with caution, since they may reflect in significant part the still imperfect harmonisation of annual working hours estimates.⁴

International comparisons of labour utilisation in 2002

In 2002, the number of hours worked per capita ranged from a low of 611 hours recorded in France to a high of 1 120 hours in Korea, a nearly 2:1 range (Chart 1.1, Panel A). Japan and Korea, Australia and New Zealand, Canada and the United States are among the

Chart 1.1. **Annual hours worked per capita and per worker, 2002^a**

a) Countries ranked in descending order by hours per capita in both panels.

b) Population and employment-weighted OECD average of total hours per capita and hours per worker for the countries shown.

Source: OECD Annual Hours and Productivity databases.

countries near the top of the league table for hours per capita, while some large EU member States, including France, Germany and Italy, are near the bottom.

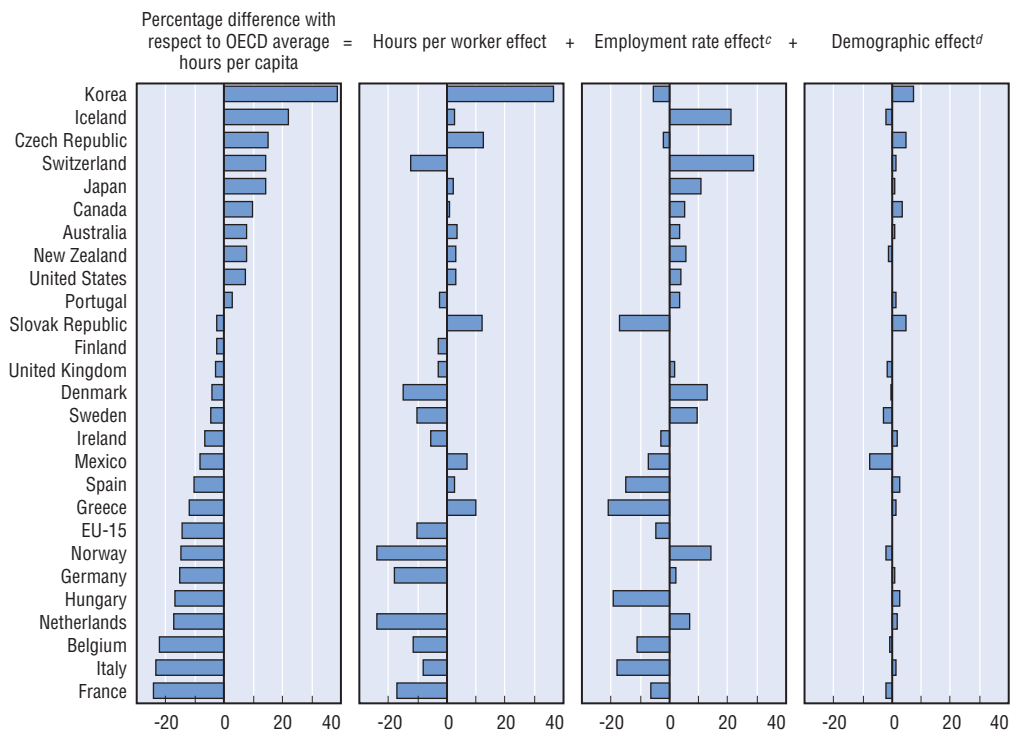
Hours per worker range from a low of 1 340 hours in the Netherlands to a high of 2 410 hours in Korea (Chart 1.1, Panel B), again, a nearly 2:1 range.⁵ Country rankings change substantially between per-capita and per-worker measures of hours worked. For example, Greece, Mexico and Spain rank below the OECD average on a per-capita basis, but above the average on a per-worker basis, while the opposite is true for Switzerland. There is somewhat greater variation between EU-15 countries in hours per worker than in hours

per capita – Netherlands, Germany and France at the lower end, Finland, Portugal and United Kingdom in the middle, and Greece and Spain at the upper end of the spectrum.

Chart 1.2 decomposes country differences from the OECD average⁶ in working hours per capita in 2002 into three components: the hours effect (i.e. the impact of deviations from the OECD-average hours per worker), the employment effect (i.e. the impact of deviations from the OECD-average employment-population ratio) and the demographic effect (i.e. the impact of deviations from the OECD-average for the share of working-age persons in the total population). It emerges that the hours per worker and employment effects explain almost all of the cross-country variation in hours per capita, while the age structure of the population has relatively little effect.⁷ Moreover, OECD countries with below-average annual hours per worker also tend to have above-average employment rates, and vice versa. An obvious question that arises is whether this apparent trade-off reflects a demand-side constraint affecting the total hours of work available or, instead, differences in long-run labour supply behaviour across the extensive and intensive margins (see Box 1.1).

Chart 1.2. Large differentials in hours per capita reflect differences in both hours per worker and the employment rate

Percentage point difference in hours worked per capita with respect to the OECD average^{a, b} 2002



a) OECD averages are calculated as the population-weighted average for the countries shown for hours per capita and the demographic effects, employment-weighted average for hours per worker and working age population (15-64 years)-weighted average for the employment rate effect.

b) Countries in descending order of the percentage difference from OECD average hours per capita.

c) Based on the ratio of employment to working-age population (15-64 years).

d) Based on the ratio of working-age population (15-64 years) to total population.

Source: Secretariat calculation based on the OECD Annual Hours and Productivity databases.

Box 1.1. The two margins of labour supply

The negative cross-country correlation between the employment-population ratio and average annual hours per worker probably does not reflect a demand-side trade-off, in which a more or less fixed volume of work must be shared across the adult population (the so-called, “lump of labour fallacy”). Rather, the response of labour supply to long-run improvements in productivity and living standards appears to differ along the intensive and extensive margins. As is shown in the chart below, higher real output per hour worked is associated with lower annual hours per worker (*i.e.* reduced labour supply along the intensive margin) but higher employment rates (*i.e.* increased labour supply along the extensive margin), although this latter association is neither very strong nor statistically significant. That annual hours worked should fall as productivity rises simply confirms that “leisure” (*i.e.* time not devoted to market work) is a normal good. There may be the appearance of a paradox in the finding that higher productivity appears to be associated with increased labour supply on the extensive margin (*i.e.* higher participation rates). This apparent paradox is not resolved here, but several possible resolutions can be mentioned. For example, this might reflect greater gains in labour productivity in paid employment than in other activities or a historical association between technological advance, on the one hand, and social developments encouraging higher employment rates for women, on the other, which is coincidental rather than causal. Whatever the explanation, over the OECD area as a whole, labour supply adjustment along the intensive margin appears to be stronger than that along the extensive margin, so that total labour utilisation falls as productivity rises.

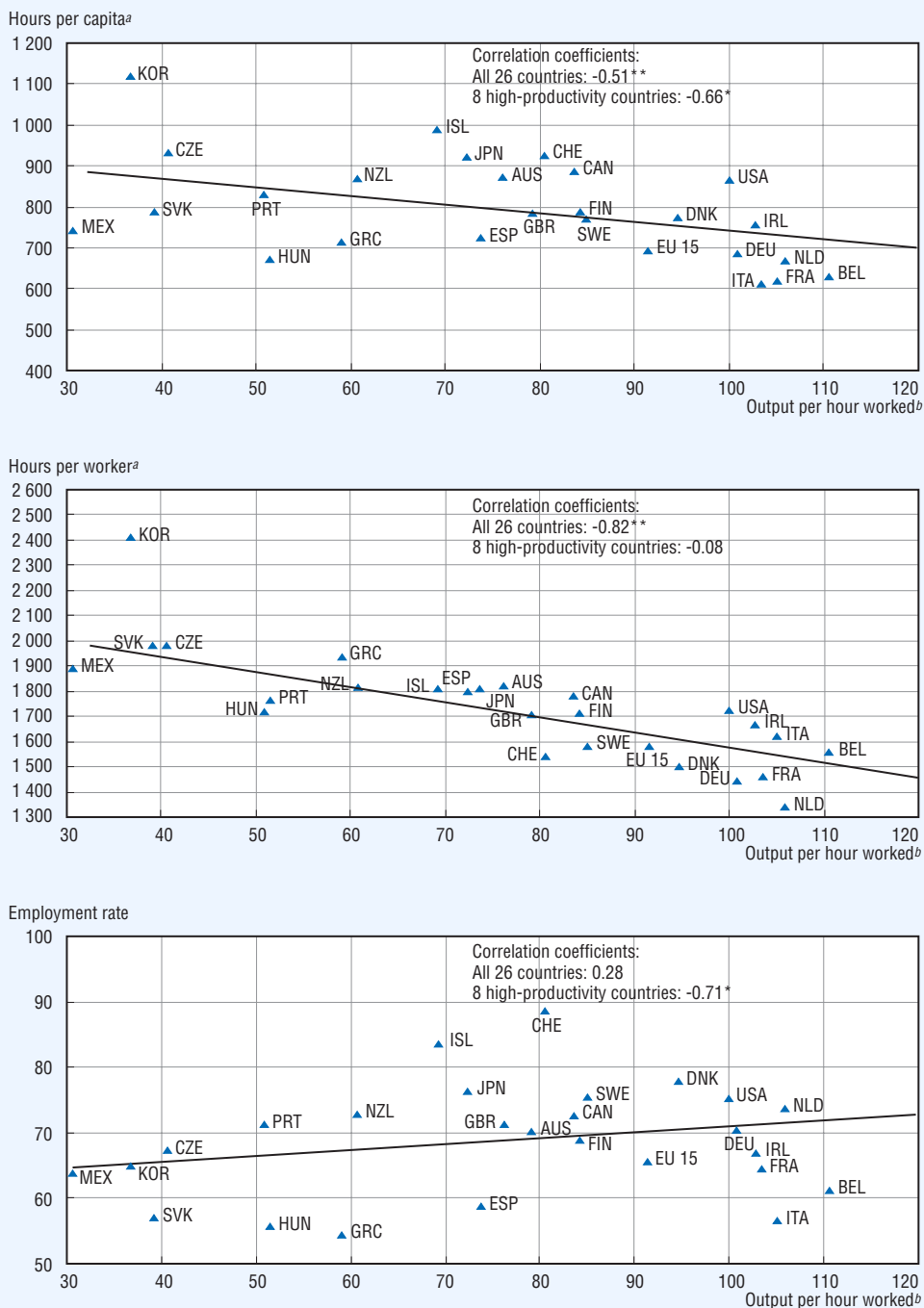
A strikingly different pattern emerges when attention is focussed on the eight countries with the highest productivity levels (*i.e.* the United States and the seven European Union countries in which productivity exceeds the EU-15 average). Whereas the correlation between productivity and hours per worker is -0.82 and highly statistically significant for all 26 countries included in the chart, it is essentially zero within the high productivity group. It is no surprise that the relatively small differences in measured productivity between these countries would have little explanatory power, since comparisons of productivity levels based on purchasing power parities are inherently somewhat imprecise. What can be concluded for these countries is that labour utilisation varies considerably among the OECD countries with the highest (and similar) productivity levels, indicating that many factors, in addition to productivity, also affect hours per worker. The same is true for employment rates and overall labour utilisation, which also differ markedly between these high-productivity countries. That labour utilisation differs substantially among countries at a similar level of economic development raises the questions of why there is so much variation and, in particular, whether this variation represents different societal preferences concerning the trade-off between higher incomes and more free time or differences in how well national labour markets facilitate participation in paid employment (Blanchard, 2004; Gordon, 2002).*

* See Bell and Freeman (2000), Prescott (2004), Schettkat (2003) and Schettkat and Freeman (2002) for different attempts to explain why Americans work more hours than do their counterparts in the richest European countries.

Box 1.1. The two margins of labour supply (cont.)

In high productivity countries, employment is higher,
but hours per worker are lower

Output per hour worked and labour utilisation, 2002



**, * significant at 1% and 10% levels, respectively.

a) Data for Korea not used to fit OLS regression lines.

