

CHAPTER 4

Growing into work: youth and the labour market over the 1980s and 1990s¹

A. INTRODUCTION AND MAIN FINDINGS

1. Introduction

The passage from adolescence to adulthood has historically signified several, sometimes distinct, sometimes simultaneous, steps. These include leaving ones' parents and setting-up ones' own home, forming a couple, more often than not marriage and a family, and settling into a more or less stable job, which is often an important catalyst for the other steps. The process implies the passage of time, rather than a once and for all crossing of a given threshold. Not only may "time" differ across countries, but it can also change with general social and economic trends.

The 1980s and 1990s have seen a number of changes with implications for when and how well the passage to adult life occurs. For instance, many OECD countries have introduced educational and training reforms to increase school enrolment rates; an additional objective has been to decrease the proportion of any cohort leaving the school system without a certificate. This period also witnessed, in countries such as France, the United Kingdom, Sweden and Norway, a proliferation of labour market programmes targeted on the young [Gendron (1996); Skedinger (1995); Mizen (1995)]. Changing patterns of employment and job opportunities and, in many countries, high unemployment, have led to different, often more prolonged, patterns of leaving home and new household/family formation. New entrants to the labour market did so under different circumstances compared with the 1960s or most of the 1970s.

The movement of young people from education, at whatever level, to the world of work differs among OECD countries. In some of them, young people begin work while in school – sometimes at odd jobs for pin money, sometimes to save to go on to university and sometimes to help the family, shop around the job market after leaving school and, at some point, settle into a relatively permanent position [Osterman (1980)]. This kind of job-shopping might best characterise the United States and Canada. In other countries, for the majority of young people the

transition seems more structured and they take fewer jobs and less time to "settle in" [Buechtemann *et al.* (1993)]. Dual apprenticeship systems, which characterise Austria, Germany and Switzerland, seem to move young people into stable employment faster than is typically the case in the United States [Casey (1986)]. In Japan, firms tend to recruit from particular universities or colleges or from specific high schools with the anticipation that their recruits will remain with them for long periods of time [Dore and Sako (1989)]. In yet other countries, *e.g.* France, Italy and Spain, it appears that youth very rarely work while in the educational system and often are jobless for a long period after they exit the system.

These are caricatures of a complicated process. Nonetheless, they set the stage for this chapter which examines, in its broadest terms, the passage from education to the labour market. The following issues are examined: How well have young people in general fared in the labour market and what, if any, are the differences across countries (Section B)? What has happened to education attendance rates for successive cohorts and how do they vary across countries and with the state of the labour market (Section C)? To what extent, if any, do apparent differences in the mode of the movement from education to the labour market help young people move more or less successfully into jobs (Section C)? How have other dimensions of labour market change, *e.g.* the changing industry structure of employment, affected the settling in process (Section D)? To what extent, if at all, have the earnings of young people changed in ways that make the transition easier or more difficult (Section E)? What are some of the potential underlying causes of youth job market problems and their differences across countries (Section F)?

2. Main findings

Over the 1980s and into the mid-1990s, both participation rates and employment rates of youth, most particularly men, declined across a large number of countries. Their unemployment rates also showed little improvement. These trends have occurred in spite of declines in the relative size of the

youth population and shifts in the composition of employment toward traditional youth-intensive sectors. A higher proportion of unemployed youth is now in households where no one else is employed compared with the mid-1980s. This trend is worrying as such households are more likely to have less contact with the job market than households where another family member is employed, and this could impact negatively on future job prospects. In addition, the proportion of male youths neither in school nor in a job has tended to increase, as has the non-employment rate of out-of-school young men. Reflecting the strong secular increase in job market attachment, such trends are much less in evidence for young women.

On the positive side, in most countries, a rising proportion of successive cohorts is staying on longer in education, partly in response to rising rates of return to investments in additional education. But, part of this increase seems due to the more adverse aggregate labour market conditions facing new entrants in many countries.

The evidence presented shows that youth employment and unemployment rates are very sensitive to cyclical fluctuations, as proxied by aggregate unemployment rate movements. The damaging effects of overall labour market slack are particularly large for younger, out-of-school youth, a group likely to be the least educated. While this is important, it cannot be taken as *the* sole explanation of youth labour market problems across OECD countries because, in some, the overall rate of unemployment did improve over the period and the magnitude of the drops in youth employment rates and the patterns of changes in youth unemployment are rather dissimilar.

B. OVERVIEW OF YOUTH IN THE LABOUR MARKET

There are three commonly used statistics for assessing the state of youth in the labour market: participation, employment and unemployment rates. While the latter is often the most stressed, the former two statistics are at least as important. This is because much research has demonstrated that participation and employment rates are influenced by very similar factors, often leading to much smaller or even contrary effects on unemployment [Freeman (1980)]. For example, Clark and Summers (1982) showed that teenage unemployment rates remain fairly high even when aggregate unemployment declines, partly because their participation rates rise a lot in upswings.

1. Youth participation and employment rates

Tables 4.1 and 4.2 show participation and employment rates for selected years between 1979 and 1994. Both tend to tell the same story. There are, first, very large cross-country differences in their levels for persons under the age of 25. For example, in 1994 the participation and employment rates of French and Belgian male teenagers were under 10 per cent, while in Denmark they were roughly 65 and 60 per cent, respectively. These dissimilarities are very much reduced among those aged 25-54. Indeed, knowing how countries rank on either indicator for adults essentially tells one nothing about what the ranking is for either teenagers or those aged 20-24. A country with a relatively high (low) employment rate for adults does not necessarily have a relatively high (low) rate for young people.

Second, over the peak-to-peak period of 1979-1989 employment rates of teenage men and men aged 20-24 dropped in most countries. Particularly steep declines occurred in France, Ireland, Portugal and Spain. Trends among women are more mixed. While employment rates for teenage women more often than not fell, those for women aged 20-24 generally increased.

By 1994, however, reflecting partly recession and, in some countries, the continuation of a longer trend, employment and participation rates were below those of 1989 (and 1979) for almost all countries for each of the two youth groups and men and women. Finally, *relative* to adult men, the participation and employment rates of youth have fallen over time in most countries (Denmark is an exception among teenagers and Japan an exception among 20-24-year-olds).

In considering these trends, it is important to recall that, in a number of countries, the 1980s witnessed some new and significant labour market changes, *e.g.* new temporary contractual arrangements in a few countries and a wide variety of labour market programmes targeted on young people. These changes have impacted on youth labour market prospects. As documented in Chapter 1, in countries such as France and Spain, 8 out of 10 jobs held by teenagers are of a temporary nature. Many will, as they grow older, get more permanent contracts, but a not insignificant minority seem to move in and out of temporary jobs for a prolonged period [Chapter 1; Gendron (1996)].

The relation between youth employment patterns and labour market programmes is difficult to quantify because of problems of data availability in many countries and because it is often unclear how programme participants are classified in labour force surveys. However, a recent French longitudinal study found that 42 per cent of school leavers at the secondary level in June 1989 had participated in at least

Table 4.1. Labour force participation rates by age and gender, selected years

	1979			1983			1989			1994		
	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old
Australia												
Men	61.4	90.2	94.5	58.2	89.6	94.0	59.5	89.2	92.7	53.3	86.5	91.4
Women	55.0	69.2	51.4	57.0	70.8	53.5	57.1	77.5	65.3	54.4	76.0	67.4
Belgium												
Men	..	..	..	19.8	72.8	94.4	10.0	64.4	92.4	9.4	61.9	92.1
Women	..	..	..	17.1	66.3	54.1	8.2	56.8	60.3	6.3	56.2	67.2
Canada												
Men	57.3	86.5	94.9	53.2	84.5	93.7	60.6	84.9	93.8	50.5	79.5	91.4
Women	51.1	72.3	58.5	50.5	74.9	65.6	56.7	77.6	74.7	48.1	72.2	75.7
Denmark												
Men	..	..	..	52.2	86.9	94.2	69.5	88.3	94.5	65.5	78.4	91.9
Women	..	..	..	44.0	82.1	84.0	61.4	80.2	86.6	56.5	74.6	82.6
Finland												
Men	45.9	81.5	92.3	39.7	81.9	93.5	41.9	82.0	93.0	28.1	71.8	90.9
Women	36.2	69.1	81.2	34.1	71.7	85.8	36.5	69.9	86.9	23.1	57.7	84.7
France												
Men	26.5	80.1	96.3	22.5	79.7	96.1	14.9	69.3	95.6	8.7	55.9	95.1
Women	20.0	68.9	63.0	15.1	67.0	67.0	9.4	59.9	72.1	4.7	47.9	76.7
Germany^{a, b}												
Men	48.0	79.4	94.9	44.3	78.2	94.3	41.6	78.3	92.1	37.1	74.3	89.2
Women	44.3	71.8	55.4	38.8	71.4	58.3	36.6	73.5	62.6	32.8	72.0	71.0
Greece												
Men	..	..	..	31.8	76.7	95.1	22.7	72.0	94.4	17.8	68.4	94.5
Women	..	..	..	24.4	49.7	43.8	17.9	53.9	51.6	15.0	51.1	53.9
Ireland^a												
Men	50.2	91.2	95.0	43.1	89.4	95.6	31.6	80.7	91.8	26.4	75.2	90.8
Women	41.9	68.6	27.6	34.1	74.5	32.8	25.0	74.4	42.9	20.2	69.9	51.4
Italy^c												
Men	33.0	71.7	93.3	30.6	73.8	92.5	26.4	71.5	90.8	23.3	59.1	87.0
Women	28.6	55.4	38.9	26.4	58.5	42.4	22.8	63.9	48.6	17.8	49.4	48.8
Japan												
Men	18.0	70.1	97.2	19.1	71.0	97.1	17.0	71.2	97.0	18.3	74.9	97.5
Women	18.6	69.9	56.2	18.7	72.1	59.5	17.3	74.3	63.2	17.0	74.2	65.3
Luxembourg												
Men	..	..	..	42.8	83.5	95.4	28.7	74.8	94.7	18.0	72.0	94.9
Women	..	..	..	43.9	71.1	40.8	24.3	71.4	48.8	20.0	65.0	55.7
Mexico^a												
Men	..	..	..	..	..	..	..	..	..	64.3	85.2	96.3
Women	..	..	..	..	..	..	..	..	..	30.3	43.0	40.3
Netherlands												
Men	..	..	..	22.8	74.9	93.4	38.9	75.5	93.3	44.4	75.1	92.6
Women	..	..	..	26.0	71.0	43.1	38.2	74.6	55.7	39.0	75.3	65.0
New Zealand												
Men	..	..	..	..	..	..	58.6	88.7	94.0	53.8	85.0	92.3
Women	..	..	..	..	..	..	54.5	69.3	68.5	51.5	72.2	70.9
Norway												
Men	43.2	62.6	92.8	49.3	82.1	95.1	47.0	79.9	92.3	36.6	72.1	90.6
Women	40.7	61.0	66.0	44.4	66.7	73.2	46.0	70.3	79.0	38.3	62.9	79.4
Portugal												
Men	67.9	88.9	95.0	66.7	75.6	94.5	52.5	72.4	94.1	31.7	72.5	93.6
Women	56.2	71.0	54.8	54.7	75.2	64.3	39.5	68.8	66.3	26.3	58.2	73.4
Spain^d												
Men	57.9	83.3	95.6	51.5	82.9	94.5	44.8	77.7	93.9	36.3	69.9	92.9
Women	43.4	55.6	30.2	35.6	56.0	33.3	32.7	62.2	44.9	24.5	58.7	54.3
Sweden^d												
Men	56.4	83.7	95.3	45.4	84.0	95.0	48.5	84.3	94.3	25.5	66.8	89.8
Women	56.5	79.9	81.1	47.5	80.8	87.0	52.0	80.9	90.2	29.0	64.8	86.0
United Kingdom^{d, e}												
Men	..	..	..	71.6	90.2	95.4	74.5	91.2	94.9	61.8	83.9	93.0
Women	..	..	..	66.0	71.6	66.7	70.8	75.9	71.9	57.9	69.9	74.0
United States^d												
Men	61.5	86.4	94.4	56.2	84.8	93.8	57.9	85.3	93.7	54.1	83.1	91.7
Women	54.2	69.0	62.3	50.8	69.9	67.1	53.9	72.4	73.6	51.3	71.0	75.3
OECD unweighted average^f												
Men	48.2	81.2	94.7	43.2	81.2	94.1	42.4	79.1	93.7	36.4	73.9	92.4
Women	42.1	67.8	55.9	38.4	69.5	59.1	38.0	70.4	65.7	31.6	63.9	67.6

.. Data not available.

a) Data refer to 1993 instead of 1994.

b) Data for 1993 refer to reunified Germany.

c) The age group 25-59 instead of 25-54.

d) The age group 16-19 instead of 15-19.

e) Data refer to 1984 instead of 1983.

f) Based only on countries with data in the specified year.

Sources: OECD, Labour Force Statistics, Part III, various issues. Data for Belgium, Denmark, Luxembourg, Greece and the Netherlands were provided by EUROSTAT. Data for Mexico were provided by the Ministry of Labour and Social Affairs.

