

## CHAPTER 1

# Recent labour market developments and prospects

### A. INTRODUCTION

**G**rowth in the OECD area is projected to average nearly 3 per cent in 1997 and 1998, but substantial differences across countries in the underlying strength of the expansion are still evident. In some countries, such as the United States and the United Kingdom, growth is robust, although it should slow somewhat. In others such as Japan and the major continental European countries, the pace is more hesitant. The inflation outlook remains good nearly everywhere and there are few signs of any significant resurgence of inflationary pressures. The prospects for unemployment are less positive and the number of unemployed in the OECD area is projected to fall by only one million from its 1996 average of over 36 million. A more detailed overview of these recent developments and prospects is provided in Section B.

Recent wage developments are explored in more depth in Section C. In particular, this section examines real wage growth for different groups of workers. In many countries, wage growth appears to have been weakest for younger workers relative to older workers and women have generally received greater increases than men. Nevertheless, even in those countries where there has been a sustained recovery in activity and falling unemployment over the past five years, the growth in earnings for most groups of workers remains muted. The reasons for a slowdown in real earnings growth in some countries are not well-understood, but they could include recent policy initiatives to enhance wage and price flexibility or possibly greater feelings of job insecurity inducing workers to moderate their real wage claims (see Chapter 5). Therefore, the relationship between aggregate wage growth and unemployment, and its stability over time, is also examined in Section C. The final section summarises the main findings of the chapter.

### B. RECENT DEVELOPMENTS AND PROSPECTS

#### 1. Economic activity

Output grew somewhat faster in the OECD area during 1996 than was projected in the 1996 *Employ-*

*ment Outlook* (Table 1.1). Real GDP grew by 2.6 per cent compared with 2.2 per cent in the previous year. Japan and the United States provided the main impetus with growth rates of 3.6 and 2.4 per cent, respectively, in 1996, while growth in the European Union fell almost 1 percentage point to 1.6 per cent. Elsewhere, economic activity was generally buoyant, with particularly strong growth registered in Australia, the Czech Republic, Iceland, Ireland, Korea, Mexico (after a large fall in 1995), Norway, Poland and Turkey.

Financial market developments have generally operated to restrain demand and activity in countries which appear to be close to capacity limits, notably the United Kingdom and the United States. On the other hand, they have been supportive of activity in most continental European countries and Japan, where considerable slack remains and the risk of a resurgence of inflation is small. In particular, the strengthening of sterling and the dollar against virtually all other currencies has contributed to an overall exchange rate pattern that is working to equilibrate activity across the major OECD regions. At the same time, the impact of widespread fiscal consolidation that has been operating as a restraining force on activity throughout most of continental Europe should peak during 1997 before easing somewhat in 1998. In this environment, growth in the OECD area is projected to average nearly 3 per cent during 1997 and 1998, with most countries enjoying growth above potential rates. This overall picture reflects many expansions that are now strong and broadly based, including in Canada, the United Kingdom and the United States, although they may slow somewhat during the next eighteen months. However, it also reflects less buoyant outlooks in France, Germany, Italy, Japan and several smaller European countries.

#### 2. Employment and unemployment

Part of the faster growth in output in 1996 was reflected in higher rates of productivity growth almost everywhere but particularly in Australia, Iceland, Japan, Mexico and the United States. As a result, employment grew at just 1 per cent for the OECD area as a whole (Table 1.2). Solid employment gains continued to be recorded in the United

Table 1.1. **Growth of real GDP in OECD countries<sup>a</sup>**

Annual percentage change

	Share in total OECD GDP 1991	Average 1984-1994	1995	1996	Projections	
					1997	1998
<b>North America</b>	<b>41.4</b>	<b>2.5</b>	<b>1.5</b>	<b>2.5</b>	<b>3.7</b>	<b>2.3</b>
Canada	3.1	2.4	2.3	1.5	3.5	3.3
Mexico	2.9	2.5	-6.2	5.1	5.4	4.7
United States	35.4	2.5	2.0	2.4	3.6	2.0
<b>East Asia</b>	<b>16.5</b>	<b>4.1</b>	<b>2.5</b>	<b>4.1</b>	<b>2.7</b>	<b>3.4</b>
Japan	14.2	3.3	1.4	3.6	2.3	2.9
Korea	2.4	8.5	8.9	7.1	5.3	6.5
<b>Central and Western Europe<sup>b</sup></b>	<b>26.1</b>	<b>2.3</b>	<b>2.4</b>	<b>1.8</b>	<b>2.6</b>	<b>2.8</b>
Austria	0.8	2.6	1.8	1.1	1.5	2.4
Belgium	1.0	2.1	1.9	1.4	2.2	2.6
Czech Republic	0.5	..	4.8	4.4	2.6	2.0
France	6.2	2.1	2.1	1.5	2.5	2.8
Germany <sup>c</sup>	8.1	2.8	1.9	1.4	2.2	2.8
Hungary	0.4	..	1.5	0.8	2.4	3.5
Ireland	0.3	4.2	10.3	7.3	6.7	7.0
Luxembourg	0.1	5.9	3.2	3.9	4.1	4.0
Netherlands	1.5	2.7	2.1	2.7	3.0	3.2
Poland	1.0	..	7.0	6.0	5.0	4.9
Switzerland	0.9	1.7	0.1	-0.7	0.8	1.8
United Kingdom	5.4	2.3	2.5	2.1	3.0	2.7
<b>Southern Europe</b>	<b>11.6</b>	<b>2.6</b>	<b>3.4</b>	<b>2.2</b>	<b>2.3</b>	<b>2.7</b>
Greece	0.6	1.6	2.0	2.6	3.0	3.1
Italy	5.8	2.0	2.9	0.7	1.0	1.8
Portugal	0.6	3.3	1.9	3.0	3.3	3.4
Spain	3.0	2.9	2.8	2.2	2.8	3.0
Turkey	1.6	4.1	7.0	7.2	5.2	4.7
<b>Nordic countries</b>	<b>2.4</b>	<b>1.7</b>	<b>3.5</b>	<b>2.6</b>	<b>3.0</b>	<b>2.9</b>
Denmark	0.5	1.9	2.7	2.5	2.5	2.9
Finland	0.5	1.2	4.5	3.3	4.6	3.6
Iceland	0.0	2.1	1.2	5.7	4.5	3.3
Norway	0.5	2.8	3.3	4.8	3.8	3.4
Sweden	0.9	1.2	3.6	1.1	2.0	2.3
<b>Oceania</b>	<b>1.9</b>	<b>2.8</b>	<b>3.6</b>	<b>3.7</b>	<b>3.4</b>	<b>3.5</b>
Australia	1.7	3.1	3.7	4.0	3.5	3.5
New Zealand	0.3	1.4	2.7	2.1	2.8	3.2
<b>OECD Europe<sup>b</sup></b>	<b>40.1</b>	<b>2.3</b>	<b>2.7</b>	<b>2.0</b>	<b>2.5</b>	<b>2.8</b>
<b>EU</b>	<b>35.2</b>	<b>2.4</b>	<b>2.4</b>	<b>1.6</b>	<b>2.3</b>	<b>2.7</b>
<b>Total OECD<sup>b</sup></b>	<b>100.0</b>	<b>2.7</b>	<b>2.2</b>	<b>2.6</b>	<b>3.0</b>	<b>2.7</b>

.. Data not available.

a) Aggregates are computed on the basis of 1991 GDP weights expressed in 1991 purchasing power parities.

b) Averages for 1984-1994 exclude the Czech Republic, Hungary and Poland.

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

Source: *OECD Economic Outlook*, No. 61, June 1997.

States while Japan experienced a small pick-up in job growth. However, employment was virtually stable in the European Union, with gains in Spain, the United Kingdom and several of the smaller countries being offset by losses in Austria, Germany and Sweden; France recorded broadly stable employment in 1996. Part-time employment continued to grow more rapidly than full-time employment in the majority of those countries reporting net overall employment gains (Table E of the Statistical Annex). The United Kingdom and the United States were

major exceptions to this trend, although there were still over one million fewer full-time jobs in the United Kingdom in 1996 than in 1990. A more widespread improvement in employment prospects is expected for 1997, with job growth for the OECD area projected to rise to 1.3 per cent before falling back slightly to 1.1 per cent in 1998.

As a result of weaker employment growth and slightly faster growth in the labour force, there was only a negligible decline in unemployment for the OECD area as a whole in 1996 and the number of