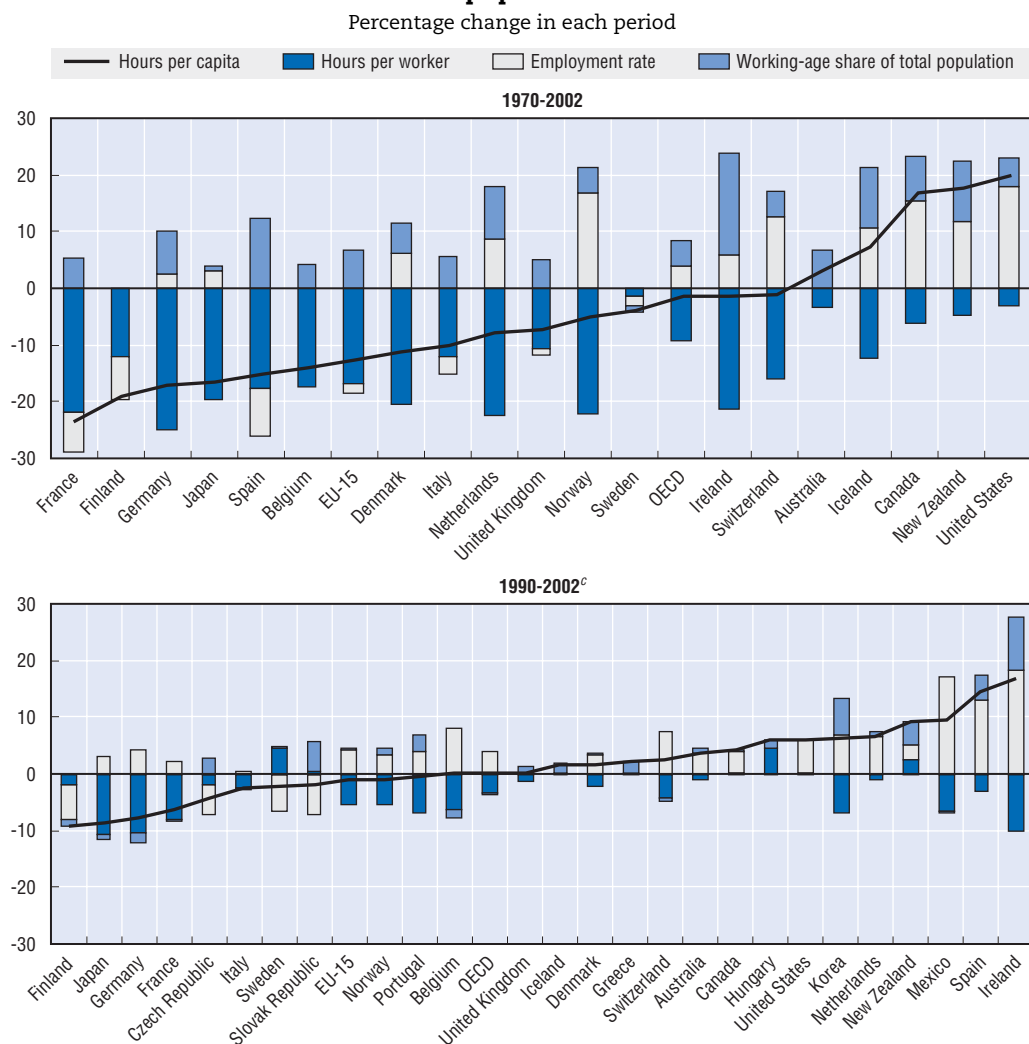
b) Index relative to the United States (100).

Source: Secretariat calculation based on the OECD Annual Hours and Productivity databases.

Trends in labour utilisation since 1970

On average across all OECD countries, hours per capita have declined by just 1% since 1970, but this small decrease masks the offsetting effects of a 10% drop in hours per worker, on the one hand, and increases of 4.4% in the employment rate and 4.4% in the share of population that is of working age, on the other (Chart 1.3). Over these three decades, hours per capita declined quite markedly in 15 out of 20 countries for which data are available. Most of the drop took place in the 1970s and 1980s, while, in the 1990s, a greater number of countries (i.e. 15 out of 26 countries) have recorded more or less pronounced rises in per capita hours.

Chart 1.3. Decomposition of the trend growth in labour utilisation, 1970-2002: the contribution of hours per worker, the employment rate and the age structure of the population^{a, b}



a) Growth decomposition for trended variables which were calculated using a Hodrick-Prescott filter with a smoothing parameter of 1 000.

b) Countries in ascending order by the trend growth in hours per capita during the period indicated.

c) Data for the Czech Republic, Hungary, Mexico and the Slovak Republic cover the period 1995 to 2002 only.

Source: OECD Annual Hours and Productivity databases.

There are considerable cross-country differences in these trends. Over the entire period, hours per capita rose only in Australia, Canada, Iceland, New Zealand and the United States. Even in these five countries, hours per worker declined over this 32-year period, although all saw hours worked stabilise in the later part of the period. At the other end of the spectrum, the sizeable decline in hours per capita in France (-24%) is largely attributable to a marked decrease in hours per worker (-22%), which was reinforced by a modest fall in employment rates (-7%) and slightly offset by an increase in the share of working-age persons in the total population (5%). Interestingly, the pace of the decline in hours per capita slowed in France in the second half of the 1990s (-3.5%), due to rising employment rates partially compensating for the continuing fall in hours per worker associated with the phasing-in of the statutory 35-hour week.

The reversal of the long-term decline in hours per capita in the 1990s was widespread across OECD countries and regions, with only a few countries still recording significant falls. The drops in France, Germany and Japan are mostly attributable to a shortening of the length of the work year, but the drop in Finland to a fall in employment. Ireland and Spain recorded notable increases in labour utilisation (16.7% and 14.5%), mostly attributable to strong employment rate growth and a growth in the share of the working-age population in total population. The Netherlands and Korea also witnessed similar growth in labour utilisation, with strong employment rates compensating falling hours worked, albeit from very long hours in Korea, and favourable working-age population shares.

Demographic patterns in labour utilisation

Under-represented groups in employment and their contribution to labour utilisation.

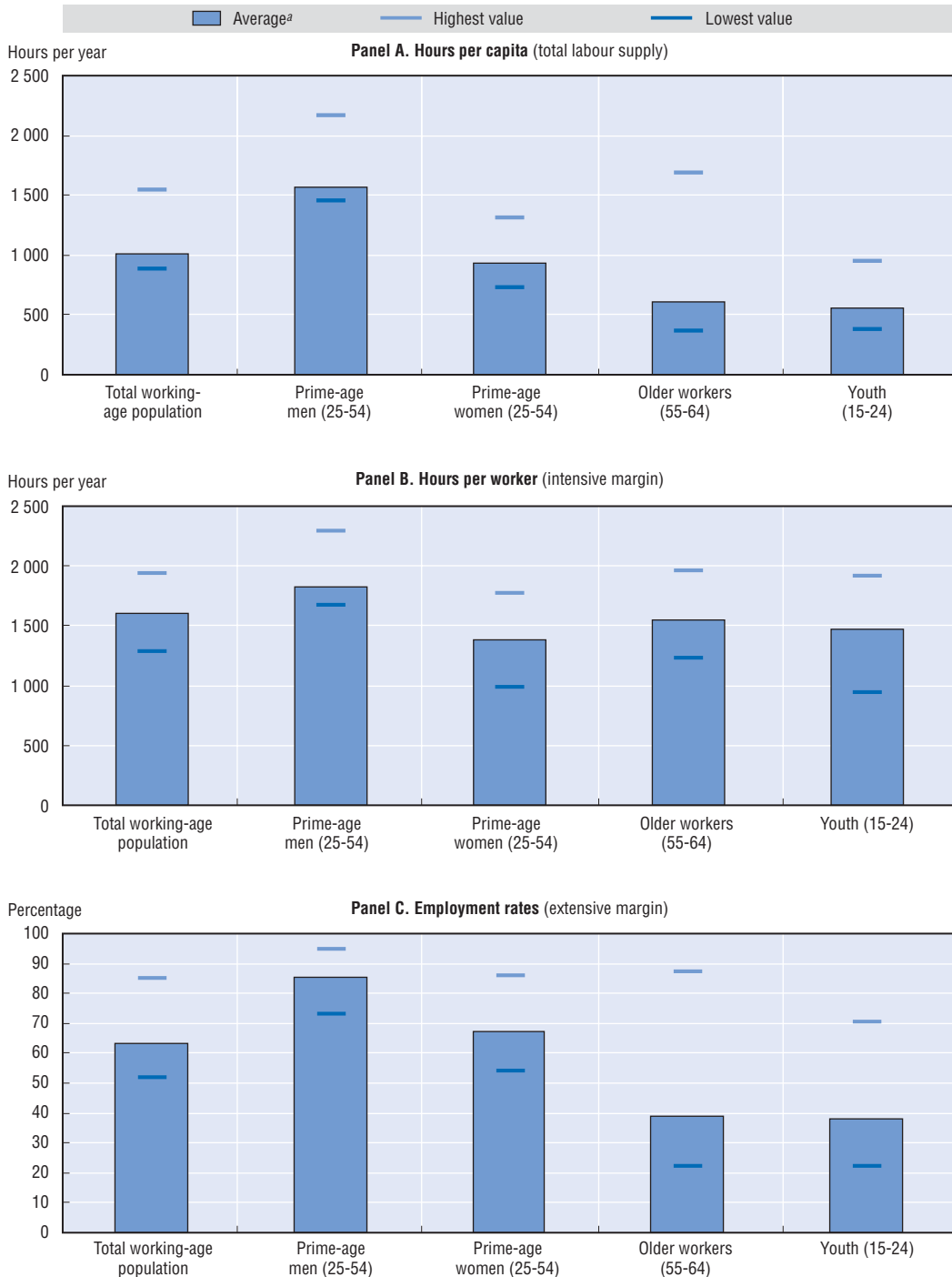
Chart 1.4 presents OECD-average hours per capita, hours per worker and employment rates for different demographic groups, as well as minimum and maximum values. It is interesting to note that age and gender groups that are under-represented in employment (OECD, 2003b) also work fewer hours when employed, so that they are even more strongly under-represented in the labour market when representation is measured in terms of hours worked. Among the demographic groups considered, prime-age men record the highest number of hours per capita. The cross-country variance of employment rates is substantially higher for women, youths and older workers, than for prime-age men (who have relatively high employment rates in all OECD countries). However, this difference is less pronounced for comparisons based on labour utilisation, because total hours per capita tend to be relative low for under-represented groups even in countries where their employment rates approach those of prime-age men.⁸

Contributions of different demographic groups to trends in labour utilisation. What have been the contributions of changes in the work patterns of different demographic groups to changes over time in per capita hours? The shift-share analysis summarised in Chart 1.5 quantifies the contributions of within-group developments in hours per worker and employment rates⁹ to explaining the overall changes that occurred in labour utilisation, while also isolating the effects of changes in the age and gender structure of the population.¹⁰

Chart 1.5 shows that increases in per capita hours – in the countries experiencing such an increase during 1990-2002 – were largely due rising per capita hours for women and prime-age persons.¹¹ Reduced per capita hours, where they occurred, were mainly due to declining per capita hours for men, youths and older workers.¹² In Denmark, greater per capita hours of older workers have contributed to the moderate rise in overall labour

Chart 1.4. Groups under-represented in employment also work fewer hours when employed

Extensive and intensive margins of labour supply, 2002

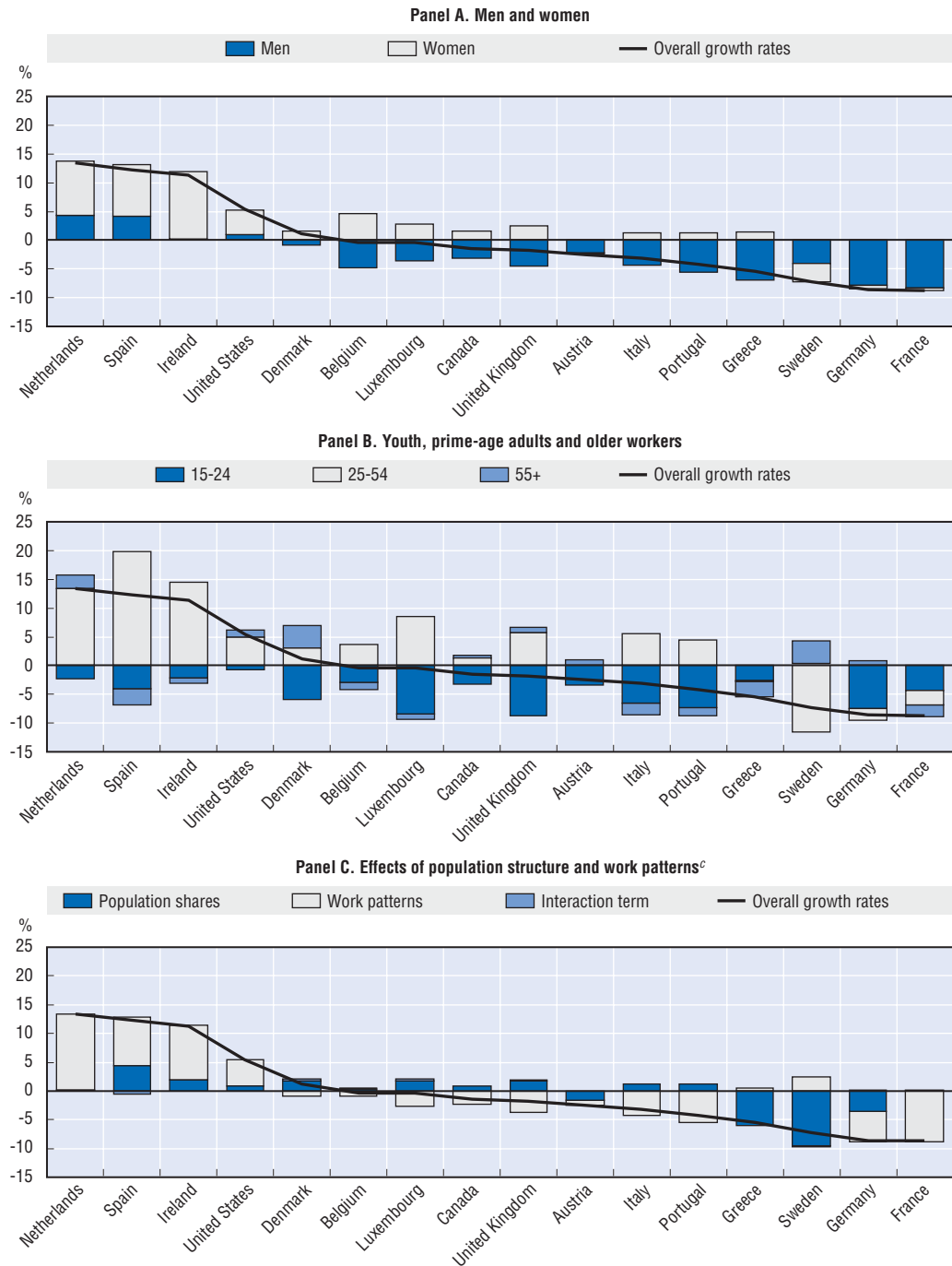


a) Averages calculated for Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, the United Kingdom and the United States. Averages are calculated as population-weighted average for hours per capita and employment rates, and employment-weighted average for hours per worker.

