

## CHAPTER 5

# Working hours: latest trends and policy initiatives

### A. INTRODUCTION AND MAIN FINDINGS

#### 1. Introduction

In recent years the debate over working hours has intensified in many OECD countries. Full-time employees in Anglo-Saxon countries, particularly those in the more skilled occupations, have been concerned about long working hours and their effects on family and community life. In some European countries where unemployment has been stubbornly high, interest has re-emerged in the potential of so-called “work-sharing” policies – reducing the average hours of work per person employed in order to increase the numbers of people in employment. Almost all countries have seen some increase in employee demand for non-standard working arrangements, notably part-time working, though concerns have been expressed about the quality of such jobs and the career prospects they offer.

Employers have shown sustained interest in enhancing the flexibility of working-time arrangements. This has almost always been a feature of such negotiated reductions in hours of work that have occurred. Increased flexibility has been seen not only as a means of reducing costs, for example by matching labour input more closely with that needed for production and avoiding overtime payments, but also as part of more wide-reaching changes in working arrangements, designed to increase the capacity of firms to innovate and to adapt to rapid changes in product markets.

Government policy has been focused, in general, on accommodating increases in the flexibility of working time. The aims have been both to promote the competitiveness of firms, and thereby employment, and also to accommodate individual aspirations for more diverse working arrangements. In addition, Japan has carried out a series of measures designed to achieve a substantial reduction in working hours. Recently, France began to introduce measures designed to reduce normal working hours with a view to raising employment levels, and similar policies are under active consideration in Italy.

This chapter documents changes in the duration and flexibility of working time, explores some of the causes for the changes, and discusses the scope for achieving increases in employment through decreases in normal working hours. “Normal hours” are taken to mean the level of hours beyond which overtime premia become payable. “Flexibility” is understood from the point of the view of the firm, in the sense of working arrangements designed to meet the needs of the business, which allow hours to vary in ways which are not possible through the use of fixed-hours working by full-time workers alone. It encompasses overtime working, some part-time working, shift-working, and other forms of “unsocial hours” working, such as weekend, evening and night working.

Sections B and C document longer-term trends in the duration of working hours and in key forms of “flexibility”. They are followed by three sections concerning the roles played by hourly productivity, employee preferences and government policies in determining working-time arrangements. Section G discusses the circumstances in which a reduction in normal hours might lead to an increase in employment.

#### 2. Main findings

An examination of the trends in working hours over the past two to three decades suggests that:

- the long-term trend decline in average annual hours worked per person in employment has slowed significantly in recent decades in almost all OECD countries (Germany, Japan and the Netherlands are the main exceptions). In some countries, the decline appears to have stopped, in some others it continues mainly because of an expansion of part-time working, and in a few there has recently been an increase in hours;
- there has been a growing diversity in hours worked by employees. While the most commonly-reported workweek in OECD countries is still 40 hours, the proportion of employees working 40 hours has fallen. Many countries have seen increases in the proportion of men working very long and/or very short hours;

- part-time working has increased strongly in the large majority of countries. While a substantial proportion of part-time working can be considered to represent a form of flexible working, evidence is lacking of substantial, long-term increases in the other main forms of working practices providing flexibility to employers, such as shift-working and over-time working. However, in some countries, since the beginning of the current recovery, there may be indications of greater use of some forms of flexible working, including the annualisation of working hours;
- over the past three decades, the average rate of increase of hourly labour productivity has slowed in almost all OECD countries, restricting the scope for reductions in average hours without reductions in average earnings;
- the proportion of employees favouring reductions in hours of work has risen in most European Union countries, while there has been a long-term decline in the United States. However, in all countries, the preferences of most employees are still in favour of increased earnings, rather than reductions in hours;
- government policies in recent years have primarily been concerned to increase the flexibility of working hours. In particular, they have sought to widen the possibilities for the "annualisation" of working hours;
- some European countries, including Belgium and France, have introduced incentives for firms to reduce working hours while simultaneously increasing the size of their workforces. The take-up of most programmes of this type has been low, although schemes to encourage the hiring of part-time workers have achieved higher take-up rates. A few countries, including Belgium, Denmark and Finland, have seen substantial employee interest in innovative programmes using career breaks to provide temporary employment for unemployed people. However, few evaluations of any of these measures are available as yet; and
- there is little empirical evidence for the proposition that across-the-board reductions in normal hours of work imposed on firms will lead to the creation of large numbers of jobs.

## B. TRENDS IN THE DURATION OF WORKING HOURS

### 1. The flattening trend in average working hours

Over the last three decades, the steady, long-term decline in average hours of work per person

employed, which Maddison (1995) has traced back over more than a century, slowed its pace in virtually all OECD countries, sometimes to the point of reversal (Chart 5.1). The chart illustrates the wide cross-country differences in both trends and levels. (Owing partly to differences in the type of source, the data are suitable for only the roughest comparisons of levels, as explained in Annex 5.A.)

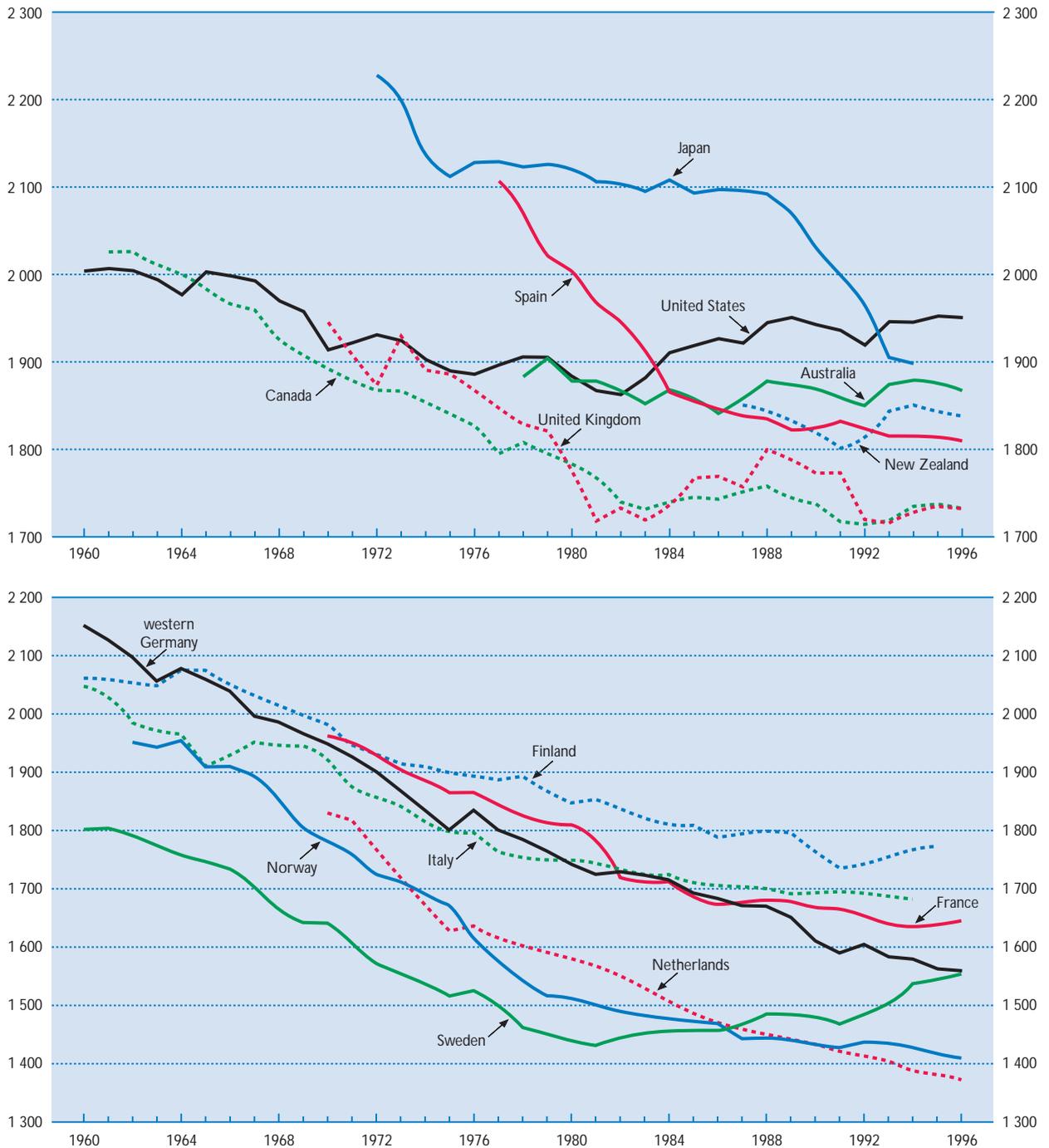
Table 5.1 shows the degree to which the long-term decline in average annual hours of work per employed person has slowed down over the last three complete economic cycles.<sup>1</sup> The exceptions to this overall pattern are Japan, where the acceleration in the rate of decline can be attributed to recent government measures designed to reduce working hours, and Germany and the Netherlands, where the trend continued largely unchanged over the last two cycles, though at a lower rate of decline than that observed in the early 1970s. In the United States, the trend appears to have reversed, with the current level of annual hours close to that of the early 1970s. The increase in Sweden over the last cycle is due partly to the rising proportion of women part-timers working relatively long hours [Anxo (1995)] and partly to the sharp decrease in absences from work since the beginning of the last recession. The figures for the United Kingdom are influenced by the strong increase over the 1980s in the proportion of total employment represented by the self-employed, whose average hours are longer than those of employees.

These data reflect not only average weekly hours actually worked by full-time employees and by the self-employed, but also trends in paid vacations and in part-time working. In most European countries, the average number of days of paid vacation increased strongly from around 2 to 3 weeks in the mid-1950s to 4 to 6 weeks in the early 1980s. In the United States, the corresponding change was from around 1½ weeks to 2½ weeks [Green and Potepan (1988)]. However, from 1983 onwards, there have been few changes. According to EUROSTAT (1995a), the only change of any magnitude in EU Member States since 1983 has been an increase of just over one day of paid vacation in Germany (equivalent to a decrease of under 0.5 per cent in annual hours of work). In Japan, the average number of days of paid vacation actually taken has remained virtually constant, changing from 8.8 days in 1983 to 9.1 in 1994. For the United States, average paid holidays for full-time workers with five years tenure rose by just over one day between 1982 and 1993.

Part-time working, on the other hand, has made a significant contribution to recent trends in average annual hours. Table 5.2 presents the results of a shift-share calculation to determine what part of the

Chart 5.1.

Average annual hours actually worked per person in employment<sup>a</sup>



a) The concept used is the total number of hours worked over the year divided by the average number of people in employment, including self-employed. The data are intended for comparisons of trends over time. They are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources. Part-time workers are covered as well as full-time. Data for Italy and the Netherlands refer to dependent employment. Source: OECD Annual Hours Database (see Table F of the Statistical Annex).

Table 5.1. **Trends in average annual hours worked per person in employment**

Average change from year to year

	Cycle <sup>a</sup>	Average change per year	Cycle <sup>a</sup>	Average change per year	Cycle <sup>a</sup>	Average change per year
Canada	1970-75	-9.6	1975-82	-12.5	1982-92	-1.3
Finland	1971-78	-8.0	1978-83	-12.6	1983-93	-8.5
France	1971-75	-21.7	1975-85	-19.6	1985-93	-4.7
Germany <sup>b</sup>	1971-75	-31.8	1975-82	-13.4	1982-94	-14.0
Japan <sup>c</sup>	1972-75	-41.2	1975-83	-3.1	1983-94	-19.7
Netherlands <sup>d</sup>	1972-75	-47.5	1975-83	-12.6	1983-93	-11.8
Norway	1970-75	-22.3	1975-82	-23.8	1982-90	-8.4
Spain	1971-75	..	1975-84	..	1984-93	-7.9
Sweden	1972-78	-16.4	1978-83	-2.1	1983-93	4.3
United Kingdom	1971-75	-2.6	1975-82	-24.1	1982-93	5.3
United States	1970-75	-5.3	1975-82	-3.9	1982-91	8.3

.. Data not available.

a) The cyclical periods shown are taken from trough-to-trough. Years identified as troughs are those in which the Secretariat has identified a quarter corresponding to a trough in the growth rate of GDP. The growth rates during the trough-to-trough periods are estimated by a regression over time. The most recent trough years are provisional.

b) Data refer to western Germany.

c) Data for 1972 are used since data for the 1971 trough are not available.

d) Employees only.

Sources: OECD Annual Hours Database (see Table F of the Statistical Annex) and OECD Statistics Directorate estimates of turning points (unpublished).

Table 5.2. **Contribution of part-time employment to recent changes in average annual hours of employees<sup>a</sup>**

Average change in hours from year to year

		Overall change in hours	Change attributable to:		
			Change in hours of full-timers	Change in hours of part-timers	Change in share of part-timers
Belgium	1983-1993	-7.5	-2.5	0.2	-4.9
Canada <sup>b</sup>	1983-1993	-1.1	0.7	0.5	-2.3
Denmark	1985-1993	-6.6	-7.1	-0.9	1.4
France	1983-1993	-4.1	0.4	0.7	-4.4
Germany	1983-1993	-10.9	-6.1	-0.9	-3.9
Greece	1983-1993	-1.0	-1.6	-0.4	1.3
Ireland	1983-1993	-7.4	-1.0	-0.4	-6.0
Italy	1983-1993	-3.7	-3.0	0.4	-0.9
Luxembourg	1983-1993	-2.1	-0.9	-0.1	-1.1
Netherlands	1987-1993	-6.6	0.0	3.2	-11.3
Portugal	1986-1993	-6.9	-6.5	0.6	-0.3
Spain	1987-1993	-6.0	-3.8	-0.4	-1.8
Sweden <sup>b</sup>	1987-1994	7.7	1.8	3.6	2.3
United Kingdom	1983-1993	-1.5	3.8	-0.5	-5.0
United States <sup>b</sup>	1983-1993	7.3	4.7	1.3	1.2
Unweighted average of above countries	1983-1993	-3.1	-1.4	0.5	-1.7

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 small. It explains the difference between the first column and the sum of the other three. The figures shown are the sum of year-on-year changes, except where indicated.

b) The results for Canada, Sweden and the United States are based solely on the two years shown and on the assumption that the ratio of annual hours of part-time workers to those of full-time workers is equal to the corresponding ratio for usual weekly hours (actual hours in the case of the United States). For Canada and Sweden, the results refer to all persons in employment.

Sources: EUROSTAT (1995a) for the European Union countries. For the other countries, the annual hours data are from the OECD Annual Hours Database. Supplementary data for Canada were taken from *The Labour Force*, various issues. For Sweden, data were supplied by Statistics Sweden. For the United States, data were taken from *Employment and Earnings*, various issues.

change in average annual hours of work can be ascribed to changes in the proportion of part-time working, and what part to changes in the average hours worked by full-time and part-time employees.<sup>2</sup> On the unweighted average for the fifteen countries shown, the average year-on-year decline of around three hours may be ascribed roughly equally to a decline in the working hours of full-time workers and to an increase in the proportion of part-time workers. However, the average conceals widespread variation between countries. All of the decline in France can be ascribed to increases in the proportion of part-time working. In Denmark, Italy and Portugal, virtually all the decline is attributable to falls in the hours of full-timers. The United Kingdom and United States are distinguished by sizeable increases in the hours worked by full-time employees.