Table 4.2. **Employment/population ratios by age and gender, selected years**

	1979			1983			1989			1994		
	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old
Australia												
Men	52.5	82.6	91.7	44.9	74.1	87.1	51.9	82.1	89.0	43.1	73.2	84.5
Women	43.8	63.6	48.8	44.4	62.7	49.5	48.8	71.4	62.3	42.7	66.8	62.7
Belgium												
Men	..	..	..	14.3	60.5	88.5	8.4	57.6	88.1	6.3	50.2	86.2
Women	..	..	..	10.9	48.4	45.8	5.8	46.1	53.1	3.9	43.8	59.7
Canada												
Men	48.0	77.0	90.4	40.4	66.7	84.6	51.8	75.7	88.0	40.0	65.9	82.7
Women	43.1	64.9	54.2	40.3	63.7	59.1	50.2	70.6	69.1	40.0	63.0	68.9
Denmark												
Men	..	..	..	43.7	70.1	87.1	64.0	77.1	87.9	59.9	69.4	85.7
Women	..	..	..	32.5	68.9	76.8	55.6	68.7	79.7	53.6	64.3	75.2
Finland												
Men	38.3	75.0	87.3	33.9	75.1	89.2	38.7	77.6	90.2	19.8	48.7	75.1
Women	30.3	63.9	77.8	28.6	65.8	82.5	33.8	65.9	84.6	15.0	41.6	72.5
France												
Men	22.8	73.8	93.3	18.0	68.9	91.9	12.9	59.0	89.8	6.8	42.2	85.9
Women	13.5	59.0	59.5	8.7	52.4	61.9	7.0	45.5	64.0	3.1	32.8	66.6
Germany^{a, b}												
Men	46.9	76.8	93.0	40.4	69.3	88.4	39.7	73.3	87.1	35.0	67.7	83.0
Women	42.2	67.7	53.3	34.6	62.7	53.7	34.3	68.3	57.7	30.6	65.7	63.7
Greece												
Men	..	..	..	26.4	63.5	90.5	19.5	58.9	91.3	14.1	55.0	90.0
Women	..	..	..	16.2	35.8	40.1	10.9	36.6	46.9	7.9	33.9	48.1
Ireland^a												
Men	43.8	83.6	88.8	30.8	71.9	82.2	22.4	65.1	78.8	17.8	56.6	77.7
Women	36.8	65.2	26.3	25.7	65.4	30.3	18.2	63.5	36.6	13.3	56.2	44.2
Italy^c												
Men	24.3	58.9	91.5	20.5	58.0	90.1	17.4	53.6	86.4	15.6	42.7	81.8
Women	17.2	41.9	36.2	13.9	40.9	38.8	11.6	40.3	42.3	10.3	32.3	43.1
Japan												
Men	17.0	67.9	95.7	17.8	68.2	95.2	15.6	68.5	95.5	16.8	71.1	95.5
Women	18.1	67.6	55.2	17.7	69.0	58.1	16.3	71.5	61.9	15.8	70.5	63.4
Luxembourg												
Men	..	..	..	39.3	79.9	93.7	27.8	73.4	93.9	16.0	66.3	92.6
Women	..	..	..	38.8	66.9	39.2	21.6	70.0	47.0	16.4	62.0	53.5
Mexico^a												
Men	..	..	..	..	..	..	..	..	..	61.8	82.1	94.8
Women	..	..	..	..	..	..	..	..	..	28.6	40.7	39.4
Netherlands												
Men	..	..	..	15.6	59.6	85.1	33.0	67.0	87.8	37.3	65.8	87.4
Women	..	..	..	17.4	61.1	38.0	30.3	66.6	49.3	34.4	69.5	59.8
New Zealand												
Men	..	..	..	..	..	..	49.3	77.1	88.9	43.3	73.8	85.9
Women	..	..	..	..	..	..	45.9	62.7	64.9	41.7	64.1	66.6
Norway												
Men	39.4	60.1	92.2	44.0	77.6	92.8	40.2	73.0	89.8	32.0	64.4	86.3
Women	36.6	59.1	65.2	39.7	62.0	71.4	42.1	64.2	76.8	34.1	57.4	76.7
Portugal												
Men	58.9	81.9	92.8	57.4	66.3	92.0	48.1	66.3	91.9	28.1	63.5	89.1
Women	38.6	53.9	50.7	41.1	56.8	58.8	33.2	58.9	62.5	21.1	49.4	68.3
Spain^d												
Men	44.2	71.9	90.1	28.6	59.8	83.6	33.7	58.9	84.5	21.8	44.4	77.6
Women	31.5	45.7	28.9	16.9	34.5	29.4	17.8	36.6	35.3	10.3	30.9	38.9
Sweden^d												
Men	52.5	80.7	94.2	40.8	78.3	92.8	46.9	81.7	93.2	21.0	53.9	82.8
Women	52.0	76.9	79.8	42.3	75.2	84.9	50.2	78.5	89.1	24.5	55.7	81.0
United Kingdom^{d, e}												
Men	..	..	..	54.9	72.8	86.4	65.8	81.6	89.2	48.9	68.6	83.9
Women	..	..	..	52.1	60.1	60.2	64.3	69.2	67.3	48.6	62.4	69.3
United States^d												
Men	51.7	78.9	91.2	43.1	71.3	86.1	48.7	77.8	89.9	43.8	74.6	87.2
Women	45.3	62.4	59.0	40.0	60.9	62.0	46.4	66.4	70.4	43.0	64.5	71.5
OECD unweighted average^f												
Men	41.6	74.5	91.7	34.5	69.0	88.8	36.8	70.3	89.1	30.0	61.9	85.5
Women	34.5	60.9	53.5	29.6	58.6	54.8	32.2	61.1	61.0	25.7	53.7	61.6

Sources and Notes: See Table 4.1.

one programme by December 1990 [Aucouturier and Gelot (1995); Verdier (1995)]. Evidence from the England and Wales youth cohort survey showed that about one-third of respondents in "cohort 4", who were 18-19 years old in 1991, had been on youth training (YT) at some time during the survey period [Park (1994)].

2. Youth unemployment

Table 4.3 shows unemployment rates for selected years. In all countries – except Germany from 1989 – youth unemployment rates are greater than those of adults. And, with few exceptions, teenage and young adult rates are double-digit. There are large cross-country differences in levels: in 1994, only Denmark, Germany and Japan had teenage rates under 10 per cent, while they were 30 per cent and over in Belgium, Finland, Ireland, Italy and Spain. Unlike the case with participation and employment rates, a country's ranking on adult unemployment is a good predictor of its ranking on youth unemployment. That is, if the rates of adults are relatively high (low), the same applies to young people.

Considered over the 1979-1989 period, different trends can be seen. Only in Australia, Canada, France (women only), Portugal, Sweden and the United States (women only) did teenage unemployment rates show any, usually modest, absolute improvement. Japan recorded a strong, secular increase in youth unemployment, albeit from a very low starting point. Between 1989-1994, unemployment rates increased almost everywhere (exceptions are Denmark, young women only; and the Netherlands).

Another dimension to unemployment is its duration. The incidence of long-term unemployment (a spell of one year or more) is shown in Table 4.4. Several patterns show-up. First, in all countries the incidence is lower for the young unemployed compared with adults. Second, there are huge cross-country differences. The incidence of long-term unemployment among youth is under 10 per cent in Canada, Sweden and the United States compared with over 30 per cent in Greece, Ireland, Italy, the Netherlands, Spain and the United Kingdom (young men only). Third, among young people there are few differences in the incidence between men and women. Fourth, during the 1983-1989 recovery period, the incidence declined by varying degrees in most countries. But, by 1994 it had again increased and, with few exceptions, exceeded 1989 levels.²

Another important dimension of the problem is the household situation of the young unemployed. Are many young people who are unemployed living in households where no one else is employed? The importance of this question is not solely a concern for

the welfare of young people in the sense of living in a household where there is no other apparent source of earned income. There are also issues of family tensions and the nature of day-to-day contacts of people in jobless households with the labour market which may affect their future job prospects. For example, Payne (1987) found that, in Great Britain, if the head of household was unemployed it doubled the likelihood of a young person in the household also being unemployed. Research by Katz and Case (1991) on Boston neighbourhoods also showed the importance of one's immediate environment as one determinant of job market prospects and labour force status.

Chart 4.1 shows the proportion of unemployed youth in households with no other person employed. The most important point is that this percentage has increased in most countries since 1985 to reach 30 per cent or more in all but the three southern European countries shown in the chart. This increase is potentially worrisome when it is realised that many such households are likely to be located in the lower part of the income distribution, may be geographically located in areas of high unemployment and, perhaps, have had less of a chance in the educational system [Katz and Case (1991); Gregory (1995a)].

In analysing the unemployment and employment problems facing young people, it is also of interest to consider their attitudes towards work. Do they look upon work as a marginal or secondary kind of activity or not? There is a growing literature in economics on measures of "life satisfaction" or "well-being" [Oswald (1995); Clark and Oswald (1994); Gallie (1994)]. There have also been many analyses of the effects of being unemployed on family/household relations, mental distress and the nature of social contacts. For example, Warr *et al.* (1988), summarising evidence from the psychology literature, suggest that unemployment can lead to greater mental stress, while Clark *et al.* (1994), using the British Household Panel Survey, find that the unemployed show a decline in mental stress when they find a job, while those who become unemployed experience an increase in stress.

Data from the International Social Survey Programme (ISSP) can shed some light on work attitudes (see Annex 4.B). In the 1989 wave of the ISSP, respondents were asked: "Do you agree or disagree... work is a person's most important activity?"; and "Do you agree or disagree... I would enjoy having a paid job even if I did not need the money?" Responses were: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. Table 4.5 shows the probability of respondents (pooled across 18 countries) saying *they strongly agreed* with each statement, classified by their labour force status.

The results suggest that the young value work at least as highly as adults. And, the young unemployed

Table 4.3. Unemployment rates by age and gender, selected years

	1979			1983			1989			1994		
	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old
Australia												
Men	14.6	8.4	2.9	22.9	17.3	7.3	12.9	8.0	4.0	19.2	15.4	7.5
Women	20.4	8.0	5.1	22.2	11.5	7.5	14.6	7.9	4.7	21.5	12.1	6.9
Belgium												
Men	..	..	..	28.0	16.9	6.2	16.3	10.7	4.6	32.5	18.9	6.4
Women	..	..	..	36.3	27.0	15.3	29.5	19.0	12.0	37.5	22.0	11.2
Canada												
Men	16.3	10.9	4.7	24.1	21.1	9.7	14.4	10.9	6.2	20.9	17.1	9.5
Women	15.8	10.3	7.3	20.0	15.0	9.8	11.5	9.0	7.5	16.8	12.8	9.0
Denmark												
Men	..	..	..	16.1	19.4	7.6	7.9	12.7	7.0	8.5	11.5	6.7
Women	..	..	..	26.1	16.0	8.5	9.5	14.4	8.0	5.1	13.8	9.0
Finland												
Men	16.7	8.0	5.4	14.7	8.2	4.6	7.7	5.3	3.1	29.8	32.1	17.4
Women	16.2	7.6	4.3	16.1	8.3	3.9	7.4	5.7	2.6	35.1	27.9	14.5
France												
Men	13.8	7.8	3.2	20.2	13.5	4.4	13.9	14.9	6.0	21.9	24.5	9.7
Women	32.6	14.4	5.5	42.1	21.8	7.7	25.2	24.0	11.2	34.5	31.4	13.1
Germany^{a, b}												
Men	2.4	3.2	2.0	8.8	11.4	6.3	4.7	6.5	5.4	5.8	9.0	6.9
Women	4.7	5.6	3.8	11.0	12.1	8.0	6.2	7.1	7.9	6.8	8.7	10.3
Greece												
Men	..	..	..	17.0	17.2	4.8	14.0	18.1	3.3	20.6	19.5	4.8
Women	..	..	..	33.7	28.0	8.6	39.3	32.1	9.1	47.6	33.6	10.7
Ireland^a												
Men	12.7	8.3	6.6	28.6	19.7	14.0	29.1	19.3	14.2	32.8	24.7	14.4
Women	12.3	5.0	4.5	24.7	12.2	7.8	27.2	14.6	14.8	34.0	19.6	14.1
Italy^c												
Men	26.5	17.9	1.9	32.9	21.3	2.7	34.0	25.1	4.9	33.0	27.8	6.0
Women	39.7	24.3	7.1	47.3	30.1	8.3	48.9	36.9	13.0	42.4	34.6	11.7
Japan												
Men	5.4	3.2	1.6	7.1	3.8	2.0	8.0	3.8	1.5	8.3	5.0	2.0
Women	2.7	3.3	1.9	5.1	4.3	2.4	6.0	3.8	2.2	6.8	5.0	2.8
Luxembourg												
Men	..	..	..	8.1	4.3	1.7	3.0	1.9	0.9	11.4	7.9	2.5
Women	..	..	..	11.5	5.9	3.9	11.1	2.0	2.1	17.9	4.6	3.9
Mexico^a												
Men	..	..	..	..	..	..	..	..	..	4.0	3.7	1.6
Women	..	..	..	..	..	..	..	..	..	5.7	5.4	2.3
Netherlands												
Men	..	..	..	31.8	20.4	8.9	15.0	11.2	5.9	16.0	12.4	5.6
Women	..	..	..	33.0	13.9	11.9	20.6	10.7	11.5	12.0	7.8	8.0
New Zealand												
Men	..	..	..	..	..	..	15.9	13.1	5.4	19.4	13.2	7.0
Women	..	..	..	..	..	..	15.8	9.5	5.2	18.9	11.2	6.1
Norway												
Men	8.8	3.9	0.6	10.6	5.5	2.4	14.5	8.6	3.8	12.7	10.7	4.7
Women	10.0	3.2	1.2	10.7	7.0	2.6	8.6	8.6	2.8	11.0	8.7	3.5
Portugal												
Men	13.3	7.8	2.4	13.9	12.3	2.6	8.3	8.5	2.3	11.3	12.4	4.8
Women	31.4	24.1	7.3	24.8	24.5	8.6	15.9	14.3	5.8	19.9	15.1	7.0
Spain^d												
Men	23.6	13.7	5.7	44.5	27.9	11.5	24.8	24.2	10.0	39.8	36.4	16.4
Women	27.4	17.7	4.6	52.5	38.4	11.6	45.6	41.2	21.2	58.1	47.4	28.4
Sweden^d												
Men	7.0	3.6	1.3	10.0	6.7	2.3	3.4	3.1	1.1	17.7	19.3	7.9
Women	7.9	3.8	1.6	10.8	6.9	2.4	3.5	3.0	1.1	15.4	13.9	5.8
United Kingdom^{d, e}												
Men	..	..	..	23.3	19.3	9.4	11.7	10.4	6.0	20.8	18.3	9.8
Women	..	..	..	21.1	16.1	9.7	9.2	8.9	6.5	16.1	10.7	6.4
United States^d												
Men	15.9	8.7	3.4	23.3	15.9	8.2	15.9	8.8	4.1	19.0	10.2	4.9
Women	16.4	9.6	5.2	21.3	12.9	7.7	14.0	8.3	4.4	16.2	9.2	5.0
OECD unweighted average^f												
Men	13.6	8.1	3.2	20.3	14.8	6.1	13.8	11.3	5.0	19.3	16.7	7.5
Women	18.3	10.5	4.6	24.8	16.4	7.7	18.5	14.1	7.7	22.8	16.9	9.0

Sources and Notes: See Table 4.1.