Source: Secretariat estimates based on European Labour Force Survey results. Canadian and US values are from Heisz and LaRochelle-Côté (2003).

Chart 1.5. 1990-2002 changes in annual hours reflect complex changes in work patterns

Shift-share contributions of the indicated groups to the total change in annual hours worked per capita^{a, b}



a) Average year-to-year change multiplied by 13 (length of period).

b) Countries ranked in descending order of changes in total hours per capita.

c) The population-shares effect corresponds to the impact of the changes in the gender and age composition of the population with unchanging work patterns (i.e. the between-group effect), while the work-patterns effect corresponds to the impact of changes in gender and age-specific employment rates and hours per worker (i.e. the within group effect).

Source: Secretariat estimates based on European Labour Force Survey results. Canadian and US values are from Heisz and LaRoche-Côté (2003).

utilisation, while, in Sweden, it has cushioned somewhat what would have been a more severe decline in per capita hours worked. Panel C shows that, in many countries, changes in work patterns (i.e. within-group effects) are responsible for most of the observed changes in overall labour utilisation, although changes in the share of the working-age persons in the total population were important in a few countries.

The fact that increased hours spent in paid work by women has been the most dynamic component of labour utilisation in recent decades provides a reminder that these trends in hours worked have implications for work-life balance and the well-being of workers and their families, in addition to their implications for economic growth. The next section analyses working hours from the worker's perspective in order to shed some light on those concerns.

C. The worker's perspective: work schedules and working-time arrangements within families

The time devoted to paid employment – and how those hours are scheduled – also have direct implications for the well-being of workers and their families. Most fundamentally, work competes with other activities, including family and community life. Accordingly, this section considers working time from the perspective of workers. It begins by dissecting the average work year of dependent employees into components related to both average weekly hours worked and the number of weeks worked during the year. It also quantifies the impact on average annual hours worked of the growing number of (predominantly female) workers in part-time jobs in many countries. Attention then turns to the diversity of the work week in terms of the number of hours worked and at what times those hours of work are performed. Finally, working time is examined from the perspective of families and work-life balance.

The work year

The average work year. What does a typical work year look like? In particular, how does it result from factors affecting weekly hours worked and the number of weeks actually worked during a year? From a worker's perspective, average annual hours actually¹³ worked per person in employment is a comprehensive measure, which accounts for various factors likely to cause the work week to vary over the year – such as paid leave and public holidays and paid and unpaid overtime. Such factors are not captured, by definition, by standard measures of work weeks, such as usual weekly hours worked and, even less so, by statutory working-time concepts, such as normal, legal, or contractual work hours.¹⁴ Therefore, international comparisons of working hours are normally undertaken on the length of the work year rather than of the work week. Comparison of standard work weeks is still useful to explore other dimensions of working time, such as working-time arrangements.

Table 1.5 decomposes annual working time in 2002 into: i) the average hours worked per week (Column b); and ii) the number of weeks actually worked (Column f). Data are for European countries only and are based on labour force survey evidence where standard hours refer to usual weekly hours of work which, in the absence of an internationally agreed definition, has been defined as the hours worked on the main job during a typical week.¹⁵ The analysis is limited to hours worked by dependent or paid employees because data on the work patterns of the self-employed are less available and less reliable. Furthermore, much of the regulatory structure relating to working time (e.g. regulations concerning overtime and paid holidays) does not apply to the self-employed.

Table 1.5. The anatomy of a typical work year for dependent employees, 2002
 Decomposition of average annual hours actually worked by full-year equivalent workers into its components

Annual hours of work ^a	Average weekly hours on all jobs					Hours on additional jobs		Annual weeks worked		Holidays and vacation weeks		Full-week absences due to non holiday reasons		Part-week absences due to non holiday reasons		Absences due to sickness and maternity ^b	
	(a) = (b) * (f)	(b) = (c) + (d) + (e)	(c)	(d)	(e)	(f) = 52 - [(g) + (h) + (i) + (j)]	(g)	(h)	(i)	(j)							
Hours	Weekly hours worked																
Austria	1 497	38.4	36.6	1.4	0.4	39.0	7.2	2.9	0.4	2.6							
Belgium	1 451	36.3	35.7	0.3	0.3	40.0	7.1	2.4	0.5	2.1							
Czech Republic	1 692	41.3	40.4	0.7	0.3	41.0	6.2	2.3	0.3	2.2							
Denmark	1 410	36.3	34.8	0.8	0.7	38.9	7.4	2.8	1.1	1.8							
Spain	1 639	38.8	38.6	0.1	0.2	42.2	7.0	1.3	0.4	1.2							
Finland	1 491	38.8	36.9	1.4	0.4	38.5	7.0	2.8	1.6	2.1							
France	1 467	36.2	35.2	0.8	0.3	40.5	7.0	2.2	0.5	1.9							
Germany	1 480	36.5	35.2	1.1	0.2	40.6	7.8	1.9	0.3	1.4							
Greece	1 816	40.7	40.2	0.1	0.4	44.6	6.7	0.2	0.2	0.2							
Hungary	1 798	40.9	40.3	0.4	0.2	43.9	6.3	0.9	0.1	0.8							
Iceland	1 714	43.2	39.9	1.7	1.7	39.6	6.1	2.8	1.6	1.9							
Ireland	1 585	36.3	35.8	0.2	0.3	43.7	5.7	1.4	0.2	1.0							
Italy	1 533	37.4	37.2	0.1	0.1	41.0	7.9	1.8	0.3	1.0							
Luxembourg	1 582	37.9	37.3	0.5	0.1	41.7	7.5	1.4	0.2	1.2							
Netherlands	1 223	31.8	30.1	1.3	0.4	38.4	7.5	2.9	1.0	2.2							
Norway	1 339	37.3	34.8	1.8	0.7	36.0	6.5	4.8	1.1	3.6							
Poland	1 817	41.8	40.2	0.3	1.3	43.4	6.2	1.2	0.3	0.9							
Portugal	1 688	40.4	39.3	0.3	0.8	41.8	7.3	1.5	0.2	1.2							
Slovak Republic	1 761	41.8	41.4	0.3	0.1	42.2	6.9	1.4	0.1	1.4							
Sweden	1 349	38.1	36.0	1.4	0.7	35.4	6.8	4.2	1.8	3.8							
Switzerland	1 586	37.5	34.3	2.7	0.5	42.3	6.0	1.7	0.9	1.1							
United Kingdom	1 546	38.2	37.2	0.7	0.4	40.5	6.5	1.8	1.6	1.6							

a) See Annex 1.A1 for a succinct explanation of the method used by the OECD Secretariat to estimate annual actual hours worked per person in employment for Belgium, Denmark, Greece, Ireland, Italy, the Netherlands and Portugal. The same method is applied to estimate annual working hours per employee for all European countries shown in this table.

b) These weeks are already included in columns h and i, but are included a second time in order to correct for an assumed 50% under-reporting (see Annex 1.A1).
 Source: Secretariat estimates based on European Labour Force Surveys results and EIRO (2002).

Table 1.5 displays some large variations of usual weekly hours worked on the main job in 2002 (Column c), ranging from 30 hours in the Netherlands to 41 hours in Slovak Republic. These large variations reflect differences in both the share of workers in part-time jobs and the average lengths of full and part-time work schedules (see below). The cross-country distribution of average weekly hours actually worked looks very similar (Column b) since overtime hours (above those already reported in usual weekly hours) and hours on second jobs are relatively small parts of the total work week. However, overtime hours (paid and unpaid) captured by labour force surveys exceed 2.5 hours per week in Switzerland, where usual weekly hours of work are low. Extra hours due to overtime or second jobs also exceed two hours weekly in Iceland, Norway and Sweden.

Column f reports the number of weeks actually worked in 2002, which varies from 35 in Sweden to more than 44 in Greece, where the number of weeks of absences for non-holiday reasons are much lower than in other countries. Not surprisingly, holidays and paid leave represent the core reasons for not working and the differences in paid leave make up for most of the differences in annual working time. Absences due to sickness and maternity represent the second most important reason for not working; such absences are particularly marked in Norway and Sweden (of which maternity and parental leave represent one-third and the rest is attributable to sickness).

Among the European countries considered in Table 1.5, cross-country differences in annual actual hours worked per employee are largely explained by cross-country variation in average weekly hours, and the number of days of paid leave and public holidays per year. Norway and Sweden are exceptions, since sickness and maternity absences significantly shorten the length of the work year in those two countries.

The impact of part-time employment. How has the diffusion of part-time work affected the average work year? Table 1.6, Panel A reports the results of a shift-share analysis of the contribution of changes in the full-time and part-time work years and in their respective employment shares to the change in the average work year between 1990 and 2002 (see OECD, 2004, for a gender-disaggregated version of this analysis). The unweighted average for the countries shown indicates a 2% reduction in employee annual working hours between 1990 and 2002, which can be attributed largely to a rise in the share of employees in part-time jobs. However, a drop in average working hours for full-time employees also contributed to the decline.

The average pattern masks large cross-country differences. In France, employees recorded a significant fall in working hours, which is largely due to a significant reduction in hours worked by full-time employees (-4.2%), although the increased incidence of part-time employment among women was also a significant factor (-3.2%). Most of the drop occurred in the late 90s following the introduction of the 35-hour week. In Portugal, a similar decline in annual working hours (4.6%) is largely explained by a significant reduction in hours worked by full-timers (probably resulting from a shift to a five-day work week). In most other countries, declines in annual hours worked are largely attributable to rising shares in part-time jobs, in particular in the Netherlands (-8.9%) and Ireland (-5.5%). However, declines in hours worked by female workers have been driven both by an increasing share in part-time jobs and a reduction in working hours in full-time jobs, while reduced working hours of male workers have generally been due to a reduction in hours worked by full-timers.