## 2. Growing diversity of individual hours of work

Within the overall averages, there have been complex changes in the distribution of hours worked between individuals, reflecting an increased diversity of working schedules. Table 5.3 and Chart 5.2 show different facets of the changes in the distribution of "usual" weekly hours reported in labour force surveys. "Usual" hours refer to the hours usually worked in paid employment, including any overtime or extra hours that are usually worked. The concept is thus different from "normal" or "contractual" hours, which are specified in contracts of employment, and "actual" hours, which refer to hours actually worked. For international comparisons, usual hours have the advantage over actual weekly hours that they are not affected by special features of the survey week, such as public holidays.<sup>3</sup>

Table 5.3. Usual weekly hours of work most frequently reported:<sup>a</sup>  
male employees in industry and services in their main job

Hours and percentage working those hours

		1975		1980		1985		1990		1994	
		Peak	%	Peak	%	Peak	%	Peak	%	Peak	%
Australia <sup>b</sup>	major peak	40	42	40	32	40	22	40	20	40	18
Austria <sup>c</sup>	major peak	40	76	40	80	40	82	40	56	40	55
	minor peak	..	..	..	..	..	..	38	26	38	26
Belgium	major peak	..	..	..	..	38	46	38	55	38	53
	minor peak	..	..	..	..	40	27	40	21	40	23
Canada <sup>d</sup>	major peak	40	50	40	49	40	46	40	45	40	42
Denmark	major peak	..	..	..	..	40	77	38	56	37	60
Finland	major peak	..	..	..	..	35-40	77	35-40	76	35-40	71
France	major peak	..	..	40	..	39	50	39	53	39	55
Germany <sup>d</sup>	major peak	40	71	40	76	40	72	38	34	38	32
	minor peak	..	..	..	..	..	..	40	26	40	31
Greece	major peak	..	..	..	..	40	49	40	51	40	53
Ireland	major peak	..	..	..	..	40	64	40	53	40	32
	minor peak	..	..	..	..	35	25	..	..	39	22
Italy	major peak	..	..	36-40	54	40	60	40	57	40	51
Japan	major peak	43-48	32	43-48	30	43-48	28	49-59	25	35-42	26
Luxembourg	major peak	..	..	..	..	40	93	40	91	40	87
Netherlands	major peak	..	..	..	..	40	59	38	39	..	..
	minor peak	..	..	..	..	..	..	40	32	..	..
Norway	major peak	40-44	54	40-44	53	40-44	48	37-39	36	37-39	38
	minor peak	45+	28	45+	21	45+	24	45+	28	45+	26
Portugal <sup>c</sup>	major peak	..	..	..	..	45-49	54	45-49	47	40-44	27
	minor peak	..	..	..	..	40	21	40	25	..	..
Spain	major peak	..	..	41-44	33	40	45	40	76	40	71
Sweden <sup>c</sup>	major peak	..	..	..	..	40	63	40	61	40	58
United Kingdom	major peak	..	..	..	..	no peak	..	no peak	..	no peak	..
United States <sup>e</sup>	major peak	40	47	40	44	40	42	40	41	40	35

.. Data not available.

a) For example, for Australia in 1975, the data show that the most commonly reported level of hours was 40 and that 42 per cent of male employees reported working that number of hours.

b) Data refer to actual hours for all jobs, for all employed persons, in all industries, and are annual averages. 1976 instead of 1975.

c) 1976 instead of 1975.

d) 1987 instead of 1985.

e) 1993 instead of 1994.

Sources: Data for the EU-12 were supplied by EUROSTAT. All other data were supplied by national authorities.

Chart 5.2.

Proportion of workers working short and long usual hours, 1994 and 1985

Men

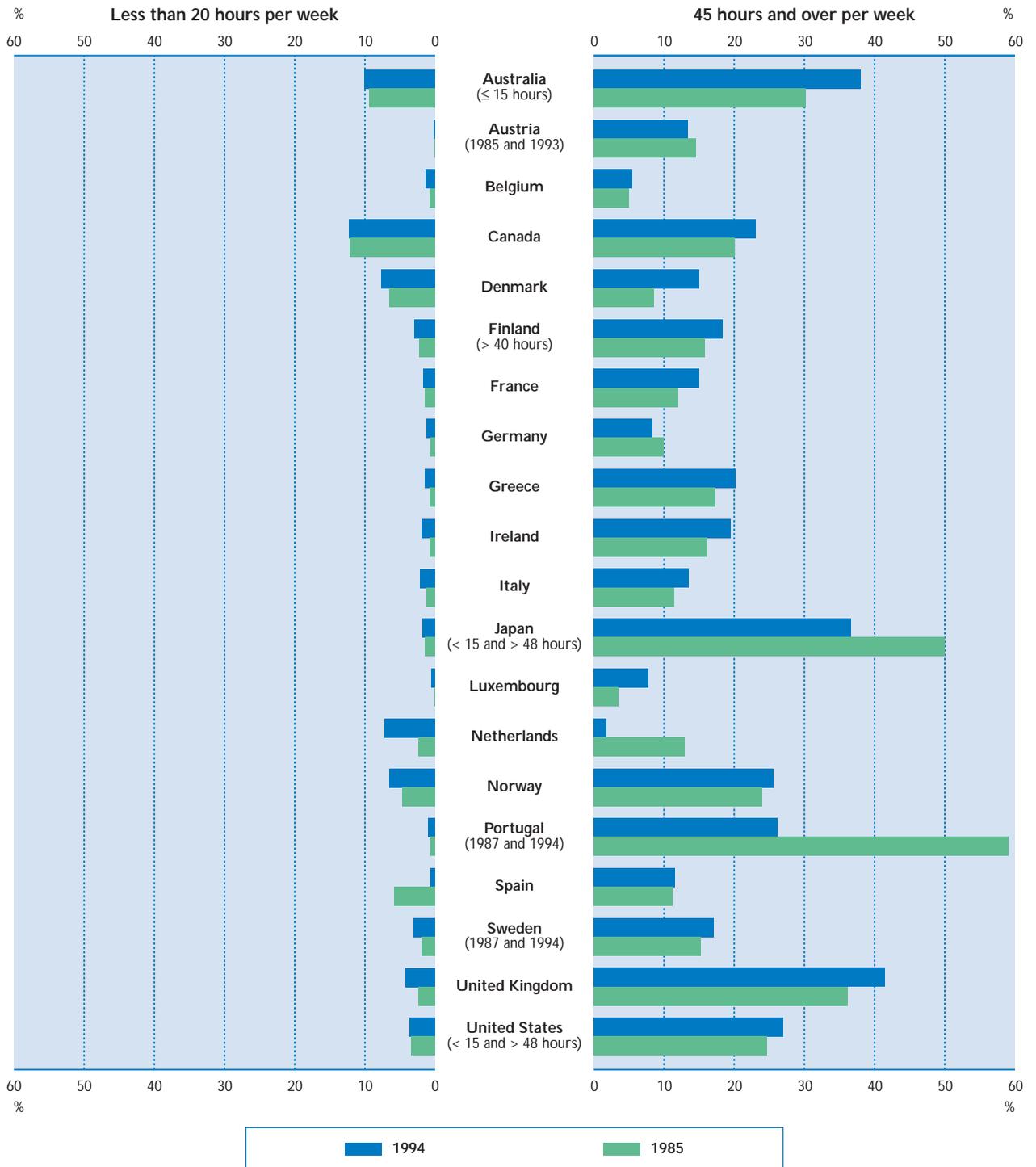
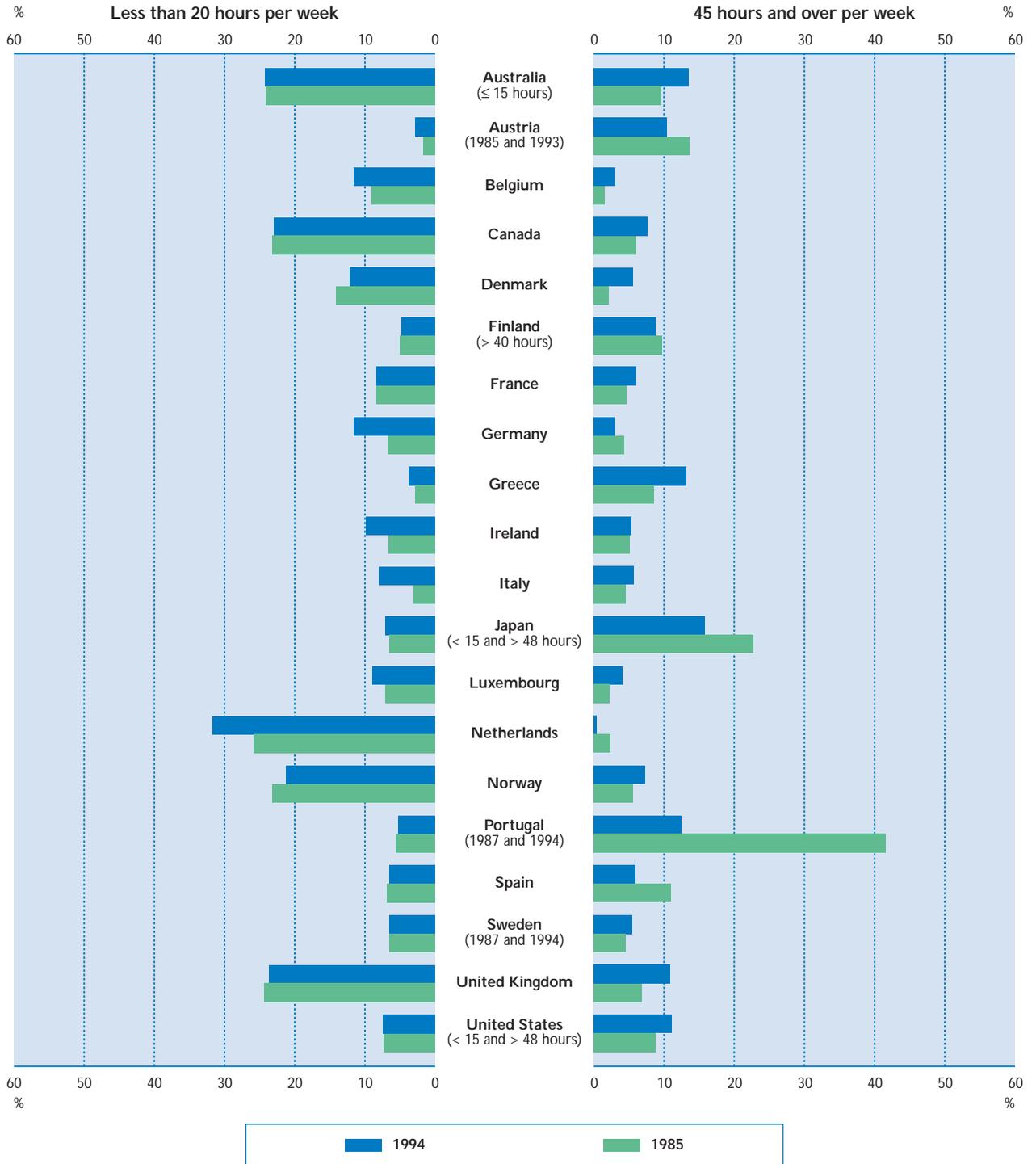


Chart 5.2. (cont.)

Proportion of workers working short and long usual hours, 1994 and 1985

Women



Sources: Data taken from the European Union Labour Force Survey supplied by EUROSTAT, and from national household surveys.

For men, the most frequently reported figure for usual hours in the main job is still 40 hours a week, in the majority of OECD countries (Table 5.3). However, since the beginning of the 1980s, there has been some decline in this peak value of usual hours for men in several countries including Denmark, Germany, Norway and Portugal. The largest falls are three hours for Denmark, to 37 hours, and two for Germany, to 38 hours (the figures for Norway are banded, so that the change cannot be assessed).

In many countries, the data suggest a widening in the distribution of usual hours, in the sense of a reduction in the proportion of men working the peak hours. For example, while "40 hours a week" was still the most frequent response in Australia in 1994, only 18 per cent cited it, as opposed to 42 per cent in 1975. An examination of the full distribution of hours indicates that, in almost all cases, this has been due to a tendency for slippage away from peak hours towards a lower figure. Canada, the United Kingdom and the United States are exceptions – the slippage from the peak figure of 40 hours has been upwards as well as downwards. For the United Kingdom, from 1985 onwards, it is no longer possible to identify a clear peak in the distribution of usual hours of work. Data for women also display a widening of the distribution, though the patterns are different because of the greater proportion of part-time working [Rubery *et al.* (1995)].

Another aspect of the diversification of working hours is that, in many countries, the proportion of men usually working long hours (defined as 45 hours and over) increased between 1985 and 1994 (Chart 5.2). The main exceptions were Japan (where there was legislation in favour of a general reduction in working hours), Portugal (where there were moves to five-day working), Austria, Germany and the Netherlands. There was also a widespread increase in the proportion of men reporting that they usually work short hours. For women, the picture is more mixed, with increases in the proportion of employees working long hours in just over half of the countries.

### C. CHANGES IN "FLEXIBLE" WORKING ARRANGEMENTS

This section provides information on structural changes over the medium term in key forms of "flexible" working arrangements: part-time working, over-time working and shift-working, as well as indications of the direction of change in some of the other forms of flexible working mentioned above.

#### 1. Part-time working

Many, but not all, forms of part-time working are likely to represent increases in flexibility, in the

sense in which it is used in this chapter. Even when its schedules are fixed within the working day, part-time employment may add to flexibility if it can be arranged to coincide with peaks in labour requirements. This will not always be possible, *e.g.*, when part-time working is scheduled to allow mothers to work when their children are in school, as is common in Germany [Bosch (1996)]. Part-time working is also used to extend working hours into evenings, nights and weekends. For the European Union, calculations from the European Union Labour Force Survey (not reported here) show that, on average, one-third of all part-time workers work evenings, nights, weekends or shifts on a regular basis. This overall figure is slightly higher than for full-time workers. Compared with full-time workers, part-timers are particularly likely to work evenings, though less likely to work nights or shifts. They may also provide some forms of working hours flexibility at relatively low cost. In particular, extra hours worked by part-timers are very unlikely to attract overtime premia and may well be cheaper than the same hours worked by full-time workers. For most European countries, the proportion of part-time workers reporting having worked extra hours in any given week is roughly similar to that for full-timers [EUROSTAT (1997)].

Bielenski (1994) notes differences between types of part-time working which correspond to employers' perceived needs and those which respond to employees' wishes. In establishment surveys in a number of European countries, the majority of managers said that the primary reason for the introduction of part-time working was to meet the needs of the firm. In such circumstances, managers tended to favour shorter hours (under 20 a week), schedules which could be varied at short notice, and mainly saw a need for manual and low-skilled part-time workers. In the minority of cases where part-time working had been introduced in response to the wishes of employees, it was more likely to be characterised by longer hours and fixed schedules.