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

Annual percentage change

	Employment						Labour force					
	Level 1995 (000s)	Average 1984-1994	1995	1996	Projections		Level 1995 (000s)	Average 1984-1994	1995	1996	Projections	
					1997	1998					1997	1998
<b>North America<sup>a</sup></b>	<b>153 159</b>	<b>1.6</b>	<b>1.5</b>	<b>1.8</b>	<b>2.3</b>	<b>1.3</b>	<b>162 982</b>	<b>1.4</b>	<b>1.3</b>	<b>1.5</b>	<b>1.9</b>	<b>1.3</b>
Canada	13 508	1.5	1.6	1.3	1.8	2.0	14 929	1.4	0.7	1.5	1.5	1.7
Mexico <sup>b</sup>	14 752	..	1.9	5.0	3.0	2.4	15 749	..	4.7	4.1	1.9	2.1
United States	124 899	1.6	1.5	1.4	2.3	1.0	132 304	1.4	1.0	1.2	1.9	1.1
<b>East Asia</b>	<b>84 955</b>	<b>1.6</b>	<b>0.7</b>	<b>0.9</b>	<b>1.2</b>	<b>1.1</b>	<b>87 462</b>	<b>1.6</b>	<b>0.8</b>	<b>1.1</b>	<b>1.3</b>	<b>1.0</b>
Japan	64 577	1.1	0.1	0.5	1.2	1.0	66 665	1.1	0.3	0.7	1.1	0.9
Korea	20 378	3.2	2.7	2.3	1.2	1.2	20 797	3.1	2.3	2.3	2.0	1.4
<b>Central and Western Europe<sup>c</sup></b>	<b>125 043</b>	<b>0.6</b>	<b>0.5</b>	<b>0.0</b>	<b>0.4</b>	<b>0.8</b>	<b>138 304</b>	<b>0.6</b>	<b>-0.2</b>	<b>0.1</b>	<b>0.2</b>	<b>0.4</b>
Austria	3 439	0.8	-0.4	-0.6	-0.2	0.5	3 655	1.0	-0.3	-0.3	0.0	0.3
Belgium	3 689	0.4	0.3	0.1	0.5	0.8	4 244	0.3	0.3	-0.2	0.3	0.4
Czech Republic	5 090	..	0.8	0.4	-0.1	-0.3	5 254	..	0.8	0.8	0.3	0.5
France	22 444	0.2	0.9	-0.2	0.2	1.0	25 374	0.5	0.1	0.8	0.5	0.5
Germany <sup>d</sup>	34 868	0.6	-0.3	-1.2	-0.9	0.4	38 480	0.7	-0.5	-0.1	-0.1	0.2
Hungary	3 623	..	-1.9	-0.8	-0.1	0.5	4 039	..	-2.5	-0.5	-0.2	0.4
Ireland	1 268	0.8	4.4	4.0	3.3	3.3	1 443	0.6	1.3	3.0	2.8	2.8
Luxembourg	167	0.9	0.7	0.8	1.0	0.9	172	1.0	1.0	1.2	0.9	0.9
Netherlands	6 063	1.7	2.4	1.9	2.0	2.1	6 527	1.4	1.9	1.4	1.5	1.5
Poland	14 790	..	0.9	0.8	1.3	1.5	17 068	..	-0.4	-0.2	0.5	0.8
Switzerland	3 783	1.4	0.2	0.2	0.0	0.4	3 937	1.7	-0.3	0.5	0.7	0.0
United Kingdom	25 820	0.5	0.8	0.5	1.3	0.7	28 111	0.3	-0.3	-0.3	-0.1	0.2
<b>Southern Europe</b>	<b>60 127</b>	<b>0.7</b>	<b>1.0</b>	<b>1.6</b>	<b>1.1</b>	<b>1.3</b>	<b>68 837</b>	<b>0.9</b>	<b>0.8</b>	<b>1.2</b>	<b>0.9</b>	<b>0.9</b>
Greece	3 824	0.6	0.9	1.4	1.3	1.3	4 249	0.8	1.3	1.8	1.3	1.4
Italy	20 009	-0.2	-0.6	0.4	0.0	0.2	22 733	0.1	0.2	0.5	0.1	0.0
Portugal	4 195	0.3	-0.6	0.5	0.5	0.5	4 520	0.2	-0.2	0.6	0.3	0.3
Spain	11 944	0.7	1.8	1.5	1.5	1.9	15 546	1.2	0.5	0.9	0.7	0.7
Turkey	20 157	1.8	2.5	3.1	1.9	2.1	21 789	1.8	1.8	2.0	2.0	2.0
<b>Nordic countries</b>	<b>10 779</b>	<b>-0.6</b>	<b>1.8</b>	<b>0.8</b>	<b>0.9</b>	<b>1.1</b>	<b>11 956</b>	<b>0.0</b>	<b>0.8</b>	<b>0.2</b>	<b>0.3</b>	<b>0.4</b>
Denmark	2 521	0.0	1.6	1.0	1.3	1.5	2 809	0.3	-0.5	-0.6	0.5	0.7
Finland	2 068	-1.7	2.2	1.4	2.0	1.6	2 497	-0.3	0.7	0.2	0.2	0.3
Iceland	125	0.5	1.5	2.4	1.9	1.5	131	0.9	1.7	1.7	1.4	1.2
Norway	2 077	0.3	2.1	2.7	1.6	1.3	2 197	0.6	1.6	2.2	1.2	1.0
Sweden	3 989	-0.8	1.6	-0.6	-0.4	0.6	4 321	-0.3	1.3	-0.2	-0.4	0.0
<b>Oceania</b>	<b>9 909</b>	<b>1.7</b>	<b>4.2</b>	<b>1.7</b>	<b>1.9</b>	<b>2.0</b>	<b>10 792</b>	<b>1.8</b>	<b>2.8</b>	<b>1.6</b>	<b>1.8</b>	<b>1.8</b>
Australia	8 276	2.0	4.1	1.3	1.9	2.1	9 050	2.1	2.8	1.3	1.8	1.8
New Zealand	1 633	0.4	4.7	3.4	1.7	1.7	1 742	0.8	2.6	3.2	1.6	1.7
<b>OECD Europe<sup>c</sup></b>	<b>195 950</b>	<b>0.5</b>	<b>0.7</b>	<b>0.5</b>	<b>0.6</b>	<b>1.0</b>	<b>219 096</b>	<b>0.6</b>	<b>0.2</b>	<b>0.5</b>	<b>0.5</b>	<b>0.6</b>
<b>EU</b>	<b>146 306</b>	<b>0.3</b>	<b>0.5</b>	<b>0.1</b>	<b>0.4</b>	<b>0.8</b>	<b>164 681</b>	<b>0.5</b>	<b>0.1</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>
<b>Total OECD<sup>a, c</sup></b>	<b>443 973</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>	<b>1.3</b>	<b>1.1</b>	<b>480 333</b>	<b>1.1</b>	<b>0.7</b>	<b>1.0</b>	<b>1.1</b>	<b>0.9</b>

.. Data not available.

a) Averages for 1984-1994 exclude Mexico.

b) Data based on the National Survey of Urban Employment (see "Sources and Methods", *OECD Economic Outlook*, No. 61, June 1997).

c) Averages for 1984-1994 exclude the Czech Republic, Hungary and Poland.

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

Source: *OECD Economic Outlook*, No. 61, June 1997.

unemployed is currently around 36 million or 7½ per cent of the labour force (Table 1.3). The rate for the United States remained close to its lowest level of the past two decades whereas it rose in Japan to a historic high of 3.3 per cent. Within the European Union, a substantial reduction in unemployment in the United Kingdom and in some smaller countries was offset by further rises in France and Germany. Consequently, the unemployment rate for the Euro-

pean Union remained at over 11 per cent. Outside of the EU, large falls in unemployment were registered in Mexico, Poland and Turkey. While there has been some progress in reducing the incidence of long-term unemployment, in several European countries, they still account for 50 per cent or more of the unemployed (Belgium, Greece, Hungary, Ireland, Italy, Portugal and Spain) (Table H of the Statistical Annex). Unemployment rates for youth are closely

Table 1.3. Unemployment in OECD countries<sup>a</sup>

	Percentage of labour force					Millions				
	Average 1984-1994	1995	1996	Projections		Average 1984-1994	1995	1996	Projections	
				1997	1998				1997	1998
<b>North America<sup>b</sup></b>	<b>6.6</b>	<b>6.0</b>	<b>5.8</b>	<b>5.4</b>	<b>5.4</b>	<b>9.4</b>	<b>9.8</b>	<b>9.6</b>	<b>9.1</b>	<b>9.2</b>
Canada	9.7	9.5	9.7	9.4	9.1	1.4	1.4	1.5	1.4	1.4
Mexico <sup>c</sup>	3.6	6.3	5.5	4.5	4.2	..	1.0	0.9	0.7	0.7
United States	6.5	5.6	5.4	5.0	5.1	8.0	7.4	7.2	6.9	7.1
<b>East Asia</b>	<b>2.6</b>	<b>2.9</b>	<b>3.0</b>	<b>3.1</b>	<b>3.1</b>	<b>2.1</b>	<b>2.5</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>
Japan	2.5	3.1	3.3	3.2	3.1	1.6	2.1	2.2	2.2	2.1
Korea	2.9	2.0	2.0	2.7	2.8	0.5	0.4	0.4	0.6	0.6
<b>Central and Western Europe<sup>d</sup></b>	<b>8.6</b>	<b>9.6</b>	<b>9.8</b>	<b>9.6</b>	<b>9.3</b>	<b>9.0</b>	<b>13.3</b>	<b>13.5</b>	<b>13.4</b>	<b>13.0</b>
Austria	4.9	5.9	6.2	6.4	6.2	0.2	0.2	0.2	0.2	0.2
Belgium	11.2	13.1	12.9	12.7	12.3	0.5	0.6	0.5	0.5	0.5
Czech Republic	..	3.1	3.5	3.8	4.6	..	0.2	0.2	0.2	0.2
France	10.2	11.5	12.4	12.6	12.2	2.5	2.9	3.2	3.2	3.1
Germany <sup>e</sup>	7.7	9.4	10.3	11.1	10.9	2.5	3.6	4.0	4.3	4.2
Hungary	..	10.3	10.6	10.5	10.4	..	0.4	0.4	0.4	0.4
Ireland	15.7	12.1	11.3	10.8	10.5	0.2	0.2	0.2	0.2	0.2
Luxembourg	1.7	3.0	3.3	3.3	3.2	0.0	0.0	0.0	0.0	0.0
Netherlands	7.4	7.1	6.7	6.2	5.6	0.4	0.5	0.4	0.4	0.4
Poland	..	13.3	12.4	11.7	11.1	..	2.3	2.1	2.0	1.9
Switzerland	1.6	4.2	4.7	5.4	5.0	0.1	0.2	0.2	0.2	0.2
United Kingdom	9.0	8.1	7.4	6.1	5.6	2.5	2.3	2.1	1.7	1.6
<b>Southern Europe</b>	<b>11.1</b>	<b>12.7</b>	<b>12.3</b>	<b>12.1</b>	<b>11.8</b>	<b>7.3</b>	<b>8.7</b>	<b>8.6</b>	<b>8.5</b>	<b>8.4</b>
Greece	8.0	10.0	10.4	10.4	10.5	0.3	0.4	0.4	0.5	0.5
Italy	9.6	12.0	12.1	12.1	11.9	2.2	2.7	2.8	2.8	2.7
Portugal	6.3	7.2	7.3	7.1	7.0	0.3	0.3	0.3	0.3	0.3
Spain	19.8	23.2	22.7	22.1	21.2	2.9	3.6	3.6	3.5	3.4
Turkey	8.0	7.5	6.5	6.6	6.5	1.6	1.6	1.4	1.5	1.5
<b>Nordic countries</b>	<b>6.1</b>	<b>9.8</b>	<b>9.3</b>	<b>8.8</b>	<b>8.1</b>	<b>0.7</b>	<b>1.2</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>
Denmark	9.9	10.3	8.8	8.1	7.4	0.3	0.3	0.2	0.2	0.2
Finland	8.1	17.2	16.3	14.7	13.7	0.2	0.4	0.4	0.4	0.3
Iceland	1.9	5.0	4.3	3.8	3.5	0.0	0.0	0.0	0.0	0.0
Norway	4.2	5.4	4.9	4.5	4.2	0.1	0.1	0.1	0.1	0.1
Sweden	3.6	7.7	8.0	8.1	7.5	0.2	0.3	0.3	0.3	0.3
<b>Oceania</b>	<b>8.2</b>	<b>8.2</b>	<b>8.1</b>	<b>8.0</b>	<b>7.8</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>
Australia	8.5	8.6	8.5	8.4	8.2	0.7	0.8	0.8	0.8	0.8
New Zealand	6.8	6.3	6.1	6.0	6.0	0.1	0.1	0.1	0.1	0.1
<b>OECD Europe<sup>d</sup></b>	<b>9.3</b>	<b>10.6</b>	<b>10.5</b>	<b>10.4</b>	<b>10.0</b>	<b>17.0</b>	<b>23.1</b>	<b>23.2</b>	<b>23.0</b>	<b>22.3</b>
<b>EU</b>	<b>9.7</b>	<b>11.2</b>	<b>11.3</b>	<b>11.2</b>	<b>10.8</b>	<b>15.3</b>	<b>18.4</b>	<b>18.7</b>	<b>18.5</b>	<b>18.0</b>
<b>Total OECD<sup>b, d</sup></b>	<b>7.1</b>	<b>7.6</b>	<b>7.5</b>	<b>7.3</b>	<b>7.1</b>	<b>29.2</b>	<b>36.4</b>	<b>36.3</b>	<b>35.7</b>	<b>35.2</b>

.. Data not available.

a) According to commonly used definitions (see *OECD Economic Outlook*, No. 61, June 1997).

b) Averages for 1984-1994 exclude Mexico.

c) Data based on the National Survey of Urban Employment (see "Sources and Methods", *OECD Economic Outlook*, No. 61, June 1997).

d) Averages for 1984-1994 exclude the Czech Republic, Hungary and Poland.

e) Data prior to 1991 refer to western Germany only.