Table 1.6. Contribution of part-time employment to recent changes in average annual or weekly hours of employees,^a 1990-2002
Average percentage change from year-to-year of annual or weekly hours of employees multiplied by the length of the period

	Overall change (%)	Percentage change attributable to:		
		Change in hours of full-timers	Change in hours of part-timers	Change in share of part-timers
Panel A. Average actual hours worked per year per employee^b				
Austria ^c	-1.6	1.8	-0.3	-3.0
Belgium	-7.8	-3.4	0.0	-4.0
Denmark	2.1	0.3	-0.1	1.8
Finland ^c	-2.6	-0.1	-0.9	-0.9
France	-6.1	-4.2	0.4	-2.3
Germany	-6.0	-1.3	-1.1	-3.8
Greece	3.0	3.2	0.1	-0.3
Hungary ^c	1.2	1.1	0.1	-0.2
Ireland	-7.6	-2.1	0.1	-5.5
Italy	-3.0	-1.3	0.2	-2.0
Luxembourg	-4.8	-1.7	-0.6	-2.3
Netherlands	-8.9	0.3	-0.1	-8.9
Norway ^c	1.0	-2.1	0.2	2.9
Portugal	-4.6	-4.0	0.2	-0.8
Slovak Republic ^c	4.5	4.4	-0.2	0.3
Spain	-2.7	-0.5	0.1	-2.2
Sweden ^c	-0.6	-3.2	-0.3	2.8
Switzerland ^c	-3.2	0.2	0.4	-3.9
United Kingdom	-1.5	-0.1	0.7	-1.8
Unweighted average of above countries	-2.1	-0.5	-0.1	-1.5
Panel B. Usual weekly hours worked per employee				
Australia ^d	-6.0	0.7	0.4	-7.2
Korea	-5.2	-2.9	-0.2	-2.2
Mexico ^e	-0.7	-2.4	0.0	1.8
New Zealand ^f	0.3	1.7	0.5	-1.9
Poland ^g	-1.4	-0.8	0.0	-0.5
Switzerland ^h	-4.0	-0.9	0.0	-3.0
United States	0.2	-0.3	0.1	0.5

a) The following formula is used to decompose the total change in hours:

$$H - h = (pr)(HP - hp) + (1 - pr)(HF - hf) - (PR - pr)(hf - hp) + (PR - pr)[(HP - hp) - (HF - hf)];$$

where $H = (1 - PR)(HF) + (PR)(HP)$ and $h = (1 - pr)(hf) + (pr)(hp)$

h and H are the overall average hours of work in the first and second years, respectively, hp and hf are the average hours of part-time and full-time workers, in the first year, and pr is the proportion of part-time workers, in the first year, etc. The last term, not shown in the table, is the interaction term, which is generally very small. For annual working hours (Panel A), full-time and part-time work are according to national definitions. And for usual weekly hours (Panel B), full-time and part-time work are demarcated according to a common 30-hour threshold based definition.

b) See Table 1.5 footnote a) for the method of calculation of annual working hours per employee for all European countries shown in Panel A.

c) Data for these countries cover the period 1995 to 2002.

d) Covers period 1993-2002.

e) Covers period 1995-2002.

f) Covers period 1991-2002.

g) Covers period 1998-2002.

h) Covers period 1996-2002.

Source: Secretariat estimates based on the European Labour Force Survey (Panel A) and the OECD Usual Weekly Hours of Work database (Panel B).

Table 1.6, Panel B presents an analogous shift-share analysis for a number of other OECD countries, for which only usual weekly hours worked are available for full-time and part-time employees. In Australia and Switzerland, employee hours have recorded significant falls, largely due to a significant rise in the shares of part-time employees, which have reduced, in particular, male employees' average working hours. In Korea, employee hours declined substantially, albeit from high weekly work schedules, due both to an increase in the share of part-time employees and a drop in weekly hours worked by full-timers. On the other hand, in New Zealand and United States, employee weekly hours worked remained unchanged over the past decade.

In sum, this sub-section has highlighted the following trends:

- Large cross-country variations in annual actual hours worked per employee are mainly explained by differences in the levels of usual weekly hours worked, differences in the number of days of paid leave and public holidays, and in a few countries by the number of weeks of absences due to sickness.
- Declines in hours worked per worker during the past decade are explained by combined reductions in hours worked by full-time employees, both males and females, and a rise in the share of employees working in part-time jobs, mainly female workers.

The work week

Usual weekly hours. Is the distribution of weekly hours worked evolving in ways that suggest that the standard work week is continuing to shrink or that there is an increasing diversification or polarisation of work patterns? In order to answer these questions, some descriptive statistics based on the distribution of usual working time, as reported in labour force surveys, are examined. This is followed by some data regarding the number of workers working unsociable hours (*e.g.* evening and night work, weekend work and shift-work).

Table 1.7 reports the weekly work schedule that is the most frequent among male employees in each country shown, the share of employees reporting those hours and changes to modal hours over the past 15 years (see OECD, 2004, for female workers). The 40-hour work week (and 39-hour work week in France) was the norm in many countries until recently. But this has changed in some countries. Most notably, in France, the 35-hour work week is now the norm for 42% of employees, while the previous norm of 39-hour work week has become the secondary mode for 14% of employees, with greater variability in work schedules for the remainder of employees. Similar legislated reduction in modal hours took place in Japan, between 1988 and 1993, where the most frequent work schedules are now in the 35-42 hour band instead of 43-48 hour band, as was the case 15 years ago. Where the 40-hour work week remains the norm, there has been no uniform trend in the share of employees working modal hours. In some countries (*i.e.* Australia, Germany, Netherlands and New Zealand) the share has fallen, suggesting an increased diversification of work schedules, whereas in others (*i.e.* Czech Republic, Portugal), it has increased.

Chart 1.6 presents standard deviations of usual weekly hours of work of employees on their main job in 22 European countries. The diversity of weekly work hours varies across these countries, with standard deviations in 2002 ranging from a low 5 hours in Slovak Republic to a high 15 hours in Iceland. Dispersion is greater for women than for men in two-thirds of these countries, with the average female standard deviation being 10.5 hours as compared to 8.9 hours for men. The variability of hours worked increased or

**Table 1.7. Usual weekly hours of work most frequently reported:
male employees in their main job, 1985-2002**

Hours and percentage working those hours^a

		1985		1990		1995		2000		2002	
		Peak	%	Peak	%	Peak	%	Peak	%	Peak	%
Australia ^{b, c, d, e}	Major peak	40	22	40	20	40	18	40	18	40	18
	Minor peak	..	..	..	..	..	..	35-38	16	35-38	17
Austria	Major peak	..	..	..	..	40	51	40	51	40	49
	Minor peak	..	..	..	..	38	25	38	23	38	25
Belgium	Major peak	38	46	38	55	38	52	38	40	38	41
	Minor peak	40	27	40	21	40	24	40	26	40	24
Canada	Major peak	40	55	40	54	40	50	40	53	40	51
	Minor peak	35-38	16	35-38	14	35-38	14	35-38	17	35-38	18
Czech Republic ^f	Major peak	..	..	..	..	40	30	43	35	40	61
	Minor peak	..	..	..	..	43	30	40	33	38	14
Denmark	Major peak	40	77	38	56	37	63	37	51	37	53
	Minor peak	50	3	37	12	40	6	45	8	45	7
Finland	Major peak	..	..	..	..	40	39	40	43	40	44
	Minor peak	..	..	..	..	38	34	38	26	38	24
France	Major peak	39	43	39	47	39	49	39	36	35	42
	Minor peak	40	13	40	12	40	9	35	19	39	14
Germany	Major peak	40	72	38	34	40	31	40	38	40	37
	Minor peak	38	12	40	26	38	30	38	19	38	19
Greece	Major peak	40	49	40	51	40	52	40	54	40	55
	Minor peak	38	10	38	13	38	12	48	13	48	14
Hungary ^g	Major peak	..	..	..	..	40	71	40	74	40	80
	Minor peak	..	..	..	..	50	6	42	6	50	4
Iceland	Major peak	..	..	..	..	40	21	40	17	40	20
	Minor peak	..	..	..	..	50	19	50	16	50	16
Ireland	Major peak	40	64	40	53	40	31	39	34	39	39
	Minor peak	35	6	35	6	39	23	40	30	40	27
Italy	Major peak	40	58	40	53	40	51	40	49	40	50
	Minor peak	36	15	36	19	36	18	36	17	36	18
Japan ^b	Major peak	43-48	28	49-59	25	35-42	26	35-42	27	35-42	27
	Minor peak	49-59	25	60+	24	..	..	43-48	23	49-59	20
Luxembourg	Major peak	40	93	40	91	40	87	40	87	40	88
	Minor peak	50	1	50	1	50	2	50	2	37	2
Mexico	Major peak	..	..	..	..	45-49	33	45-49	40	45-49	44
	Minor peak	..	..	..	..	60+	18	60+	15	40	14
Netherlands	Major peak	40	59	38	39	40	53	40	41	40	40
	Minor peak	38	14	40	32	38	23	38	17	38	17
New Zealand ^h	Major peak	..	..	40	46	40	41	40	37	40	37
	Minor peak	..	..	45-49	12	45-49	14	45-49	15	45-49	14
Norway	Major peak	..	..	..	..	37	63	38	69	38	69
	Minor peak	..	..	..	..	40	5	40	6	40	6
Poland ^e	Major peak	..	..	..	..	..	..	40	51	40	51
	Minor peak	..	..	..	..	..	..	42	18	42	14
Portugal ⁱ	Major peak	45	48	45	43	40	31	40	64	40	64
	Minor peak	40	21	40	26	45	14	35	11	35	11
Slovak Republic	Major peak	..	..	..	..	..	..	42	50	40	45
	Minor peak	..	..	..	..	..	..	40	34	42	39
Spain ^j	Major peak	40	71	40	76	40	71	40	70	40	70
	Minor peak	42	5	38	3	38	5	38	6	38	5
Sweden	Major peak	..	..	..	..	40	71	40	69	40	69
	Minor peak	..	..	..	..	38	5	38	5	38	6

Table 1.7. Usual weekly hours of work most frequently reported: male employees in their main job, 1985-2002 (cont.)

Hours and percentage working those hours^a

		1985		1990		1995		2000		2002	
		Peak	%	Peak	%	Peak	%	Peak	%	Peak	%
Switzerland ^g	Major peak	..	..	..	..	42	39	42	37	42	39
	Minor peak	..	..	..	..	40	17	40	18	40	19
United Kingdom	Major peak	40	15	40	12	40	12	40	13	40	14
	Minor peak	39	8	39	7	38	7	38	8	38	8
United States	Major peak	40	62	40	60	40	60	40	62	40	63
	Minor peak	..	..	50-54	9	50-54	10	50-54	10	50-54	9

.. Data not available.

a) For example, for Australia in 1985, the data show that the most commonly reported level of weekly hours was 40 and that 22% of male employees reported working that number of hours.

b) Data refer to actual hours for all jobs.

c) 1976 instead of 1975.

d) 1994 instead of 1995.

e) 2001 instead of 2000.

f) 1997 instead of 1995.

g) 1996 instead of 1995.

h) 1991 instead of 1990.

i) 1986 instead of 1985.

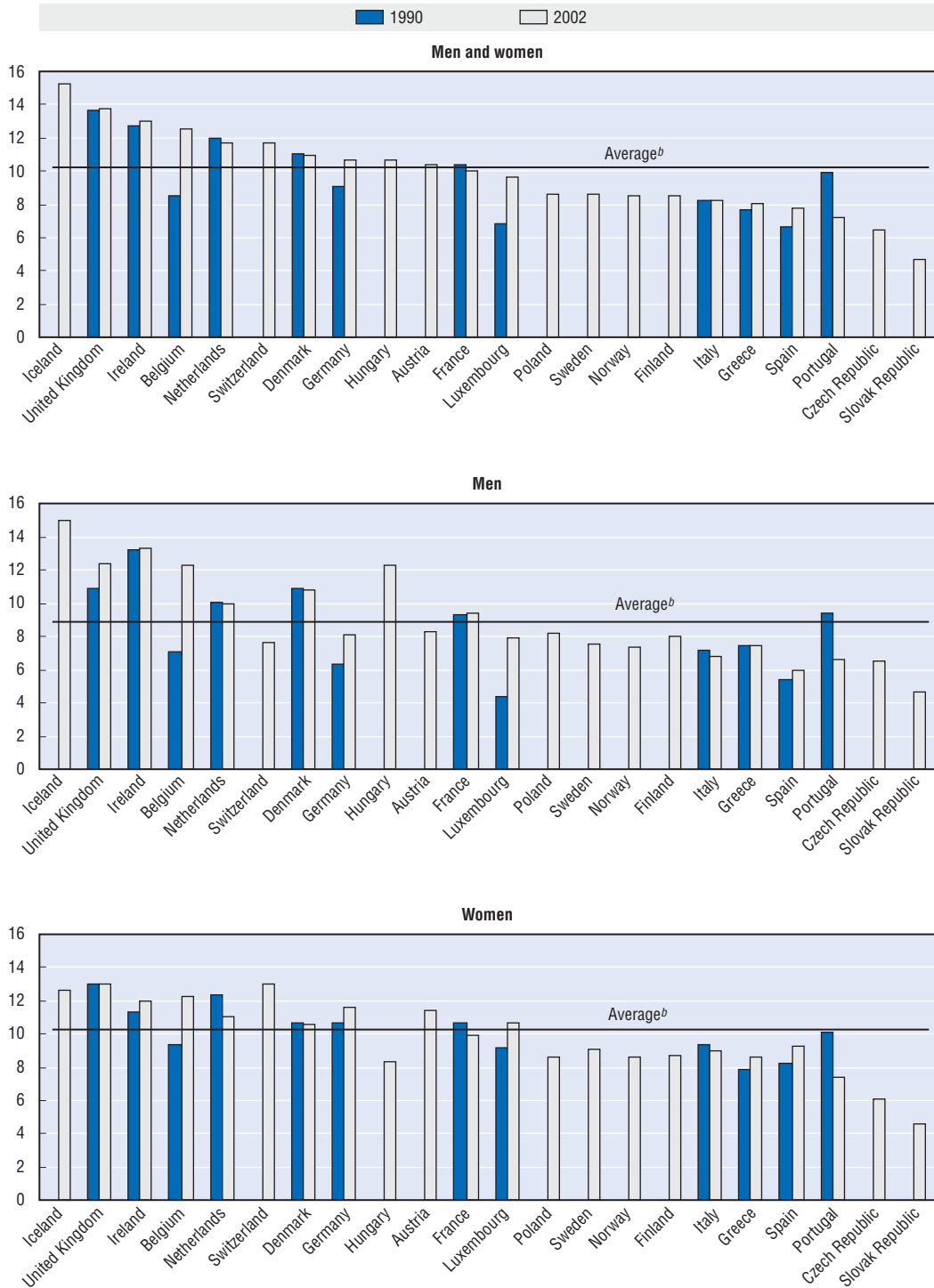
j) 1987 instead of 1985.