Since the beginning of the 1970s, most OECD countries have seen a growth in the proportion of the employed counted as working part-time (Table 5.4). In the Southern European countries, however, the figure has remained roughly constant at relatively low levels. In the Scandinavian countries, it may have reached a peak at the high level of around 25 per cent or more. In particular, for Sweden, there are signs of a fall in the incidence of part-time employment among women.<sup>4</sup>

While part-time working is associated particularly with service employment, in countries where there has been a rise in the proportion of part-time working it has occurred in all sectors [DARES (1997); OECD (1995); Walwei (1995)]. It has also increased

Table 5.4. **Part-time employment as a percentage of total employment, national and European Union definitions<sup>a</sup>**

	1973	1979	1983	1990	1993	1996
Australia	11.9	15.9	17.5	21.3	23.9	25.0
Austria	6.4	7.6	8.4	8.9	10.1	12.6
Belgium	3.8	6.0	8.1	10.9	12.8	14.0
Canada	9.7	13.8	16.8	17.0	19.1	18.9
Czech Republic	..	..	..	..	6.4	6.1
Denmark	..	22.7	23.8	23.3	23.3	21.5
Finland	..	6.6	7.7	7.2	8.6	7.9
France	5.9	8.1	9.6	11.9	13.7	16.0
Germany	10.1	11.4	12.6	15.2	15.1	..
Greece	..	..	6.5	4.1	4.3	..
Hungary	..	..	..	..	..	5.5
Iceland	..	..	..	..	27.3	27.9
Ireland	..	5.1	6.7	8.1	10.8	11.6
Italy	6.4	5.3	4.6	4.9	5.4	6.6
Japan	13.9	15.4	16.2	19.2	21.1	21.8
Luxembourg	5.8	5.8	6.8	7.0	7.3	7.6
Mexico	..	..	..	..	27.0	23.8
Netherlands	..	16.6	21.2	31.7	35.0	36.5
New Zealand	11.2	13.9	15.3	20.0	21.2	22.4
Norway	22.9	27.3	29.6	26.5	27.1	26.6
Poland	..	..	..	..	10.7	10.6
Portugal	..	7.8	..	5.9	7.4	8.7
Spain	..	..	..	4.9	6.6	7.7
Sweden	..	23.6	24.8	23.3	24.9	23.6
Switzerland	..	..	..	..	27.0	27.4
Turkey	..	..	..	20.6	27.7	23.9
United Kingdom	16.0	16.4	19.0	21.7	23.4	22.2
United States	15.6	16.4	18.4	16.9	17.6	18.3

.. Data not available.

| Break in series.

a) These data should not be used for comparisons of levels because of differences in definitions. See Van Bastelaer, Lemaitre and Marianna (1997).

Sources: OECD Full-time/Part-time Employment Database.

among both women and men. For men, the unweighted average for OECD countries has risen from under 5 per cent of total employment in the early 1970s to a current figure of 8 per cent, most of the increases occurring during recessions [OECD (1996a)]. For both sexes taken together, the proportion of part-timers in total employment has risen more strongly for the younger (under 25) and older (55 and over) age groups. One consequence of this interaction between age and the propensity to work part-time is that full-time workers in the 25-54 age bracket have become a larger proportion of total employment in virtually all OECD countries.

## 2. Paid and unpaid overtime working

Table 5.5 presents a number of indicators of trends in paid overtime, including the proportion of employees working overtime, weekly overtime hours per civilian employee and over-

time hours as a proportion of total hours. Despite the differences between the concepts, it is apparent that, where two indicators are available for the same country, their medium-term changes are similar.

There has been no uniform trend in paid overtime working. Italy and the United States are the only countries to show clear upward trends (in both cases the data apply only to manual workers). In Canada and the United Kingdom, movements appear to be largely cyclical. In Japan, the trend has fluctuated in direction: recent figures are close to those seen in 1975. For Australia, Finland, Germany and Japan, there are signs of a fall in overtime working over the recent cycle. In Germany, this is part of a long-term decline extending back to at least the 1960s. In some countries, annualisation may have tended to depress paid overtime working slightly over the recent period.<sup>5</sup>

Trends in paid overtime are not capable of explaining the widespread increases in the proportion of men reporting long hours in their main job (Chart 5.2). Hence, increases in unpaid overtime are clearly an important factor. For example, the proportion of professional and managerial workers in total employment is growing, and they are both likely to work long hours and to lack entitlement to overtime payments. Gregg (1994) shows that this is an important reason for the increase in hours of work since 1982 in the United Kingdom. Rubery *et al.* (1994) find that professional workers accounted for 18 per cent of men reporting usual weekly hours of 45 or more in the European Community in 1991. According to Duchesne (1997), Canadian teachers, managers, administrators and professionals in natural sciences, engineering and mathematics are the most likely to report extra hours, which are generally unpaid.

## 3. Shift-working

Shift-working may be defined as a situation where one wage earner replaces another at the same task within a 24-hour period. There are many different types of shift-working, and its incidence varies by sector, size and type of production process. It tends to be more common in larger firms and in those with a higher degree of capital intensity [Anxo *et al.* (1995)]. Its characteristics tend to change over time. Anxo and Taddéi (1995) conclude that where shift-work has grown, the increase is generally due to the growth of discontinuous, two-shift work patterns (two shifts per 24 hours), as opposed to more traditional, continuous and semi-continuous work patterns. International comparisons must be made with great caution, especially as the data sources vary considerably and have different types of bias.<sup>6</sup>

Table 5.5. Trends in paid overtime

Percentages

	1970	1973	1975	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<b>A. All industries</b>																						
<b>Australia</b>																						
Percentage of employees in survey working overtime	..	..	..	..	19.7	21.1	20.4	17.4	16.7	19.9	19.4	19.4	20.2	21.1	20.3	17.7	16.9	17.9	18.4	17.5	16.7	..
Weekly overtime hours per employee in survey	..	..	..	..	1.4	1.5	1.5	1.2	1.1	1.3	1.3	1.3	1.4	1.6	1.5	1.2	1.2	1.2	1.3	1.3	1.2	..
<b>Canada</b>																						
Weekly overtime hours per employee	..	..	..	..	..	..	..	0.36	0.37	0.39	0.39	0.46	0.51	0.51	0.47	0.39	0.37	0.40	0.44	0.46	0.51	0.59
<b>Finland</b>																						
Percentage of employees working overtime	..	..	..	..	..	..	..	..	9.6	10.2	9.8	9.9	9.9	10.3	9.6	8.7	7.9	7.4	7.7	8.8	8.0	8.2
Weekly overtime hours per employee	..	..	..	..	..	..	..	..	0.68	0.80	0.77	0.79	0.79	0.81	0.78	0.66	0.61	0.60	0.62	0.71	0.62	0.67
<b>Germany</b>																						
Weekly overtime hours per employee	3.0	2.4	1.9	1.8	1.5	1.4	1.3	1.2	1.3	1.3	1.3	1.2	1.2	1.3	1.3	1.3	1.2	1.1	1.3	1.3	1.2	1.2p
Overtime hours as proportion of total annual hours	8.3	7.0	5.7	5.4	4.7	4.5	3.8	3.8	4.0	4.1	4.1	3.8	4.0	4.3	4.4	4.2	4.0	3.8	4.4	4.6	4.2	4.3p
<b>Japan</b>																						
Weekly overtime hours per employee	3.9	3.6	2.4	3.0	3.1	3.1	3.0	3.1	3.3	3.4	3.3	3.4	3.6	3.6	3.6	3.4	2.9	2.6	2.5	2.6	2.8	..
<b>United Kingdom</b>																						
Percentage of male employees working overtime	..	45.3	41.5	42.6	39.3	33.5	35.0	35.5	37.6	39.1	39.1	38.6	39.6	40.4	38.9	35.4	35.0	34.0	35.1	35.2	34.8	35.4
Weekly overtime hours per male employee	..	4.5	3.8	4.3	3.8	2.9	3.1	3.0	3.3	3.5	3.4	3.4	3.6	3.8	3.6	3.0	3.1	2.9	3.1	3.2	3.1	3.2
<b>B. Manufacturing</b>																						
<b>Australia</b>																						
Percentage of employees in survey working overtime	..	..	..	..	29.2	29.7	28.9	23.7	28.0	33.2	33.5	34.4	37.2	39.1	36.5	30.3	32.3	33.8	37.9	33.9	32.1	..
Weekly overtime hours per employee in survey	..	..	..	..	2.2	2.3	2.2	1.8	2.2	2.7	2.5	2.6	2.9	3.3	3.0	2.3	2.5	2.7	3.2	2.9	2.7	..
<b>Canada</b>																						
Weekly overtime hours per employee	..	..	..	..	..	..	..	0.91	0.94	0.97	0.99	1.25	1.35	1.30	1.17	1.02	1.09	1.26	1.39	1.33	1.35	1.70p
<b>Finland</b>																						
Percentage of employees working overtime	..	..	..	..	..	..	..	..	10.5	11.8	11.3	11.7	11.4	12.5	11.1	9.1	9.6	9.8	10.0	11.3	10.6	11.5
Weekly overtime hours per employee	..	..	..	..	..	..	..	..	0.82	0.96	0.95	0.99	0.97	1.07	0.94	0.72	0.78	0.86	0.88	1.01	0.90	1.04
<b>Italy</b>																						
Overtime hours as proportion of total hours worked (manual workers in large industrial firms only)	..	4.6	2.8	2.9	3.2	3.0	2.8	3.0	3.4	3.7	4.3	4.4	..	5.6	5.1	5.1	4.6	4.4	4.6	5.5	5.0	5.4p
<b>Japan</b>																						
Weekly overtime hours per employee	4.4	3.9	2.1	3.6	3.8	3.7	3.6	3.7	4.2	4.2	3.9	4.0	4.5	4.6	4.5	4.2	3.3	2.8	2.8	3.1	3.4	..
<b>United Kingdom</b>																						
Percentage of male employees working overtime	63.6	61.2	56.5	58.5	54.3	46.8	49.3	49.8	52.5	54.4	54.4	54.8	56.8	58.0	56.9	52.1	52.4	51.9	53.6	54.8	53.3	54.5
Weekly overtime hours per male employee	..	6.4	5.5	6.2	5.6	4.4	4.8	4.6	5.0	5.3	5.2	5.4	5.7	6.0	5.9	5.1	5.3	5.1	5.4	5.6	5.3	5.5
<b>United States</b>																						
Weekly overtime hours per employee (production or non-supervisory worker)	..	..	2.6	3.3	2.8	2.8	2.3	3.0	3.4	3.3	3.4	3.7	3.9	3.8	3.6	3.6	3.8	4.1	4.7	4.4	4.5	4.8

.. Data not available. p = provisional data.

Sources: Australia: Data for 1985 to 1996 were supplied by the Australian Bureau of Statistics from the Survey of Employee Earnings and Hours. Data for 1980 to 1984 are from the Australian Bureau of Statistics, *Job Vacancies and Overtime, Catalogue No. 6354.0*. All data refer to May. All industries excludes the group agriculture, forestry, fishing and hunting. There is a series break from 1983 to 1984.

Canada: Overtime hours were supplied by Statistics Canada, from the Survey of Employment, Pay and Hours. Data on wage and salary earners are from the OECD Labour Force Statistics Database. Finland: Overtime data were supplied by Statistics Finland from the Monthly Labour Force Survey, annual averages. The classification of industries changed in 1989 and 1995. Weekly overtime hours were calculated using 52 weeks.

Germany: Data were supplied by the Statistisches Bundesamt, as calculated by the Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit (IAB). Data refer to western Germany. Weekly overtime hours were calculated using 52 weeks.

Italy: Data up to 1987 were taken from the *Bollettino Mensile di Statistica* and *Statistiche del Lavoro*, various issues. Data for 1991 to 1996 were provided by the Istituto Centrale di Statistica.Japan: Policy Planning and Research Department, Minister's Secretariat, Ministry of Labour, *Yearbook of Labour Statistics*. All data refer to establishments of 30 or more employees.United Kingdom: *New Earnings Survey, Part A*, Table 1. Up to 1983, data refer to male full-timers aged 21 years and over and afterwards to those on adult rates of pay. For manufacturing, data refer to manual workers.United States: Data were supplied by the Bureau of Labor Statistics and taken from the January issue of *Employment and Earnings*.

The incidence of shift-working in the economy as a whole seems to be little different from what it was twenty years ago, at least for the countries for which data are available. In addition to the data shown in Table 5.6, which indicate some long-term decline for Germany and Japan, changes over time can be estimated from comparisons of data from the 1993 European Union Labour Force Survey with those from a supplement on Working Conditions to the corresponding survey for 1975. These results (not presented here) suggest a slight decline in the overall proportion of people saying they engaged in shift-working on a "usual" basis for Belgium, Italy and Luxembourg, and stability for Denmark, Ireland and the United Kingdom. The data in Table 5.6 for longer term trends in the manufacturing sector show a different pattern, with upward trends in France

(data for manual workers only), Norway, Sweden, and the United Kingdom. For Germany, the data indicate stability, and for Japan, a slight decline.

Since the end of the 1980s, there have been some indications of an increase in shift-working for several countries, particularly in manufacturing industries (Table 5.6).<sup>7</sup> This is corroborated by the results of two employer-based surveys for Europe. Data from the European Union *ad hoc Labour Market Survey*, reported in OECD (1997a), show a slight increase in shift-working over the period 1989-1994 in the majority of countries. Responses to the Cranet-E surveys [Cranfield School of Management (1996) and further data supplied by Cranfield School of Management] indicate that, on average, around 20 per cent of firms increased their use of shift-working in the three years up to 1995, as against only 6 per cent reporting a decrease.<sup>8</sup>

Table 5.6. **Employees engaged in shift work<sup>a</sup>**

	Percentage of employees				
	1975	1980	1985	1990	1993
<b>All industries</b>					
Australia	..	..	12.1 <sup>b</sup>	..	13.9
Finland	..	..	15.1 <sup>c</sup>	..	17.9
France <sup>i</sup>	..	11.0	11.6	12.5	11.6
Germany <sup>d</sup>	15.3	..	..	12.0 <sup>e</sup>	..
Japan	..	12.8 <sup>f</sup>	..	8.5 <sup>g</sup>	8.4 <sup>h</sup>
United States <sup>i</sup>	..	..	15.9	17.8 <sup>e</sup>	..
<b>Manufacturing</b>					
Australia	..	..	13.8 <sup>b</sup>	..	17.1
Finland	..	..	19.9 <sup>c</sup>	..	24.9
France <sup>j</sup>	31.3 <sup>k</sup>	27.5 <sup>l</sup>	30.4 <sup>b</sup>	34.1	..
Germany <sup>d</sup>	18.6	..	..	18.2 <sup>e</sup>	..
Japan	..	15.5 <sup>f</sup>	..	12.3 <sup>g</sup>	12.3 <sup>h</sup>
Norway	14.4	..	21.8	24.4	25.0 <sup>h</sup>
Sweden	22.4	22.4	23.6	25.3	..
United Kingdom	14.9	15.4	15.5	16.4	16.6
United States <sup>i</sup>	..	..	17.9	19.4 <sup>e</sup>	..

.. Data not available.

a) This table, designed to indicate changes over time, should not be used for comparisons of the level of shift-working.

b) 1986.

c) 1984.

d) Data cover western Germany and regular shift-workers only.

e) 1991.

f) 1979.

g) 1989.

h) 1992.

i) Data for full-time workers only.

j) Data for manual workers only.

k) 1974.

l) 1981.

Sources: Australia: ABS (1988 and 1994).

France: Cette (1995).

Finland: Statistics Finland, *Annual Labour Force Survey*, Autumn 1984 and 1993.

Germany: Bosch and Stille (1995).

Japan: Policy Planning and Research Department, Minister's Secretariat, Ministry of Labour, *Yearbook of Labour Statistics*. Data refer to enterprises of 30 or more employees.

Norway: Golombek and Nymoene (1995).

Sweden: Anxo and Sterner (1995).

United Kingdom: Bosworth (1995) and *New Earnings Survey*.

United States: Mellor (1986) and BLS (1991).

#### 4. Patterns of flexible working time across industries

Industries show different patterns of flexible working. Table 5.7 shows the incidence of part-time working, shift-working, Saturday and evening working by 2-digit industry groups ordered according to their contribution to total employment growth in 11 countries of the European Union over the period 1984-1994. Shift-working is more common in primary industries and in transport and communications, with a smaller, but still substantial, figure in manufacturing. Among service industries, it is widespread only in "health, sanitation and other services". Part-time and Saturday working, by contrast, are concentrated in many of the services industries. Evening working is more evenly spread.