Table 4.4. Incidence of long-term unemployment by age and gender, selected years

	Men			Women				Men			Women		
	15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old		15-19 years old	20-24 years old	25-54 years old	15-19 years old	20-24 years old	25-54 years old
Australia							Italy						
1979	12.3	15.7	23.3	14.8	21.0	15.4	1983	52.0	58.9	53.8	51.5	65.5	61.0
1983	18.0	27.8	32.6	19.4	31.0	26.1	1989	64.5	71.3	66.6	62.5	76.2	70.1
1989	14.4	24.6	30.6	15.0	19.5	16.3	1994	53.6	62.6	59.7	52.9	65.8	64.1
1994	15.8	32.5	44.0	20.4	39.0	34.2	Japan^d						
Belgium							1979	(5.3)	23.4		(6.7)	16.1	
1983	33.6	51.0	64.3	32.9	59.6	79.4	1983	(13.3)	13.3		(16.7)	4.3	
1989	29.6	56.5	80.5	36.3	64.7	81.4	1989	(10.5)	22.5		(5.3)	16.6	
1994	37.1	39.3	57.0	16.1	44.5	68.7	1994	(12.5)	24.1		(9.1)	12.0	
Canada^a							Netherlands						
1979	(2.3)	4.5		(2.3)	5.0		1983	34.1	40.6	52.1	36.9	44.9	55.9
1983	(6.7)	10.9		(7.5)	13.0		1989	23.8	34.3	63.6	23.1	31.4	48.8
1989	(1.9)	6.9		(2.2)	8.4		1994	32.3	46.6	51.4	29.4	39.5	50.9
1994	(7.2)	16.2		(8.4)	18.4		Portugal						
Denmark							1989	35.9	40.7	41.5	39.4	43.8	55.0
1983	33.5	30.5	43.7	48.2	41.0	51.6	1994	33.1	44.1	46.3	28.7	41.8	48.0
1989	14.0	11.1	20.1	11.4	12.5	28.0	Spain^e						
1994	14.2	15.1	36.4	5.1	16.8	30.2	1979	28.9	25.3	23.3	32.2	39.4	38.5
Finland^b							1983	49.4	49.1	49.7	52.6	61.6	58.5
1983	13.2	13.8	23.9	5.4	3.8	25.1	1989	40.3	49.8	53.1	54.1	67.1	67.9
1989	19.0	10.3	23.5	6.3	5.4	20.2	1994	35.4	46.9	51.3	43.9	59.1	67.4
1994	9.0	19.6	37.9	10.0	17.3	26.1	Sweden^e						
France							1979	1.1	2.4	6.6	2.1	2.4	5.8
1983	26.6	29.6	39.3	31.0	40.4	46.4	1983	3.5	3.8	8.4	1.0	4.0	8.6
1989	28.6	24.5	46.3	24.4	36.2	51.2	1989	1.0	3.9	6.6	0.0	2.8	4.4
1994	16.8	21.5	40.8	17.7	24.2	41.9	1994	6.3	16.7	19.4	3.3	8.6	14.6
Germany^c							United Kingdom^e						
1983	38.0	33.3	45.5	36.7	34.1	42.0	1983	37.3	51.9	54.4	29.8	36.2	36.1
1989	28.5	29.5	53.3	32.4	33.5	46.4	1989	17.5	33.2	51.7	17.5	24.0	28.3
1994	19.5	23.2	41.2	18.6	35.6	46.8	1994	21.5	46.6	55.0	17.9	28.6	36.0
Greece							United States^e						
1983	22.5	20.3	24.7	32.3	46.9	45.5	1979	1.8	3.4	6.4	1.2	3.3	4.1
1989	37.3	35.7	43.1	37.4	61.2	60.2	1983	6.1	12.4	19.5	3.0	7.5	11.9
1994	38.2	35.5	43.4	43.3	58.8	60.2	1989	1.7	4.1	9.9	1.3	2.3	4.6
Ireland							1994	5.3	8.3	16.8	4.3	7.1	12.0
1983	25.2	37.4	47.2	19.1	27.5	27.4							
1989	52.5	64.4	73.6	44.2	54.1	61.9							
1994	46.4	54.6	67.2	37.7	47.2	56.4							
OECD unweighted average^f													
1979	8.8	9.4	11.9	10.1	13.2	12.8							
1983	28.1	32.9	39.9	28.6	36.0	41.1							
1989	27.2	32.9	44.3	27.0	35.6	43.0							
1994	25.6	34.2	44.5	23.3	35.6	43.8							

a) Age groups are 15-24 and 25-44.

b) Data refer to 1983, 1987 and 1993.

c) Data for 1994 refer to reunified Germany.

d) Age group is 15-24.

e) Age group is 16-19.

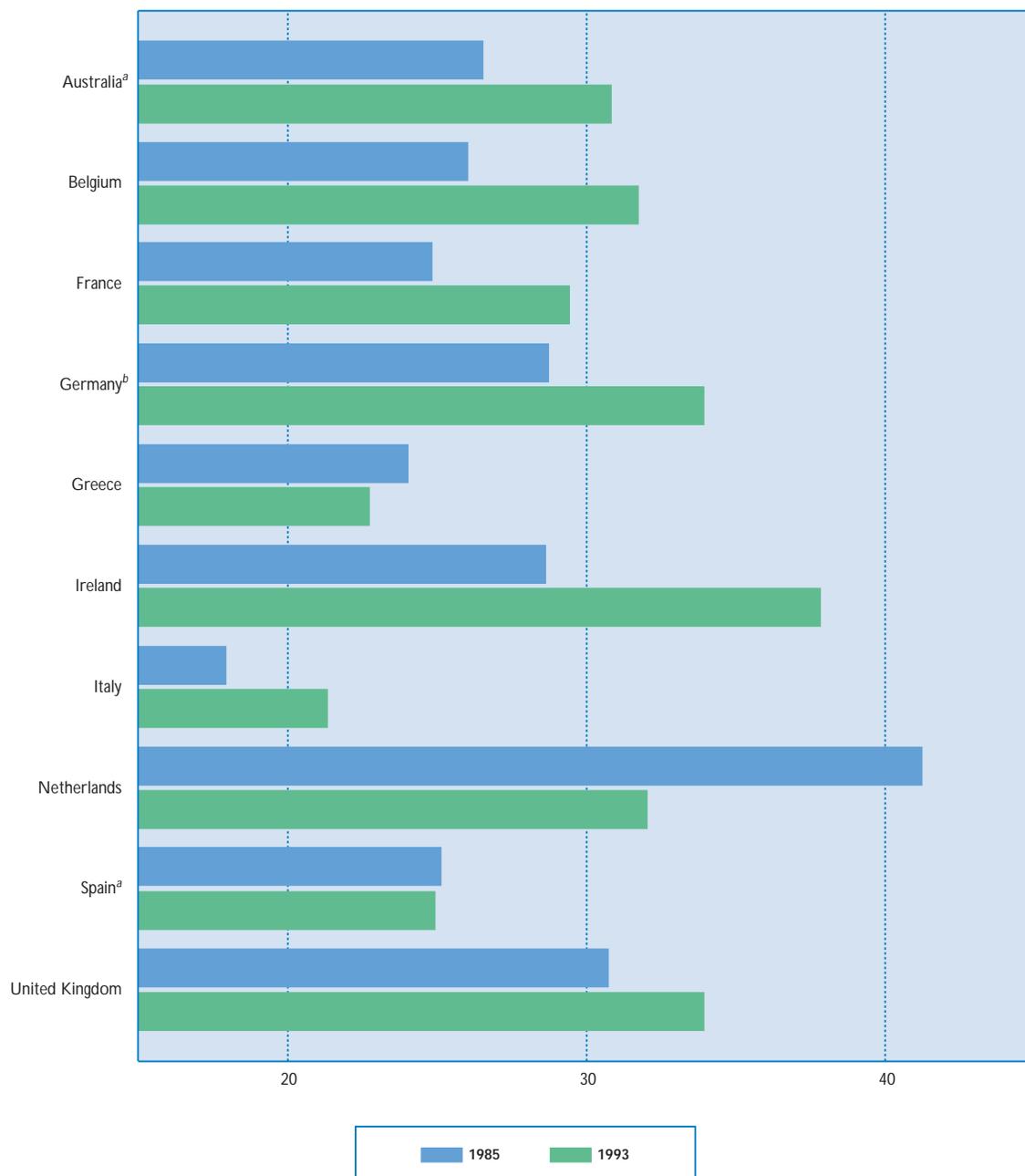
f) Based only on countries with data for the selected years, excluding Canada and Japan.

Source: OECD unemployment duration database.

Chart 4.1.

**Proportion of unemployed youth in households where no other person is employed,
1985 and 1993**

Percentages



a) Data refer to 1986.

b) Data for 1985 refer to western Germany.

Sources: Data for European countries were supplied by EUROSTAT on the basis of each country's labour force survey. Data for Australia were supplied by the Australian Bureau of Statistics.

Table 4.5. **Youths' attitudes to work**^a

	Probability that the group strongly agreed that:	
	Work is a person's most important activity	Would enjoy having a paid job even if I did not need the money
Unemployed		
Age 18-24	.23	.17
Age 35-44	.21	.15
Employed		
Age 18-24	.13	.16
Age 35-44	.16	.15

a) These results are based on an ordered probit model controlling for age, gender, marital status, country and includes an interaction term with the unemployed and the 18-24 age variable.
Source: Blanchflower (forthcoming).

in particular say they value work strongly. There is little in these survey responses to suggest that youth view jobs simply as a casual, marginal activity. The unemployed appear to value work as much as those with jobs.

This section has provided a very broad overview of trends in youth labour market activity. The remainder of this Chapter examines more explicitly the transition from education to work.

C. FROM EDUCATION TO WORK

1. Synthetic cohort analysis

A useful way to initially define the school-to-work transition is as the change in the major activities of young people from school-going to working/seeking work as they age. The transition period is the time interval during which a cohort of young people moves from near full enrolment in education to negligible enrolment and from negligible labour market activity to high levels of labour market activity. The length of the period depends on the patterns of elementary, secondary and higher education in a country, and on the expected rewards and availability of work compared with the alternatives. In most advanced countries, the period covers 10-15 years: from roughly ages 16-18 to ages 25-30. At age 16, the vast majority of the young are in school; by ages 25-30, enrolment rates drop to 5 per cent or less. At age 16, employment/population rates and labour force participation rates are low; by ages 25-30, they are relatively high for both men and women [Moncel and Rose (1995)].

Table 4.6 provides a capsule picture of the activity status of young persons aged 18 and 22 by gender in 1994 and a decade earlier (see Annex 4.A for

sources and definitions). The table shows large variations across countries in transition patterns, e.g. the high proportion of young persons in vocational training/apprenticeships in Germany and the different proportions in school. They also show a general pattern of decline in participation and employment rates, and high and, in some cases, increased rates of unemployment. Among 18-year-olds, the unweighted average for the countries in Table 4.6 shows 35.4 per cent of men employed in 1994 compared with 43.6 per cent in 1984 – a drop of 8.2 percentage points; for women, 28.5 per cent were employed in 1994 compared with 35.7 per cent in 1984 – a drop of 7.2 percentage points. The comparable figures for 22-year-olds show a drop in employment rates for men of 8.3 percentage points compared with 3.7 percentage points for women.

Chart 4.2 shows the transition in terms of the percentage of youths in education, as measured by labour force surveys.³ The horizontal axis reports the years gone by since age 16 for specified cohorts. The vertical axis gives the per cent of the youth cohort who are in school. Two age cohorts are shown: those aged 16 in 1984 and those aged 16 in 1988. For the United States and Canada, the data series are longer, allowing one to also record the experiences of the 1973 cohort for the United States and the 1976 cohort for Canada.

In all countries, the percentage in education falls with age. In many, the curve for the 1988 cohort lies above the curve for the 1984 cohort, implying that years spent in school are increasing, although this does not necessarily translate into a steady progression to higher levels of education. The upward shift in the cohort-schooling relation is particularly large in Portugal, Spain, France and Canada. In the United States, on the other hand, where post-secondary education increased earlier than elsewhere, the curves lie essentially on top of one another, implying a stable proportion of each cohort is in school as their major activity. Similarly, the curves for Germany, Belgium, and the United Kingdom are relatively stable.

Chart 4.3 examines the transition in terms of the endpoint state of employment. It shows the percentage of youths in a cohort who are employed regardless of whether they are in, or are out, of school. The pattern of cohort employment is a mirror image of the pattern for schooling. The percentage working rises in a sigmoidal curve. For men, the curves approach 85 to 90 per cent in most countries. But, there is variation over time and among countries. In countries with relatively high aggregate unemployment rates, the cohort employment curves are lower than in countries with lower aggregate unemployment rates. Cohorts who entered the job market in the late 1980s tend to have lower employment rates than cohorts who entered earlier, though there are some exceptions.