Source: Data supplied by Eurostat. Data for non-European countries are from the OECD Usual Weekly Hours of Work database.

was stable in most countries between 1990 and 2002 for which data are available, except in Portugal where the variability of work hours decreased (largely due to a reduced incidence of long hours, as is discussed below). The increase in dispersion affected men more strongly than women and is suggestive of an overall trend toward greater diversification of weekly work schedules. Higher dispersion of usual weekly hours is also associated with higher employment-population ratios (cross-country correlation coefficient of 0.44 in 2002), which suggests that increasing the diversity in the work schedules available may encourage higher labour force participation.¹⁶

Lastly, the share of male employees and female employees working short hours (less than 20 per week) or long hours (more than 45 hours per week) are plotted in Chart 1.7. On average, around 20% of male workers work long hours in the countries covered and the situation is quite stable since 1990. Meanwhile, in over two-thirds of the countries, significant shares of female employees work short work weeks (20% or more). Short-hours working is on the rise in quite a few countries, especially in Austria, Germany, Ireland, Italy and the Netherlands.

Non-standard and variable work hours. Non-standard work hours refer to work schedules that involve being at work at times outside of the standard daily work schedule (*e.g.* evening, night and shift work) or week-end work. These working-time arrangements offer increased flexibility to employers to match staffing with production requirements. When freely chosen, they also offer workers greater flexibility to reconcile time spent at work with other activities. However, “unsocial” work hours can also be a potential source of conflict between job requirements and family life (Presser, 2003). Table 1.8 reports the share of employees working five different (but not mutually exclusive) types of non-standard hours on a regular basis¹⁷ in 2002: evening and night work,¹⁸ Saturday and Sunday work, and shift-work. On

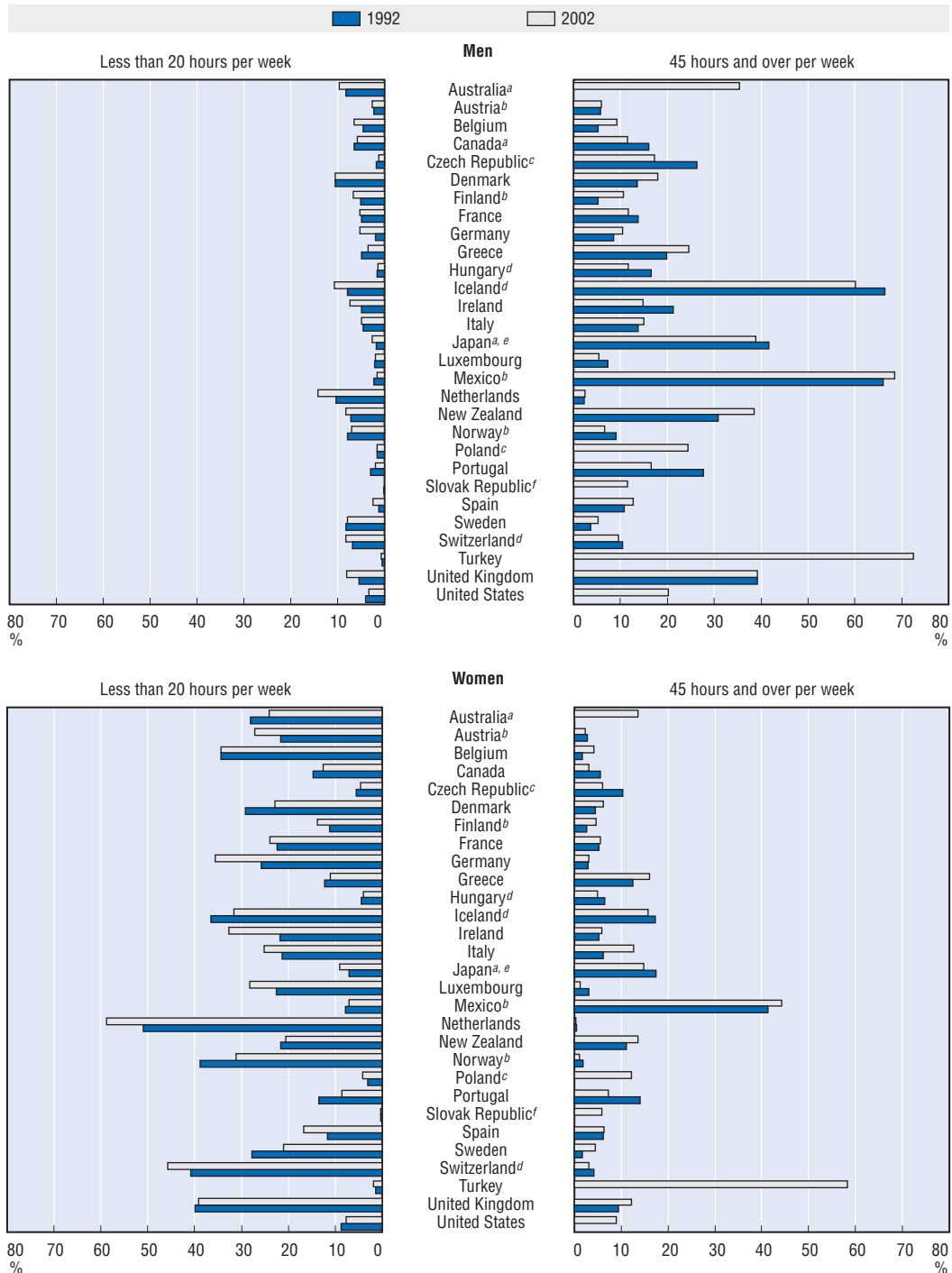
Chart 1.6. Usual weekly hours vary considerably for both men and womenStandard deviation of usual weekly hours of employees on their main job,^a 1990 and 2002

a) Countries in descending order by standard deviation for all employees in 2002, in all panels.

b) Employment-weighted average of standard deviations in 2002 for the countries shown.

Source: Secretariat estimates based on European Labour Force Survey results.

Chart 1.7. **Proportion of employees working short and long usual hours, 1992 and 2002**



a) Data are actual hours worked.
 b) Data refer to 1995 instead of 1992.
 c) Data refer to 1997 instead of 1992.
 d) Data refer to 1996 instead of 1992.
 e) Data refer to < 15 hours and 49+ hours.
 f) Data refer to 1994 instead of 1992.
 Source: OECD Usual Weekly Hours of Work database.

Table 1.8. **Incidence of evening, weekend and shift work, 2002**

	Evening work	Night work	Saturday work	Sunday work	Shift work
Austria	13.3	9.1	19.9	10.4	18.0
Belgium	10.2	3.9	12.0	6.2	9.6
Czech Republic	7.5	4.1	5.6	4.4	26.4
Denmark	20.9	6.9	19.7	14.7	5.0
Finland	22.4	9.4	19.4	13.8	24.4
France	10.4	5.2	20.9	7.5	9.6
Germany ^a	16.4	6.9	18.8	9.4	11.8
Greece	14.4	4.3	25.1	7.5	18.6
Hungary	11.9	7.4	12.0	12.0	22.1
Iceland	15.7	5.4	17.7	13.6	24.4
Ireland	8.4	5.7	17.7	9.6	16.3
Italy	11.4	5.7	29.5	6.8	21.8
Luxembourg	7.7	3.4	14.7	6.5	10.9
Netherlands ^b	15.8	2.2	23.4	13.6	8.5
Norway	14.0	4.7	18.3	10.5	23.5
Poland	10.0	5.8	13.3	6.2	36.8
Portugal	0.0	8.5	18.3	8.7	17.8
Slovak Republic	16.1	12.6	19.8	15.9	31.2
Spain ^c	0.0	4.4	28.8	11.9	7.4
Sweden	21.4	7.8	18.0	16.5	24.1
Switzerland	10.7	1.9	17.8	7.6	13.4
United Kingdom	27.4	11.8	20.7	11.6	18.0
Unweighted average ^d	14.3	6.2	18.7	10.2	18.2

a) Data are for 1997.

b) Data are for 1999.

c) Data are for 1998.

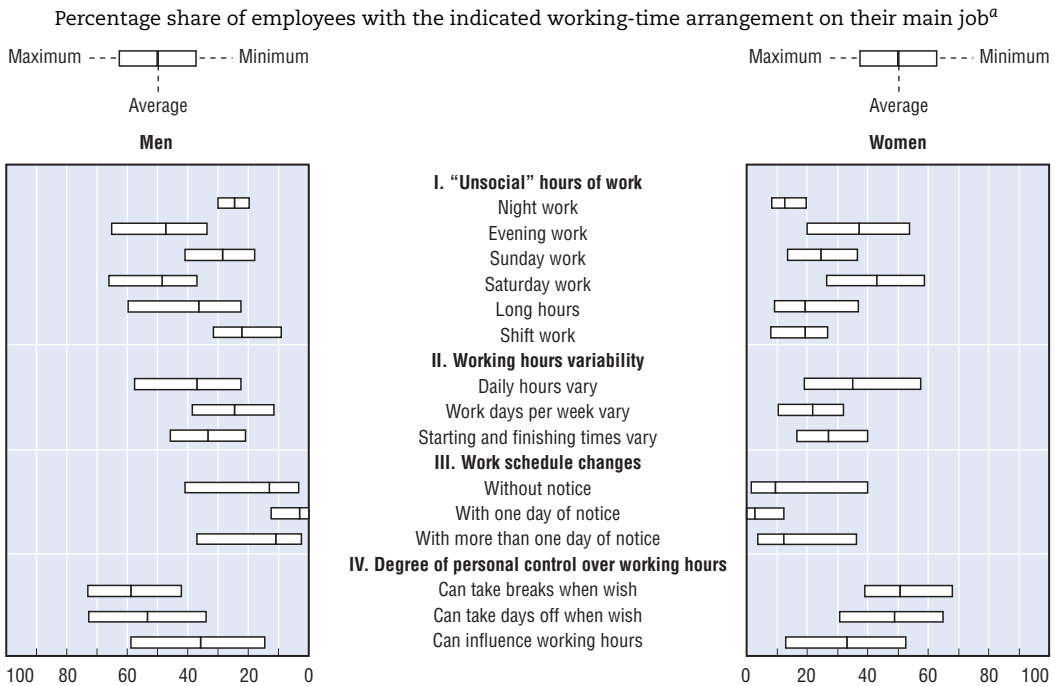
d) For above countries only.

Source: European Labour Force Survey.

average for the 22 European countries shown, around 1 out of 5 employees report working on Saturdays or shift-work, while 14% regularly work in the evening, 1 out of 10 employees work on Sundays and 6% report working during the night. Most of these working-time arrangements, but particularly night and shift work, are more common among male employees, but gender differences are generally quite small and women work somewhat more frequently on Saturdays (see OECD, 2004, for a gender-disaggregated version of Table 1.8). The incidence of non-standard hours varies quite sharply across the countries shown due, in part, to differences in national regulations affecting working hours. The incidences of non-standard work hours also vary between sectors and occupations, with more shift-work in manufacturing, and more Saturday and Sunday work in service sectors and occupations (OECD, 1998a).