Source: *OECD Economic Outlook*, No. 61, June 1997.

tied to changes in overall labour market conditions, tending to fall with declines in the overall unemployment rate and *vice versa*. Some progress has occurred: youth unemployment has dipped below 20 per cent in Ireland but remains above that level in Belgium, Finland, France, Italy and Spain.

For 1997 as a whole, the overall unemployment rate for the OECD area is expected to decline slightly to 7.3 per cent – largely driven by continued

improvements in Mexico, the United States and several European countries, such as Finland, Ireland, the Netherlands, Poland and the United Kingdom. By contrast, further increases in unemployment are expected in France and Germany. For 1998, a further small fall is expected in the OECD unemployment rate to around 7 per cent (or 35 million persons unemployed). The US unemployment rate is expected to hover around 5 per cent in 1998 while

Table 1.4. **Business sector labour costs in OECD countries<sup>a</sup>**

	Compensation per employee					Unit labour costs				
	Average 1984-1994	1995	1996	Projections		Average 1984-1994	1995	1996	Projections	
				1997	1998				1997	1998
<b>North America</b>	<b>4.0</b>	<b>2.6</b>	<b>3.5</b>	<b>4.6</b>	<b>4.4</b>	<b>3.2</b>	<b>2.9</b>	<b>2.9</b>	<b>2.9</b>	<b>3.3</b>
Canada	4.2	1.0	3.7	2.9	2.5	3.2	0.6	3.6	1.2	1.2
United States	4.0	2.7	3.5	4.7	4.5	3.2	3.1	2.9	3.1	3.5
<b>East Asia</b>	<b>4.2</b>	<b>2.6</b>	<b>2.5</b>	<b>2.8</b>	<b>2.6</b>	<b>1.3</b>	<b>0.6</b>	<b>-1.1</b>	<b>1.2</b>	<b>0.1</b>
Japan	2.8	1.3	0.9	1.7	1.7	0.4	0.1	-2.4	0.5	-0.3
Korea	12.6	10.2	12.3	9.9	8.0	6.6	3.4	7.0	5.4	2.4
<b>Central and Western Europe<sup>b, c</sup></b>	<b>4.4</b>	<b>4.6</b>	<b>4.0</b>	<b>3.9</b>	<b>3.8</b>	<b>2.4</b>	<b>2.6</b>	<b>1.8</b>	<b>1.4</b>	<b>1.6</b>
Austria	4.9	4.1	2.8	2.3	2.4	2.6	1.5	0.9	0.3	0.3
Belgium	4.5	1.6	1.3	2.5	2.6	2.6	0.1	-0.1	0.8	0.7
Czech Republic	..	21.9	16.9	13.6	11.9	..	17.0	12.1	10.3	9.2
France	4.2	2.8	2.8	2.4	2.3	1.8	1.3	0.8	-0.1	0.4
Germany <sup>d</sup>	4.3	3.2	2.4	2.5	2.4	1.9	0.9	-0.3	-0.9	-0.1
Hungary	..	18.1	19.5	20.2	19.0	..	14.0	17.6	17.2	15.5
Ireland	5.5	2.1	3.1	3.0	4.2	1.7	-3.6	-0.1	-0.5	0.4
Netherlands	2.5	1.5	0.7	2.5	3.1	1.1	1.4	-0.3	1.3	1.9
Poland	..	32.6	26.7	19.5	15.4	..	24.4	20.2	15.4	11.8
Switzerland	5.0	2.4	1.3	0.5	1.0	4.5	2.5	2.3	-0.4	-0.6
United Kingdom	6.8	3.1	3.4	4.2	5.0	4.9	1.9	1.8	2.6	2.9
<b>Southern Europe<sup>c</sup></b>	<b>8.3</b>	<b>4.6</b>	<b>5.3</b>	<b>4.6</b>	<b>3.6</b>	<b>5.7</b>	<b>1.7</b>	<b>4.4</b>	<b>3.2</b>	<b>1.9</b>
Greece	14.5	10.3	13.5	8.8	8.0	13.3	9.0	12.0	6.8	5.9
Italy	7.3	5.9	4.9	4.8	3.4	4.7	2.0	4.3	3.5	1.6
Portugal	13.9	6.0	5.5	4.2	4.0	10.0	3.0	2.6	0.8	0.6
Spain	7.9	0.5	4.3	3.5	3.1	5.2	-0.5	3.5	2.2	2.1
<b>Nordic countries<sup>c</sup></b>	<b>6.4</b>	<b>3.1</b>	<b>4.8</b>	<b>4.1</b>	<b>4.3</b>	<b>3.8</b>	<b>1.6</b>	<b>3.1</b>	<b>2.0</b>	<b>2.6</b>
Denmark	4.3	3.6	3.9	4.2	4.7	2.1	3.2	2.1	3.0	3.2
Finland	7.5	3.1	2.2	2.8	3.6	3.3	-0.4	-0.3	0.0	1.2
Norway	5.8	3.2	4.4	4.1	4.7	3.8	3.0	4.3	2.6	3.4
Sweden	7.4	2.8	7.0	4.7	4.2	5.1	0.9	5.0	2.1	2.4
<b>Oceania</b>	<b>5.3</b>	<b>2.6</b>	<b>5.2</b>	<b>4.1</b>	<b>3.9</b>	<b>4.1</b>	<b>3.3</b>	<b>2.8</b>	<b>2.4</b>	<b>2.3</b>
Australia	5.0	2.7	5.7	4.3	4.1	3.8	3.3	2.7	2.5	2.5
New Zealand	7.0	2.0	2.4	2.8	2.7	5.9	3.4	3.1	1.7	1.2
<b>OECD Europe<sup>b, c</sup></b>	<b>5.5</b>	<b>4.5</b>	<b>4.4</b>	<b>4.1</b>	<b>3.8</b>	<b>3.4</b>	<b>2.3</b>	<b>2.6</b>	<b>1.9</b>	<b>1.8</b>
<b>EU<sup>c</sup></b>	<b>5.8</b>	<b>3.4</b>	<b>3.5</b>	<b>3.4</b>	<b>3.3</b>	<b>3.5</b>	<b>1.4</b>	<b>1.8</b>	<b>1.3</b>	<b>1.3</b>
<b>Total OECD less high inflation countries<sup>c, e</sup></b>	<b>4.7</b>	<b>2.8</b>	<b>3.3</b>	<b>3.8</b>	<b>3.6</b>	<b>2.9</b>	<b>1.9</b>	<b>1.7</b>	<b>1.9</b>	<b>1.9</b>
<b>Total OECD<sup>b, c</sup></b>	<b>4.7</b>	<b>3.4</b>	<b>3.7</b>	<b>4.1</b>	<b>3.8</b>	<b>3.0</b>	<b>2.3</b>	<b>2.1</b>	<b>2.2</b>	<b>2.1</b>

.. Data not available.

a) Aggregates are computed on the basis of 1991 GDP weights expressed in 1991 purchasing power parities.

b) Averages for 1984-1994 exclude the Czech Republic, Hungary and Poland.

c) Countries shown.

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

e) High inflation countries are defined as countries which have experienced annual inflation of 10 per cent or more in terms of the GDP deflator on average during the 1990s on the basis of historical data. Consequently, the Czech Republic, Greece, Hungary and Poland are excluded from the aggregate.

Source: OECD Economic Outlook, No. 61, June 1997.

the EU rate could fall to 10¾ per cent. Japan, Korea and Luxembourg will continue to be the only OECD countries recording unemployment rates of around 3 per cent or under.

### 3. Wages and inflation

Price inflation remains low in most OECD countries. Excluding the “high-inflation countries” (the Czech Republic, Greece, Hungary, Mexico, Poland and Turkey) inflation for the OECD area, measured by the GDP deflator, decelerated from 2.2 per cent in 1995 to 1.8 per cent in 1996. With excess capacity persisting in many countries, inflation is expected to remain low, although the economies of Australia, Denmark, Finland, Ireland, the Netherlands, Norway, the United Kingdom and the United States, are expected to be running at close to capacity either this year or next.

There has been a small rise in wage inflation, as measured by compensation per employee in the business sector, although wage growth remains quite moderate in most countries (Table 1.4). Excluding the “high-inflation countries”, nominal earnings in the OECD area rose by just over 3 per cent in 1996 compared to 2¾ per cent in 1995. In many countries, the impact of slightly faster earnings growth on unit labour costs was more than offset by a rise in labour productivity growth. Consequently, the growth of unit labour costs for the OECD area, excluding the “high-inflation countries”, was slightly lower in 1996 than in 1995. Both growth in average earnings and unit labour costs are expected to remain at low levels in most countries through 1997 and 1998. A small pick-up in wage inflation is projected for only a relatively few countries, mainly those listed above, where output is expected to be running at close to capacity and/or further declines in unemployment are projected.