Table 4.6. **Labour market and schooling status of persons 18 and 22 years of age, 1984 and 1994**

Percentages

Men 18-year-olds	Labour force participation rate		Employment/ population rate		Unemployment rate		Proportion attending school		Proportion in some form of apprenticeship	
	1984	1994	1984	1994	1984	1994	1984	1994	1984	1994
Australia	83.2	70.0	66.0	53.7	20.7	23.3	26.4	41.6	18.1	11.9
Belgium	26.3	14.5	18.2	9.8	30.9	32.1	72.0	78.3	3.4	3.3
Canada	60.3	52.9	44.0	43.3	27.0	18.1	58.3	76.0	..	..
Denmark	74.3	69.5	66.3	63.7	10.7	8.3	39.4	64.2	30.6	20.0
France	42.5	16.9	27.2	11.1	36.0	33.9	47.4	79.9	8.0	9.2
Germany	66.7	57.8	61.8	53.6	7.4	7.2	36.0	45.0	41.5	39.1
Greece	40.5	27.1	33.4	21.2	17.6	21.8	56.0	69.1	0.9	0.5
Ireland	61.8	39.8	43.5	28.4	29.7	28.7	41.0	59.7	12.3	7.5
Italy	43.0	27.8	30.8	18.7	28.4	32.6	55.1	66.5	0.9	0.7
Luxembourg	54.1	27.5	50.5	22.5	6.6	18.3	43.7	67.5	22.1	3.8
Netherlands ^a	36.9	52.0	26.3	44.0	28.7	15.4	66.9	75.0	3.5	9.4
Portugal ^b	69.7	44.1	57.9	39.6	17.0	10.1	34.8	59.8	0.1	0.1
Spain ^b	49.6	36.7	25.8	20.9	48.0	43.2	49.3	64.3	0.3	0.2
United Kingdom	80.0	71.1	56.0	57.4	26.2	19.3	26.7	31.7	16.8	18.6
United States ^c	59.9	54.9	46.7	43.8	22.0	20.3	61.6	64.7	..	..
OECD unweighted average	56.6	44.2	43.6	35.4	23.8	22.2	48.8	63.7	11.7	9.4
Men 22-year-olds										
Australia	93.5	89.8	81.3	73.1	13.0	18.6	10.1	17.2	7.8	4.2
Belgium	66.5	61.7	52.8	46.8	22.1	22.6	35.4	34.3	2.5	0.6
Canada	80.8	75.0	63.4	60.2	21.5	19.7	23.2	33.1	..	..
Denmark	83.7	75.2	75.3	65.0	10.0	13.6	16.3	31.7	10.8	10.0
France	86.9	65.6	72.6	47.0	16.5	28.4	10.1	36.0	0.4	1.8
Germany	76.8	75.8	68.3	67.5	11.1	10.9	23.0	25.1	5.7	7.5
Greece	77.4	69.1	64.3	54.8	16.9	20.7	21.9	29.7	0.1	0.2
Ireland	89.4	76.8	70.4	56.0	22.0	27.1	11.3	20.7	4.4	6.3
Italy	76.0	64.5	63.6	45.1	22.7	30.1	23.2	27.5	0.6	0.4
Luxembourg	85.1	77.1	82.2	74.0	3.4	4.0	15.7	18.8	2.8	4.1
Netherlands ^a	74.2	72.7	58.2	64.4	21.5	11.4	33.2	43.3	0.0	9.1
Portugal ^b	82.8	71.3	70.9	60.7	14.3	14.9	19.6	31.5	0.0	0.7
Spain ^b	79.4	69.7	46.8	43.9	41.0	37.0	18.5	34.2	0.0	0.1
United Kingdom	91.2	83.7	76.0	65.5	16.6	21.7	11.3	12.8	3.7	7.6
United States ^c	81.8	79.2	69.6	67.3	14.9	15.0	19.7	23.5	..	..
OECD unweighted average	81.7	73.8	67.7	59.4	17.8	19.7	20.0	28.2	2.6	4.0

The fall in the cohort employment curves is greatest for France and Canada (both of whom experienced increases in the proportion in school as well) [Elbaum and Marchand (1993)]. For women, the curves also have an S-shape, but the increases in the percentage working taper off at noticeably different levels across countries. In many countries, the employment rates of women approach 75 per cent or so, but in some, such as Greece, Spain, and Italy, they stabilize at much lower rates. At least three factors are likely to affect the patterns across countries and within countries over time: the state of the aggregate economy; labour market conditions distinct to

youths, including the relative size of the youth population and the industrial mix of employment; and the institutions that govern the transition. These are considered below.

2. Number of jobs held since leaving school

While the cohort analysis tells one something about the transition – youths' employment probabilities increase considerably as they age – they say little about the process of settling into work. This can be a smooth process in which youths enter the job market

Table 4.6. **Labour market and schooling status of persons 18 and 22 years of age, 1984 and 1994** (cont.)

Percentages

Women 18-year-olds	Labour force participation rate		Employment/ population rate		Unemployment rate		Proportion attending school		Proportion in some form of apprenticeship	
	1984	1994	1984	1994	1984	1994	1984	1994	1984	1994
Australia	73.9	68.5	59.3	50.9	19.7	25.6	28.6	50.5	6.5	8.3
Belgium	22.4	8.0	12.8	4.8	42.9	39.7	73.9	82.1	2.2	1.2
Canada	55.0	52.9	42.0	45.0	23.7	15.0	57.4	73.5	..	..
Denmark	64.4	53.2	57.4	51.7	11.0	13.2	47.8	70.6	21.3	11.9
France	36.8	12.1	16.3	7.5	55.6	37.9	52.9	84.4	2.2	4.9
Germany	59.7	46.3	53.1	43.5	11.1	6.0	42.1	55.0	30.1	29.6
Greece	32.7	23.1	18.3	10.9	44.0	52.9	47.4	69.3	0.2	0.2
Ireland	55.7	31.6	37.1	18.6	33.3	41.0	50.1	69.1	6.5	3.2
Italy	37.0	18.3	20.5	11.3	44.7	38.5	52.5	69.3	0.6	0.4
Luxembourg	53.3	33.4	50.3	30.8	5.6	7.7	45.3	61.5	8.4	2.6
Netherlands ^a	38.2	50.0	27.4	42.9	31.9	14.1	62.5	80.6	2.4	4.0
Portugal ^b	53.5	37.8	38.9	30.7	27.1	18.6	39.5	63.9	0.5	0.5
Spain ^b	36.0	29.2	15.6	12.2	56.5	58.2	48.9	71.9	0.1	0.1
United Kingdom	71.3	64.6	56.4	54.6	20.8	15.6	27.3	38.1	6.6	8.7
United States ^c	55.4	53.1	45.4	44.1	18.1	17.0	55.7	59.2	..	..
OECD unweighted average	49.7	38.6	35.7	28.5	29.4	28.1	50.1	65.5	6.7	3.4
Women										
22-year-olds										
Australia	74.9	79.6	67.2	67.9	10.2	14.8	10.8	20.2	3.4	4.1
Belgium	69.2	59.9	50.1	47.3	27.6	21.0	23.7	31.9	1.1	1.0
Canada	75.5	71.0	64.6	61.4	14.4	13.4	18.8	34.6	..	..
Denmark	84.4	67.4	73.4	55.2	13.1	18.1	11.6	35.0	18.5	12.4
France	75.1	58.7	59.1	41.4	21.4	29.4	10.9	40.4	0.2	0.5
Germany	70.6	71.9	63.3	65.0	10.3	9.6	18.4	21.8	3.8	7.6
Greece	47.4	51.7	35.3	34.6	25.6	33.0	13.6	30.6	0.2	0.3
Ireland	79.4	72.7	69.0	59.7	13.1	17.8	6.8	17.7	3.7	6.2
Italy	61.4	53.9	41.3	36.9	32.6	31.5	18.6	29.8	0.4	0.7
Luxembourg	79.2	63.9	78.6	58.4	0.7	8.7	7.8	25.0	2.2	2.8
Netherlands ^a	72.6	76.0	64.3	68.1	12.6	10.4	21.1	26.5	4.5	8.2
Portugal ^b	59.8	60.9	45.5	51.3	23.9	15.8	24.2	41.8	0.0	0.0
Spain ^b	54.1	59.5	28.3	31.8	47.7	46.4	24.9	41.3	0.0	0.1
United Kingdom	70.4	66.1	59.4	61.4	14.6	9.9	6.0	10.6	2.8	4.4
United States ^c	70.0	71.9	62.8	66.4	10.3	7.7	14.1	19.8	..	..
OECD unweighted average	69.6	65.8	57.5	53.8	18.5	18.8	15.6	28.9	3.1	3.7

.. Data not available.

a) 1983.

b) 1986.

c) 1993.

Sources: See Annex 4.A.

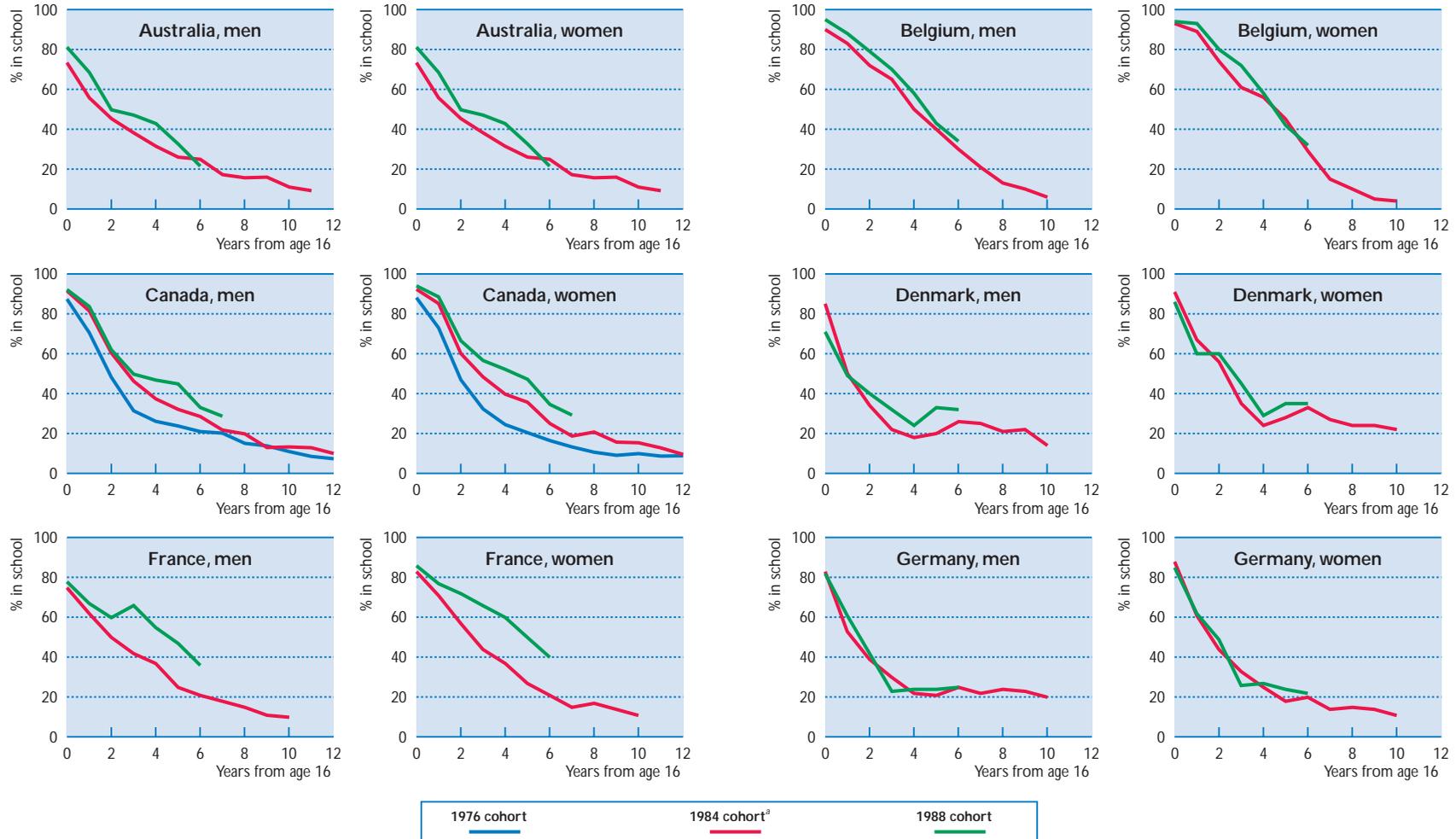
and obtain relatively long-term jobs quickly, or it can be more of a job matching and shopping process, in which youths enter and engage in a lengthy period of search interspersed with many short-term jobs, or it can be a situation of searching for a long period of time before finding that "first" job. Which process is, in some sense, best depends on many factors. Youths who move from school to long-term jobs directly are

likely to make greater firm- or sector-specific investments in human capital. Youths who go from school to many short jobs may pick-up a more diverse set of employment experiences [Lynch (1993); OECD (1993)].

Table 4.7 shows how the difference between these modes of entry into employment affects the number of jobs youths in various countries obtain

Chart 4.2.