Another important aspect of working time is its variability and whether this variability is predictable or is at the discretion of the worker. Chart 1.8 presents some information on these aspects of working time from the European Survey of Working Conditions (ESWC) conducted by the European Foundation for the Improvement of Living and Working Conditions.¹⁹ On average for the 19 countries analysed, large minorities of both men and women report that their scheduled working times change at least once a month. Approximately one-third of all workers report that the number of hours worked per day varies and approximately a quarter that the days they work during a week vary. A little over a quarter of both men and women report that their work schedule changes at least once a

Chart 1.8. **The incidence of different working-time arrangements in Europe, 2000/2001**



a) Minimum, maximum and (unweighted) average values for Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

Source: Secretariat estimates based on microdata from the Third European Working Conditions Survey 2000/2001 and the Survey of Working Conditions in the Candidate Countries as provided by the European Foundation for the Improvement of Living and Working Conditions.

month and only about half of this group receives more than 1 day of advance notice of the change.²⁰ Finally, approximately 50-60% of all workers report some personal control of when they take breaks or schedule days off, but only about one-third say that they have personal control over their working hours.

Working-time arrangements within families

This subsection presents recent labour force survey evidence regarding usual weekly work patterns of persons of working age (15-64 years) depending on their family situation – living alone or with a partner – and the presence or not of children. Half of all workers live in couple families with children and this group may require particular policy attention. Therefore, couple families with children under 15 are further examined. Finally, a multivariate analysis based on the European Survey of Working Conditions (ESWC) gauges possible conflicts between work and family life.

Different patterns of family labour supply. Table 1.9, Panel A shows the average distribution of hours worked by male and female workers of working age by family type in 2002 for 11 European Union member states. A quick look at employment shares by family type reveals that over 80% of workers live in couple families – with (49%) or without (35%) a child – while 14% of workers are singles and 2% of workers are lone parents. Turning to hours worked by gender and family type, the most frequent hours worked are in the 35-40 weekly hour range corresponding to a standard, full-time work week. However, female workers are also quite

Table 1.9. **Weekly work patterns of employed persons by family situation^{a, b} and of couple families, averages for selected European countries**

Panel A. Weekly work schedule of workers by family situation, 2002

Family types	Age of the youngest child	Sex	Usual weekly hours worked on the main job					Hours vary	Employment shares
			< 30 hours	30-34	35-40	41-44	45+		
1 person, 0 child		Female	17.2	6.0	59.0	3.7	12.0	2.1	5.7
		Male	7.2	2.7	60.6	4.5	22.3	2.7	8.0
2 persons, 0 child		Female	27.3	7.8	49.3	3.1	10.6	1.9	16.3
		Male	4.9	2.2	59.7	4.6	25.4	3.1	19.0
1 person, 1+ children	Under 6 years	Female	36.9	9.3	45.1	2.1	5.2	1.4	0.4
		Male	9.8	1.2	54.6	8.1	25.3	1.0	0.0
	6 to 14 years	Female	30.2	11.0	47.4	2.3	7.1	2.0	0.7
		Male	10.3	5.6	57.5	5.2	17.9	3.5	0.1
	15+ years	Female	21.8	7.8	56.2	1.8	9.6	2.7	0.5
		Male	6.5	2.7	59.4	3.9	23.7	3.6	0.1
2 persons, 1+ children	Under 6 years	Female	37.9	8.3	44.4	1.7	6.0	1.7	4.4
		Male	3.1	2.2	62.0	4.3	25.2	3.2	6.8
	6 to 14 years	Female	44.5	9.2	35.5	1.8	7.2	1.9	8.8
		Male	2.9	1.9	60.2	4.2	27.4	3.4	12.3
	15+ years	Female	33.0	8.9	44.3	2.0	9.6	2.2	7.3
		Male	3.2	1.8	62.1	3.0	26.1	3.8	9.7
All workers			16.2	4.8	54.4	3.5	18.4	2.7	100.0

Panel B. Work situation of couple families with a child under 15, 1985-2002^c

Work status	Couple families by presence of:							
	Child aged 0-6				Child aged 6-14			
	1985	1990	1995	2002	1985	1990	1995	2002
Two full-timers	23	26	28	32	24	26	28	29
One full-timer and one part-timer	14	18	19	23	18	20	22	27
One full-timer with partner not employed	53	48	42	35	48	44	38	34
Part-timers and workless couples	9	9	11	9	10	9	11	10
All couples with a child	100	100	100	100	100	100	100	100

Panel C. Combined weekly hours of couple families with at least one worker and a child under 15^c

Family types	Age of the youngest child	Year	Usual weekly hours worked on the main job					All hours
			< 39 hours	40-59	60-79	80+	Hours vary	
2 persons, 0 children		2002	15	21	24	20	20	100
		1995	16	21	23	19	21	100
		1990	15	22	20	18	26	100
		1985	12	25	18	19	25	100
2 persons, 1+ children	Under 6 years	2002	14	32	29	18	8	100
		1995	17	33	25	17	8	100
		1990	18	36	23	15	8	100
		1985	16	43	21	14	7	100
	6 to 14 years	2002	13	31	26	16	14	100
		1995	15	32	24	17	12	100
		1990	16	35	22	17	11	100
		1985	14	39	21	15	11	100

a) Family types are based on the reference person in the household unit of the survey and his or her spouse. Children are those related to the reference person and/or spouse either by blood or adoption. As a result, other members of the households are excluded from the analysis. The analysis is also restricted to persons of working age (Panel A) or members of couple families in which the reference person is of working age (Panels B and C).

b) Calculated as weighted averages for the following 11 EU countries: Austria, Belgium, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom. Employment weights are used in Panel A, couple-family weights in Panel B and employed-couple-family weights in Panel C.

c) Figures for 1985 do not include Portugal and Spain, as ELFS data are available only since 1987. However, a sensitivity analysis for 1987 indicates that this exclusion probably has little impact on the figures presented.

Source: Special tabulation provided by Eurostat based on the European Labour Force Survey results.

likely to work less than 30 hours, while their male counterparts are more often working 45 or more hours. Single mothers with at least one young child under 6 and mothers in couple families with a child under 15 years are particularly likely to work part time. Moreover, living with a partner, increases the percentage of women with short work weeks. Conversely, there is relatively little difference in the proportions of males working 45 hours and over irrespective of their marital or family status.

The “male breadwinner” model has become less the norm, as can be seen from trends in the employment status of couple of families with young children (Table 1.9, Panel B). This confirms the findings of Chapter 4 of the 2001 edition of the *Employment Outlook* (OECD, 2001b) that, over the past two decades, the average share of couple families with a child under 6 (or under 15) containing a sole male full-time earner has fallen from more than 50% in 1985 to only around 1 family in 3 in 2002. Meanwhile, the share of dual-earner families composed of a full-timer and a part-timer or two full-timers rose steadily from respectively 14% and 23% in 1985 to 23% and 32% in 2002. Thus, families in which both parents of young children work have gradually become more prevalent, representing more than half of couple families with young children in 2002.

The transformation in work activities of couple families with young children, with more women in part-time or full-time jobs, is further confirmed by a rise in the length of work weeks of dual-earner couples (Table 1.9, Panel C). It is also noteworthy that childless couples are more frequently reporting variable work schedules, such as flexible hours, than couples with young children who tend to report more predictable work schedules.

This descriptive analysis highlights, not surprisingly, that work patterns of workers continue to be influenced by their family circumstances, but a growing share of working mothers with young children are working both full and part-time jobs. As a consequence, sole-earner couple families are no longer the norm, in particular for families with young children. As a result, the volume of hours worked in couple families with young children has increased over time. Bringing more mothers into work is likely to challenge work and family life balance and therefore calls for policy attention to address issues related to child care, parental leave provisions and career-breaks. Equally important are issues pertaining to work schedules and other aspects of working life such as travel to work, which are examined in the next section.²¹

Working hours and work-life balance. One of the key questions related to working time and well being is whether long or non-standard working hours make it more difficult to reconcile work with family life. Table 1.10 provides some evidence on this point for 19 European countries in 2000/2001. The values reported in this table refer to estimated increases in the percentage of workers reporting a conflict between their working hours and their “family or social commitments”.²² The basic model includes a number of control variables for demographic groups and job characteristics as well as for total weekly working hours.

Increased conflict between work hours and family life is very significantly associated with the presence of children in the household, being younger and working in a high-intensity or long-hours job or being self-employed. The three augmented models in Column (2) – (4) add different combinations of dummy variables indicating fifteen different types of working schedules. These variables tend to be highly statistically significant and are estimated to have quite a large impact on the incidence of work-family life conflict. Conflict is more frequent for workers working other than standard hours (i.e. evenings,

Table 1.10. **Multivariate estimates of the impact of work schedules on the conflict between work hours and family life in Europe, 2000/2001**

Estimated percentage-point increase in the probability of work-life conflict from ordered logit models^a

	Basic model (1)	"Unsocial" hours (2)	Irregular work schedules (3)	Full model (4)
I. Control variables				
Gender and family type interaction				
Reference person: Childless single man				
Man with partner and children	6.8***	6.0***	6.5***	5.8***
Single man with children	3.8	5.7***	3.7	4.0
Woman with partner and children	6.1***	8.3***	6.8***	8.1***
Single woman with children	7.2***	9.3***	6.7***	8.2***
Childless man with partner	1.6	1.6	1.8	1.6
Childless woman with partner	0.3	2.9**	0.5	2.2
Childless single woman	1.3	2.7**	0.8	2.1
Age group				
Reference person: 35-44 years				
15-24 years	4.6***	2.3*	2.1	1.0
25-34 years	1.9**	1.1	1.1	0.6
45-54 years	-2.9***	-2.1**	-3.9***	-3.0***
55-64 years	-5.0***	-3.8***	-6.0***	-4.9***
Employment status				
Reference person: employee				
Self-employed	6.2***	2.1*	9.4***	7.5***
Job intensity				
Reference person: medium intensity job				
Low intensity job	-7.9***	-6.2***	-5.9***	-5.3***
High intensity job	7.1***	6.8***	5.7***	5.5***
II. Total hours of work				
Weekly hours of work/10	10.5***	8.2***	11.0***	8.8***
Commuting time (hours per day)	5.5***	6.4***	4.9***	6.1***
III. "Unsocial" hours of work				
Night work	-	10.2***	-	9.9***
Evening work	-	12.9***	-	11.5***
Sunday work	-	4.5***	-	2.5**
Saturday work	-	10.4***	-	8.2***
Long hours ^b	-	4.8***	-	3.6***
Shift work	-	6.9***	-	7.0***
IV. Irregularity of working time				
Working hours variability				
Daily hours vary	-	-	7.5***	5.7***
Work days per week vary	-	-	13.3***	5.5***
Starting and finishing times vary	-	-	7.9***	6.1***
Change in work schedule and notification				
Schedule changes without notice	-	-	14.0***	9.8***
Schedule changes with one day of notice	-	-	9.5***	4.8*
Schedule changes with more than one day of notice	-	-	10.0***	1.6
Degree of personal control over working hours				
Can take breaks when wish	-	-	-4.7***	-3.3***
Can take days off when wish	-	-	-7.3***	-7.1***
Can influence working hours	-	-	-7.5***	-6.6***
Number of observations	21 314	21 053	17 774	17 713
Log likelihood ^c	-22 208.8***	-20 930.0***	-17 857.2***	-17 339.3***

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively (two-tailed test).

a) The ordered logit models were estimated using maximum likelihood for a pooled sample of 19 European countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom. The specifications include country fixed effects, in addition to the regressors listed above. The reference person is a childless single man, who is between the ages of 35 and 44, and a dependent employee in a medium intensity job, with weekly work hours and commuting time set at the sample mean values. Working hours are regular and limited to standard working hours on week days. The dependent variable is a 4-level index of the degree of conflict between working hours and family life, with 0 corresponding to no conflict (working hours fitting "very well" with "family and social commitments") and 3 to a high level of conflict (working hours fitting "not at all" with "family and social commitments"). The values reported in the table are the increase in the probability of work-life conflict corresponding to a unit increase in that regressor.

b) Long hours corresponds to working more than 10 hours a day at least once a month.

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

Source: Secretariat estimates based on microdata from the Third European Working Conditions Survey 2000/2001 and the Survey of Working Conditions in the Candidate Countries as provided by the European Foundation for the Improvement of Living and Working Conditions.

nights or weekends) or whose work schedules are variable or unpredictable.²³ However, significantly less conflict is reported by workers who have some control over their working time, for example, when they take breaks or have some flexibility in scheduling days off.²⁴

Conclusions

This chapter has analysed several facets of working time from two distinct perspectives: i) an economy-wide perspective that focuses on total hours worked as a factor input and tends to stress how higher total hours translate into higher production and income; and ii) a worker's perspective that emphasises the complexity and diversity of working-time arrangements and the opportunity cost of time spent in paid employment. Discussions of policies to improve economic growth performance have tended to adopt the first of these perspectives, whereas discussions of employment policy and labour market regulations typically emphasise the latter. Nonetheless, the two perspectives are highly complementary and juxtaposing them generates important insights that can contribute to the assessment of policy choices.