The varying concentration of the different forms of working time in the faster- and slower-growing industries gives some indication as to their future development. If the patterns of employment growth and decline seen over the period 1984-1994 in Europe continued, they would favour the growth of part-time and Saturday working. This is in line with the results of the European Union *ad hoc Labour Market Surveys* of 1989 and 1994, and the recent Cranet-E survey [OECD (1997a); Cranfield School of Management (1996)].

#### D. LONG-TERM TRENDS IN PRODUCTIVITY GROWTH AND HOURS

Trends in hourly productivity growth have an important bearing on the length of the work week. Assuming that the share of real national income represented by real compensation of employees remains constant, an increase in hourly productivity

Table 5.7. **Incidence of shift, evening, Saturday and part-time work for 2-digit industries, European Union, 1994<sup>a</sup>**

	Proportion of employees engaged in:				Industry employment as proportion of total	Average annual employment growth rate 1984-1994
	Shift work	Evening work	Saturday work	Part-time work		
Business, computer, research	2.7	8.9	8.9	18.7	7.4	7.4
Health, sanitation, other services	13.8	16.7	23.2	29.9	12.1	1.3
Wholesale, retailing	3.0	8.0	29.4	23.2	13.2	1.0
Education	3.0	8.8	20.4	20.7	8.7	1.5
Public admin., extra-territ. orgs.	9.3	7.7	18.2	10.9	9.6	1.3
Recreational activities	4.3	19.9	22.3	29.0	1.6	3.1
Hotels, restaurants	9.0	33.2	43.2	32.3	3.5	1.3
Financial intermediation	1.3	3.3	10.3	9.4	2.7	1.3
Wood, furniture	4.3	4.6	7.7	6.4	1.8	1.9
Land and water transport	15.9	18.2	22.3	6.6	4.2	0.6
Instrument engineering	4.5	5.4	2.7	7.1	0.5	4.1
Paper, printing	12.6	14.0	9.1	11.8	1.9	0.9
Post and telecommunications	8.9	8.1	22.9	11.2	2.2	0.6
Rubber and plastic products	22.9	15.5	7.1	5.2	1.0	1.0
Water	6.4	6.4	10.3	4.8	0.2	0.1
Metal ores	5.2	2.6	2.6	0.0	0.0	-8.6
Oil and natural gas	10.8	18.9	11.8	3.4	0.1	-3.2
Coke, oil products, nuclear fuel	16.1	10.6	8.9	5.2	0.2	-2.1
Air transport	29.4	23.9	30.1	7.2	0.3	-1.4
Office machinery	5.4	8.0	8.8	3.4	0.3	-1.4
Other mining	8.0	6.7	9.1	4.6	0.2	-3.4
Non-metallic mineral products	17.0	9.5	10.7	4.1	0.9	-1.5
Coal mining	12.8	12.8	5.5	1.1	0.1	-15.9
Electricity, gas, etc.	8.7	5.7	7.9	3.4	0.9	-1.9
Insurance	1.4	6.5	7.7	9.5	0.8	-2.4
Chemicals	14.9	11.7	7.8	4.5	1.5	-1.3
Other transport equipment	8.9	8.3	3.5	2.5	0.8	-3.6
Food, drink, tobacco	12.8	11.3	19.9	9.2	2.7	-1.4
Motor vehicles	27.8	16.3	3.9	2.0	1.2	-3.5
Metal products	15.2	9.6	7.7	3.8	2.9	-1.7
Construction	1.7	2.4	7.1	4.2	6.5	-0.9
Agriculture, fishing	3.7	5.7	36.3	17.8	1.8	-5.8
Engineering	9.0	7.4	3.5	4.0	3.5	-3.2
Textile, footwear and clothing	10.1	5.6	6.9	6.4	3.1	-3.7
Weighted average, all industries <sup>b</sup>	8.1	10.5	18.0	15.6	98.6	0.3

a) Figures refer to the 11 countries for which data were available. Austria, Finland, Germany and Sweden are excluded. The data refer to people who report that they regularly work shift, evenings or Saturdays. For details of the special industrial classification, based on Nace Revision 2, see European Commission (1995b). The industries are ordered according to their contribution to total employment between 1984 and 1994 (this is approximately equal to the product of the last two columns).

b) The proportions do not add to 100 per cent because not all industry employment could be assigned to the categories of the classification.

Source: Data from the European Union Labour Force Survey were supplied by EUROSTAT.

may be reflected in an increase in average real wages (or other forms of employee compensation), a decrease in average hours, or a combination of the two. However, over the short-run, it is not clear which way the direction of causality runs – from productivity gains to hours reductions, or the other way round. White (1987) presents evidence for a small number of countries showing that rapid productivity gains tend to occur after a reduction in hours rather than before. This does not imply that reductions in hours are the primary cause of increases in hourly

labour productivity over the long-term. A deceleration in hourly productivity over the past three decades is apparent in all countries, irrespective of the trends in working time (Table 5.8).<sup>9</sup> However, it is possible that, following a technological advance, a re-organisation of working arrangements may be helpful in realising the potential productivity gains [OECD (1996a); Betcherman (1997)]. It is frequently argued that such re-organisations can be facilitated by reductions in average working time [Cette and Taddéi (1997)].

Table 5.8. **Growth in productivity, worker compensation and hours worked<sup>a</sup>**

Average annual percentage changes

	Productivity	Compensation per worker	Annual hours per worker	Compensation relative to GDP		Productivity	Compensation per worker	Annual hours per worker	Compensation relative to GDP
<b>Canada</b>					<b>Netherlands</b>				
1961-1969	2.6	2.4	-0.7	0.6	1960-1969	..	..	..	..
1970-1979	2.0	1.4	-0.6	0.0	1970-1979	4.4	3.6	-1.6	0.8
1980-1989	1.5	1.1	-0.3	-0.1	1980-1989	2.4	0.0	-1.0	-1.3
1990-1996	0.9	0.2	-0.1	-0.6	1990-1996	1.5	0.4	-0.7	-0.4
<b>Finland</b>					<b>Norway</b>				
1960-1969	4.8	5.3	-0.4	0.9	1962-1969	4.9	4.6	-1.1	0.9
1970-1979	3.3	3.6	-0.7	1.0	1970-1979	4.8	3.6	-1.8	0.6
1980-1989	3.1	2.7	-0.3	-0.1	1980-1989	2.2	2.0	-0.5	0.4
1990-1995	2.9	2.0	0.1	-1.0	1990-1996	3.2	1.9	-0.3	-1.0
<b>France</b>					<b>Sweden</b>				
1960-1969	..	..	..	..	1960-1969	4.9	5.1	-1.0	1.2
1970-1979	3.7	4.0	-0.9	1.2	1970-1979	2.4	2.0	-1.4	0.9
1980-1989	2.9	1.1	-0.8	-1.0	1980-1989	1.2	0.8	0.3	-0.7
1990-1996	1.5	1.4	-0.2	0.1	1990-1996	1.9	1.7	0.8	-1.0
<b>Germany<sup>b</sup></b>					<b>United Kingdom</b>				
1960-1969	5.2	4.9	-1.0	0.7	1960-1969	..	..	..	..
1970-1979	4.0	3.6	-1.1	0.8	1970-1979	2.8	2.0	-0.7	-0.1
1980-1989	2.2	0.8	-0.6	-0.7	1980-1989	2.0	1.3	0.1	-0.8
1990-1994	2.0	0.7	-0.5	-0.8	1990-1996	2.2	0.9	-0.4	-1.0
<b>Italy</b>					<b>United States</b>				
1960-1969	6.8	7.3	-0.6	1.0	1960-1969	2.9	3.1	-0.3	0.5
1970-1979	4.0	3.6	-1.1	0.7	1970-1979	1.0	0.7	-0.1	-0.2
1980-1989	2.6	1.2	-0.4	-1.0	1980-1989	0.8	0.9	0.4	-0.3
1990-1994	1.9	0.4	-0.2	-1.4	1990-1996	0.9	0.8	0.1	-0.1
<b>Japan</b>					<b>All countries (unweighted average)</b>				
1960-1969	..	..	..	..	1960s	4.6	4.7	-0.7	0.8
1972-1979	3.8	4.9	-0.7	1.8	1970s	3.3	3.0	-1.0	0.7
1980-1989	3.0	2.4	-0.3	-0.2	1980s	2.2	1.3	-0.3	-0.5
1990-1994	2.3	1.8	-1.7	1.2	1990s	1.9	1.1	-0.3	-0.5

.. Data not available.

a) Productivity = real gross domestic product (GDP)/total hours worked per year by all persons in employment. Compensation per worker = total compensation of employees/total persons in employment. Annual hours per worker = total hours actually worked per year per person in employment, except for Italy and the Netherlands where it is per dependent employee. Compensation relative to GDP = total compensation of employees/real GDP. The percentage changes in the table were calculated using logarithms so that the following identity holds: change in productivity = [change in compensation per worker] - [change in annual hours per worker] - [change in compensation relative to GDP].

b) Data refer to western Germany; comparable figures for the whole of Germany for 1991-96 are respectively 2.5, 1.5, 0.0 and -1.0.

Sources: OECD Annual Hours Database (see Table F of the Statistical Annex) and OECD Analytical Database.

In the 1960s and 1970s, hourly productivity grew relatively fast, at the same time as the share of employee compensation in total national income was rising. This was reflected in both substantial average real employee compensation gains and in a marked shortening of working hours. By contrast, over the past 15 years or so, the relatively modest productivity gains (which occurred during a time when the share of employee compensation in national income often fell) have appeared mainly as increases in real compensation. Within this general pattern, there are large cross-country differences. In Sweden and the United States, recent productivity gains have been reflected almost entirely by higher

average real employee compensation. In Germany, the Netherlands and, more recently, Japan, the balance has been more towards lower hours.

In order to test whether, over the short-term, changes in hourly productivity precede changes in hours, or *vice versa*, a Granger causality test was applied to the two series for those countries for which relatively long runs of data were available. Only for Germany were the results consistent with the presence of causality running from short-term changes in productivity growth to changes in the level of hours. The results for France, Sweden and the United Kingdom were inconclusive. For France and Sweden, the hours and productivity series were

found to be independent, while in the United Kingdom, there appeared to be evidence of causality operating in both directions. Finally, for Canada, the results were consistent with a direction of causality from changes in hours to changes in productivity.

In sum, these findings appear consistent with the view that, over the long-term, given continued growth in average real earnings, hours reductions are constrained by long-term trends in hourly productivity growth. However, over the short-term, the situation may be different. In some cases, industrial relations systems may allow a smooth allocation of emerging productivity gains into rises in real earnings and reductions in hours of work. However, in other cases, reductions in hours may trigger changes in work organisation which are necessary to allow technological advances to be translated into increased productivity growth.

#### E. EMPLOYEE PREFERENCES, COLLECTIVE BARGAINING SYSTEMS AND WORKING TIME

Other factors which may be important for explaining the wide differences between trends and levels of hours of work across countries are employee preferences, union objectives and the state of collective bargaining arrangements. This subsection begins by considering the possible effects of employee preferences.

Data on employee preferences, which are obtained from attitude surveys, must be interpreted with particular care. They are very sensitive to the precise wording of the questions, to individual circumstances and to the economic climate [Nätti (1995)]. With these *caveats*, international comparisons of preferences are possible on the basis of sets of similar surveys commissioned by the European Commission (Table 5.9).<sup>10</sup> The results can be compared with data on average annual hours of work compiled by EUROSTAT on a common basis for each country (see Annex 5.A).<sup>11</sup> An additional source of data is provided by surveys carried out under the auspices of the International Social Science Programme (ISSP) in 1989.

Countries in which average annual hours of work per person are already relatively low tend to be those in which the average preference for fewer hours is relatively strong, and that for higher earnings weak. In 1994, the correlation between the level of average hours and the desire for fewer hours was  $-0.69$ : with the desire for higher earnings, the correlation was  $0.73$ . Results for 1985 are similar. Figures (not shown here) from the ISSP survey of 1989, covering Austria, Germany, Ireland, Italy, the Netherlands, Norway, the United Kingdom and the

United States, confirm this finding.<sup>12</sup> The correlations between reported average hours of work and the proportion of respondents replying that they would prefer "less hours and less pay" are  $-0.41$  for all workers and  $-0.58$  for full-time workers, again showing a tendency for workers in countries where hours of work are relatively low to display a stronger preference for reductions in hours.<sup>13</sup>

Both the data in Table 5.9 and the ISSP data show that many more people expressed a preference for increased earnings than for a reduction in hours. The same is true for Canada [Drolet and Morissette (1997)]. However, the direction of change in the European data is generally towards a preference for reduced hours. In 1985, on average, 62 per cent of people in the European Union said they would prefer "more earnings" as opposed to 31 per cent opting for "fewer hours". By 1994, only 56 per cent mentioned more earnings and 38 per cent mentioned fewer hours. An increased preference for a reduction in hours was apparent in all countries except Greece, Italy and Spain. It is interesting to note that the correlation between preferences in 1985 and the change in actual hours between 1985 and 1994 was relatively small ( $-0.35$ ), although the sign is what might have been expected – on average, countries where the preference for hours reduction was stronger saw larger reductions in actual hours.

Bell and Freeman (1994) show that, over the longer term, employee preferences can undergo striking changes. On the basis of the ISSP data set, they note that United States employees showed a relatively strong preference for "more hours and more pay" (32.7 per cent of the workers responding) as against "less hours and less pay" (5.5 per cent).<sup>14</sup> German workers, on the other hand, had the lowest desire for "more hours and more pay" (13.5 per cent) and a relatively high preference for "less hours and less pay" (10.1 per cent). Comparing these ISSP results with others derived from roughly similar surveys in the early 1970s, the authors conclude that, over the period, the position of the two countries had reversed – in the earlier period, employees in Germany both worked longer hours than their US counterparts and indicated a greater desire for longer hours. The causes of these changes in preferences remain unclear, though changes in real earnings are likely to be relevant, as are patterns of taxation [Liebfritz *et al.* (1997)].<sup>15</sup>

The importance of collective bargaining is illustrated by the correlations between figures for the reduction of annual working hours per employee over the most recent cycle, shown in Table 5.1, and the indicators of collective bargaining developed in OECD (1997*b*). Of the twelve countries for which both sets of data are available, Sweden is distin-

Table 5.9. **Working hours and earnings preferences of workers, European Union, 1985 and 1994<sup>a</sup>**

	Percentage of employees preferring:						Average annual hours per employee		
	More earnings			Fewer hours			1985	1994	Ratio 1994/85
	1985	1994	Ratio 1994/85	1985	1994	Ratio 1994/85			
Belgium	58	48	0.83	36	40	1.11	1 643	1 603	0.98
Denmark	38	32	0.84	51	66	1.29	1 586	1 568	0.99
France	62	53	0.85	34	40	1.18	1 696	1 670	0.99
Germany	56	54	0.96	30	34	1.13	1 674	1 590	0.95
Greece	68	84	1.24	26	14	0.54	1 803	1 803	1.00
Ireland	78	59	0.76	19	37	1.95	1 815	1 747	0.96
Italy	55	54	0.98	39	39	1.00	1 710	1 682	0.98
Netherlands	46	43	0.93	47	52	1.11	1 654	1 447	0.87
Portugal	82	58	0.71	11	35	3.18	1 871 <sup>b</sup>	1 847	0.99
Spain	64	70	1.09	31	24	0.77	..	1 741	..
United Kingdom	77	62	0.81	19	32	1.68	1 684	1 683	1.00
Unweighted average	62	56	0.90	31	38	1.20	1 696	1 671	0.99

.. Data not available.

a) Figures exclude people unable to choose between more earnings and fewer hours, and non-respondents.

b) Data refer to 1986.