## C. RECENT WAGE DEVELOPMENTS

### 1. The evolution of real wage growth over the past decade

As discussed in Section B, there has been a considerable slowdown in nominal wage growth over the past decade in most OECD countries. In part, this reflects an accompanying slowdown in price inflation and so it is of some interest to examine whether there has been an unusual degree of moderation in *real* wage growth or not. Chart 1.1 shows real wage growth patterns over the most recent recovery in activity compared with the previous recovery in the 1980s.<sup>1</sup> Real wages refer to compensation per employee deflated by the private con-

sumption deflator. In a number of countries – Austria, France, Iceland, Ireland, Italy, Japan, Portugal, Spain, the United Kingdom, and the United States – there are signs of considerable moderation. Although to a lesser extent, real wage growth also seems rather moderate compared with the previous recovery in Canada, Norway and Switzerland. In several countries, particularly Ireland and the United Kingdom, this moderation appears to have continued despite a robust recovery. By contrast, in Finland, Greece, New Zealand and Sweden, real wage growth has been less subdued than in the 1980s despite new highs being reached in unemployment during the early 1990s.<sup>2</sup> Australia also does not seem to have experienced exceptional wage moderation in the 1990s, although in this case the average unemployment rate in the current and previous recovery are at similar levels. However, in contrast to most other OECD countries, there had been a substantial reduction in real wages over the 1980s.<sup>3</sup>

To what extent are changes in average compensation per employee representative of earnings increases received by different groups of workers? In Table 1.5, real growth in average compensation per employee over the past five and ten years is compared with real earnings growth for different groups of full-time workers. Some care is required in comparing these earnings measures. In several respects, the compensation measure differs from the notion of a wage rate or earnings received by employees.<sup>4</sup> Firstly, it includes non-wage costs paid by the employer, but which are not part of an employee’s take-home pay. A rise in the non-wage proportion of total labour costs implies, by construction, that total compensation per employee has grown faster than wage costs per employee. Secondly, the wage-cost component of the compensation measure includes sick pay, annual bonuses, holiday pay, etc. which are also not usually considered part of a worker’s basic rate of pay. Thirdly, whereas the average compensation measure is derived from national accounts sources, the earnings data for full-time workers are taken from either administrative sources or from household or establishment surveys (see Annex 1.B). On the one hand, the national accounts estimates combine information from a range of sources in order to produce figures at the economy-wide level. The data on earnings of full-time workers, on the other hand, may not be fully comparable across countries in terms of coverage either because some sectors are not included or because establishments below a certain size are excluded in certain countries. They sometimes also refer to a single pay period such as usual weekly or monthly earnings. Finally, shifts in the composition of the work force by full-time/part-time status will

Table 1.5. Real earnings growth for different groups of workers over the past five and ten years<sup>a</sup>

Percentage changes

	Compensation per employee (national accounts)		Earnings of full-time workers <sup>b</sup>													
			Total		Men		Women		Youth <sup>c</sup> 20-24 years old		Prime-aged <sup>d</sup> 25-54 years old		Low-paid (1st decile)		High-paid <sup>e</sup> (9th decile)	
			Past 5 years	Past 10 years	Past 5 years	Past 10 years	Past 5 years	Past 10 years	Past 5 years	Past 10 years	Past 5 years	Past 10 years	Past 5 years	Past 10 years	Past 5 years	Past 10 years
Australia (1995)	4.4	-1.9	5.5	1.8	5.8	2.7	6.6	3.9	2.3	-4.8	7.9	1.6	8.4	0.8	12.6	7.7
Austria (1995)	5.5	17.9	8.0	..	7.0	..	8.5	..	..	..	..	..	3.6	..	10.1	..
Belgium (1994)	14.5	23.5	9.9	16.9	8.0	15.3	14.1	25.8	6.9	17.9	8.6	16.3	8.1	15.7	13.3	20.3
Canada (1995)	0.1	3.0	0.7	3.8	-1.4	1.5	6.5	14.1	-2.0	-1.5	-0.4	1.6	..	..	..	..
Denmark (1993)	5.3	9.6	0.1	5.3	0.0	..	2.7	..	..	..	..	..	..	..	..	..
Finland (1995)	4.9	22.7	4.6	21.5	4.8	21.9	5.4	22.1	3.8	23.1	2.9	19.1	8.8	26.9	2.0	18.5
France (1994)	5.8	10.2	2.6	7.2	2.1	6.7	4.4	10.0	1.1	1.1	1.1	1.7	3.1	4.0	3.4	10.2
Germany <sup>f</sup> (1994)	4.1	14.1	9.9	21.0	7.6	19.7	15.7	26.1	9.6	19.5	3.0	10.9	30.8	59.6	11.7	21.5
Italy (1993)	10.3	20.1	0.8	10.4	3.1	12.4	2.5	12.6	..	..	..	..	-11.1	7.4	0.5	20.0
Japan (1995)	2.6	13.4	4.5	17.5	3.3	15.8	9.9	24.7	6.2	17.0	1.4	11.8	11.4	24.3	5.9	19.9
Korea (1995)	27.9	91.8	43.5	116.3	38.5	100.2	50.7	149.1	41.0	132.8	41.0	91.2	..	..	..	..
Netherlands (1994)	3.9	7.3	3.3	9.3	2.7	8.4	7.7	17.1	..	..	..	..	3.5	8.3	2.7	9.9
New Zealand (1994)	-3.4	1.5	-0.6	-2.8	-1.3	-4.0	5.8	6.0	..	..	..	..	0.3	-4.4	3.4	0.3
Sweden (1994)	1.5	15.1	-2.3	9.3	-2.0	10.8	-0.2	10.0	-9.6	4.2	-3.3	6.5	-5.1	3.4	-1.8	11.8
Switzerland (1996)	3.3	15.1	3.0	..	3.9	..	6.2	..	-3.8	..	1.8	..	3.9	..	5.2	..
United Kingdom (1996)	5.1	15.7	8.5	23.2	7.8	21.9	11.7	33.4	1.6	13.4	6.0	18.9	4.9	13.8	9.1	24.9
United States (1995)	0.9	2.2	-0.9	-3.1	-4.8	-6.3	0.2	3.7	-8.2	-11.0	-2.8	-4.8	-7.4	-7.2	-2.1	3.1

.. Data not available.

a) All nominal wage series have been deflated by each country's consumer price index. The latest year to which the data refer is shown in parentheses. For the following countries, the data for earnings growth refer to a different period than indicated but have been expressed in terms of a standard five-yearly or ten-yearly rate of change: for Italy and New Zealand, the past five years refer to the past six years; for Belgium and Finland, the past ten years refer to the past nine years; and for the Netherlands, the past ten years refer to the past eight years.

b) The data for Austria also include part-time workers.

c) Youth refer to 21-25 year-olds for France.

d) Prime-age workers refer to workers aged 31-40 for France, 35-39 for Korea, and 35-44 for the Netherlands and Sweden.

e) For Austria, high-paid earnings correspond to 8th decile earnings.

f) All data refer to western Germany only.

Source: See Annex 1.B.

Chart 1.1.  
**Real compensation per employee during recoveries in activity<sup>a</sup>**  
 Index: trough = 100



— Current recovery      - - - - Previous recovery



Chart 1.1. (cont.)  
**Real compensation per employee during recoveries in activity<sup>a</sup>**  
 Index: trough = 100



— Current recovery      - - - - Previous recovery

a) Total compensation per employee divided by the deflator for private consumption expenditure. The troughs in activity correspond to low points in the Secretariat's estimates of the output gap.

b) Western Germany only.

Source:OECD Economic Outlook, No.61, June 1997.

affect growth in average compensation per employee but obviously not the growth of full-time earnings.<sup>5</sup>

With the exception of Australia, Canada, Germany, Japan, Korea, the Netherlands and the United Kingdom, real earnings growth for all full-time workers has been much weaker over the past decade compared with business-sector compensation per employee. The gap may, in part, be explained by increases in non-wage costs as a proportion of total labour costs (Table 1.6). For example, in Finland the non-wage share of labour costs rose by 4 percentage points over the past ten years, accounting for much of the 9 percentage point gap between the two series. On the other hand, in the United Kingdom, the "impact" on total labour compensation of a substantial rise in the earnings for full-time workers was offset to some extent by a fall in the non-wage share of labour costs.

The growth in earnings of all full-time workers is itself an average which will be affected by changes in the composition of the full-time work force by age, gender, type of job and so forth.<sup>6</sup> Even if all workers received the same increase in wages, any shift in employment towards workers with above-average (below-average) wages will, *ceteris paribus*, tend to raise (lower) growth in aggregate compensation per employee. For example, because the share of women in total employment has increased virtually everywhere and because their average earnings are lower than those of men, this translates, in an

accounting sense, to lower overall growth in earnings. In all the countries shown in Table 1.5, with the exceptions of Finland and Sweden, women have experienced faster real earnings growth than men over the past ten years.<sup>7</sup> Among those countries for which data are available, the earnings of youth aged 20-24 have generally fallen relative to prime-age workers. In Australia, Canada and the United States, real earnings of younger workers have even fallen in absolute terms over the past decade. At the same time, the share of younger workers in total employment has been falling in most countries. With the exceptions of Sweden and the United States, the net impact has been for measured earnings growth for all full-time workers to be higher than for either younger or prime-age workers.

There have also been very different developments in earnings at the bottom compared with the top of the distribution in a number of countries. With the exceptions of Finland, Germany and Japan, earnings at the top have generally risen faster than at the bottom over the past five to ten years. In a number of countries, real wages for low-paid workers have fallen substantially over the past five years (Italy, Sweden, the United States), and even larger falls have occurred for low-paid men [OECD (1996b)]. A growing dispersion of earnings in some countries has implied much slower growth in median earnings than in mean earnings. In the United States, for example, mean earnings of all full-time employees rose by 6.7 per cent in real terms

Table 1.6. **Non-wage labour costs as a proportion of total labour costs<sup>a</sup>**

	Percentages			Percentage point change over past:	
	1985	1990	1995	5 years	10 years
	Austria	18.4	18.3	18.9	0.6
Belgium	23.1	25.9	26.3	0.4	3.2
Canada	10.7	11.1	13.7	2.6	3.0
Finland	18.4	20.4	22.4	2.0	4.0
France	27.9	27.9	28.2	0.3	0.3
Germany <sup>b</sup>	18.8	18.8	19.6	0.8	0.8
Italy	26.8	28.7	29.9	1.2	3.1
Japan	13.0	14.6	14.2	-0.4	1.2
Norway	16.4	16.9	16.2	-0.7	-0.2
Sweden	26.5	27.2	26.4	-0.8	0.0
Switzerland	13.1	13.1	14.1	1.0	1.1
United Kingdom	13.5	11.9	12.6	0.7	-0.8
United States	17.7	17.8	18.7	0.9	1.0

a) The data are derived from national accounts estimates of labour costs for the whole economy. Wage costs refer to all wage and salary payments and non-wage labour costs refer to employer social security contributions.

b) Data refer to western Germany only.

Sources: OECD, *National Accounts 1983-1995*, Vol. 2; and the OECD analytical database.

over the period 1985 to 1995, whereas median earnings dropped 3 per cent over the same period.

## 2. Factors affecting wage behaviour

While compositional effects can mask underlying changes in wages experienced by different groups of workers, there does appear to have been a general slowdown in wage inflation in OECD countries over recent years, irrespective of the earning series examined. This may have been the result of a number of factors. For example, the recession in the early 1980s was quite severe which, together with a sharp fall in oil and other commodity prices in the mid-1980s, may have weakened inflation expectations. The recession of the early 1990s may have also further lowered inflation expectations, especially as some countries recorded job losses in some white-collar professions and service sectors that had previously been relatively immune to downturns in activity [OECD (1994), Chapter 1]. In addition, a sharp increase in workers' perceptions of job insecurity took place in many countries between the 1980s and 1990s (see Chapter 5). At the same time, many countries have put in place policies to affect wage bargaining directly as well as other reforms designed to enhance flexibility in labour and product markets.