The main empirical findings include:

- International comparisons of hours worked encounter difficult conceptual and practical difficulties, due to differences in national statistical sources and methods. The partially harmonised estimates presented here indicate that there are very large differences across OECD countries in total hours worked per capita. In 2002, labour utilisation ranged from 600 annual hours in France to 1 100 hours in Korea. Broad regional patterns are present, in which total hours per capita are above-average in Japan, Korea and non-EU English-speaking countries. Hours are also relatively high in the formerly centrally planned economies, as well as in Iceland and Switzerland. By contrast, labour utilisation tends to be well below the OECD-wide average in many of the EU countries. International differences in hours per worker and aggregate employment rates contributed about equally to this cross-country dispersion.
- Hours per capita and hours per worker developed very differently in most OECD countries during 1970-2000. In some countries, a strongly rising employment rate overwhelmed the historic tendency for hours per worker to decline, resulting in a strong trend increase in hours per capita (*e.g.* Ireland and Spain). A similar pattern holds in several English-speaking countries, including the United States, where the rise in the employment rate has been somewhat slower recently, but the trend decrease in hours per worker also stopped. At the other extreme are countries where the trend decline in hours per worker has dominated any increase in the employment rate, resulting in a strong downward trend in hours per capita during the past three decades (*e.g.* France and Japan). In most countries in which labour utilisation rose since 1970, an increase in the employment rate of prime-age women was largely responsible. In countries where labour utilisation fell, declines in the employment rates and/or average hours worked by prime-age men were the main factors reducing hours worked per capita.
- OECD countries in which workers tend to work fewer hours tend to have above-average employment rates. The negative association between employment and hours per worker probably does not reflect a trade-off in which a fixed volume of work can be spread more or less evenly across the adult population. Rather, the response of labour supply to long-run improvements in productivity and living standards appears to differ between the intensive and extensive margins: higher real output per hour worked being associated

with lower annual hours per worker but higher employment rates. However, these associations are not “tight”, indicating that many factors besides productivity affect employment rates and annual hours per worker. In particular, comparisons among the eight OECD countries with the highest (and more or less equal) hourly productivity reveal substantial differences in both employment rates and average hours per worker – labour utilisation being higher in the United States than in high-productivity European countries, often substantially so.

- A number of different factors underlie cross-country differences in the length of the average work year, with differences in both the average work week and the number of weeks worked per year playing important roles. Within OECD Europe, the average work week varies from a low of 32 hours in the Netherlands, where the incidence of part-time jobs is particularly high, to a high of 42 hours in Poland and the Slovak Republic. Annual weeks worked vary from a low of 35 weeks in Sweden, where absences due to sickness and maternity leave are highest, to a high of 45 weeks in Greece.
- In countries where data are available, the tendency for average annual hours per worker to decline during 1990-2002 was largely due to a rising incidence of part-time jobs, with reductions in annual hours for full-time workers playing a smaller but still significant role.
- The dispersion of usual weekly hours across the workforce has tended to increase since 1990, but the 40-hour work week is still the most common work schedule in the large majority of OECD member countries.
- The volume of hours worked in couple families with young children has increased significantly since 1985, due to increasing employment among mothers. The paid work hours of employed mothers are strongly influenced by their family circumstances, with mothers of young children being particularly likely to work part-time.
- A considerable share of all workers report being on the job outside of normal working hours, for example, working evenings, nights or weekends. Such work schedules are associated strongly with self-reported conflict between work hours and family life. The same pattern holds for long working hours, long commutes and irregular or unpredictable working hours. By contrast, workers having a say in their working hours report less conflict between their work schedules and family life.

Taken together, these empirical findings suggest two broad lessons for policy. A first general insight is the overlap between the growth agenda (OECD, 2003c) and the employment agenda associated with overcoming high unemployment and expanding employment rates in response to population ageing (OECD, 2003b). In both cases, a key precondition for success is expanding the share of the working-age population that participates in paid employment. Each perspective also emphasises aspects of policy choices that the other tends to downplay. When discussing the benefits of increasing total hours worked from the growth perspective, there is a tendency to neglect the crucial importance of the extensive margin of labour supply (*i.e.* raising employment rates) and, perhaps even more so, to overlook the positive contribution that part-time work schedules can make to expanding labour force participation and total labour utilisation, even if it lowers average annual hours per worker. By contrast, most discussions of policies to increase employment rates (*e.g.* as a means to maintain high living standards as populations age) adopt a head-count approach to labour input, which takes no account of the typically lower hours contributed by members of under-represented groups when they are drawn into the labour force.

A second general insight is the importance of combining policies to increase employment and hours worked with measures to reduce the opportunity cost of time spent at work, for example by better reconciling work schedules with other life activities. Flexibility in work schedules is an important element of such reconciliation, but it is evident that the types of working-hours flexibility that reduce work-family life conflicts overlap only in part with the types of flexibility sought by employers. A final insight is that working-time patterns have diverged since 1970 among the highest-productivity OECD countries. It is important to understand better the institutional and cultural factors underlying this divergence, including whether new policy interventions would be desirable to influence the evolution of working-time arrangements.

Notes

1. This section analyses only hours of paid work, but will henceforth refer to “hours of work” for convenience. It should be emphasised that the comparisons of hours worked presented here take no account of unpaid work nor of paid work in the informal economy to the extent that it is not reflected in labour force surveys and the other data sources used here (see Chapter 5).
2. Total hours worked per capita is measured by aggregate hours worked in the economy divided by the population size. It corresponds to total labour input in production theory and is sometimes referred to as “labour utilisation”.
3. Gordon (2002) provides a longer-run perspective on this question. Comparing 12 western European countries with the United States, he estimates that GDP per capita in Europe was only 56% of that in the United States in 1950 and that lower labour productivity accounted for all of the European gap in income. The productivity gap closed dramatically during the following four decades and by 2000 was down to 5%. Nonetheless, the gap in output per capita was still 23% due to a much steeper decline in per capita hours worked in Europe than in the United States, a divergence that began in around 1970.
4. For example, hours worked are reported on a per job basis, rather than on a per worker basis, in Canada, France, Germany, Japan, Sweden, Switzerland and the United States and a conversion to a per worker basis is made only in the case of the United States (see Annex 1.A1). Country standings in terms of hours per worker are likely to be affected by this difference, especially in the case of countries with sizeable shares of multiple job holders. However, this difference has no effect on the estimates of aggregate hours per capita. Also, the hours per worker data for Korea are for wage and salary workers reported in the monthly labour survey covering establishments of 30 or more workers.
5. Since the employment estimate used is average employment during the year, rather than all persons employed at any point during the year, consistency requires that annual hours per worker be calculated on the basis of full-year-equivalent workers (see Annex 1.A1).
6. OECD-wide averages of hours per capita (likewise for hours per worker and employment rates) are obtained using population weights (and employment and working-age population weights, respectively).
7. Except in Korea (where the positive demographic effect is 7 percentage points, exactly offsetting the negative employment rate effect, while very high hours per worker lead to OECD-high labour utilisation) and Mexico (where a 8 percentage-point demographic effect is created by a higher-than-average non-working age dependency rate, nearly offsetting a 9 percentage-point hours-per-worker effect, so that a below- average employment rate results in below-average labour utilisation).
8. These demographic patterns also help to explain the negative cross-country correlation between employment rates and average hours per worker that was discussed above. In countries where the overall employment rate is higher, a larger share of the workforce is composed of members of under-represented groups who tend to work fewer hours than do prime-age men.
9. In this shift-share analysis, employment rates refer to employment divided by the population aged 15 years or more, as in Heisz and LaRochelle-Côté (2003).
10. The analysis is limited to 14 European countries, for which 1990-2002 data are available from the European Labour Force Survey, and Canada and the United States, for which the results are taken from Heisz and LaRochelle-Côté (2003). The calculations for the latter two countries are not fully comparable to those for the European countries. A first difference is that annual hours for Canada

and the United States refer to *usual* hours worked on the main job, rather than *actual* hours worked on all jobs, the concept favoured in this chapter. A second difference is that the employment concept used is the number of “persons in employment at anytime over the (previous) year”, rather than average employment during the year. As a consequence of these two differences, the estimates of per capita hours for Canada and the United States underlying Chart 1.5 differ somewhat from those used in Charts 1.1 to 1.3. For example, the data for the United States in Chart 1.5 indicate that annual hours per worker rose 5.4% between 1989 and 2002, while Panel B of Chart 1.3 indicates essentially no change over the same period. This difference probably reflects the impact of part year work on the hours measure used in Chart 1.5. Rones *et al.* (1997) show that annual usual hours worked for persons ever employed during the year have tended to increase in the United States, as part-year work has become less common. Despite these non-comparabilities, the results for Canada and the United States should still be qualitatively informative concerning the demographic decomposition of the growth of per capita hours worked.

11. These two groups largely overlap. Typically, rising employment rates accounted for most or all of the increase in per capita hours for these groups, often more than offsetting a modest reduction in hours per worker. See OECD (2004) for more detailed results.
12. Sweden is somewhat of an exception in that declining per capita hours for women and prime-age persons made a significant contribution to the overall decline in labour utilisation, which probably reflects the employment difficulties created by adverse macroeconomic shocks in the early 1990s.
13. According to the 1962 ILO resolution on hours of work statistics, hours actually worked includes: normal hours of work (*i.e.* legal hours, contractual hours), the number of hours in excess of which any time worked is remunerated at overtime rates, time spent for the preparation of the workplace, short rest periods at the workplace, minus hours paid but not worked due to annual leave, public holidays, sick leave, maternity leave, etc., meal breaks, and travel time to work. However, to bring the ILO definition in accordance with the 1993 Standardised National Accounts definition, actual hours worked should also include unpaid overtime hours (see www.ilo.org/public/english/bureau/stat/download/res/hours.pdf).
14. Also, the growing diversification of work schedules, as explored later in the chapter, reflects measures – legislated or agreed upon through collective bargaining between social partners – to increase flexibility in labour utilisation and work hours to meet production needs, in addition to a growing individualisation of work contracts in a number of OECD countries. Consequently, “weekly hours worked” does not necessarily correspond to standard hours worked during a typical week but rather to average weekly hours over a number of weeks – otherwise known as the “averaging period” – beyond which workers are entitled to overtime premium.
15. It includes, in addition to normal hours of work (*i.e.* legal or contractual hours of work), any overtime work – whether paid or unpaid – performed on a regular basis and excludes main meal breaks. It is considered as “the modal value of the workers’ hours actually worked per week over a long period”.
16. Surprisingly, the association between greater dispersion of working hours and higher employment rates was considerably stronger in 1990 (0.69) than 12 years later. Nonetheless, there was a weak positive correlation (0.24) between the 1990-2002 changes in the standard deviation of usual weekly hours and the employment-population ratio.
17. According to the 2001 European Labour Force Survey coding instructions, these are formal work arrangements with employers that are taking place on a regular or usual basis, that is, more than half of the days or weeks over the past four weeks including the survey reference week (see www.eu-datashop.de/download/EN/spezial/lfs/methoden.pdf).
18. According to ELFS instructions, evening work normally starts after the usual daily work schedule and lasts until usual sleeping time, whereas night work refers to hours worked during usual sleeping time.
19. Chart 1.8 also presents incidence of non-standard work hours, such as those reported in Table 1.8. The incidences from the ESWC are substantially higher, due at least in part to the fact that they refer to working non-standard hours at least once a month, rather than on a regular basis.
20. The share of workers experiencing changes in their work schedules is the sum of the three groups shown (*i.e.* those without notice of the change, with one day of notice and with more than one day of notice) or 25% for women and 27% for men.
21. See Chenu and Robinson (2002) and Hamermesh (2002) for more detailed analyses of the working-time arrangements of families, and Gornick and Meyers (2003) and OECD (2002) for discussions of policies for reconciling work and family life.

22. These effects were estimated by applying an ordered logit model to micro data for over 20 000 workers in the most recent European Survey of Working Conditions (ESWC).
23. Note that the reference person for interpreting these effects works an unchanging schedule during normal business hours and an average-length work week.
24. Often, workers may not be able to choose the mix of scheduling characteristics that best suit their family lives. Using 1997 data for the United States, Golden (2001) concludes that workers desiring to exercise some discretion over the starting and stopping times of their work day frequently must also accept long, non-standard or unpredictably hours.

ANNEX 1.A1

Data Sources, Definitions and Cross-country Comparability for the Analysis of Working Time from the Economy-wide Perspective

The aggregate hours and employment data used in this chapter for the analysis of working time from an economy-wide perspective are taken from the newly released OECD Productivity database, which can be found on the OECD website at: www.oecd.org/statistics/productivity.¹ This annex provides an overview of the data sources and definitions underlying these data, devoting particular attention to the issue of the cross-country comparability of average annual hours worked per person in employment (for a more detailed discussion of these issues see Ahmad *et al.*, 2003; OECD, 2003d).