Sources: Data on preferences are from the European Commission (1986, 1995a). Data on annual hours worked were calculated by EUROSTAT using a common method for each country and supplied to the Secretariat.

guished by the fact that reductions in working hours have not been an major aim of the trade union movement there [Campbell (1989)]. For the 11 remaining countries, there are negative correlations between changes in hours, on the one hand, and trade union density, coverage of collective bargaining and centralisation, on the other hand (the figures are -0.43, -0.68 and -0.65, respectively).<sup>16</sup> This reflects a tendency for those countries where collective bargaining is more developed to have shown a faster decline in working hours.

Overall, these data are consistent with the proposition that employee preferences do explain part of the differences between hours of work across countries, and that collective bargaining arrangements are also important. In addition, while there may be a threshold beneath which the desire for fewer hours becomes weaker, the available data give no indication that it has been reached in European countries.

#### F. GOVERNMENT POLICIES ON WORKING TIME: WHAT ROLE HAVE THEY PLAYED?

This section surveys the main directions of recent policies on working time. It covers initiatives designed to: regulate the duration of working time; allow for greater flexibility in working arrangements; modify incentives for adopting different forms of working arrangements, *via* the tax and social security

system; and provide incentives for a reduction in working time coupled with increases in employment. In each of these areas there have been significant changes in a number of countries.<sup>17</sup>

#### 1. Regulations on the duration of normal and maximum working hours, and on overtime

While regulations on working hours are often extremely complex, they generally contain the following elements: normal hours of work, beyond which overtime premia become payable; maximum permitted overtime hours; maximum total hours (generally equal to normal hours plus the maximum permitted overtime hours); and the overtime premium or premia to be paid. Table 5.10 shows that these regulations differ widely across countries. For example, in a few countries, there are no legislative limits on the maximum number of weekly hours of work (except, perhaps, through regulations on minimum rest periods, not included in the table). It should be noted that, in many countries, national legislation is modified by collective agreements.

Over recent years, there have been only a small number of instances of nation-wide changes in the legislation on the duration of working hours, though others may be forthcoming. In Japan, a "Five-year Plan for Improvement of Living Standards" was approved by the Cabinet in July 1992. This advocated an early shift to a 40-hour week through a revision of the Labour Standards Law: statutory

Table 5.10. **Legislative limits on normal weekly hours of work and overtime work**

	Legal maxima			Premium for overtime hours	Normal weekly hours set by collective agreements
	Normal weekly hours	Weekly overtime hours	Maximum weekly hours		
Australia	38-40	none	none	50% for first 4 hours, 100% thereafter	35-40
Austria	40	5 (10 during 12 weeks per year)	50 (60 in some circumstances)	50%	36-40
Belgium	40	10	50	50% for hours worked during the week 100% for hours worked during the weekend	38
Canada	40-48	none	none	generally 50%	35-40
Czech Republic	40.5	8	51	25%	
Denmark	37	none	48	50% for 1 hour; rising to 100%	37
Finland	40	5	45	50% for 2 hours, then 100%	37.5-40
France	39	9	48	25% for first 8 hours, then 50%	39
Germany	48	12	60	25%	35-39
Greece	40	8	48	25% for the first 60 hours per year 50% for the second 60 hours per year	40
Hungary	40	12 (typically 8 hours)	52	50%	
Ireland	48	12	60	25%	38-40
Italy	48	12	60	10% plus 15% for unemployment fund	36-40
Japan	40	none	none	25%	40-44
Korea	44	12	56	50%	
Luxembourg	40	8	48	25% for blue-collar, 50% for white-collar	40
Mexico	48	9	57	100%	
Netherlands	45	15	60 (maximum average over 13 weeks is 48)	no legislation on premium	36-40
New Zealand	40	none	none	no legislation on premium	40
Norway	40	10	50	40%	37.5
Portugal	40	12	54	50% for first hour, then 75%	35-44
Spain	40	2 (average 80 hours per year)	47		38-40
Sweden	40	12 (maximum 200 hours per year)	48 or 52	no legislation on premium	40
Switzerland	45 or 50	16	61 or 66	25%	40-42
Turkey	45	3 hours per day, 90 days per year (i.e. 270 hours per year)		50%	
United Kingdom	none	none	none	collectively-bargained	34-40
United States	40	none	none	50%	35-40

*Australia:* Working-time is generally regulated by industrial awards. The maximum number of normal hours can also be prescribed in State legislation (which generally provides that normal hours of work shall not exceed an average of 40 hours per week).

*Austria:* Collective agreements may permit up to 10 additional overtime hours (e.g. in hotels and restaurants or transport services). Work agreements may permit hours of overtime during 12 weeks up to a weekly working time of 60 hours to prevent severe economic detriments, if other measures are not feasible. The Labour Inspectorate may permit a larger number of overtime hours. There are many exceptions to the maximum weekly hours rule, which allow 60 hours and more. The average maximum weekly working time must not exceed 48 hours over a reference period of 4 months, which may be extended by collective agreement up to 1 year.

*Belgium:* Normal weekly hours (or less where there is a collective agreement) must be maintained, on average, over the specified reference period. The reference period is legally one quarter, but may be up to one year under a collective agreement. The maximum permitted overtime is 65 hours over a quarter.

*Canada:* Normal weekly hours vary from 40 hours in some provinces to 48 hours in others.

*Denmark:* Normal weekly hours of 37 and overtime premiums have been established through collective bargaining.

*Finland:* Maximum weekly overtime hours are based on an averaging of permitted maxima of 250 hours of overtime annually.

*Germany:* Weekly hours limits are based on a six-day week. Overtime is limited to 2 hours per day.

*Hungary:* Legislation specifies an 8 hours per day threshold before overtime hours. A five-day week is assumed. Maximum overtime hours are 8 per four working days; 144 hours per year if no collective agreement; 200 hours per year by general collective agreement; and 300 hours per year by collective agreement at branch level.

*Italy:* Weekly hours limits are based on a six-day week. Overtime hours are limited to 2 hours per day.

*Luxembourg:* The weekly overtime limit is based on a daily limit of 2 hours applied over a five-day week.

*Mexico:* Beyond 9 hours, the premium for overtime rises from double to triple time and sanctions can be imposed on the employer.

*Portugal:* Weekly overtime hours are based on a maximum of 2 hours daily over a six-day week. The maximum overtime hours per year is 200.

*Sweden:* The weekly limit on overtime hours is a weekly average of the limit on overtime hours of 48 hours in 4 weeks. The 48 hour weekly maximum is by collective agreement.

*Switzerland:* Normal weekly hours are 45 for those employed in industrial enterprises and white-collar workers and 50 for individuals employed in crafts or construction. The limit on overtime hours is based on a maximum of 61 or 66 hours per week.

*Turkey:* Overtime hours are limited to 3 hours per day over a maximum of 90 days. Normal weekly hours are often worked over fewer than 6 days, so that overtime hours are usually limited to 15 hours per week.

*United States:* Figures refer only to those workers considered to be paid hourly.

*Sources:* Data were supplied by national authorities on the basis of a questionnaire sent to all OECD Member countries, and were taken from European Commission (1996) and Blanpain (1990).

working hours were reduced to 40 hours during the period 1 April 1994 to 1 April 1997, depending on the type of activity. In the Netherlands, legislation adopted in the Spring of 1996 involved a reduction in normal weekly hours from 48 to 45. In Portugal, normal weekly hours for office workers were reduced from 42 to 40 hours in December 1996, with a reduction to 40 hours for other groups of workers in December 1997. At the international level, in November 1993 the Council of Ministers of the European Union adopted a directive according to which the average working time for each seven-day period, including overtime, is limited to 48 hours. However, only the changes in Japan were designed to have a major effect on actual working hours.

Recently, the French government has introduced legislation to reduce normal weekly hours to 35 by the year 2000 for firms with 20 or more employees, two years later for the remainder, partly

with the aim of increasing levels of employment (see the Box for further details). In October 1997, the Italian government announced its intention to reduce hours of work to 35 hours by 2001, again giving special treatment to smaller firms, and also with increases in employment as one of the aims. However, no legislation has yet been introduced in Italy. A discussion of the possible effects of this type of policy is reserved for the next section.

Apart from national legislation, working hours have been reduced through collective agreements, either at the branch or enterprise level. In general, these have been accompanied by provisions to enhance working-time flexibility. A particularly significant example is the 35-hour week operated by the metal-working industry of western Germany from October 1995 onwards. Since 1984, consecutive bargaining rounds in this branch have resulted in reductions in working-time combined with

#### Legislation in favour of reduced working hours in France

The law *d'orientation et d'incitation relative à la réduction du temps de travail*, enacted in May 1998, includes the following provisions:

- the normal working week (*durée légale du travail*) falls from 39 to 35 hours on 1 January 2000 for enterprises with more than 20 employees, and on 1 January 2002 for the remainder;
- any consequent effects on earnings are left for negotiation between the social partners (special arrangements may be made for firms which have no union representatives);
- financial incentives are granted to firms whose hours of work, for part or all of their workforce, are reduced to 35 hours, or a lower figure, before 1 January 2000 (1 January 2002 for firms with 20 employees or less), through an agreement negotiated at enterprise or establishment level. A number of conditions apply. The reduction in working hours must be at least 10 per cent, and must be combined with net hiring of 6 per cent of the number of people whose hours are reduced or, alternatively, the preservation of the same number of jobs previously scheduled to be lost through a redundancy plan. The total number of jobs must be maintained for at least two years. The agreements are to lay down the scale and scheduling of the reduction in hours and the creation or preservation of jobs, as well as any changes in working arrangements. Special arrangements may be negotiated for managers (*cadres*), part-time and shift workers. The financial incentive is a flat-rate deduction of employer social security charges, ranging between FF 5 000 and FF 9 000 per year for each employee whose hours have been reduced and lasting for up to five years, at a reducing rate each year. A higher system of incentives applies to firms making further cuts in hours (at least 15 per cent in total) coupled with higher levels of job creation (at least 9 per cent in total) before 1 January 2003. Incentives may also be higher for firms which undertake to make more than the minimum number of hirings (especially in the case of small firms) or if the hirings are done entirely on the basis of indefinite contracts, for firms whose employees contain a high proportion of blue-collar workers or workers whose pay is close to the minimum wage, and for firms making an engagement to hire young people, handicapped people or the long-term unemployed. The public sector, and certain private sector firms with strong links to the public sector, are excluded from the current legislation.
- A report on the workings of the new provisions will be presented to the Parliament by September 1999. This report will draw on this information to propose ways in which certain provisions of the law will be implemented, notably the overtime rates applying to hours worked above 35 but below 39 per week, the regulations relating to the organisation and "modulation" of working time, ways of encouraging voluntary part-time working, the place of professional training in the negotiations, and special arrangements applying to managers.

provisions for greater flexibility, including the annualisation of working hours. Agreements to reach the 35-hour week by 1995 were also reached in a number of other industries, including steel and printing. The paper industry reached the 35-hour level in 1997 and several other industries were scheduled to do likewise in 1998, including the timber and newspaper industries. At least a quarter of the workforce of western Germany now enjoys a normal working week of 35 hours [EIRR (1995)].

Many recent agreements for reductions in normal hours at branch or enterprise levels have been associated with earnings reduction or moderation, and increases in the flexibility of working hours, with the aim of avoiding lay-offs. One example is the agreement reached in the German metal-working industry in 1994 to permit employees and employers, in such cases, to reduce working-time to a minimum of 30 hours a week.

## 2. Regulations on the flexibility of working-time

Over recent years, the main thrust of policy has been to accommodate greater flexibility in working-time arrangements. Part of the reason for this has been to enable firms to match labour inputs more closely with requirements, and to allow the extension of operating and opening hours. In a number of countries, the treatment of weekend, evening, night and overtime working has been the subject of legislation and/or collective bargaining at the branch level. For example, in Italy, several sectoral agreements in 1994 permitted greater recourse to Saturday and Sunday working. In Germany, the Working-time Act of 1994 reduced some of the restrictions on Sunday working and, following legislation passed in other countries since the mid-1980s, lifted restrictions on night working by women.

Another facet of recent policy developments has been measures to facilitate reductions in labour costs through the averaging and annualisation of working time. Under annualisation, employers may set normal weekly hours at varying levels over the year, subject to a fixed annual total. Only when these limits are exceeded do overtime premia become payable. The "modulation" of hours over the year may be organised in different ways. The full schedule of hours may be fixed in advance, or there may be a "working-time corridor" of minimum and maximum hours of work, with overtime payments being paid when the average level of weekly or daily hours, taken over the year, exceeds an agreed limit. Annualisation may be thought of as a special case of "averaging" in which the reference period is a year. In general, three key elements in the averaging of working hours are the "unit" of worktime employed as the basis of the averaging procedure,

the "reference period" over which the averaging is done, and the "limitations" that apply.

Table 5.11 shows conditions under which hours averaging may be applied. In most cases, the possibility of such arrangements has been established through amendments to legislation, in others through collective bargaining at the national (Denmark) or branch level (Germany and Italy). The working-time unit is generally a week of normal working hours, though sometimes it is a day. In some countries, no working-time unit is prescribed at the national level and branches enjoy considerable freedom in its determination (Germany, Italy, and the United Kingdom). The reference period is one year in Belgium, France, Italy, Japan, Norway, Spain and Switzerland. In other countries it is generally, though not always, less than a year, ranging from 2 to 3 weeks in Finland and Luxembourg, to 6 months in Germany and Denmark.

Data on the incidence of annualisation are available from Cranfield School of Management (1996). In response to a 1995 survey of a number of large firms in 15 European countries, 10 per cent said they had increased their use of annualisation over the previous three years, as against 3 per cent who said their use had decreased. Around 60 per cent of firms said that the practice was not used. Comparatively large increases in the number of firms reporting the use of annualisation were reported in Finland, Germany, the Netherlands and the United Kingdom.

## 3. Social security thresholds

The distribution of working hours may be influenced by earnings or hours thresholds that apply to the liability for contributions to social security schemes and the eligibility for benefits. Where such thresholds apply to the lower part of the hours distribution, they may affect the rate of part-time working. Other things being equal, a threshold on employers' social security contributions is likely to give an incentive to create disproportionate numbers of jobs with hours (or earnings levels) just under the threshold. A threshold on employee benefits may give an incentive to work longer hours than otherwise desired. It may also cause opposition to cuts in working hours likely to bring hours below the threshold (though this will also depend on whether the cuts also remove the liability to contributions).

Currently, only a small number of countries set thresholds on the payment of employers' social security contributions. In Germany, no contributions are payable for work of less than 15 hours a week, or under DM 620 monthly earnings. In the United Kingdom, no contributions are payable on account of employees earning under £64 per week.