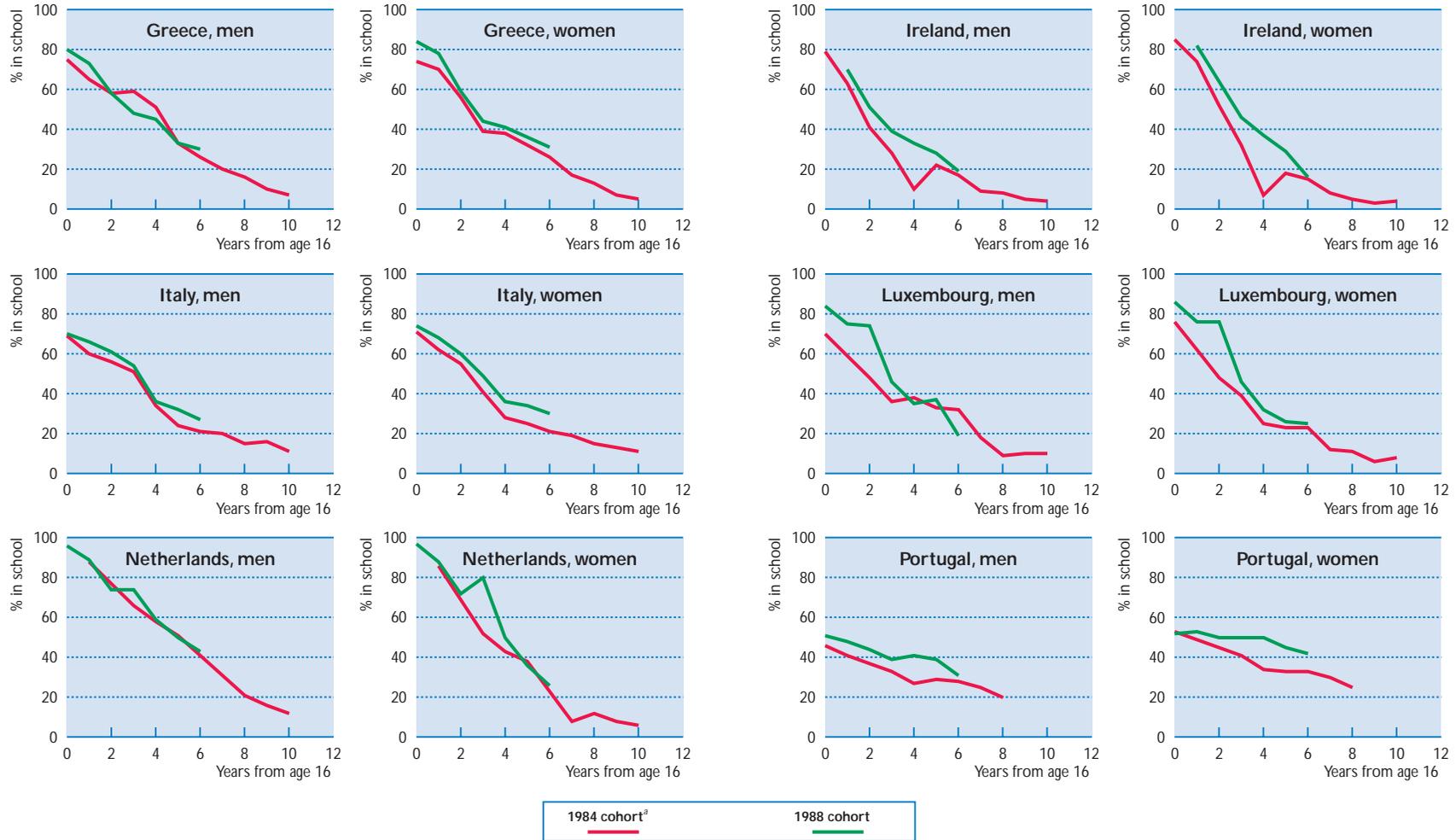
Proportion of youth attending school from age 16 onward, 1984 and 1988 cohorts



a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.
Sources: See Table 4.6.

Chart 4.2. (cont.)

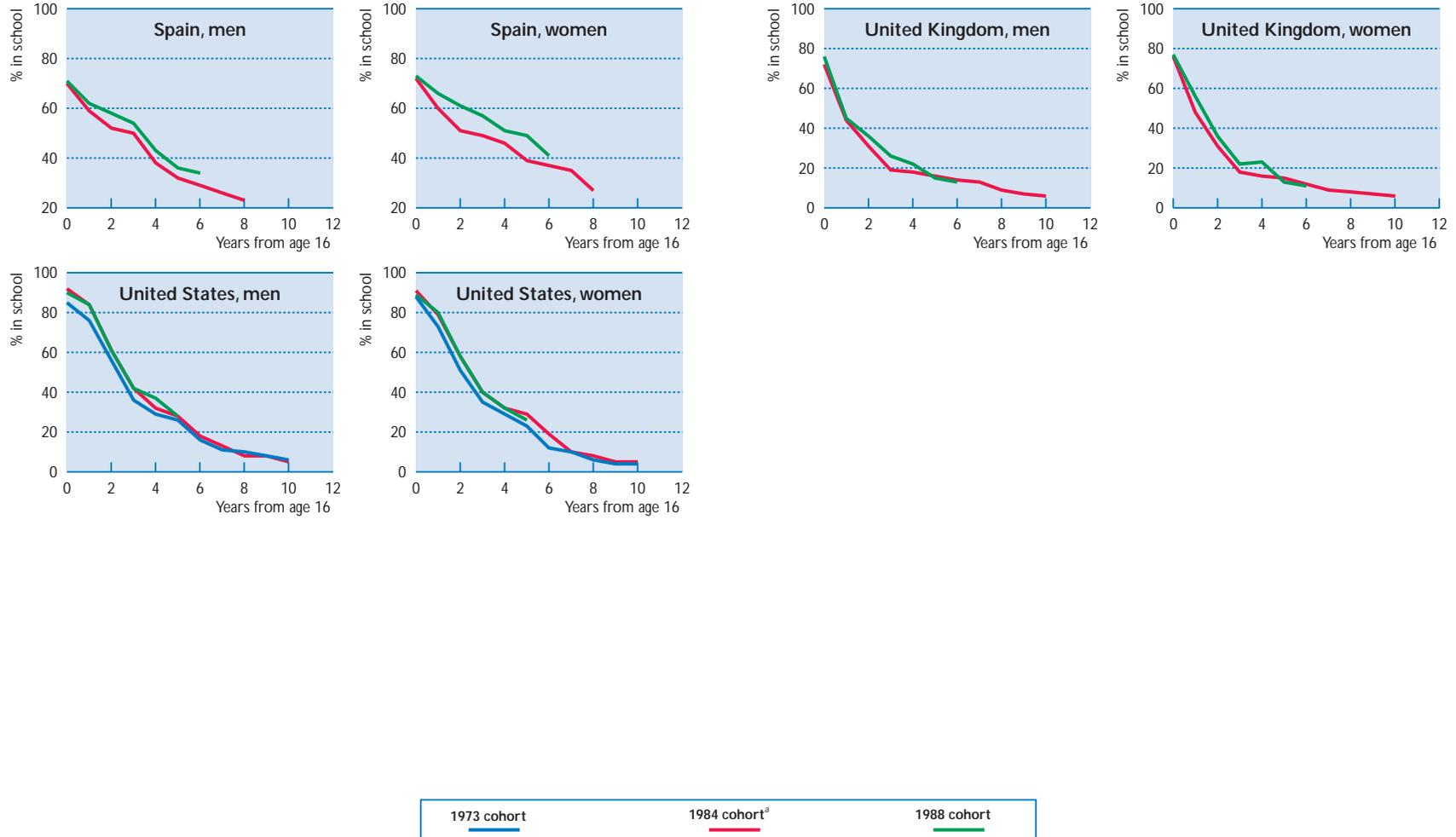
Proportion of youth attending school from age 16 onward, 1984 and 1988 cohorts



a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.
Sources: See Table 4.6.

Chart 4.2. (cont.)

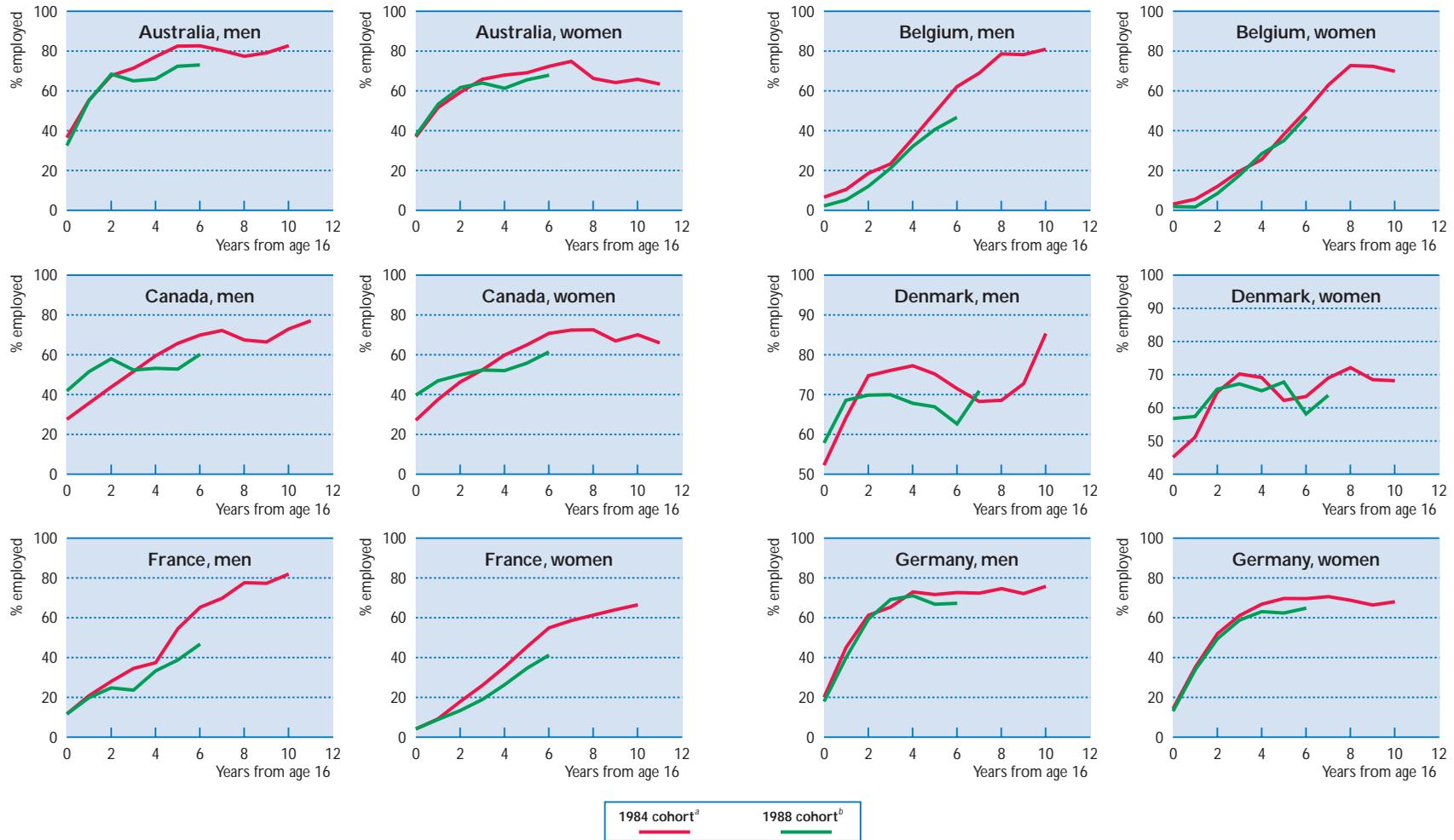
Proportion of youth attending school from age 16 onward, 1984 and 1988 cohorts



a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.
Sources: See Table 4.6.

Chart 4.3.

Proportion of youth with a job from age 16 onward, 1984 and 1988 cohorts



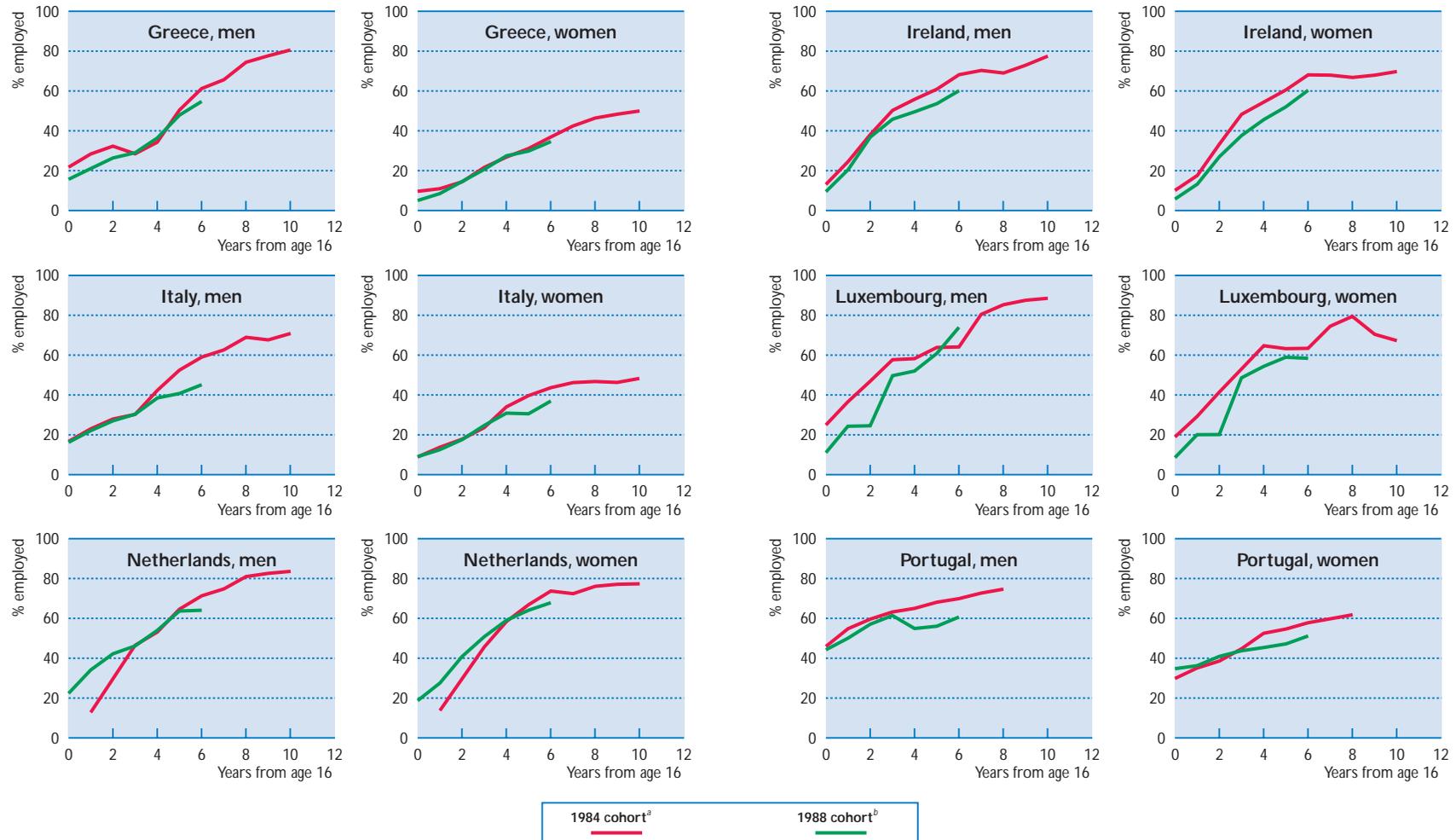
a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.

b) 1987 cohort for Denmark.