Table 1.7 provides an overview of recent government interventions designed to affect wage determination. A number of countries have introduced incomes policies of various kinds or set targets for wage increases in tripartite agreements. Other countries such as Australia, New Zealand, Sweden and the United Kingdom have shifted towards more decentralised systems of wage bargaining.<sup>8</sup> For several countries, these changes have followed on from other reforms undertaken in the 1980s. In New Zealand, reforms to the award system of wage determination were begun in the 1980s, culminating in the Employment Contracts Act of 1991 which completely replaced that system by bargaining at the enterprise and individual level. A shift away from a highly centralised system had also begun in Australia during the 1980s, although from 1983 to 1996 bargaining continued to take place in the context of Prices and Incomes Accords between the unions and the Federal Government [OECD (1997a)].

There have also been a number of legislative changes with respect to minimum wages in recent years. A statutory minimum wage exists in only a handful of countries, although minimum wages are set in collective agreements in most other countries.<sup>9</sup> Except for agriculture, the Wages Councils in the United Kingdom, which set minimum wages in certain sectors, were abolished in 1993. For

several countries, automatic indexing of minimum wages was either stopped, as in Greece in 1991, or suspended for several years, as in the Netherlands. The statutory minimum relative to average earnings has generally declined in most countries over the past ten years (Chart 1.2). The relative minimum wage has risen somewhat from a low level in Canada in recent years and remained stable in France, where it has been boosted by the occasional 'coup de pouce' over and above the rise in inflation.

In other areas, governments have also sought to influence either the level of labour costs or their growth. Reductions in employers' social security charges for low-paid workers have occurred in several countries, most notably Belgium and France, where non-wage labour costs are particularly high. In most OECD countries, public sector pay has been restrained and, in several countries, reforms in public sector pay determination are being or have recently been implemented [OECD (1997b)].

Government policies may also indirectly influence the wage-setting process. For instance, employment protection legislation (EPL) could lead employed "insiders" to discount prevailing levels of unemployment when making their wage claims. In a number of countries, there has been some easing in recent years in legislation relating to job dismissals [OECD (1997c)]. Income support may raise the reservation wages of the unemployed and several countries have introduced reforms over the past decade to their Unemployment Insurance (UI) systems to increase work incentives. This has been partly reflected in a decline in the OECD summary measure of the generosity of unemployment benefit entitlements in some countries, most notably in the United Kingdom, but also more recently in Austria, Ireland, the Netherlands and Sweden [OECD (1996b); Martin (1996); OECD (1997c)]. Some rises in the generosity of benefits have also occurred, albeit from a low level, in Greece, Italy, Portugal and Switzerland. Active labour market policies, on the other hand, which focus on getting the unemployed, particularly the long-term unemployed back into work may have a moderating impact on wage claims, although this will depend on the specific design features of individual programmes. A whole raft of new active labour market measures have been introduced in OECD countries during the past decade, although with differing degrees of effectiveness [Fay (1996); OECD (1993)].

These institutional changes have also occurred in the context of considerable declines in trade union density in many countries along with some decline in the proportion of workers covered by a collective agreement (see Chapter 3, Table 3.3). However, with the exception of New Zealand and

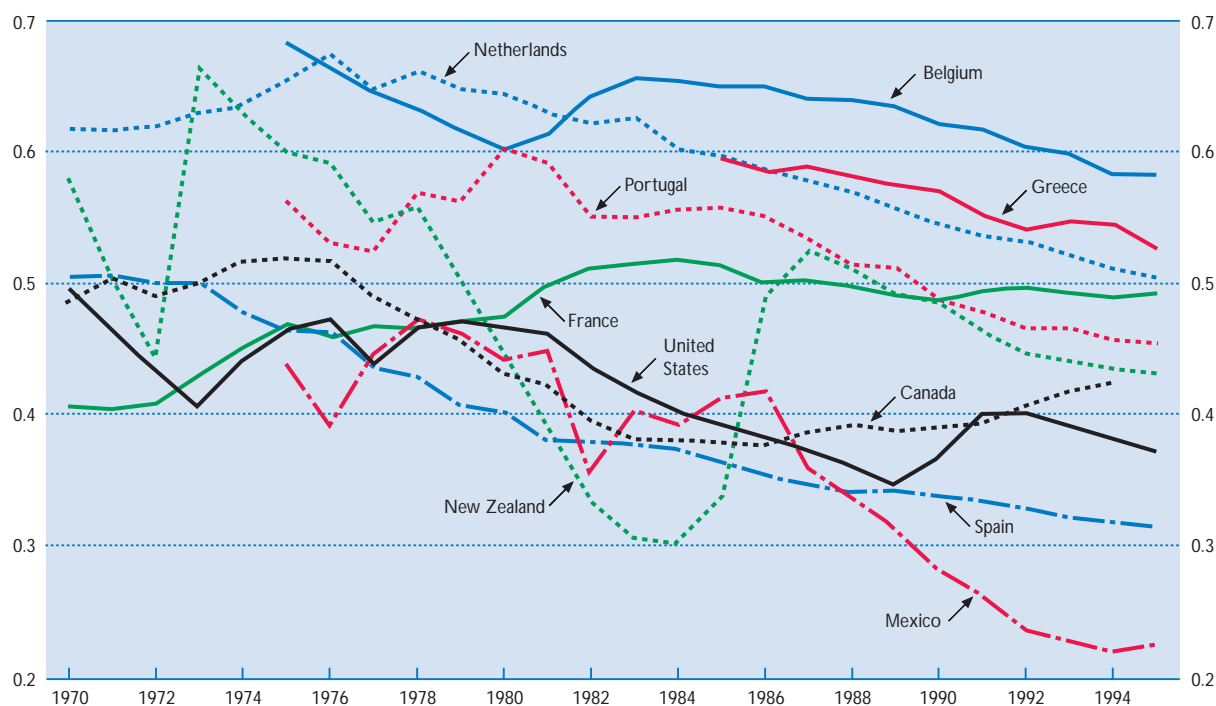
Table 1.7. **Recent wage bargaining reforms and incomes policy agreements**

Year	Description of reform
<b>A. Wage bargaining reforms</b>	
Australia	1992 <i>Industrial Relations Act 1988</i> amended to encourage spread of enterprise bargaining through Certified Agreements (CAs). Award system relegated to providing safety net increases in wages and conditions.
	1993 Creation of Enterprise Flexibility Agreements (EFAs) to allow enterprises, where unions are not or only partially represented, to negotiate directly with employees, although unions retain the right to intervene in the ratification of these agreements. Wider use of flexibility clauses in awards encouraged to allow workplaces to tailor general conditions of awards to their individual needs.
	1996 <i>Workplace Relations Act</i> passed to further promote the move towards enterprise bargaining through the introduction of Australian Workplace Agreements (AWAs) which supersede EFAs. AWAs can be negotiated either collectively or individually between employers and employees but must be signed individually. Compulsory unionism and clauses giving preference for union members made illegal.
Belgium	1993 Wages frozen in real terms in 1995-1996 and the price index used for determining wage increases altered to remove highly-taxed items such as tobacco, alcohol and fuel.
	1996 <i>Loi relative à la promotion de l'emploi et à la sauvegarde préventive de la compétitivité</i> (Law on Employment Promotion and the Preventive Safeguarding of Competitiveness) sets a maximum limit to wage increases based on a weighted average of projected growth in labour costs in Belgium's major trading partners. Firms that have increased employment can grant their employees additional increases above this limit in the form of profit-sharing schemes.
Italy	1992-1993 Abolition of the <i>scala mobile</i> system of automatic wage indexing.
New Zealand	1991 <i>Employment Contracts Act</i> replaces the former, centralised, system of awards by bargaining at the enterprise level through either individual or collectively agreed employment contracts. Becomes illegal to give union members any preference in contracts, to unduly influence employees to belong to a union, or to negotiate a closed shop. Apart from a minimum code of employment rights there are no statutory job protection obligations with respect to a minimum notice period or severance pay.
Spain	1994 As part of a series of labour market reforms, the government instructed the social partners to replace the remaining Labour Ordinances ( <i>ordenanzas</i> ) with collective agreements. The Ordinances governed all aspects of the terms and conditions of employment in different sectors and were seen as being too rigid with respect to job classification, salary increments, overtime, etc.
<b>B. Incomes policy agreements</b>	
Australia	1983-1995 A series of eight Prices and Incomes Accords were agreed between the Federal Government and the umbrella trade union organisation, the ACTU, which committed the ACTU to deliver agreed wage bargaining outcomes in exchange for a greater say in social policy.
Finland	1992 Continued wage freeze in 1993, but compensation for any rise in inflation beyond a specific amount.
	1995 Uniform percentage increase in contractual wages, but compensation for any rise in inflation beyond a specific amount. (Government to cut income taxes as well as to lower employees' contribution to the unemployment insurance fund.)
Ireland	1991-1993 General annual percentage increases in wages, subject to minimum absolute increase. "Local Bargaining Clause" allows employers to negotiate productivity increases in exchange for pay and conditions, subject to a cap.
	1994-1996 Ceiling on annual wage increases, based on expected price rise. No local wage supplements in exchange for productivity increases. (Government to reduce the tax burden on workers, tax relief being concentrated on low-income workers.)
Italy	1992-1993 Following the abolition of the <i>scala mobile</i> system, provisions for wage increases based on the government's inflation target.
Netherlands	1992-1993 Wage moderation recommended at lower levels.
Norway	1993 "Solidarity alternative" agreement adopted by the government and the social partners to moderate wage settlements with a view to preserving international competitiveness of mainland industries.
Portugal	1996 Wages set on basis of the government's inflation target and automatically adjusted if monthly change in CPI inflation deviates from target.
Sweden	1991-1993 "Stabilisation" agreement between social partners for the period January 1991 to March 1993 to reduce wage growth (amongst other aims).

Sources : OECD Economic Surveys, various issues; OECD, *Implementing the Jobs Strategy: Member Countries' Experience*, 1997; Employment Observatory, *Tableau de bord 1996*, European Commission, 1996; and Income Data Services, *Employment Europe*, various issues.

Chart 1.2.

## Minimum wage relative to average earnings, 1970-1995



## Notes:

*Belgium:* Minimum adult monthly wage divided by monthly equivalent of average earnings of manual workers in industry.

*Canada:* Weighted average of provincial minimum hourly wage divided by average hourly earnings in all industries.

*France:* Net minimum hourly wage divided by hourly equivalent of average annual net earnings of all full-time employees in the private and semi-public sectors.

*Greece:* Minimum daily wage for an unqualified single worker divided by daily equivalent of average hourly earnings of manual workers in manufacturing.

*Mexico:* National average daily minimum wage divided by the daily equivalent of average hourly earnings of manual workers in manufacturing.

*Netherlands:* Minimum adult monthly wage divided by average weekly earnings of all full-time workers.

*New Zealand:* Minimum weekly wage divided by average weekly earnings of employees with ordinary working time.

*Portugal:* Minimum monthly wage for non-agricultural workers aged 20 and over divided by average monthly earnings in the business sector.

*Spain:* Minimum monthly wage divided by average gross monthly earnings per person.

*United States:* Federal minimum hourly wage divided by average hourly earnings of production and non-supervisory workers on private non-agricultural payrolls.