Table 5.11. Provisions for averaged/annualised hours of work<sup>a</sup>

	Date of legislation	Working time unit used in averaging	Reference period <sup>b</sup>	Limitations
Austria	1997	Legal week (40 hours) or any shorter normal weekly working time which is provided for under a collective agreement	Unlimited; averaging schemes have to be permitted by collective agreement; if the reference period is more than one year, time off in lieu has to be granted in blocks of several consecutive weeks	9 hours per day; 10 hours if time off in lieu can be taken in blocks of several consecutive days or, in case of reference periods of more than one year, in blocks of several consecutive weeks; 48 hours per week or 50 hours per week if the reference period does not exceed 8 weeks
Belgium	1985	Legal week (40 hours) or shorter week provided under a collective agreement	1 quarter <sup>c</sup>	11 hours per day, 50 hours per week, maximum of 65 hours of overtime, at any moment
Czech Republic	1962 amendments 1991	Legal week (42.5 hours)	4 weeks <sup>d</sup>	9.5-12 hours per day, 120 overtime hours per year
Denmark	1990	Collective agreement	6 months	Must be agreed by employees on each occasion
Finland	1965 and 1996	Legal week (37 hours)	4 weeks	9 hours per day
France	1982, 1993	Legal week (39 hours) <sup>e</sup>	At least 1 year	44 hours per week or 464 hours over 12 consecutive weeks, or 10 hours per day and 48 hours per week
Germany	1994	Legal working day (8 hours)	6 months	10 hours per day, 60 hours per week
Hungary	1995	Agreed weekly hours by branch	Unlimited <sup>f</sup>	
Ireland	1997	Legal working day (8 hours)	2 months	12 hours per day
Italy	1923	Legal week (48 hours)	3 weeks <sup>f</sup>	56 hours per week
Korea	1997	Agreed weekly hours by branch	1 year	48 hours per week, 96 extra hours per year
Luxembourg	1997	Legal week (44 hours)	1 month	12 hours per day, 56 hours per week
Netherlands	1996	Legal week (40 hours)	4 weeks for white-collar%variable for blue-collar	10 hours per day
Norway	1977	40-hour week	13 weeks or 4 weeks	10 hours per day, 50 hours per week over 4 weeks; 9 hours per day, 45 hours per week over 13 weeks <sup>h</sup>
Portugal	1997	Legal week (40 hours)	1 year	9 hours per day and 48 hours per week <sup>i</sup>
Spain	1994	Legal week (40 hours)	4 months	Maximum of 2 additional hours per day; 50 hours per week
Sweden	1983	Legal week (40 hours)	1 year	9 hours per day, 45 hours per week; restrictions on rest periods
Switzerland	1966	Legal week (40 hours)	4 weeks	No maximum specified
Turkey	1971, 1983	Agreed weekly hours by branch (45 or 50 hours)	1 year <sup>j</sup>	61 or 66 hours per week, depending upon branch
United Kingdom	1971, 1983	Legal week (45 hours)	1 week	Five-day week: 9 hours per day or 45 hours per week Six-day week: 7.5 hours per day or 45 hours per week
	No special regulation	Agreed weekly hours	Unlimited <sup>k</sup>	None

a) Maxima as laid down by labour legislation and by collective agreements at the national level.

b) The maximum period of reference may be lower in certain branches.

c) The period for averaging is normally a quarter, but it can be extended to 1 year by *Arrêté royal* (AR) or *Convention collective de travail* (CCT).

d) For some jobs with "an uneven intensity of work", the period of annualisation may be as long as 1 year.

e) Part-time hours may also be annualised.

f) Flexibilisation is only possible when associated with shift-work.

g) The Minister of Labour may specify the period for averaging, which can be extended up to one year in certain industries.

h) The basic legislated limit is that no more than 520 hours may be worked over 13 weeks. Under discretionary requirements, which require an agreement between the parties, a maximum of 200 hours can be worked per four-week period and 585 hours per 13-week period.

i) In certain situations the maximum daily hours can be extended to 10 and maximum weekly hours to 54.

j) Up to 40 hours may be carried over from one year to another.

k) Often 1 year.

Sources: Data were supplied by national authorities on the basis of a questionnaire sent to all OECD Member countries. Data were also obtained from the European Commission (1996); *European Industrial Relations Review*, various issues, 1994 and 1995; and other sources of information on collective agreements.

In France, as part of the system of measures to support low-paid employment, contributions in respect of family allocations are not payable under the threshold of 110 per cent of the minimum wage. For similar reasons, a reduction in the rate of contributions in Ireland is made at levels under Ir£173 per week.

Thresholds also often apply in respect of eligibility for three different types of benefits: health, old-age pensions and unemployment (Table 5.12).<sup>18</sup> The table reveals wide cross-country differences. Overall, Germany and Japan stand out as having the highest thresholds. The social protection systems of Greece, Hungary, the Netherlands, New Zealand, Norway and Spain, on the other hand, have very low thresholds or none at all.

The trend appears to be towards modifying thresholds so as to reduce their influence on the distribution of hours. Canada and Finland have both altered their arrangements for employer social security contributions, so that payments are now proportional to hours. The United Kingdom has moved to reduce the potential effect of employer social security contributions on the distribution of hours worked, by levying contributions above the bottom limit of £64 per week along a stepped scale, at the rate of 2 per cent of £64 plus 10 per cent of additional earnings between £64 and £440.<sup>19</sup> In 1994, Japan reduced the minimum number of hours necessary for eligibility for social benefits from 30 to 20 hours per week. In Canada, as of 1997, there is no longer a minimum threshold for unemployment

Table 5.12. **Thresholds for social security coverage**

	Public health benefits	Old-age pension benefits	Unemployment benefits
Austria	Sch 3 830/month	Sch 3 830/month	Sch 3 830/month (earnings above this level for at least 52 weeks over preceding 2 years)
Belgium	400 hours in preceding 6 months or 3 hours/day	4 hours/day	–
Canada	–	CS 67/week or CS 3 500/year	No weekly minimum as of January 1997
Czech Republic	–	–	22 hours/week
Denmark	–	9 hours/week for Supplementary Pensions and 15 hours/week for labour market pension schemes in certain sectors	37 hours/week for at least 52 weeks over preceding 3 years
Finland	–	–	18 hours/week
France	200 hours in last 3 months	–	4 months contributions in last 8 months
Germany	15hours/week (45hours/month for blue-collars)	15 hours/week	18 hours/week
Greece	–	–	–
Hungary	–	–	–
Ireland	earnings over Ir£ 9 256	earnings over Ir£ 2 600	earnings over Ir£ 2 600
Italy	24 hours/week	–	–
Japan	20 hours/week	20 hours/week	20 hours/week
Netherlands	–	–	26 weeks work during previous 39 for basic benefit (52 days/year in 4 out of 5 previous calendar years for wage-related benefits)
New Zealand	–	–	–
Norway	–	–	–
Portugal	12 days in last 4 months	–	–
Spain	–	–	–
Sweden	SKr 6 000/year	SKr 6 000/year	17 hours/week
United Kingdom	–	£61/week	£61/week
United States	–	–	Depends on the State

Note: “–” means that there are no thresholds.

Sources: Data were supplied by national authorities on the basis of a questionnaire sent to all OECD Member countries; and taken from the OECD Taxes and Benefits database.

benefits (prior to that it was C\$ 150, or 15 hours of work per week).

#### 4. Subsidies and reductions in social security contributions targeted on lower working hours

A new policy orientation has emerged in several countries in the shape of incentives, paid either to employees or to employers, and occasionally to both, to encourage the reduction of working hours, with the primary aim of increasing employment and reducing unemployment. These innovations include: subsidies to encourage reductions of working-time at the enterprise level; voluntary reductions of individuals' weekly working-time; and long-term leave with replacement (Table 5.13).

Subsidies to encourage reductions in hours of work at the enterprise level in order to increase employment generally take the form of a reduction in payroll taxes, such as employer social security contributions. If paid at a flat rate (rather than as a proportion of earnings), as in the case of the subsidies recently announced by the French government in connection with the reduction of normal working hours from 39 to 35, they also have the effect of subsidising the employment of lower paid employees. As with marginal employment subsidies in general, they are likely to suffer from dead-weight and displacement effects [OECD (1996b)]. Dead-weight effects occur when firms benefiting from the subsidy intended to reduce hours and increase employment in any case. Displacement effects follow if the same firms are able to use the subsidy to reduce prices and take market share from competitors. There is also the danger that the extra jobs will be maintained only as long as the subsidies last. Owing to these possible effects, overall net employment gains may be significantly smaller than the gross rise in employment in participating firms. The net budgetary cost would then be correspondingly higher [Cette and Taddéi (1997)].

Empirical evidence about the performance of such schemes in practice is not extensive. In particular, estimates of their dead-weight and displacement effects are not yet available. The take-up rates for the schemes introduced in Belgium and France have generally been low, although a relatively high rate of take-up (2 per cent of eligible employees) has been achieved by the French *Loi de Robien* programme, introduced in 1996 [Table 5.13; Freyssinet (1997); DARES (1998a)], and a recent acceleration can be seen in the rate of take-up of some of the Belgian schemes. A preliminary evaluation of the *Loi de Robien* programme was undertaken

for the *Commission des Finances de l'Assemblée nationale* (1997), on the basis of detailed studies of six large enterprises and a series of macro-economic simulations. The conclusion of the case studies was that the financial incentives had, in several cases, facilitated the introduction or extension of valuable modifications in working practices, or investments in skills. However, a much larger-scale employer survey involving both participating and non-participating firms would be required to assess the extent of the dead-weight and displacement effects. In addition, the question of the longevity of the jobs created or saved by the subsidy is raised by the fact that the subsidy is payable for seven years, but the jobs need only last for two. While the macro-economic simulations mentioned above suggested that the bulk of these jobs would be durable, the results of such simulations must be regarded as particularly uncertain. The actual situation remains to be assessed by means of follow-up studies.<sup>20</sup>

At least one of the schemes to encourage part-time working by means of subsidies to enterprises, introduced in France in 1992, has had a high rate of take-up, at just over 200 000 contracts a year (and 400 000 beneficiaries). This programme mainly involves low-paid workers in the service sector, for whom employers may receive a rebate representing up to 16 per cent of labour costs.<sup>21</sup> The substantial take-up no doubt also reflects the potential for further growth in this type of employment. The proportion of subsidised workers coming directly from the unemployment rolls is currently around a quarter of the total, and just under a quarter were previously out of the labour force [DARES (1997)]. As noted above, programmes of this kind are generally subject to substantial dead-weight and displacement effects. However, no empirical evidence on the size of these effects is available.

Recent years have seen a variety of innovative programmes designed to facilitate voluntary reductions in individual working hours, either through shorter working weeks or some form of career break (Table 5.13). These generally involve subsidies paid to both employees and employers (except when the employer is the State). Results so far, for example with respect to the Danish training, sabbatical and parental leave programmes, all of which involve the obligation to hire an unemployed person as a replacement, appear to indicate that the potential take-up of such schemes may be quite high. However, in a time of tightening labour markets, both the Danish sabbatical leave entitlement and the child-care leave programme have recently been made less generous, in terms of replacement income. Again, few if any evaluations of such schemes appear to have been carried out.

Table 5.13. **Government measures designed to foster working-time redistribution**

		Incentives		Results/Take up
		to employees	to employers	
<b>A. Collective working-time reductions</b>				
Belgium	<i>Plans d'entreprises de redistribution du travail</i> (since 1994). Firms create new jobs to compensate for reductions in individual working hours.	None.	Reduction of social security contributions by a maximum of BF 37 500 per extra employee, for 13 quarters.	637 enterprise plans approved by 30 April 1997, in which enterprises agreed to hire 5 654 extra employees.
	<i>Accords pour l'emploi</i> (Employment agreements). Reductions in working time are combined with at least one other measure designed to hire extra workers, without reduction in the overall volume of work.	None.	Reduction of social security contributions by BF37 500 per quarter per extra employee, for duration of agreement.	100 agreements in the private sector, agreed by joint committees at sectoral level, 220 in total at enterprise level.
Canada	In the province of Quebec, the duration of the standard work week is being progressively reduced from 44 to 40 hours, at a rate of one hour every year from October 1st, 1997 to the year 2000.	None.	None.	Not yet available.
France	<i>Aménagement et réduction du temps de travail: loi "de Robien"</i> . [Organisation and reduction of working time (since 1996)]. Firms reduce the working hours of part, or all of their employees by at least 10% and create jobs in the same proportion for at least two years, or avoid job losses (in some proportion) already programmed for economic reasons.	None.	For a 10-15% hours reduction, a reduction in social security contributions of 40-50% for the first year and 30-40% for the following 6 years.	At 30 Sept 1997, 1 144 agreements (795 "offensif", involving job creation; 349 "defensif", involving job retention), reducing working time of 121 137 employees and creating or preserving around 12 000 jobs (gross of deadweight and displacement effects).
<b>B. Voluntary reductions in individual working-time</b>				
Austria	<i>Solidaritatspramienmodell</i> . From 1998, collective or works agreements may permit reduction of normal working hours in order to recruit registered unemployed persons. Reductions have to be agreed between the employer and each employee.	Employees working less than normal hours receive a proportion of unemployment benefit; employment rights are maintained.	None.	Not yet available.
Belgium	<i>Interruption de carriere  temps partiel</i> (part-time career break). A full-time worker reduces his working time by between 80 and 50%, being replaced by a previously unemployed person.	Monthly, flat-rate benefit between BF 2 413 and BF 6 033, depending on the size of the reduction.	Temporary reduction in employers' social security contributions for hiring unemployed person.	At December 1996, 32 470 workers had reduced their working time in this way.

Table 5.13. **Government measures designed to foster working-time redistribution** (cont.)

	Incentives		Results/Take up	
	to employees	to employers		
	<i>Prépension à mi-temps</i> (early pension at half-time working). Employees aged 55 and over may reduce their working time to half-time, the other half being worked by a previously unemployed person.	Unemployment benefits and a complementary payment from the employer.	Reductions in employers' social security payments for hiring unemployed person.	In 1996, there were 190 beneficiaries of the programme, on average.
	<i>Redistribution du travail dans le secteur public</i> (Redistribution of work in the public sector) (since 1995). Employees in the public sector are allowed to work 4 days a week at 80 per cent of previous earnings, provided that the remaining time in worked by a previously unemployed person. Those with permanent status may work half-time for up to five years before their normal retirement date, provided the time is replaced by a additional employee, with similar status.	Monthly allowance of BF 3 250, in addition to pay for hours worked.  Monthly allowance of BF 11 940, in addition to pay for hours worked.	Not applicable.	7 000 employees (approximately 8 per cent of federal public sector employees) participated in the scheme at end 1995.
<b>C. Part-time working</b>				
Austria	From 1998, employers over 50 with family care responsibilities may reduce working time while maintaining employment rights, subject to employer's agreement. This must be given if there are more than 10 employees and the employee is entitled to a part-time pension ( <i>Gleitpension</i> ).	Employment rights are maintained.	None.	Not available.
Belgium	<i>Plans d'entreprises de redistribution du travail</i> (Enterprise plans to redistribute employment) (since 1994). Firms create new jobs to compensate for reductions in individual working hours (see <i>a</i> ) above).	See <i>a</i> ) above.	See <i>a</i> ) above.	See <i>a</i> ) above.
	<i>Accords pour l'emploi</i> (Employment agreements). Firms introduce part-time working, on a voluntary basis together with another measure designed to encourage hiring (see <i>a</i> ) above).	See <i>a</i> ) above.	See <i>a</i> ) above.	See <i>a</i> ) above.
	<i>Promotion de la remise au travail de chômeurs à l'aide de la redistribution du travail.</i> (Promotion of vocational reintegration for the unemployed through the re-distribution of employment). Workers who opt for part-time work receive an incentive (Flemish region only, up to end 1995).	3 000 to BF 5 000 per month for two years maximum, depending on the extent of hours reduction.	Unemployed workers receiving full benefits may be hired to make up lost hours.	6 048 persons during first quarter of 1997 (including the beneficiaries of the career break scheme).

Table 5.13. **Government measures designed to foster working-time redistribution** (cont.)