Sources: See Table 4.6.

Chart 4.3. (cont.)

Proportion of youth with a job from age 16 onward, 1984 and 1988 cohorts



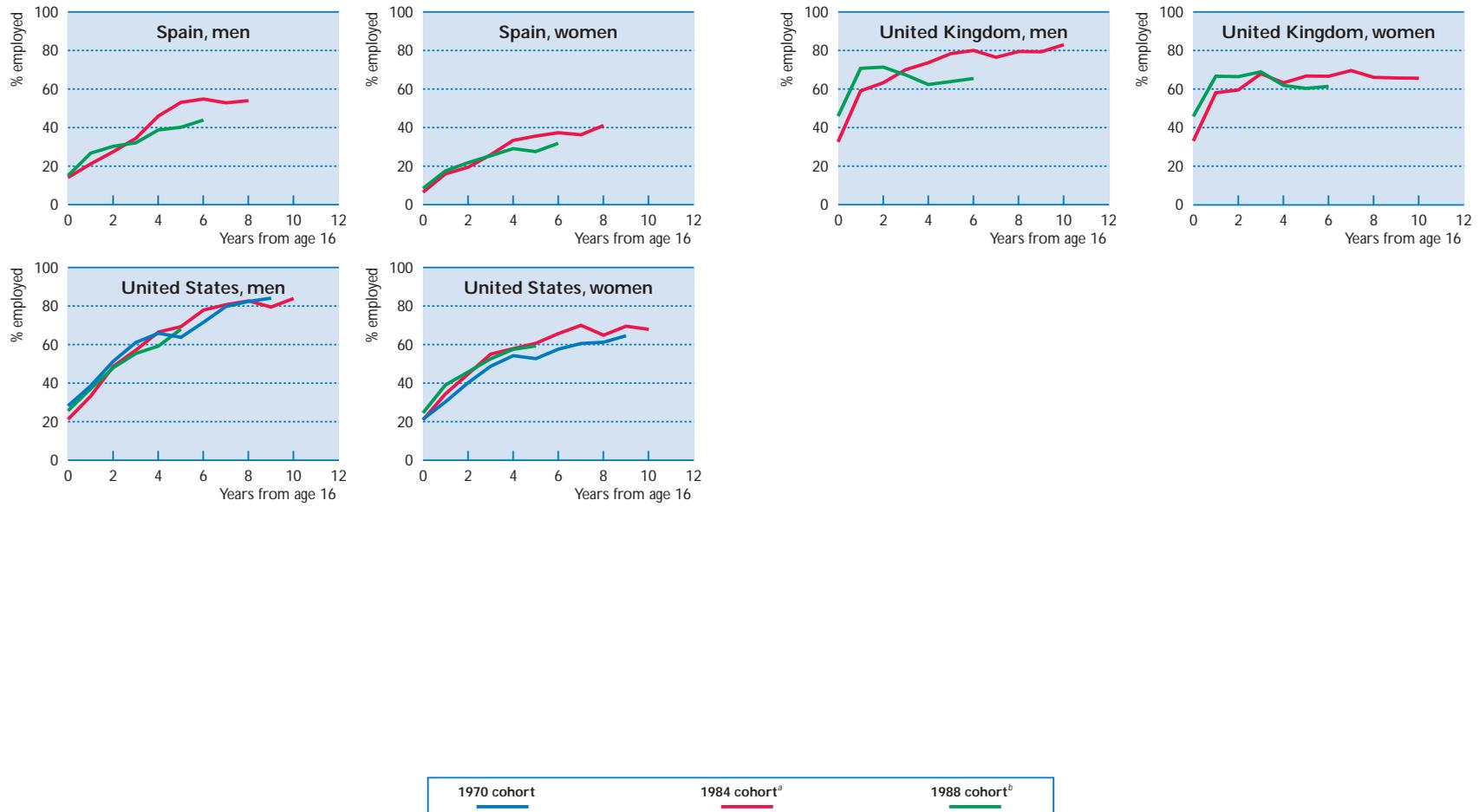
a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.

b) 1987 cohort for Denmark.

Sources: See Table 4.6.

Chart 4.3. (cont.)

Proportion of youth with a job from age 16 onward, 1984 and 1988 cohorts



a) 1983 cohort for Australia, Canada and the United States; 1986 cohort for Portugal and Spain.

b) 1987 cohort for Denmark.

Sources: See Table 4.6.

Table 4.7. **Average number of jobs held by young persons after leaving school**

Longitudinal and retrospective surveys

	Jobs held since age 16 over relevant period	Number of jobs per year
Germany^a		
Men	2.6	0.29
Women	2.0	0.22
Japan^b		
Men	1.6	0.17
Women	1.5	0.17
Norway^c		
Men	1.7	0.57
Women	1.9	0.63
Great Britain		
Men ^d	2.3	0.26
Women ^d	3.1	0.34
Men ^e	3.4	0.48
Women ^e	3.3	0.47
United States^f		
Men	7.7	0.86
Women	6.8	0.76

a) Refers to persons aged 25 in 1984 asked about all jobs held over the prior 10-year period.
b) Refers to persons under the age of 30 in 1985 asked about the number of times they had changed employers since leaving school.
c) Refers to persons under the age of 25 in 1989 who left school in 1988-1989. The count of jobs covers the period 1989-1992.
d) Refers to persons aged 16 in 1974 and aged 23 in 1981.
e) Refers to persons aged 22-25 in 1990.
f) Refers to persons aged 16 in 1979 and aged 25 in 1988.
Sources: See Annex 4.C.

from age 16 to 25 (from school leaving to less than age 30 for Japan; and from leaving school in 1988-1989 to 1992 for Norway), as given in longitudinal surveys or in surveys that ask about jobs retrospectively (see Annex 4.C). It records both the mean number of jobs obtained by youths over the relevant period and the number of jobs per year.

The single most striking difference in the table is between the number of jobs held by US youths compared with their counterparts in the other countries. The number held by the average American youth is an order of magnitude greater than that in Great Britain, Germany, or Japan, as well as being considerably above that for Norway. This reflects the relatively high degree of labour turnover in the United States, a fact that also shows up in large cross-country differences in average job tenures [OECD (1993)]. Although not shown here, the distribution of the number of jobs held by American youths as they age shows a remarkable spanning out. From the age of 16 in 1979 to the age of 26 (in 1989), almost no American youths had held just one job and nine out of ten had changed jobs more than three times. By contrast, just 4 per cent of Japanese men and 1 per cent of Japanese

women had changed jobs more than three times; just 10 per cent of German men under the age of 30 and 4 per cent of German women under the age of 30 had done so; 10 per cent of young Norwegian men and 13 per cent of young Norwegian women had changed jobs more than three times; and only 30 per cent of British men and 35 per cent of British women had made that many job changes.

Taken at face value, these data could suggest that young Americans have considerably more difficulty in finding stable job matches compared with most of these other countries. Indeed, employment tenure statistics indicate that, even as late as the ages 37-40, almost 40 per cent of American men had, in 1991, less than five years with their current employer, a figure far higher than in Germany or Japan [OECD (1993)].

But the interpretation of such data is not straightforward. Such turbulence is often seen as a reflection of systemic failure, wasting the time and resources of many youths, and, for many, never leading to long-term job matches. A contrary view is that it is constructive, allowing young persons to acquire work experience of value in the market place. These are complex issues requiring detailed longitudinal analysis to settle them.⁴

3. Youth not in education and not employed

As part of the ageing process, young people start leaving the school system and begin to settle into jobs. But not all are successful and it is useful to examine a potentially important group of policy relevance: youth who are neither attending school nor working. They comprise the proportion of the population either looking for work (and not in school) or out of the measured labour force (and, again, not in school).

Table 4.8 shows these figures for 18- and 22-year-olds for 1984 and 1994.⁵ Not surprisingly, a lower proportion of 18-year-olds fall into this category, but there are large cross-country differences. In 1994, very few Danish (especially men), German, Dutch or Portuguese 18-year-olds were neither in school nor working, whereas this figure stood at over 20 per cent in the United Kingdom. More disturbing, however, is that between 1984 and 1994, and notwithstanding generally rising school attendance rates, the proportion increased in Belgium, Germany, Italy and the United Kingdom.

Among 22-year-olds, the proportion falling into the category is, often, considerably higher. Moreover, among young men, the percentage has increased in most countries, with the exceptions of Canada, the Netherlands, Portugal and Spain. In seven countries,

Table 4.8. **Proportion of youth not attending school and not working by age and gender, 1984 and 1994**

	Men				Women			
	18-year-olds		22-year-olds		18-year-olds		22-year-olds	
	1984	1994	1984	1994	1984	1994	1984	1994
Australia	18.3	17.4	13.7	19.2	19.8	18.4	27.3	23.1
Belgium	11.2	13.0	15.4	20.8	13.7	13.5	27.5	22.2
Canada	18.0	10.2	22.3	20.4	20.4	14.0	26.3	21.1
Denmark	10.1	4.4	13.2	13.7	13.6	10.6	22.1	18.5
France	25.9	10.7	18.7	21.5	31.7	10.1	32.3	24.8
Germany	5.8	7.8	10.1	11.3	8.6	8.2	19.8	17.0
Greece	12.6	10.8	15.1	17.0	34.6	20.8	52.7	36.0
Ireland	18.1	16.8	21.8	22.7	15.4	11.9	25.8	26.9
Italy	14.7	15.2	19.5	28.8	27.5	19.7	40.9	34.6
Netherlands ^a	8.2	5.3	11.9	8.9	11.2	4.7	21.3	16.7
Portugal ^b	13.3	7.2	15.1	14.0	23.2	10.2	33.9	15.3
Spain ^b	25.4	17.2	35.0	24.8	35.5	18.1	47.1	30.7
United Kingdom	22.9	23.5	17.7	26.8	26.4	25.4	36.5	32.8
United States ^c	12.1	12.0	17.0	17.2	18.4	16.8	27.7	22.6

a) Refers to 1985.

b) Refers to 1986.

c) Refers to 1993.

Sources: See Annex 4.A.

more than one-fifth of young men aged 22 are neither in school nor working.

While a higher proportion of women aged 22, than men are neither in school nor in paid jobs, this reflects the historical pattern of women leaving schooling, on average, earlier and the historically different patterns of job-market attachment. However, reflecting changes in both patterns, unlike the case of men, the trend is just the opposite. In most countries, there has been a sharp decline in the proportion neither in school nor working.

Table 4.9 shows a different dimension, focusing on the non-employment rates of persons not participating in education. This is defined as the unemployed plus those out of the labour force divided by the relevant population. Consider men first. Aside from the obvious differences in levels across countries, the germane points are: a) non-employment rates for both 18- and 22-year-olds have increased in all countries except Denmark and Portugal (for those aged 22) and Spain; b) though non-employment rates of men 26 years old are smaller, reflecting the long

Table 4.9. **Non-employment rates of persons not attending school by age and gender, 1984 and 1994**

	Men						Women					
	18-year-olds		22-year-olds		26-year-olds		18-year-olds		22-year-olds		26-year-olds	
	1984	1994	1984	1994	1984	1994	1984	1994	1984	1994	1984	1994
Australia	25.0	29.9	15.2	23.0	13.3	16.5	27.7	37.8	30.6	29.1	47.0	33.5
Belgium	39.8	59.9	23.8	31.6	10.2	16.1	52.5	75.0	36.0	32.5	38.8	28.8
Canada	43.1	42.5	29.0	30.5	22.4	25.9	47.9	52.6	32.0	32.3	39.0	23.1
Denmark	16.7	12.4	15.7	20.1	17.4	8.1	26.0	36.0	25.0	28.4	24.9	24.6
France	49.2	53.1	20.8	33.6	10.6	15.2	67.4	65.1	36.2	41.7	33.9	31.5
Germany	9.1	14.2	13.1	15.5	9.3	11.5	14.9	18.2	24.2	21.7	34.1	26.4
Greece	28.6	35.0	19.3	24.2	12.8	15.0	65.9	67.6	61.0	51.9	58.7	48.1
Ireland	34.6	41.3	24.6	28.0	17.5	20.0	30.8	47.8	27.7	31.9	46.0	28.8
Italy	32.8	45.5	25.4	39.7	12.0	21.3	58.0	64.2	50.3	49.3	50.1	47.5
Netherlands ^a	35.0	21.0	18.1	15.7	14.9	11.6	36.9	24.2	27.9	22.8	43.8	21.3
Portugal ^b	20.4	17.9	18.8	20.4	11.4	11.3	38.2	28.3	44.8	26.4	40.6	28.8
Spain ^b	50.1	48.2	42.9	37.7	29.1	30.6	69.5	64.3	62.7	52.4	58.6	52.1
United Kingdom	31.3	34.4	19.9	30.8	18.0	15.7	36.4	41.0	38.9	36.7	47.4	34.0
United States ^c	31.5	33.4	21.2	22.5	14.4	13.5	41.5	41.2	32.2	28.2	36.5	29.7

Sources and Notes: See Annex 4.A.

process of settling down in the job market, they, nevertheless, have gone up in a number of countries; and c) the non-employment rates of 18- and 22-year-olds increased *relative* to those aged 26 in about half the countries.