Source: OECD minimum wage database.

the United Kingdom, the coverage rate has fallen much less than has union density. The factors behind these trends are many and are not fully understood. Policies are a factor, but more general “structural” shifts in demand and supply have played a role as well. For instance, the share of blue-collar manufacturing workers – the traditional core members of trade unions – in total employment has declined considerably in most countries over the past few decades. Other structural changes may also have affected wage developments, including shifts in product market competition, ageing of the work force, and changes in the skill mix of labour supply and demand.

### 3. Testing for changes in the relationship between wage growth and unemployment

Whether or not the various changes in labour market institutions and policies outlined above have had an impact on the relationship between wage growth and unemployment is an important question. It is also difficult to answer because modelling wage determination accurately is not easy. This subsection takes a simple approach to the issue by presenting the results of estimating a Phillips-curve type equation linking aggregate wage changes to the level of unemployment. It then outlines the results of several statistical tests to deter-

mine if any breaks can be detected, regardless of the underlying reasons for them.

This subsection builds upon previous work carried out by the OECD. Based on their estimations of Phillips-curve wage equations, Chan-Lee *et al.* (1987) could find little evidence that the *basic structure* of the wage determination process at the macroeconomic level had changed in the 1980s. That is, the responsiveness of aggregate wage growth to developments in unemployment, inflation and other determinants of aggregate wages appeared to be stable. However, since this study was carried out there has been a further round of labour market reforms which may have affected wage determination and, therefore, it is of some interest to update this work.

Country-specific wage equations for 21 OECD countries were derived from a general specification and estimated for the period 1970 to 1995 (see Annex 1.A for further details). The general specification is based on a traditional expectations-augmented Phillips curve, where nominal wage growth is a function of the level of the unemployment rate and expected inflation. For some countries, the unemployment term enters in log form or as a reciprocal to take account of a non-linear relationship between wage growth and unemployment. Inflation expectations are assumed to be adaptive and equal to a weighted average of current and lagged growth in the private consumption deflator; absence of money illusion in the long-run is imposed by constraining the weights to sum to one. Other variables included are: *i*) the change in the unemployment rate; *ii*) a "terms-of-trade" variable (proxied by the difference between the growth in the GDP and private consumption deflators); and *iii*) an error-correction term, representing the difference between real wages and trend labour productivity.<sup>10</sup> The change in the unemployment rate is introduced to test for possible hysteresis effects in wage adjustments.<sup>11</sup> A negative sign is expected for this coefficient, *i.e.* wage growth is assumed to be faster (slower) when unemployment is declining (rising). The "terms-of-trade" variable reflects the fact that employees are interested in wage rates relative to consumer prices while employers are interested in wage rates deflated by output prices. The expected sign of this variable is positive. Finally, the error-correction term implies that real wages adjust over time towards a level determined by trend productivity and the unemployment rate.<sup>12</sup> The coefficient is expected to be negative.

For almost all countries, the wage-equation specification chosen is generally satisfactory in terms of its explanatory power, although the low Durbin-Watson coefficients suggest problems of autocorrelation in some cases. Exceptions are

Australia, Ireland and the United States, where the best specification that could be selected using annual data explains less than one-half of the variation in the dependent variable. For all countries, the estimated coefficients have the correct sign, in terms of prior expectations, and are statistically significant. Further details on specifications are given in Annex 1.A and the results of the estimations are shown in Table 1.A.1.

Several tests were conducted to determine whether there has been a recent change in the relationship between aggregate wage growth and unemployment. First, out-of-sample forecasts were produced with each country's wage equation estimated up to 1990. The pattern of the predicted nominal wage growth over the 1990s was then compared with actual developments (Chart 1.3). Generally, the equations "predict" actual behaviour reasonably well. No consistent cross-country patterns, for or against the hypothesis of greater wage moderation over the 1990s than in the past, appear from this comparison. Germany, the Netherlands, New Zealand and the United States are the only countries for which actual wage growth was below predicted growth in virtually all years, although lower-than-predicted growth also occurred for most of the period in Japan and Switzerland.<sup>13</sup> The opposite pattern occurs in Australia, Austria, Belgium, Denmark, Finland and Norway, where actual wage growth exceeds predicted growth in all years. Actual wage growth closely follows predicted wage growth in Canada, France and Switzerland. For the remaining countries, both under- and over-prediction occurs.

The stability of wage behaviour was further checked using a Chow test for "structural breaks" (Table 1.8). This test assesses the overall stability of the equations over the sample period. Chan-Lee *et al.* (1987) identified the early to mid-1980s as a possible period of change due to various microeconomic reforms. Since then, further labour and product market reforms have been introduced in a number of OECD countries. Therefore, Chow tests were carried out for two potential break points: 1984/1985 and 1989/1990.<sup>14</sup> Based on this test, there was a structural change in the wage equation in the period following 1984 in more than one-third of the countries and in only one-third of the countries in the period after 1989.

It is one thing to find apparent breaks in the relationship between aggregate wage growth and unemployment, but another to specify what they represent. For example, a smaller constant term may reflect many things, including that the equilibrium rate of unemployment has fallen. On the other hand, there may have been a change in the sensitivity of aggregate wage growth to the difference between

Table 1.8. **Summary of stability tests on wage equations<sup>a</sup>**

	1984/1985 break		1989/1990 break			
	Chow test	Parameter shifts		Chow test	Parameter shifts	
		Constant	Unemployment		Constant	Unemployment
Canada						
France						
Germany <sup>b</sup>	*					
Italy						
Japan	*			*	-*	
United Kingdom						
United States	**	-*		*		
Australia	**			**	+*	+**
Austria	**	+**	+***			
Belgium					+**	+**
Denmark	**			**	+**	+**
Finland	**	+*	+**	**	+*	+**
Greece				**		
Ireland						
Netherlands					-*	-*
New Zealand						
Norway						
Portugal	**					
Spain						
Sweden	**		-*			
Switzerland				*		

a) For the Chow test, \* and \*\* indicate that the null hypothesis of equation stability is rejected at the 10 and 5 per cent significance levels, respectively, using an F test. For parameter shifts, \* and \*\* indicate levels of significance of the coefficient on the dummy variable of 10 and 5 per cent, respectively, using a t test. A "+" ("-") indicates that the coefficient on the dummy variable is positive (negative).

b) Western Germany only. Tests of equation stability were not carried out for the 1989/1990 break point due to an insufficient number of observations.

Source: Secretariat calculations based on data from the OECD analytical database.

actual unemployment and its equilibrium rate. This would show up as a change in the coefficient on actual unemployment. To see if there have been changes in specific coefficients, dummy variables were interacted with either the constant or unemployment rate terms. Separate dummies were introduced for 1985 and 1990, *i.e.* taking the value one after 1984 and 1989, respectively, and the value zero for the earlier periods.

In just four countries is there a statistically significant shift in either the constant term or the unemployment term for the first period, and in seven of the 21 countries for the second period. A shift occurred both in the constant and in the coefficient on the unemployment rate in Australia (in 1990), Austria (in 1985), Belgium (in 1990), Denmark (in 1990), Finland (in 1985 and 1990) and the Netherlands (1990). Shifts in the constant term only occurred in Japan (1990) and the United States (in 1985), while Sweden experienced a significant shift in the coefficient on the unemployment rate (in 1985).

For most of those countries for which there is some evidence of a structural break, the coefficients on the dummy variable for either the constant or unemployment rate terms are positive rather than negative, implying that for any given level of unemployment, wage growth has risen compared with the previous period. In only Japan, the Netherlands and the United States, and for 1985 only, do these coefficients have a negative sign. The implied increase in several countries in the constant term may reflect a rise in the equilibrium rate of unemployment. Previous OECD work has suggested that, in many European countries, there has been a rise in the NAIRU (Non-Accelerating Inflation Rate of Unemployment) over the past decades [Elmeskov and MacFarlan (1993); Scarpetta (1996)]. However, because these specifications are very simple, changes in omitted variables could well account for the upward shift in the constant term. The positive sign of the dummy for the unemployment term indicates that the sensitivity of wage growth with respect to unemployment has decreased but, as with the constant, omitted variables may partly explain this result. In short,

Chart 1.3.

Actual versus predicted wage growth<sup>a</sup>  
Percentages

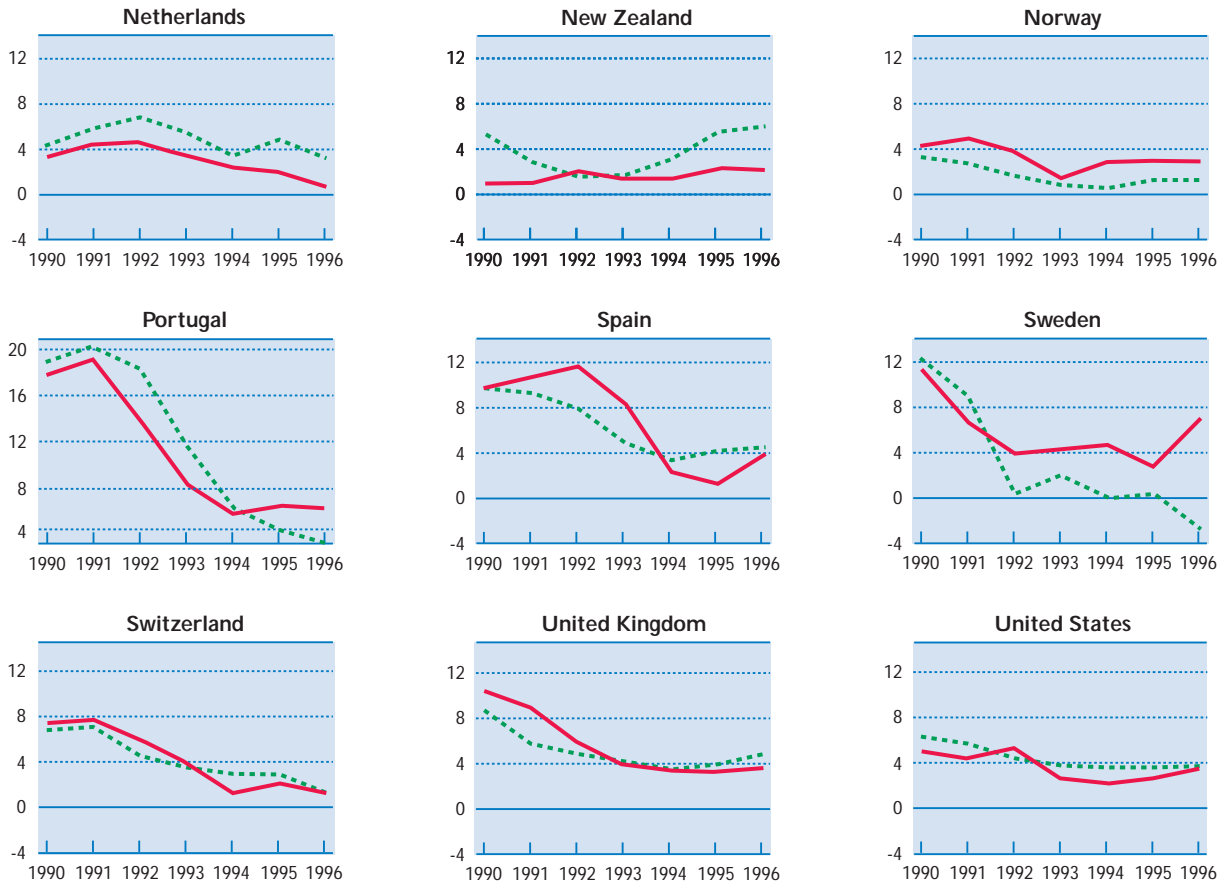


— Actual      - - - Predicted



Chart 1.3. (cont.)