According to the 1993 System of National Accounts (United Nations, 2004), total hours *actually worked* is the preferred aggregate measure of labour input for productivity analysis, as it reflects the volume of work engaged per year in both self-employment and employee jobs for the production of goods and services by resident units of production. From a measurement point of view, aggregate hours *actually worked* per year in the total economy is calculated as the product of the average employment level over the course of a year and average annual hours per full-year equivalent worker. The annual hours per worker estimates used in the calculation of total hours worked are, themselves, typically derived from estimates of the length of a typical work week (averaging over all full- and part-time workers) and the average number of weeks actually worked during the year by full-year equivalent workers.

In general, the international comparability of the employment data is thought to be quite good, since it is generally possible to obtain estimates which are consistent with ILO guidelines on employment statistics. By contrast, there has been less international harmonisation of hours worked statistics, which are characterised by a considerable variety of sources and methods. The remainder of this annex discusses the measurement methods used and the principal difficulties that arise as concerns potential non-comparabilities across OECD member countries.

Sources and methods used to estimate average annual hours per worker

The productivity database makes use of the estimates of average hours actually worked per year per person in employment which have been collected by the OECD and published annually as Table F of the Statistical Annex to the OECD *Employment Outlook* for some years. These data are currently available for 24 OECD countries in OECD Annual Hours database.² In the majority of the cases, national statistical authorities produce these

estimates and supply them to the OECD Secretariat. However, the Secretariat calculates these estimates for seven European countries (Belgium, Denmark, Greece, Ireland, Italy, the Netherlands and Portugal) using data from the European Labour Force Survey.

To develop their estimates of average annual hours worked, countries use the best available data sources for different categories of workers, industries and components of variation from usual or normal working time (e.g. public holidays, annual leave, overtime, absences from work due to illness and to maternity). Since multiple sources of data are combined in often complex ways, it is difficult to assess the cross-country comparability of the resulting estimates. Examples of different national and international approaches include:

- In Japan and the United States, hours per worker are estimated directly from establishment surveys for, respectively, regular and production/non-supervisory workers in employee jobs in the private sector. These estimates are then combined with data for other workers from labour force surveys and other sources, in order to produce an estimate of average annual hours for the total work force.
- In France, Germany, Norway and Switzerland, the measurement of annual working time relies on a “component method”. This approach begins with a direct estimate of standard working hours which, depending on the source used, may be hours offered (from an establishment survey), contractual hours (from an administrative survey) or normal hours (from a labour force survey). Various adjustments are then made to account for differences between standard hours and hours actually worked, including subtractions for absences and additions for overtime. Information from a number of sources is combined. For example, vacation time can be derived from either establishment-survey data on paid leave or the number of days of statutory leave entitlements. Similarly, hours lost due to sickness are estimated on the basis of social security registers and/or health surveys.
- Estimates for Australia, Canada, Czech Republic, Finland, Iceland, Mexico, New Zealand, Slovak Republic, Spain, Sweden and the United Kingdom rely mainly on labour force survey results. Annual working hours are derived using a direct method annualising actual weekly hours worked, which cover all weeks of the year in the case of continuous surveys. But, for labour force surveys with fixed monthly reference weeks, this method results in averaging hours worked during 12 weeks in the year and, therefore, necessitates adjustments for special events, such as public holidays falling outside the reference week (i.e. Canada and Finland).
- As was mentioned above, the OECD Secretariat estimates annual working time for Belgium, Denmark, Greece, Ireland, Italy, the Netherlands and Portugal. A variant of the component method is used for this purpose, which relies principally on data from the Spring European Labour Force Survey.³ However, results based on a single quarter are unlikely to estimate accurately the number of days not worked due to annual leave, the largest single reason for absences from work. Therefore, annual leave entitlements and the number of public holidays are taken from the EIRO (2002).⁴ In addition, hours not worked due to sickness and maternity leave, the second most important reason for absences, are corrected to account for an estimated 50% under-reporting in labour force surveys compared to absences reported in health surveys and social security registers (see below). Several other reasons for absences are also taken into account, such as: bad weather, slack work for technical and economic reasons, labour dispute, education and training, illness, temporary disability, maternity and parental leave, special leave for personal and family reasons and other reasons. Furthermore, irregular overtime hours and hours worked in second or more jobs

are included in the estimate of the average number of hours worked per week, which are mainly based on usual weekly hours worked in the main job.⁵

The international comparability of working-time estimates

How comparable are the hours per worker estimates which are available for OECD countries? It is not easy to come to an overall conclusion given the complexity of the differences in data sources and methods, but it is clear that small differences between countries should be treated with caution since they could reflect differences in measurement methods rather than true differences in hours worked.

One illustration of the complexity of assessing cross-country comparability is that OECD governments periodically revise their measurement methodologies in order to better meet their national goals in collecting these statistics. For example, Germany recently revised its annual working time series to better account for workers with very low hours of work. This change achieved more complete coverage of workers (i.e. so as to better conform to National Accounts output measures and improve productivity measurement), while resulting in an apparent decrease in average hours per worker. Similarly, France recently revised downwards its published series of hours worked in order to achieve historical continuity with a change in hours worked concepts that followed the introduction of 35-hour week in 1999: short periods of rest at the workplace (or work breaks) no longer being counted as hours worked. This change resulted in a decrease in estimated working time over the period 1990 to 1999 compared to the previous series of around 40 hours per year. Whereas the German revision arguably moved that country closer to international guidelines, the French revision departs from ILO recommendations (while arguably providing more meaningful historical comparisons within France). A third example of this on-going process of revisions is that the Office of Productivity and Technology of the US Bureau of Labor Statistics undertook studies to improve the estimation of hours worked of worker categories not covered by the establishment survey, which is the main source for annual hours worked measures. However, it does not appear that this methodological refinement is likely to much affect aggregate hours worked estimates.⁶

One source of non-comparability between countries is easily remedied. Depending on the country, annual working-time measures are reported on either a per job basis or a per worker basis. To harmonise these measures on a per worker basis, annual hours worked per job are converted to a per worker basis by the OECD Secretariat, using the share of multiple job holders in total employment, which is available in labour force surveys (albeit, no further distinction being possible between second and more jobs).⁷

Other sources of non-comparability are impossible to resolve and their effects are difficult to assess with precision. Differences in the extent to which OECD member countries rely upon establishment surveys versus labour force surveys to construct their average hours estimates represent a potentially important source of non-comparabilities. It is often argued that enterprise surveys provide more accurate information on hours worked than do the household interview responses recorded in labour force surveys. For example, labour force survey-based respondents are suspected of over-reporting hours worked (e.g. as compared to work hours reported in time-use surveys, in particular for those working long hours, like managers and professionals). However, several recent studies suggest that the average bias is small (Jacobs, 1998; Williams, 2004). Furthermore, establish surveys may have their own biases. For example, employer survey-based estimates tend not account for unpaid overtime hours and are sometimes suspected of under-reporting hours worked (Eldridge et al., 2003).

Whatever the relative merits of establishment versus household surveys for collecting hours worked data, annual hours worked measures rely mainly on labour force survey results for a substantial number of OECD countries. Indeed, in a majority of countries labour force surveys are the only source available to derive annual hours of work measures. This source has the advantage of covering all workers,⁸ whereas establishment surveys often exclude significant parts of the work force (which then have to be added by making use of additional data sources). Since the reporting of actual hours worked in labour force surveys is often believed to be less accurate than those recorded by employers for the same workers, it is important that the quality of data on annual hours actually worked receive a proper assessment. In particular, the various working-time components should be confronted with information from external sources – such as, time-use surveys, health surveys, establishment surveys, social security registers, and other sources – in order to assess the reliability of data from labour force surveys.

So far, some results of data confrontation undertaken for a limited number of countries (OECD, 1998b) highlighted the following results:

- “Standard” hours of work from establishment-based surveys and labour force surveys differ by 1 to 3% for the four countries (France, Germany, Netherlands and Switzerland) included in the analysis, with labour force surveys yielding the higher estimates.
- Monthly labour force survey estimates of hours not worked due to holidays, even when adjusted for the irregular occurrence of holidays during the reference week, seem to be downward biased (Canada).
- Estimates of hours lost due to illness, work accidents and maternity leave from labour force surveys appear to be underestimated by about 45% to 60% compared to administrative sources (in France, Germany and Switzerland). These seem to be associated largely with a serious underreporting of part-week absences.
- Labour force surveys seem also to underestimate overtime work (*e.g.* Germany). However, this is not entirely certain, because some regularly occurring overtime may be included in usual hours of work in labour force surveys.
- A second study (OECD, 1999) examined the effect of so-called “unpaid overtime” worked by managers and professionals, *i.e.* the additional hours they worked over and above those worked by full-timers in other occupations, on the estimates of annual working time from labour force surveys relative to those from administrative or establishment survey sources. The impact of this “unpaid overtime” recorded in labour force surveys varied by country, from no measurable effect to as much as 40 hours per year, depending on the country.
- Finally, in the aggregate, empirical results from two countries (Germany and United States) suggest that labour force survey estimates yield figures for annual hours of work that are only slightly higher than those from establishment surveys. This is due in part to the fact that biases in estimates of the components of working time tend to cancel out to a considerable extent.

This partial evidence suggests that the different sources and methods used probably do not generate spurious cross-country differences that are large, but also that the accuracy and comparability of labour force survey based estimates are likely to be enhanced when they are adjusted for the systematic underestimation of absences by main reasons (*i.e.* public holidays, paid annual leave, and sickness and maternity leave). As a result, OECD Secretariat estimates of annual working time for certain European countries

based on the Spring ELFS are adjusted. First, by doubling hours lost due to sickness absence and maternity leave reported in labour force surveys. Second, holidays and annual leave entitlements are taken from external sources assuming that all workers are entitled to annual leave and take all days off over the year. Since the evidence suggests that the additional unpaid overtime captured by labour force surveys, as compared to other data sources, is quite small or even negligible, no attempt has been made to correct for this possible source of differences.

Notes

1. This database is regularly updated as national statistical offices provide new or revised data to the Secretariat. The hours-worked data used in this chapter correspond to those available on 30 April 2004.
2. The OECD Productivity database also makes use of annual hours of work per employee for Hungary and Korea, since annual hours data are not available for all employed persons. Per capita hours worked in these countries are estimated on the assumption that average hours for the self-employed equal those for dependent employees.
3. Chagny *et al.* (2002) review the international comparability of national estimates of annual working time and support the idea of producing annual working hours estimates for European countries by using a component method applied to ELFS results and external sources, as appropriate.
4. The annual leave entitlements used are those recorded in collective agreements and collected by the European Industrial Relation Observatory for 2002 (see EIRO, 2002). The methodology used assumes that annual paid leave entitlements apply to all wage and salary workers (and the self-employed) and that all vacation days are taken.
5. Since the OECD Productivity database contains only estimates of average annual hours for all workers, without any disaggregation, this same method is used for all of the European countries included in the chapter's decomposition analyses of annual working time between different demographic groups (*cf.* Charts 1.4 and 1.5) and full- and part-time workers (*cf.* Table 1.5), and among the various components of the work year (*cf.* Table 1.6).
6. In the United States, official estimates of annual hours worked are mainly based on estimates of weekly paid hours worked by employees recorded in the Current Employment Statistics (CES), a monthly employer survey of non-farm establishments. Hours paid are later converted into hours worked using the Hours at Work Survey until year 2000 and since then the National Compensation Survey program. However, the survey covers only production workers in goods-producing industries (*i.e.* manufacturing) and non-supervisory workers in services-producing industries. The Current Population Survey, a monthly household survey, and other sources are used to derive hours worked by workers not covered by CES, apart from non-production workers and supervisory workers in good and services-producing industries. For the latter two categories of employees, official estimates of annual hours worked assume that the average weekly hours of work of non-production and supervisory workers are the same as those of production and non-supervisory workers. A recent study tested this assumption and built a CPS-adjusted series of average weekly hours worked for non-production and supervisory workers to derive a new total hours worked series for the non-farm business sector. Official estimates and the new hour series show similar trends, but the latter series is expected to replace current series, since it is based on survey evidence rather than assumptions (Eldridge *et al.*, 2003).
7. For example, the estimates of annual hours of work for the United States, which are prepared by the Office of Productivity and Technology of the US Bureau of Labor Statistics, are reported on a per job basis and are later converted by the OECD Secretariat to a per worker basis by multiplying the job-based annual hours of work by $(1 + \text{CPS-based share of multiple jobholders in total employment})$.
8. Apart from the typically small numbers of workers excluded from the scope of the surveys due to *e.g.* geographical, institutional, collective households and age exclusions.

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