The pattern for women is more mixed. For those 22 years old, in the majority of countries, the non-employment rate fell, sometimes substantially. On the other hand, as for 18-year-old men, these rates also generally increased for women (again, however, cross-country differences in levels are substantial).

The recorded increase in the proportion of youth neither in school nor in jobs is a worrying trend. However, further information on the characteristics of these youths, their household situation and past labour market experience, among others, is necessary before concrete policy recommendations can be developed.

D. YOUTH IN THE JOB MARKET

The supply of youths to the job market depends both on demographic factors and decisions about participation in full-time education and training. The relative supply of youths in the market depends also on the supply and characteristics of other workers in the economy. The demand for youth labour depends, among many other factors, on shifts in the industrial composition of output. Recent trends in these factors are discussed in turn in this section.

1. Demographic factors

Because of fluctuations in fertility, the size of youth cohorts varies considerably over time. In the 1970s, the baby-boom generation reached the labour market with significant consequences for youth unemployment and wages [OECD (1986); Bloom *et al.* (1987)]. The large influx of young workers depressed the opportunities for a typical entering worker. In the United States and some other countries, the result was a sharp twist in the age-earnings profile against young workers. In other countries, the result was a twist in employment rates against the young. Since 1980, the youth share of the population fell noticeably in most OECD countries as the baby boomers aged and were replaced by smaller cohorts. Chart 4.4 shows the ratio of the population aged 15-24 years relative to the population aged 25-54 years in 1980, 1990 and 1994. The marked drop in the youth population relative to 25-54-year-olds is substantial in all countries except Japan where it *grew* from 31 per cent in 1980 to over 35 per cent in 1994. Taking all the countries together, the (unweighted) ratio in

1980 was 44.2 per cent; in 1990, it averaged 38.6 per cent; and, in 1994, it averaged 35.4 per cent. The drops were particularly marked in Canada, the United States and Germany. All else the same, large declines in cohort size might be expected to raise their employment prospects, reduce their unemployment rate relative to that of adults and raise their earnings relative to adults. In many OECD countries in the 1980s, youth labour market problems were expected to diminish as the youth cohort declined in size. But, as shown in Sections B and C above, no such improvement occurred in most countries. Whatever improvement in the labour market prospects of youths brought about by the smaller size of youth cohorts was apparently outweighed by other factors.

2. Changing characteristics of the youth work force

The characteristics of youths in the job market changed in a number of dimensions in the 1980s-1990s. As participation in education increased, more and more young people who are employed at specific ages are, at the same time, students in many countries.⁶ This is shown in Table 4.10 for young persons aged 18, 22 and 26. Among 18-year-olds, the rise in the student proportion of youth employment is substantial in some countries. For instance, in Denmark the "in school" proportion of the employed rose from almost one-quarter in 1984 to one-half in 1994 among men and from 32.5 per cent in 1984 to 63.5 per cent in 1994 among women. The rise in the student share of the youth work force is noticeable even in countries where students have not traditionally worked, such as France. Among all OECD countries in the sample, the (unweighted) share of 18-year-old employed men who were students rose from 15.7 per cent in 1984 to 25.1 per cent in 1994. Similarly, the (unweighted) share of 18-year-old employed women who were students rose from 14.4 per cent in 1984 to 30.2 per cent in 1994. There are similar trends for 22- and 26-year-olds, though for these age groups the student proportion of young workers remains generally small.

The rising proportion of young workers participating in education is examined further in Table 4.11 using the cohort data described earlier. The table records regression coefficients on both a time trend and the aggregate unemployment rate for the proportion of the employed who are in school (see Annex 4.A for a description of the estimation method used for this and all other regressions in the chapter, and see Table 4.A.1 for the sample sizes). The trend coefficients are positive in all but two countries and are generally sizeable, indicating the widespread increase in the student proportion of the

Chart 4.4.

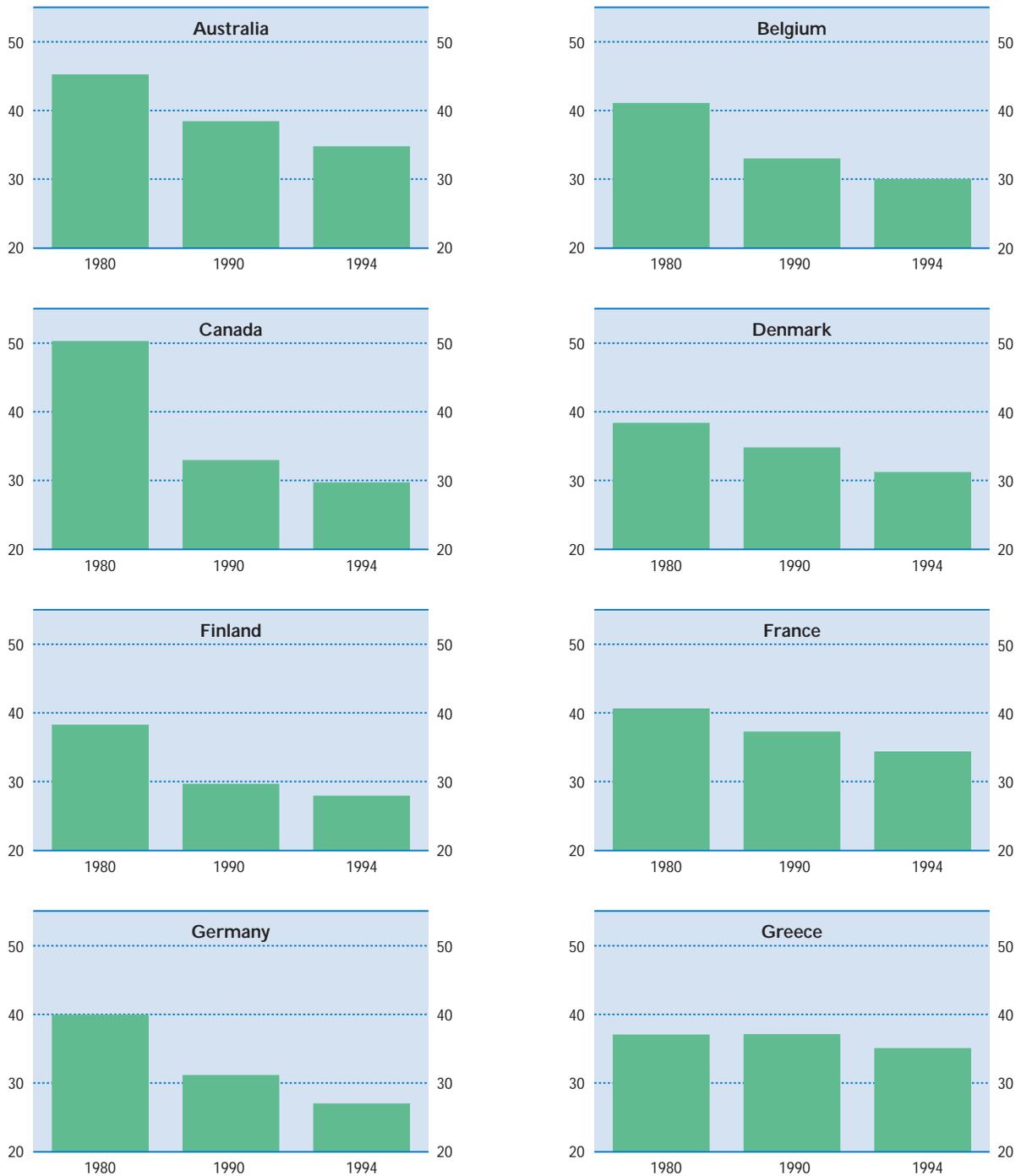
Youth aged 15-24 as a proportion of the population aged 25-54, selected years
Percentages

Chart 4.4. (cont.)

Youth aged 15-24 as a proportion of the population aged 25-54, selected years
Percentages

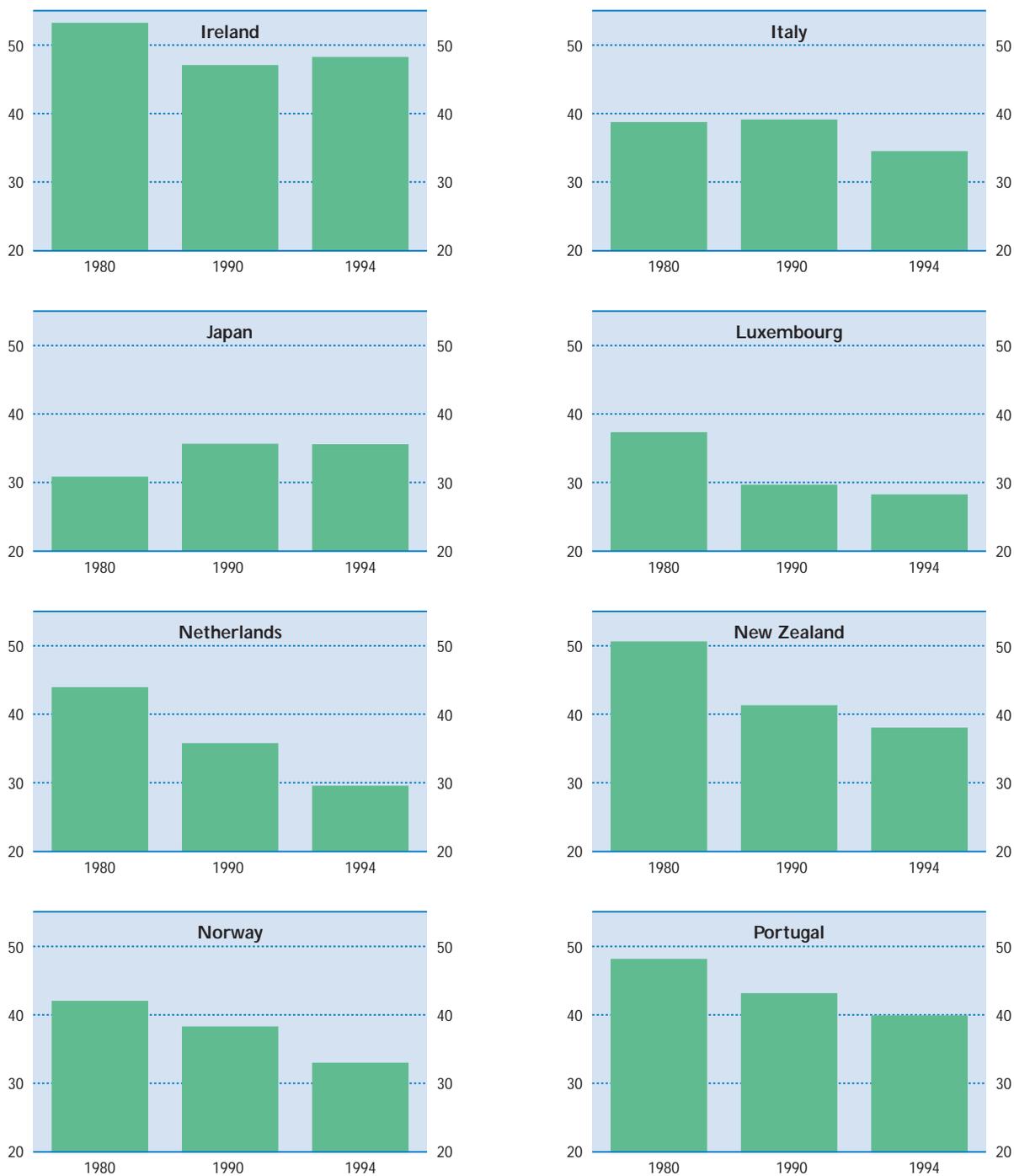


Chart 4.4. (cont.)