Actual versus predicted wage growth<sup>a</sup>  
Percentages



a) Both actual and predicted wage growth refer to annual percentage changes in average nominal compensation per employee. Predicted wage growth refers to out-of-sample forecasts of the wage equations shown in Table 1.A.1 which have been estimated over the period 1970 to 1989.

b) Western Germany only.

Source: Actual wage growth from *OECD Economic Outlook*, No. 61, June 1997.

considerable caution is necessary in interpreting these findings.<sup>15</sup>

#### D. CONCLUSIONS

There was a slight pick-up in economic activity for the OECD area as a whole during 1996, driven largely by faster growth in Japan and North America which more than offset a slowdown in the European Union. A more broadly-based revival in growth is expected during 1997 and 1998, but this is only likely to achieve a reduction of one million in the current total of 36 million unemployed in the OECD area. While the United Kingdom and some of the smaller European countries are likely to see further declines, the average unemployment rate for the European Union is projected to fall only modestly by just over half a percentage point to around 10<sup>3</sup>/<sub>4</sub> per cent in 1998. This compares with unemployment rates for Japan and Korea of 3 per cent and under, and projected stability in the rate for North America at around 5<sup>1</sup>/<sub>2</sub> per cent.

There has been a sharp slowdown in both price and nominal wage inflation in nearly all OECD countries and this is expected to continue through 1997 and 1998. In terms of real wages, the picture is less clear. Some countries have recorded more moderate growth over the current recovery than during a comparable period over the previous recovery; others have experienced faster growth. There has also been substantial variation across different groups of workers in terms of real earnings growth over the past five to ten years. Among full-time workers, younger workers have generally experienced weaker growth than prime-age workers and women in most

countries have experienced faster growth than men. In several countries, real earnings growth for low-paid workers has been particularly weak.

Regardless of these differences, the moderation of aggregate nominal wage claims in recent years has raised the issue of whether there has been an underlying change in wage-setting behaviour. There have been substantial microeconomic reforms and institutional changes in many OECD countries during the 1980s and 1990s which may have had an impact on wage determination. At the same time, other countries have introduced incomes policies in order to restrain wage growth.

Relatively simple wage equations have been used to test whether there is evidence of any structural changes in the relationship between aggregate wage growth and unemployment as a result of these institutional changes and reforms. At the aggregate level, there is little evidence of a widespread change in the direction of greater wage moderation. Institutional changes over the past decade may have worked to increase wage flexibility in some countries but this may not have been sufficient to offset the upwards impact on wage claims of a rise in structural unemployment which appears to have occurred in many countries. These conclusions are, of course, very tentative given that a richer specification of the determinants of wages could result in a different picture. There may have been changes in inflation expectations which have not been explicitly taken into account. It is also possible that some changes in policies and institutions are too recent and so have not yet been fully reflected in any noticeable change in aggregate wage behaviour.

## Notes

1. In this context, a “recovery” simply refers to the period following a trough in activity as identified by a low point in the Secretariat’s output gap measure; for several countries the recent recovery has been particularly weak.
2. In the case of New Zealand, a fall in real compensation per employee during the early 1980s was largely due to the imposition of a wage freeze over the period 1982 to 1984. Compared with its long-run trend, real wage growth during the first half of the 1990s has been very moderate [see OECD (1996a)].
3. This occurred within the context of a series of Prices and Incomes Accords between the unions and the Federal Government [OECD (1997a)].
4. The aggregate measure of employee compensation is derived for each country by dividing the national accounts estimate of total employee compensation by the total number of employees. Total employee compensation includes both wage and non-wage labour costs. Wage costs refer to all payments received by employees in the form of wages and salaries, both in cash and kind, but before deduction of employee contributions to social security schemes. Non-wage costs include all contributions made by employers in respect of their employees to both private and public social security schemes.
5. In Australia, for example, real mean earnings of full-time workers (according to the household-survey measure) rose by 3½ per cent between 1985 to 1995, but mainly because of a sharp rise in the incidence of part-time work, earnings for all workers fell by 2½ per cent.
6. For France, it is possible to gain some idea of the overall importance of these compositional effects relative to “pure” wage-rate increases in accounting for aggregate earnings increases. Based on administrative data, the French National Statistical Institute (INSEE) regularly publishes estimates of earnings growth holding constant the employment structure by age, gender, industry and occupation. In every year, earnings growth without adjusting for compositional changes tends to be higher than after adjustment. In other words, increases in basic rates of pay for many French workers are much less than is suggested by aggregate measures of earnings growth.
7. It is likely, that earnings growth for women relative to men would be less favourable if a comparison were made of hourly earnings for all male and female workers, including part-time workers.
8. See Chapter 3, Table 3.3, for summary measures of changes over the past decade in the degree of centralisation and co-ordination of wage bargaining in OECD countries.
9. In Belgium and Greece, the minimum wage is set by collective agreement, but applies to all sectors (in the private sector only in Greece) and, thus, in effect, is little different from a statutory minimum wage.
10. A variable to capture changes in the tax wedge between labour costs for employees and the take home pay of employees was also tried. However, it was generally insignificant or incorrectly signed for almost all countries and was dropped. It should be noted, however, that other studies, using more disaggregated or higher frequency data and/or a different specification, do find that, in some countries, tax wedges play a role as a determinant of wages [Tyrvainen (1995); Turner *et al.* (1996)].
11. In a Phillips-curve framework, wage growth depends on the gap between the actual and the *equilibrium* or structural unemployment rate. The *equilibrium* rate of unemployment will be affected by a range of structural factors other than wage and price inflation; it is often assumed to be constant and so can be subsumed into the constant term in a wage equation. However, if it is itself affected by the path of actual unemployment, there is hysteresis and wage claims will not only be influenced by the prevailing level of unemployment, but also by its past changes. Elmeskov and MacFarlan (1993) test for whether there is full or only partial hysteresis by controlling for whether real wage growth responds to changes in unemployment only. According to their results, the *level* of unemployment tends to remain significant when the change in unemployment is added to the wage equations, although in some countries changes in unemployment have an independent effect on real wage growth. Thus, while there may not be full hysteresis, there may be a “speed limit” to how quickly reductions in unemployment can occur without re-igniting inflation.
12. The inclusion of the error-correction term has been suggested by Blanchard and Katz (1997) as one way for controlling for the possibility of a long-run relationship between the level of wages and unemployment. If the coefficient on this term is one or close to one this suggests that there is a relationship between the level of wages and unemployment rather than a relationship between changes in wages and the level of unemployment. Blanchflower and Oswald (1994) argue that the finding of the latter relationship at the aggregate level may simply be the result of measurement errors and missing variables. They suggest the use of data on individuals or regional data to test for the correct specification of the wage-unemployment relationship. However, Blanchflower and Oswald’s finding of a wage curve for the United States using regional

data has since been challenged by Blanchard and Katz (1997). Using a range of alternative measures of wages likely subject to less measurement error than the series used by Blanchflower and Oswald, they show that, while there may be a long-run relationship between the level of wages and unemployment, the adjustment is slow. Hence, they argue that Phillips-curve type wage equations are not necessarily misspecified.

13. This result for New Zealand has also been found in previous work [OECD (1996a)] which suggested that, since the introduction of the Employment Contracts Act of 1991, wage growth has been more moderate than past behaviour would predict.
14. The choice of these two break points is simply to test whether there was a significant change in the overall relationship between wage growth, inflation and unemployment in the period after and preceding them, rather than a test of whether a structural change occurred precisely at these dates.
15. Compositional changes could also have important implications for the robustness of these results. As noted earlier, changes in the proportion of full- and part-time workers can substantially affect aggregate measures of wage growth. For those countries where sufficiently long series were available on aggregate hours worked (Finland, France, Germany, Norway, Sweden, the United States), the wage equations were re-estimated with changes in hourly rather than annual compensation per employee as the dependent variable. In general, there were few qualitative differences in the results of the stability tests. For all countries, the wage equations were also estimated with respect to wage growth in the business sector, *i.e.* excluding the general government sector, and again this resulted in few differences in the results of the stability tests.

## ANNEX 1.A

## Wage equations: specification and estimation

The general specification of the wage equation which was estimated is:

$$\Delta w_t = a + \alpha \Delta p c_t + (1 - \alpha) \Delta p c_{t-1} - \beta U_t - \gamma \Delta U_t - \lambda (w_{t-1} - p c_{t-1} - x_{t-1}) + \theta (\Delta p_t - \Delta p c_t) + \varepsilon_t$$

where  $w$  is average compensation per employee;  $pc$  is the implicit deflator of private consumption;  $p$  is the GDP deflator;  $x$  is trend productivity, where productivity is defined as GDP in constant prices divided by total employment and de-trended using the Hodrick-Prescott filter with a smoothing factor of 1000;  $U$  is the unemployment rate; and  $\varepsilon$  is the error term.  $w$ ,  $pc$ ,  $p$  and  $x$  are expressed in natural logs, while the unemployment rate is expressed in either level, log or inverse form.  $\Delta$  refers to the first-difference operator. Expected inflation is proxied by a weighted average of current and lagged inflation; absence of money illusion in the long-run is imposed by constraining the weights to sum to one. Thus the actual equation estimated is:

$$\Delta (w_t - p c_{t-1}) = a + \alpha \Delta \Delta p c_t - \beta U_t - \gamma \Delta U_t - \lambda (w_{t-1} - p c_{t-1} - x_{t-1}) + \theta (\Delta p_t - \Delta p c_t) + \varepsilon_t$$

This specification is similar to the wage equations embedded in the OECD's macroeconomic forecasting and simulation model, INTERLINK. Some additional explanatory variables enter the INTERLINK specifications, such as the external terms of trade and tax variables. Furthermore, the INTERLINK equations for certain countries may include more lags of the explanatory variables, as well as lags of the dependent variable.

The equation was estimated using ordinary least squares. Previous OECD work [Turner *et al.* (1996)] suggests that the results would not be altered substantially if instrumental variable methods were used to estimate the equations in order to allow for a potential problem of simultaneity bias. The estimation period is 1970 to 1995, with the exception of (western) Germany for which data are only available up to 1994. All data are annual.