		Incentives		Results/Take up
		to employees	to employers	
Finland	<i>Part-time supplement</i> (since 1994). Employees reduce their working-time from 40 per cent to 60 per cent, with the agreement of the employer, for one year. An unemployed person must be recruited to the same position.	The government pays half of lost wages, up to 1.7 times the unemployment benefit.	None.	3 500 unemployed people hired in 1995, mainly in the public sector.
France	<i>Abattement de cotisations sociales patronales pour les emplois à temps partiel</i> [Reduction of employers' social security contributions for part-time employment) (since 1992). Employers transform positions from full-time to part-time or hire part-time workers (with hours between 16 and 32). The volume of employment in hours must be maintained.	None.	The reduction of social security contributions was 30 per cent as of April 1994, for jobs with duration between 16 and 32 % of normal hours. Since September 1995, it can be combined with the abatement for low-paid workers.	More than 200 000 contracts have been signed each year.
Netherlands	The general principle of equal treatment, regardless of working time, was introduced in Labour Law in November 1996.	None.	None.	Not available.
<b>D. Long-term leaves with job rotation</b>				
Austria	<i>Bildungskarenz</i> (Training leave) and <i>Freistellung gegen Entfall des Arbeitsentgelts</i> (career breaks), from 1998. Employees can take leave for a period between 6 months and one year, subject to the employer's agreement.	Unemployment benefits. Employment rights are maintained.	None.	Not available.
Belgium	<i>Interruption complète de la carrière</i> (full-time career breaks) of between 3 months to a year, with replacement by previously unemployed workers. A special scheme applies in Flanders.	BF 12 066 per month.	Partial exoneration of unemployment benefits on account of hiring of unemployed person.	At December 1996, 19 973 employees.
	<i>Plans d'entreprises</i> (Enterprise plans) (since 1994). Firms create job openings through promotion of career breaks.	See a) above.	See a) above.	See a) above.
Denmark	<i>Orlov til uddannelse</i> (Education leave); <i>Sabbatorlov</i> (Sabbatical leave); <i>Orlov til bornepasning</i> (Parental leave) (since 1994). Workers can take leaves over a period of up to one year subject to agreement by the employer. Persons unemployed one year or more must be recruited in the case of sabbatical leave.	Allowances of 100 per cent (educational leave) or 60 per cent (parental and sabbatical leave) of the maximum unemployment benefit which is 2 625 Dkr per week.	None.	1996: 121 000 (parental 47 000; educational 72 500; sabbatical 1 500) 1997 (Jan.-Oct.): 99 000 (parental 31 000; educational 67 100; sabbatical 900).

Table 5.13. **Government measures designed to foster working-time redistribution** (cont.)

		Incentives		Results/Take up
		to employees	to employers	
Finland	<i>Laki vuorotteluvapaa-kokeilusta</i> (Job rotation pilot scheme act) (since 1996). Full-time workers taking leave for between 3 months and one year receive an allowance if an unemployed person is hired.	Allowances of 60 per cent of unemployment benefits with a ceiling of 4 500 Mk per month.	None.	Not available.
Netherlands	<i>Wetsvoorstel financiering loopbaanonderbreking</i> (Cabinet proposal for an Act on the Financement of Career breaks, 1997).  Workers taking a career break (between 2 and 6 months for reasons of care and/or training) will receive financial support on condition that the employer hires an unemployed worker (who received a benefit).	Financial support up to a maximum Gld 960 gross per month. Allowance depending upon the actual reduction of the number of hours worked.	None.	Not available (still a Cabinet proposal).
Norway	Job rotation scheme. Temporary employment as substitute for employee on leave, including further education for regular employees. Designed to aid unemployed people and those needing updating of skills.	Receipt of standard wages.	13 000 Nkr per month in respect of unemployed person taken on as substitute.	2 539 participants on average in 1996.
	Job rotation schemes in connection with care leave. Temporary employment to replace employees on care leave. Designed to help unemployed people, as well as parents.	Receipt of standard wages.	10 000 Nkr per month.	Not available.

Sources: Austria: Information supplied by the Austrian Ministry for Employment, Health and Social Affairs.

Belgium: Information supplied by the Ministère de l'emploi et du travail.

Denmark: Documents issued by the Ministry of Labour; *European Industrial Relations Review*, No. 246, July 1994; and *Employment Observatory, Denmark, Institutions, Procedures and Measures*, 1995.

Finland: Documents issued by the Ministry of Labour; and *European Industrial Relations Review*, No. 244, May 1994.

France: "Durée et aménagement du temps de travail", *Liaisons sociales*, No. 6999, 23 February 1994; "Loi quinquennale relative à l'emploi et à la formation professionnelle, texte intégral commenté", *Liaisons sociales*, No. 6959, 27 December 1993; and *Employment Observatory, Basic information report, France, Institutions, Procedures and Measures*, 1996.

Netherlands: Tweede Kamer der Staten Generaal, 1996-1997, 25477, 1-2. Bepalingen inzake de financiering van de loopbaanonderbreking (Wet financiering loopbaanonderbreking).

Norway: *Norwegian labour market policy, 1998*, Royal Ministry of Local Government and Labour, October, 1997.

## G. THE EFFECTS OF REDUCTIONS IN NORMAL HOURS OF WORK ON EMPLOYMENT

This section concentrates on the question of the possible effects on employment of a reduction in normal hours, laid down either by legislation or collective bargaining. It begins by considering the effects at the level of the firm.

### 1. Theoretical considerations

Standard economic theory gives relatively few predictions about the balance between numbers of workers employed and the average hours they work. It is widely accepted that, at a given level of normal hours, an increase in the proportion of total labour costs represented by fixed costs (in terms of the costs of recruitment, accommodation and initial training, and any social security and welfare benefits paid on a *per capita* basis) will give an employer a financial incentive to increase hours worked per worker and to decrease the numbers of workers involved. The reason is that the marginal costs of each extra hour of work will be reduced relative to the costs of employing an extra worker. The same logic implies that increases in the overtime premium will give an incentive to reduce hours of work. However, these propositions alone are insufficient to make unambiguous predictions about the effects of a reduction in normal hours.

Hamermesh (1993) sets out three reasons to expect that, *ceteris paribus*, a firm will decrease its level of employment consequent upon a reduction in normal hours. First, at constant hours and wage rates, the reduction in the standard work-week will have the result of increasing wage costs, because the firm will pay extra overtime premia. This will tend to lead the firm to reduce the level of its activities (the “scale” effect), and so reduce employment. Second, the same increase in labour costs may cause the firm to substitute capital for labour over the medium-term. Third, provided the firm regularly uses overtime working, the extra overtime premia that become payable – on account of those hours of work which are below the old standard but above the new one – act as an incentive for the firm to reduce employment and increase hours, in the same way as an addition to fixed costs.

However, when a number of other factors are taken into account, the result becomes indeterminate. Instead of maintaining hours at the previous level and paying out more in the form of overtime premia, the firm may choose to reduce actual hours per employee. In this case, the effect on costs and employment will depend on the combined effects of at least four other factors: the degree of “wage compensation” – the extent to which hourly wage rates

are increased, possibly over a period of time, to make up for any shortfall in employee earnings resulting from the decrease in hours; any gains in productivity stemming directly from the reduction in hours, tending to reduce unit wage costs; the fixed costs involved in recruiting extra employees to make up the required number of hours of labour input; and, any government subsidies which might be provided to ease the transition to the new working hours regime.

There are also theoretical reasons for thinking that a reduction in actual hours of work may lead to an increase in hourly productivity. Employees working fewer hours may be able to work more intensively and productively during the hours that they are working, and may be willing to agree to shorter breaks, or “bell-to-bell” working. A reduction in working hours may pave the way for a reorganisation of working arrangements in more productive ways. Employees may work in such a way as to be on hand only when needed for the production process or, in service industries, so that they are present in the greatest numbers at times of peak demand. In addition, a cut in working time may lead to gains in capital productivity. Shift working may be used to secure increases in capital operating time, lowering unit capital costs, and allowing a faster amortisation of capital. This is of particular advantage in those cases, perhaps the majority, where capital normally becomes obsolete before it wears out. Finally, a re-organisation of working time may lead to savings in the cost of each hour of labour through, for example, greater recourse to part-time working and to the annualisation of hours of work.

### 2. Circumstances favourable to a gain in employment at the level of the firm<sup>22</sup>

Leaving aside the question of government subsidies for the moment, the theory outlined above suggests that, following a reduction in normal working hours, gains in employment are more likely (and losses less likely) when the following conditions hold:

- **the firm is used to working at or just under normal hours.** As noted above, if firms are routinely working substantial amounts of overtime, a reduction in normal hours will tend to increase the amount of overtime worked and reduce employment. On the other hand, if firms are already working well below normal hours, their labour costs might not be affected by the reduction;
- **there are possibilities for a substantial gain in hourly productivity.** Here, it may be objected that, if the gains are high enough to compensate for the reduction in hours, there

will be no need to hire additional workers. However, in this case, the firm may be able to lower prices. Depending on the elasticity of product demand, this may allow an increase in output and, in turn, an increase in employment over the medium-term;

- **any wage compensation for reductions in actual hours is low**, avoiding large increases in hourly wage costs;
- **the decrease in normal hours is calculated in terms of annual hours**, rather than weekly or monthly hours. This will give employers flexibility in scheduling working hours over the year, reducing the need for overtime payments, and limiting the effect on wage costs; and
- **fixed costs of employment are low**. If the firm is to increase employment, it must be able to find suitable, well-qualified applicants, and be willing to accept the costs of recruitment, initial training, and other fixed employment costs.

In addition, the industrial relations system may play a role. It is most efficient to make decisions about working arrangements at enterprise level, in order to take account of the specific features of each enterprise. However, Bastian (1994), Bosch *et al.* (1993), Campbell (1989) and Freyssinet (1997), *inter alia*, have concluded that the effects on employment of a reduction in normal hours are likely to be more favourable when collective bargaining takes place not only at the enterprise level, but also at the branch or sector level. One argument is that, in negotiations at the firm level, in cases where their jobs are not in danger, existing workers will be more likely to press for higher wages, rather than a reduction in actual hours of work, even if the latter is more conducive to the recruitment of additional employees. Negotiations at a higher level are seen as better able to take account of the interests of other employees, including those at risk of losing their jobs, who would welcome an extension of the numbers employed. Cette and Taddéi (1994) suggest that higher-level negotiations may be important to set limits on the range of flexible working practices that are allowed in each branch or industry.

### 3. Empirical evidence

Granted that the predictions from theory are uncertain, it is important to draw on empirical evidence. However, while there is a considerable amount of evidence about cases where reductions in working hours have been negotiated as a package with wages, to answer the question posed here it is necessary to restrict attention to the much smaller

number of cases where the reduction in working time may be considered to have been imposed on the firm.

Estimations of the possible effects of such reductions in normal hours of work have been based on a number of different types of analysis. They include:

- **regression analyses** of trends in employment levels against hours of work and other variables;
- **component calculations** based on an *ex post* division of changes in production at industry or branch level into its components: hourly productivity, employment and hours of work;
- **macro-economic simulations** applied either retrospectively, for example to estimate the effect of a reduction in normal hours in the past, or prospectively, to project the effects of a change into the future;
- **cross-sectional studies of firms** in circumstances where some firms have introduced reductions in hours while other, similar, firms have not; and
- **surveys of firms and case studies** which ask managers or personnel representatives for their opinion as to the likely effects of changes in normal hours of work on employment levels.

The discussion below draws on analyses using the last two methods. Both are subject to methodological problems. In cross-sectional studies, it is hard to be sure about the direction of causality. Interview methods depend upon the ability of managers to isolate the employment effects of changes in working time from those due to other factors. However, these two methods appear to have decisive advantages over the other three approaches for answering the question posed. Regression analyses of the type described incorporate no behavioural content and are concerned with correlations rather than causes. The results of component calculations are a mechanical consequence of the assumptions they incorporate, in particular about employment outcomes if hours of work had not been reduced. Macro-economic simulations, which often tend to suggest much higher employment effects than other methods, depend critically on the assumptions they embody about the reactions of firms, including the use that is made of overtime working, the effects on productivity, and the degree of wage compensation. They also tend to ignore the effects of fixed costs on hiring, as well as the costs of making changes in working arrangements necessary to achieve large gains in productivity [Hart (1987, 1989)].

Over the past two decades, there have been at least four cases where reductions in normal hours of

work were imposed on firms in an important part of the economy. Normal hours of work in the UK engineering industry were reduced from 40 to 39 hours following the settlement of a protracted dispute in 1979, and then, following a further campaign over the period 1989-1991, to 37 hours. Detailed analyses at the firm level are reported in White and Ghobadian (1984) and Rubin and Richardson (1997), respectively. In the German metal-working industry, a reduction from 40 to 38½ hours followed the strike of early 1984, and a review of the results of a large number of analyses of this reduction, using a range of different methods, is provided by Bosch (1993). Hunt (forthcoming) provides further micro-economic evidence from cross-sectional data. Finally, normal hours of work were reduced from 40 to 39 hours for a substantial part of the French economy by government decree in 1982, at the same time as an extra week of holiday entitlement was granted. The effects on firms were studied by Marchand *et al.* (1983).

In all cases, actual hours were judged to have fallen substantially in response to the reduction in normal hours. Only in the case of the UK engineering industry in 1979 did White and Ghobadian (1984) find signs of a more than transient increase in overtime. Hunt (forthcoming) estimates the change in actual hours in Germany to have been 88 to 100 per cent of the reduction in normal hours, while Marchand *et al.* (1983) report that the effect in France was close to 100 per cent. In none of the cases was there much evidence of a loss in earnings. Hourly productivity is considered to have risen, substantially in the cases of France and Germany, and in the United Kingdom in 1979. In the last case, the rise was estimated to have been large enough to completely outweigh the reduction in hours. It may be noted that, in the engineering industry with its relatively high proportion of larger, capital-intensive firms, it may have been relatively easy to achieve hourly productivity gains.

Conclusions about the changes in employment need to take into account both the number of jobs created, and the number of jobs that were saved. For France, Marchand *et al.* (1983) estimate that the first-round effects of the reduction in hours involved the creation of between 14 000 and 28 000 net new jobs, while avoiding the loss of three times as many jobs, bringing the total of jobs created or saved into the 50 000 to 100 000 range (the higher figure representing around 0.5 per cent of total employment).<sup>23</sup> For Germany, Bosch (1993) notes a consensus that the reduction in hours led to positive effects on employment. In particular, a company survey by the German Engineering Employer's Association found a figure of 0.2 per cent for the employment effect, plus a further 1.4 per cent extra overtime, which was later

reduced, and which may, in part, have led to jobs being saved.<sup>24</sup> However, the results of Hunt (forthcoming) for the period 1984-1994 do not support this: while not always statistically significant, they tend to suggest that the change in hours led to falls in employment. For the UK engineering industry in 1979, White and Ghobadian (1984) found some reductions in employment, which they attribute to the particularly rapid gain in hourly productivity. Rubin and Richardson (1997), on the other hand, find evidence of positive employment effects following the later UK engineering industry strike, but make no numerical estimates of their magnitude.

None of the studies quoted have been able to consider the question of the permanence of the jobs that are created, or the length of time during which endangered jobs are preserved. Where extra jobs are created, they may be on a temporary contract basis, which allows the firm the option of restoring employment levels to the previous level, without loss of output, as soon as productivity gains allow. It is frequently argued that reductions in normal hours of work will be more easily accommodated by larger firms and will tend to favour the more highly-skilled workers. However, there seems to be little empirical evidence in support of either proposition.

#### 4. Issues at the national level

The discussion above has been primarily concerned with the impact of reductions in normal hours at the level of the firm. At the national level, a number of other important issues present themselves. The first follows from the observation that past large-scale reductions in working hours have been accompanied by complete, or very substantial wage compensation, implying an increase in wage costs and possible inflationary pressures

Reductions in unemployment are likely to be smaller than any gains in employment, for a number of reasons. The first is the general observation that the labour force may tend to increase for demographic reasons and perhaps also through overall increases in participation rates which would occur in any case. However, hours reductions may cause additional growth in the labour supply, because jobs of shorter hours may be more attractive to a number of potential labour force entrants. In addition, as noted above, reductions in hours might perhaps result in a bias in favour of more highly-skilled workers, reducing the chances of employment for the unskilled unemployed.