Starting from the above general specification, country-specific equations were derived by the following steps. The general equation was first estimated for all the 21 countries, and then variables were progressively selected on the basis of their statistical significance, the overall explanatory power of the equation and the degree to which the signs of the coefficients accorded with the predictions of the model. A variable for the tax wedge was also included for all the countries, but it was almost never significant.

In the equations for Australia, Ireland, Sweden and the United Kingdom, a value close to 1 was estimated for

the coefficient  $\alpha$ . The coefficient was, therefore, restricted to 1, *i.e.* nominal wages are deflated by current prices. For Austria, Greece, Italy, Japan, the Netherlands, New Zealand and the United States, a value of 0 was imposed on  $\alpha$ , either because the estimated value of  $\alpha$  was close to zero or because of problems of autocorrelation.

The coefficient on the unemployment rate was highly statistically significant in almost all the equations. For Switzerland, the unemployment rate was corrected by the Secretariat to be on a standardised basis for the whole period of estimation. The change-in-unemployment term is included only in the wage equations of Germany, Greece and Italy and has the expected negative sign. The German and Italian results are confirmed by other OECD work [Turner *et al.* (1996)]. While evidence of hysteresis has been found in previous studies for Canada [Fortin (1996)], various specifications of the Canadian wage equation failed to produce a significant result for the change-in-unemployment term.

The error-correction term enters in more than one half of the country-specific wage equations. In the case of Norway, the term was maintained in the preferred equation, even though it was only significant at the 10 per cent level, in conformity with the findings in previous studies which suggest it plays an important role [Johansen (1995); Nymoen (1989)]. Although not included in all the equations, the coefficient of the error-correction term has the expected negative sign for most countries, the exception being the United States, where it was significantly positive. A similar result of a positive coefficient on the error-correction term for the United States has also been obtained by Grubb (1986) and Blanchard and Katz (1997) but not by Turner *et al.* (1996). The wage equation for the United States also includes a term for the first difference in the productivity trend.

The terms-of-trade variable, expressed as the difference between the growth of the private consumption deflator and the growth of the GDP deflator, is included in one third of the 21 countries.

The wage equations of New Zealand and the United Kingdom include a dummy variable, to account for episodes of wage and price freezes and incomes policy, respectively. The dummy variable in the wage equation for New Zealand takes the value 0.5 in 1982, the value of unity in 1983 and 1984, and zero elsewhere. For the United Kingdom, the dummy variable takes the value of unity in 1975, 1978 and 1979, the value 3 in 1976 and 4.5 in 1977, and zero otherwise. Estimated wage equations for France often include a minimum wage variable but this was not included in the estimates reported here.

Table 1.A.1. **Aggregate wage equation estimates**<sup>a</sup>Dependent variable  $\Delta(w_t - pc_{t-1})$ 

	Independent variables									R <sup>2</sup> adj.	DW
	Constant	U <sub>t</sub>	u <sub>t</sub>	1/U <sub>t</sub>	$\Delta U_t$	$\Delta pc_t$	$\frac{w_{t-1} - pc_{t-1}}{x_{t-1}}$	$\Delta p_t - \Delta pc_t$	Others <sup>b</sup>		
Canada	5.93***	-0.58**				0.62**				0.51	1.37
France	0.07	-0.57***				0.74***	-0.14***			0.94	1.84
Germany <sup>c</sup>	-2.27	-0.71***			-0.43*	0.88***	-0.17***	0.81***		0.94	1.56
Italy	-11.75	-1.34***			-2.38**		-0.49**			0.56	1.67
Japan	7.62***		-15.15***				-0.22**			0.61	1.58
United Kingdom <sup>b, d</sup>	-5.18	-0.20*					-0.19**	0.53**	-1.04***	0.66	2.13
United States <sup>b</sup>	0.18	-0.43**							3.42**	0.45	1.52
Australia <sup>d</sup>	4.66***	-0.51***								0.27	1.50
Austria	-6.12	-0.97***				0.86***	-0.25**	0.75		0.77	1.38
Belgium	2.96	-0.67***				0.61***	-0.14***			0.88	2.00
Denmark	-2.24	-0.57***				0.51***	-0.18**			0.61	1.22
Finland	-4.02		-2.86***			0.85***	-0.29***			0.80	1.34
Greece	6.85***	-0.73**			-2.01*			1.47***		0.57	1.35
Ireland <sup>d</sup>	5.87***	-0.27**						0.48***		0.37	1.84
Netherlands	1.05	-0.93***					-0.15***			0.69	1.31
New Zealand <sup>b</sup>	-8.79**	-0.95***				0.60***	-0.31***		-3.97	0.67	1.63
Norway	-8.90*			12.12**		0.69***	-0.11*			0.59	1.30
Portugal	15.38***	-2.19***				0.56***				0.84	1.28
Spain	1.73	-0.45***				0.63***	-0.20***			0.82	1.40
Sweden <sup>d</sup>	-6.04**			9.34***			-0.09*	0.63***		0.50	1.38
Switzerland	0.91***			0.36***		0.89***		0.67***		0.85	1.22

a) The variables are:  $w$  is compensation per employee;  $pc$  is the private consumption deflator;  $p$  is the GDP deflator;  $U$  is the unemployment rate; and  $x$  is labour productivity measured as output per worker de-trended using the Hodrick-Prescott filter with a smoothing factor of 1 000. \*, \*\*, \*\*\* indicate levels of significance of coefficients of 10, 5 and 1 per cent, respectively.  $\Delta$  is the first-difference operator and variables in small letters refers to logs. All variables have been multiplied by 100.

b) The wage equations for New Zealand and the United Kingdom include a dummy variable which accounts for wage and price freezes and income policy, respectively. In the equation for the United States the first difference of de-trended productivity is entered.

c) Western Germany only.

d) The dependent variable is  $\Delta(w_t - pc_t)$ .

Source: Secretariat calculations based on data from the OECD analytical database.

## ANNEX 1.B

## Definitions and sources of the earnings data in Table 1.5

For all countries, the consumer price index used to deflate the earnings data is taken from OECD *Main Economic Indicators*. The data on compensation per employee are from OECD, *National Accounts 1983-1995*, Vol. 2, and the OECD Analytical Data Base. The definitions and sources of the earnings data for full-time employees are provided below. For each country, it is indicated whether the data by age and sex refer to means or medians.

**Australia**

*Definition:* Gross weekly earnings of full-time employees (means).

*Source:* The data are derived both from a quarterly establishment survey and a household survey (in the form of an annual supplement to the labour force survey). The establishment survey is thought to provide more reliable data but has only limited information on the characteristics of workers. The earnings data for men, women and all workers are taken from the establishment survey as reported in Australian Bureau of Statistics, *Average Weekly Earnings, States and Australia*, ABS catalogue No. 6302.0, various editions. The data for youth and prime-age workers and for low-paid and high-paid workers are based on the household survey as published in *The Labour Force, Australia*, ABS catalogue No. 6203.0 (data for earlier years were published in *Weekly Earnings of Employees (Distribution), Australia*, ABS catalogue No. 6310.0). All data refer to the month of August of each year.

**Austria**

*Definition:* Annual average of gross daily earnings, standardised to a monthly basis, of all wage earners and salaried employees, excluding apprentices (medians). The figures include special payments, such as holiday and Christmas bonuses.

*Source:* Austrian Central Statistical Office, *Statistisches Jahrbuche* (Austrian Statistical Yearbook).

**Belgium**

*Definition:* Annual average of gross daily earnings of full-time employees (medians).

*Source:* Secretariat calculations based on social security data provided by the Institut national d'assurance maladie-invalidité (INAMI) on the distribution of employees by earnings class.

**Canada**

*Definition:* Gross annual earnings of full-time, year-round workers (means).

*Source:* Data supplied by Statistics Canada, based on the *Survey of Consumer Finances*.

**Denmark**

*Definition:* Gross annual wages and salaries of full-time, year-round employees (means).

*Source:* Data supplied by Statistics Denmark.

**Finland**

*Definition:* Gross annual earnings of full-time, year-round employees (medians).

*Source:* Data supplied by Statistics Finland based on the *Income Distribution Survey*.

**France**

*Definition:* Net annual earnings of full-time workers, adjusted for annual hours worked to represent full-year equivalent earnings (means). Agricultural and general government workers are excluded.

*Source:* Alain Bayet and Martine Julhès, *Séries longues sur les salaires*, INSEE Résultats No. 457, series *Emploi - Revenus* No. 105, April 1996. These data are derived from salary records of enterprises as reported in *Déclarations Annuelles des Données Sociales* (DADS).

**Germany (western Germany only)**

*Definition:* Gross monthly earnings, including annual bonuses, of full-time workers (including apprentices) (medians).

*Source:* Secretariat calculations based on the *German Socio-Economic Panel*.

**Italy**

*Definition:* Monthly net earnings (obtained by dividing annual earnings by the number of months worked) of all wage and salary workers in their main job (medians).

*Source:* Data provided by Andrea Brandolini and Paolo Sestito of the Bank of Italy based on the Bank of Italy's *Survey of Household Income and Wealth*.

## Japan

*Definition:* Monthly total earnings, including one-twelfth of annual special cash earnings, of full-time regular employees in establishments with more than nine regular employees (means). Employees in the agriculture, forestry and fisheries sector, in private household services and in the general government sector are also excluded.

*Source:* Policy Planning and Research Department, Ministry of Labour, *Basic Survey on Wage Structure*, various editions. The data refer to the month of June of each year (plus annual special payments for the preceding calendar year).

## Korea

*Definition:* Monthly total earnings, including one-twelfth of annual special payments, of employees in establishments with more than nine regular employees (means). Employees in the agriculture, forestry and fisheries sector and in the general government sector are also excluded.

*Source:* Ministry of Labour, *Wage Structure Survey*, as reported in Korea Labor Institute, *The Profile of Korean Human Assets: Labor Statistics 1996*, 1996. The data refer to the month of June of each year (plus annual special payments for the preceding calendar year).

## Netherlands

*Definition:* Annual gross earnings, including occasional payments (overtime, holiday, etc.), of full-year equivalent, full-time employees (means).

*Source:* *Survey of Earnings*, as reported in Netherlands Central Bureau of Statistics, *Sociaal-Economische Maandstatistiek*, various editions.

## New Zealand

*Definition:* Gross annual earnings of full-time employees (medians).

*Source:* Estimates provided by the New Zealand Department of Labour based on data collected in the *Household Economic Survey* administered by Statistics New Zealand.

## Sweden

*Definition:* Gross annual earnings of full-year, full-time employees (means).

*Source:* Data supplied by Statistics Sweden based on the *Income Distribution Survey*.

## United Kingdom (Great Britain only)

*Definition:* Gross weekly earnings of all full-time employees whose pay was not affected by absence (means).

*Source:* Data provided by the Office for National Statistics based on the *New Earnings Survey*. The data refer to April of each year.

## United States

*Definition:* Gross usual week earnings of full-time employees (medians).

*Source:* Unpublished annual average tabulations from the *Current Population Survey* provided by the Bureau of Labor Statistics.



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