The question of public finances comes to the fore when a system of subsidies is used to ease the transition to the new-working hours regime. In principle, a subsidy paid to firms at a flat rate for each employee whose hours are reduced may both facili-

tate wage moderation and reduce any bias against low-skilled workers. For the effects to be large, and extended to all firms, the impact on public finances will be considerable. However, provided the reduction in hours led to sufficient extra, permanent employment to make substantial inroads into unemployment, it might be possible for the costs of the subsidies to be defrayed by reductions in the costs of unemployment benefits, under certain circumstances.<sup>25</sup> A series of recent macro-economic simulations carried out for the French economy have sought to establish the most favourable conditions for this result to occur [DARES (1998); Cornilleau *et al.* (1998)]. It appears that success is most likely when there is a favourable response by both employers and employees. Firms have to be prepared to hire extra workers and reorganise their production methods, and to absorb part of the extra costs that will be entailed. Employees have to be prepared to accept somewhat lower wages, on average, than they would have otherwise received. Negotiations at enterprise level are highly desirable to achieve such compromises and are also needed to facilitate the reorganisations of working arrangements needed to secure sufficiently high gains in hourly productivity.

## H. CONCLUSIONS

Since the beginning of the 1980s, the rate of decline in average annual hours of work of employees has slowed. Currently, the level of average annual hours appears to have stabilised in some countries, while a few have recorded increases. The early 1980s saw a wave of statutory, or collectively agreed, working-time reductions in Europe. However, in most countries, with the notable exception of Germany, the momentum was not sustained, and further reductions in hours tended to take place only at enterprise or plant level, often with the aim of avoiding lay-offs. Until recently, Japan was the only country having measures designed to produce major reductions in working hours. However, France has now introduced provisions in favour of substantial reductions in normal hours of work, in the context of measures designed to raise employment levels, and the Italian government has announced its intention to follow suit.

An important factor underlying the falling rate of decline of average hours of work appears to be the long-term slowing of the growth rate of hourly productivity. This limits the extent to which hours reductions are possible in the context of continued increases in average real earnings. Employee preferences, while relevant to developments in working hours, appear to have played only a limited role. In the United States, the recent increases in aver-

age hours have paralleled changes in employee preferences, which have moved strongly in favour of increased earnings rather than reduced hours. However, in Europe, the slowdown in the trend has occurred despite signs of an increased preference for reductions in hours, though the balance is still in favour of increased earnings. It is noticeable that recent declines in hours have generally been strongest in countries, such as Germany and the Netherlands, where collective bargaining activity remains at high levels.

While policies designed to produce large reductions in actual working hours have been rare, there has been widespread policy action to increase the flexibility of working hours from the point of view of the enterprise, in the sense of working arrangements which allow hours to vary outside the range of the standard working day, or which allow for a variation of labour input within it. Governments have taken a number of steps to increase such kinds of flexibility. These have included the introduction of measures to allow greater use of "averaging" procedures such as the annualisation of working time, and the removal, or attenuation, of social security thresholds which impinge on the choice of working hours. Management has tended to insist on increases in flexibility as a counterpart to reductions in working time, when the latter issue has been on the negotiating agenda.

However, the statistical evidence available on specific types of flexible working practices suggests that, from a long-term perspective, comparatively little change has actually occurred. There is, for example, little evidence of large increases in shift-working outside the manufacturing sector, where there are special opportunities for increases in capital operating time, and where jobs are declining in number. The only type of flexible working for which there is evidence of a large-scale increase in the majority of OECD countries over the past twenty-five years is part-time working. While there are many forms of part-time working which provide no more, or even less, flexibility to employers than full-time working, it seems reasonable to conclude that many forms of part-time working do represent an increase in flexibility.

A few countries have introduced measures designed to raise employment levels through incentives to firms to reduce the working hours of full-time workers, or to hire part-time workers. While experience with these measures is still being accumulated, it appears that it has not yet been possible to devise a measure which will encourage large numbers of firms to reduce hours of full-time workers, without incurring a heavy cost to the public purse. Schemes to encourage part-time working have been more successful, in terms of take-up.

However, the cost-effectiveness of these schemes will not be settled until thorough evaluations of the likely “dead-weight” and “displacement” effects have been carried out. In general, the dearth of evaluations is a severe problem in assessing the impact of most working-time policy developments.

Finally, the question of the effects on employment of national, across-the-board cuts in normal working hours appears to rest largely where it did at the time of the OECD *Jobs Study* [OECD (1994)]. That study concluded, mainly on theoretical grounds, that a reduction in normal hours would not necessarily lead to any increases in employment, largely because of the likely, associated increases in labour costs. The effect is likely to vary according to the circumstances of each individual firm and the extent to which it is able and willing to reorganise its work-

ing practices to achieve productivity gains. Employment gains will ensue only if suitable workers are available to be hired, and firms are willing to accept the extra fixed costs (in terms of the costs of recruitment, accommodation and initial training, and any social security and welfare benefits paid on a *per capita* basis) associated with a larger workforce. Recent analyses confirm the importance of negotiating wage moderation and reorganisation of working practices, concurrently with the implementation of hours reductions. Overall, taking into account the most recent evidence, it appears that reductions in normal hours may lead to some overall job creation, and to some job losses being avoided or delayed. However, there is no reason to believe the number of extra jobs will be large, and the risk of job losses cannot be ruled out.

## Notes

1. A somewhat different picture may result from figures based on an alternative method of calculating average hours of work per employee, in which the denominator is the number of people in work at any time during the year. According to results provided by the US Bureau of Labor Statistics, the increase in average annual hours of work per person in employment between 1983 and 1993 would then average 11.3 hours per year, as opposed to the figure of 7.3 hours shown in Table 5.2. The difference is largely due to the increasing propensity of women in the United States to work full-time and full-year.
2. Differences between the figures in Tables 5.1 and 5.2 may arise partly from the differences in the sources, and partly from the fact that the self-employed are included only in Table 5.1.
3. Nevertheless, all labour force data on hours of work must be treated with some caution. For the United States, Robinson and Bostrom (1994) conclude that, on average, they produce slight overestimates of the numbers working very short and very long hours, compared with the results obtained from a time-diary approach (in which respondents are asked to give details of their use of time throughout the day). In addition, both for actual and usual hours, there may be a tendency for respondents to cite either the standard contract hours, or a "round-number" figure.
4. Part-time working covers different types of situations in different countries. This is reflected in the fact that the hours worked by part-time workers are by no means the same. In general, where part-time working is relatively common, a substantial proportion of people identifying themselves as part-time workers have usual hours of 30 or more. When part-time working is less common, a substantial proportion of self-assessed full-time workers tend to have usual hours of under 30 hours [Van Bastelaar *et al.* (1997)]. In the Southern European countries, part-time work contracts are relatively unfamiliar, and a substantial proportion of employees usually working short hours fail to report themselves as "part-time" workers.
5. Part of the recent decline in overtime working in Australia may be the result of "rolling in" or "cashing out" of overtime into regular time, as part of enterprise agreements negotiated at a growing number of workplaces.
6. Household survey data are particularly sensitive to the precise form of the question that is asked. Establishment surveys tend to produce overestimates of the incidence of shift-working, because they are usually restricted to larger firms (10 or even 50 employees and over), and sometimes to the manufacturing sector and/or blue-collar workers and/or full-time workers and/or men. Each of these restrictions tends to result in successively higher estimates.
7. France is an exception.
8. The fact that shift-working tends to increase in recoveries should be borne in mind when interpreting the Cranet-E results.
9. The data in Table 5.8 suffer from the deficiency that the compensation data refer to employees, while the hours data cover all in employment. This will make little difference to the results where the rate of change of dependent employment and self-employment are similar. However, if self-employment is growing more rapidly, there will be a bias owing to the fact that average hours of work of the self-employed are higher. For example, in the case of the United Kingdom over the 1980s, where self-employment grew particularly rapidly, the figures shown in the third and fourth columns of each panel of the table are likely to be underestimates – the change in annual hours per dependent employee is likely to have been higher than shown (*i.e.* the reduction would not have been so pronounced) while real wage gains would have been somewhat higher.
10. The European Commission (1986, 1995a) question was: "If the choice were offered in the next pay round between an increase in pay for the same hours of work and shorter working time for the same pay you get now, which would you prefer?" Respondents were asked to respond, "increase in pay" or "shorter working time". A certain number said they were undecided, or declined to answer.
11. See Annex 5.A for a brief description of these data. They are available only between 1983 and 1994 and so are not suitable for studying long-term trends.
12. The ISSP survey used the following, more elaborate question than the European Commission surveys: "Think of the number of hours you work and the money you earn in your main job, including regular overtime. If you only had one of these three choices, which of the following would you prefer? (Please tick one box only):
  1. Work longer hours and earn more money
  2. Work the same number of hours and earn the same money
  3. Work fewer hours and earn less money.
 Other possible responses included "Can't choose".
13. Among the possible reasons for these findings are differences in real GDP per capita. For 1989, the correlation between data on GDP per capita on a PPP basis, taken from OECD *National Accounts* and average annual hours of work per employee, taken from EUROSTAT (1995a), is -0.60, while the correlation between the same GDP per capita figures and the

- proportion of employees expressing a desire for reductions in hours of work, taken from European Commission (1991), is 0.80.
14. This does not mean that US workers are happy to work long hours. When no reference is made to the trade-off with earnings, the ISSP data indicate that a somewhat higher percentage of US workers than European workers wished to reduce their hours of work.
  15. Bell and Freeman (1994) suggest that one cause may be the increase in wage inequality in the United States, as opposed to the decline in Germany. However, at least over the period 1985-1994, it is notable that, according to the data in Table 5.9, the proportion of employees in Ireland and the United Kingdom expressing a preference for reduced hours rose, despite the increase in wage inequality in both countries over the period.
  16. The last two correlations are statistically significant at the 5 per cent level. Corresponding figures including Sweden are -0.15, -0.59 and -0.53, and only the second is statistically significant.
  17. Another area of government intervention in the field of working hours is short-time working. As this is primarily intended as a cyclical measure, it is not covered here. See Van Audenrode (1994), Mosley *et al.* (1995), and Mosley and Kruppe (1996) for recent reviews.
  18. In some countries maternity benefits and employment security legislation are also subject to minimum requirements, in terms of either hours worked per week or earnings.
  19. The 1998 Budget announced plans to raise the lower limit to £81 over the period April 1999 to April 2000, with a rate of 12.2 per cent applying to additional payments.
  20. According to information provided by the *Direction de l'animation de la recherche, des études et des statistiques* of the French *Ministère de l'Emploi et de la Solidarité*, initial results from an analysis of a thousand agreements signed before December 1997 indicate that the reduction in working time was very often undertaken in the context of a re-organisation of working arrangements, including *modulation* or annualisation of working hours.
  21. This figure applies at the level of the minimum wage, or SMIC (see Chapter 2) and results from the cumulation of the provisions for subsidising low-paid employment in general with those applying to part-time working.
  22. The discussion in this sub-section draws on Bosch and Lehdorff (1998).
  23. Gilbert Cette has carried out a macro-economic simulation designed to capture the longer-term effects of the reduction of normal hours from 40 to 39. His figures for net job creation over the first, second and third years after the reduction in normal hours are 85 000, 130 000 and 145 000, respectively [Cette and Taddéi (1997)]. However, macro-economic simulations are typically found to give higher figures than employer surveys [Hart (1989), Whitley and Wilson (1988)] and are subject to the limitations noted in the text.
  24. Most of the other results reviewed by Bosch (1993) are higher, often significantly so.
  25. For example, Lehmann (1997) arrives at a favourable, long-term result for the impact of a reduction of normal working hours, combined with lower social security contributions by employers, in simulations based on models of the bargaining process, in which unemployment benefits are endogenous.

## ANNEX 5.A

## International data on annual hours of work

This Annex provides summary information about the methods used for constructing estimates of average annual hours of work per person in employment, including in those in Tables 5.1, 5.2 and 5.9 of this chapter, and in Table F of the Statistical Annex.

The wide range of existing methods may be divided, roughly, into two main types: the "component" method and the "direct" method.

In the "component" method, information on hours worked, according to a particular definition, such as usual or normal hours, is taken from a source considered to be particularly appropriate for the purpose, and then supplemented by available information on the missing components of working time, so as to arrive at an estimate of annual hours actually worked for the whole economy. The method may either yield average hours per person employed, or the total number of hours worked in the economy over the year, which is then divided by an estimate of the average number of people in employment over the year to give the average. (This is not the only way to obtain such an average – see endnote 1 to the main text.) For example, in Germany, the basic information refers to negotiated weekly working hours of full-time workers in their main job for a particular week. This is supplemented by information, from a range of sources, on *inter alia*, absences due to public holidays, holidays, sickness, accidents, maternity and paternity leave, leave for family reasons, short-time working, overtime working, part-time working and the hours of self-employed workers. Germany is the only country for which it is currently possible to obtain regular information on almost all components of working time. For some countries using this method, information on several important components appears to be omitted, so that the concept is not strictly that of annual hours actually worked per person in employment.

The "direct" method is only possible on the basis of monthly, or continuous, labour force surveys, which allow a direct measure of the actual hours worked during 12 weeks of the year, or every week of the year, respectively. In the first case, supplementary information on the distribution of public holidays over the year is also required. Information from establishment surveys may be used for particular sectors, where they are considered to provide more accurate information.

Countries employing the "component" method may be categorised according to the primary data source that is used, whether a labour force survey or one of the range of possible types of establishment surveys, or a combination of the two (for example, an establishment survey for the manufacturing sector and a labour force survey for other sectors, and for the self-employed). Both types of survey have their characteristic strengths and weaknesses. Establishment surveys tend to measure hours paid rather than hours actually worked. Thus, for example, they are generally unable to measure unpaid overtime working, which this chapter suggests is likely to be increasing in several countries.

In sum, it is not possible to say that any one method is certain to give better results than any other especially as supplementary information may be used to compensate for at least some of the deficiencies of the primary source.

Countries which may be said to use a "component" method based primarily or wholly on a labour force survey include Finland, Switzerland and the United States. Those using a "component" method based primarily on an establishment survey include France, Germany, and the Netherlands. Norway and Sweden use a combination of both types of source, without giving primacy to either. Canada, New Zealand, Portugal, Spain and the United Kingdom use the "direct" method.

EUROSTAT (1995a) provides a set of figures for the EU12 countries on the basis of the same, simplified "component" method, applied to each country on a uniform basis with the intention of providing a basis for international comparisons. The approach uses information from the European Union Labour Force Surveys, available from 1983 onwards, supplemented by a certain amount of national information, including data on public holidays and vacations. No account was taken of extra hours due to overtime working (other than regular overtime included in 'usual' working hours) and second jobs; nor of the effects of hours lost due to labour disputes and to complete absences in the reference week (apart from those due to vacations). It is possible that, to some extent, these omissions cancel out.

Table 5.A.1 compares 1994 estimates for annual hours of employees, taken from the national data shown in Table F of the Statistical Annex, with corresponding figures calculated by EUROSTAT. The countries included, France, Germany (western Germany only), the Netherlands and Spain, are the only ones for which corresponding data are available from both sources.

With the exception of Spain, the estimates are different, especially so in the case of France. The choice of one or other source may make an considerable difference to international comparisons.

Table 5.A.1. **Estimates of average annual hours worked per person employed, 1994**

	National (1)	EUROSTAT (2)	Ratio (1)/(2)
France	1520	1670	0.91
western Germany	1530	1590	0.96
Netherlands	1388	1447	0.96
Spain	1746	1741	1.00

Sources: Table F of the Statistical Annex and EUROSTAT (1995a).

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