Youth aged 15-24 as a proportion of the population aged 25-54, selected years
Percentages

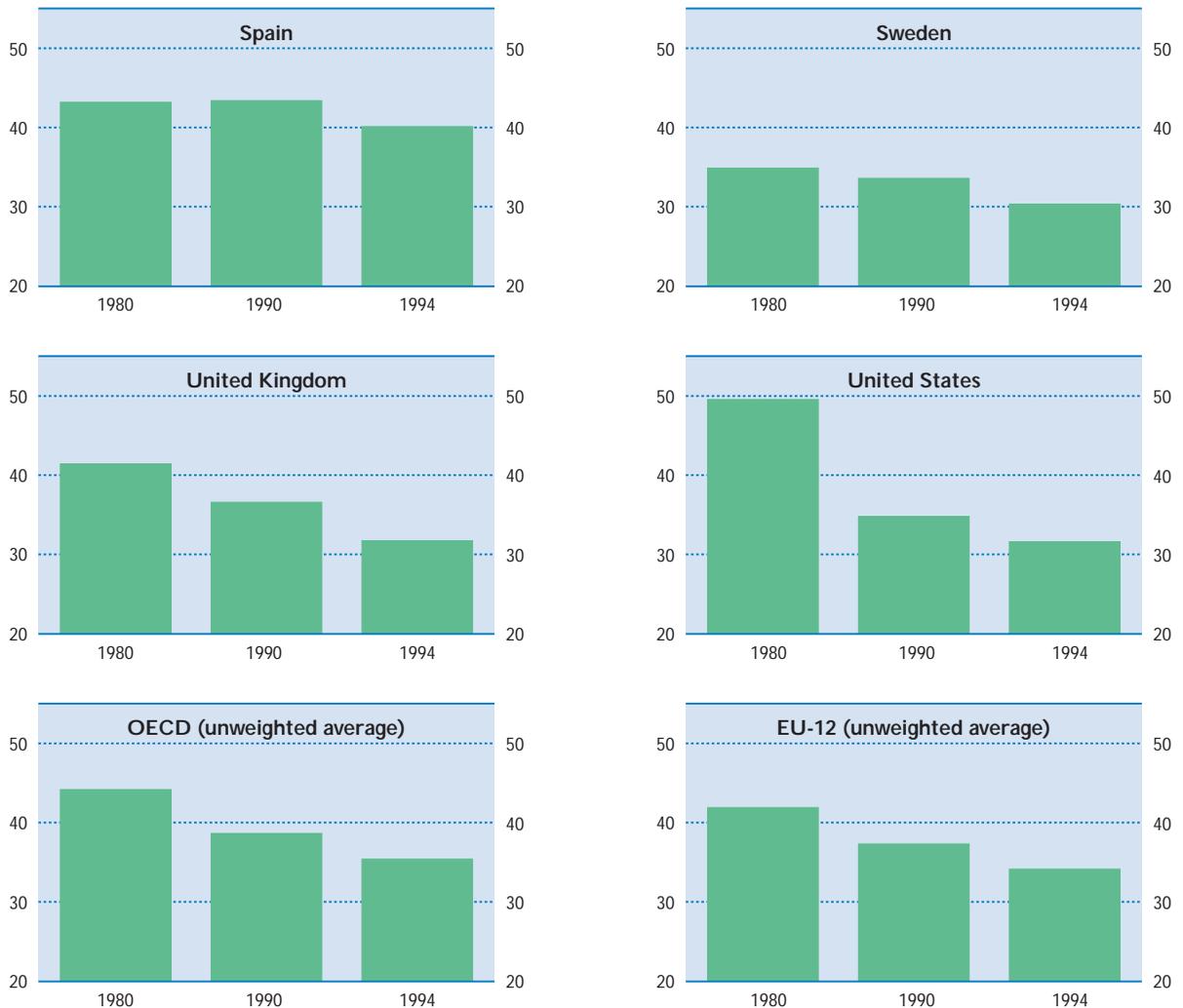


Table 4.10. **Percentage of the employed who are attending school, selected ages**

	Age 18		Age 22		Age 26	
	1984	1994	1984	1994	1984	1994
Men						
Australia	41.7	43.9	14.9	18.0	12.6	12.8
Belgium	7.1	11.5	4.9	3.8	6.9	3.0
Canada	46.1	68.1	14.0	22.8	7.0	12.2
Denmark	23.9	50.8	6.4	15.9	5.1	7.0
France	1.9	15.6	1.9	9.4	1.7	6.9
Germany	5.8	12.0	2.0	5.8	2.0	6.7
Greece	5.8	5.1	2.0	2.7	1.1	1.7
Ireland ^a	5.9	10.8	3.5	3.7	1.9	1.9
Italy	2.1	2.6	2.4	3.0	2.2	1.7
Luxembourg	0.9	5.6	1.6	1.4	1.0	0.9
Netherlands ^b	23.7	55.1	13.7	25.6	12.5	7.4
Portugal ^c	10.2	16.6	7.9	10.2	2.1	8.7
Spain ^c	2.0	11.3	0.6	6.6	0.2	6.5
United Kingdom	14.6	21.9	6.6	7.9	3.9	5.1
United States ^a	43.8	46.3	9.2	12.0	2.1	2.1
OECD unweighted average	15.7	25.1	6.1	9.9	4.2	5.6
Women						
Australia	21.8	51.8	12.8	22.1	10.4	12.9
Belgium	3.2	6.7	2.5	2.7	5.6	2.8
Canada	47.1	72.1	14.6	27.9	10.2	6.0
Denmark	32.5	63.5	9.6	15.6	5.1	13.8
France	5.7	27.6	3.8	16.2	1.6	8.1
Germany	7.3	15.4	2.3	5.9	1.2	4.0
Greece	2.1	8.5	4.4	3.6	1.5	1.6
Ireland ^a	6.9	23.3	2.3	3.7	3.1	1.7
Italy	2.5	2.3	2.1	3.5	2.5	3.4
Luxembourg	3.1	4.2	0.0	3.2	0.7	2.5
Netherlands ^b	18.8	65.7	10.3	16.5	9.3	5.1
Portugal ^c	4.0	15.8	8.0	16.4	6.2	9.0
Spain ^c	0.5	17.8	0.9	12.3	0.2	8.1
United Kingdom	18.1	33.0	3.2	7.8	2.6	5.8
United States ^a	42.9	45.6	7.3	13.2	1.8	1.5
OECD unweighted average	14.4	30.2	5.6	11.4	4.1	5.8

a) Data refer to 1984 and 1993.

b) Data refer to 1983 and 1994.

c) Data refer to 1986 and 1994.

Sources: See Annex 4.A.

youth work force. The coefficients on the trend terms in the single year of age regressions show that the rise in the student proportion of young workers is most pronounced in the younger age groups. Increasingly, teenage workers are also students. In that *specific* sense, working while also participating in education is becoming a more important part of the youth labour market today.

One additional change in the composition of the youth work force merits attention. This is the demographically-induced drop in the proportion of teenagers in the youth work force. As the teenage share of the population has fallen, an increasing proportion of young workers is in their twenties. This phenomenon is especially pronounced in France, Germany, Ireland, Spain and Italy (Chart 4.5).

3. Industry composition of youth employment

In many countries, youths work in different economic sectors than adults. They are more likely to be found in retail trade, and hotels and restaurants than in utilities, education or public administration. A disproportionate number of young men in many, but not all, countries are also employed in construction. Among young women, a disproportionate number is employed in personal services. Differences in the industrial distribution between younger and older workers imply a separation between the youth and adult labour markets. If youths are concentrated in declining sectors, they must switch industries to move into relatively permanent work. If, by contrast, youths are concentrated in growing sectors, they pro-

Table 4.11. **Econometric estimates of the effects of the aggregate unemployment rate and a time trend on the share of youth employment comprised of those also attending school**

Country ^a	Unemployment rate	Trend
Australia	.2379 (1.68)	.6688 (10.91)
Belgium	.1153 (0.83)	.4448 (10.25)
Canada	.1991 (1.59)	.6728 (18.28)
Denmark	.1091 (0.51)	.1195 (1.55)
France	.8950 (6.22)	.2949 (4.51)
Germany	.9091 (3.79)	.5210 (10.74)
Greece	.2411 (2.47)	-.0280 (1.51)
Ireland	.1659 (1.09)	.9927 (10.85)
Italy	-.2233 (4.59)	.1061 (8.56)
Luxembourg	.2750 (1.52)	.3456 (7.15)
Netherlands	.0763 (0.15)	-.2536 (0.58)
Portugal	-.0299 (0.24)	.6874 (12.43)
Spain	-.0807 (2.10)	.7120 (16.91)
United Kingdom	-.3195 (3.28)	.3559 (12.40)
United States	-.0214 (0.38)	.1600 (14.55)
Age ^b	Unemployment rate	Trend
16	.0881 (0.35)	.7449 (8.29)
17	.0112 (0.04)	1.0735 (11.67)
18	.6219 (2.66)	1.1647 (14.05)
19	.4498 (2.29)	.9311 (13.41)
20	.3960 (2.40)	.6861 (11.72)
21	.4517 (3.43)	.5789 (12.41)
22	.3941 (3.68)	.4715 (12.48)
23	.4335 (4.64)	.3177 (9.58)
24	.3298 (3.92)	.2335 (7.83)
25	.3136 (4.04)	.1731 (6.29)
26	.3419 (4.83)	.1207 (4.80)
27	.2851 (4.04)	.0990 (3.97)
28	.3066 (4.70)	.0544 (2.35)
29	.3002 (4.73)	.0593 (2.63)
30	.1802 (2.84)	.0546 (2.42)
31	.2393 (3.50)	.0331 (1.36)
32	.2285 (3.49)	.0559 (2.84)
33	.2002 (2.98)	.0448 (1.87)
34	.2635 (3.88)	.0243 (1.00)
35	.2237 (3.38)	.0498 (2.10)

a) T-statistics are in parentheses. Equations also include 19 age dummies and a gender dummy.

b) Equations also include 14 country dummies and a gender dummy.

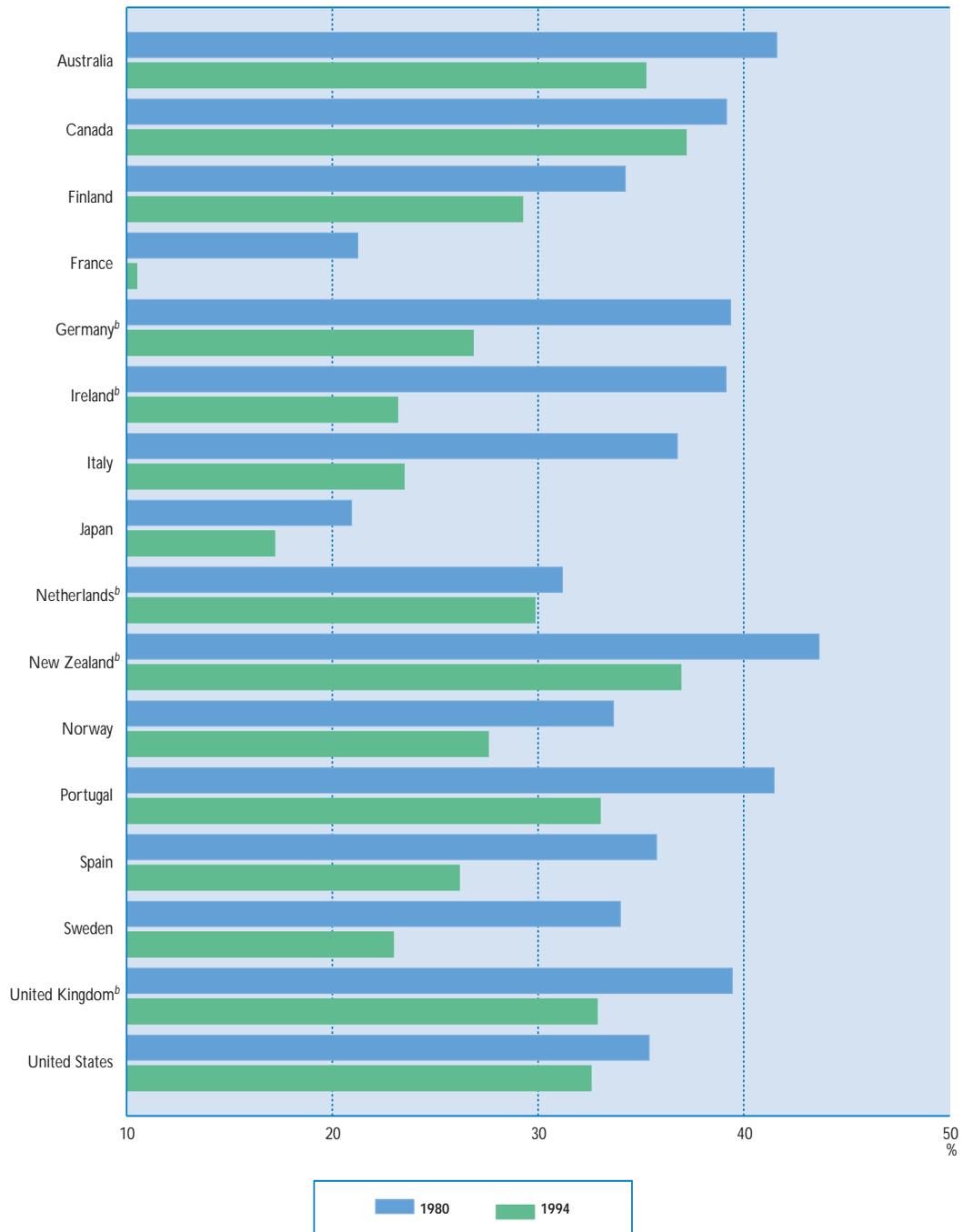
Sources: See Annex 4.A. The overall unemployment rates are from OECD, *Labour Force Statistics*, Part III, Paris, 1995.

vide the “investment margin” that shifts the employment composition of the work force to new areas.

One way to see which industries use youths disproportionately is to calculate youth “employment coefficients”. These are defined as the ratio of the share of young workers’ employment by industry to the share of workers aged 25 and over by industry (results by gender are based on calculations using the gender-specific denominator). When the ratio exceeds one, an industry employs disproportionately more young workers than it does older workers, making it a “youth-intensive” industry. When the ratio is below one, the industry employs relatively few younger workers. Table 4.12 records these ratios for young workers in selected industries where youths are

highly concentrated in 1994. In every country, youths – both men and women – are disproportionately represented in hotels and restaurants, and wholesale, retail trade, and repairs. These sectors are huge employers of youths. In Canada, Germany, France and the United States (excluding hotels and restaurants), for instance, these few sectors employed 40 per cent or more of all young workers. When the youth work force is disaggregated by gender, two other industries are youth-intensive: construction, for men; and personal services, for women. The uniformity of these patterns across countries is striking and suggests that, differences in the school-to-work-transition notwithstanding, what happens to youth in the labour market depends partly on developments in a limited set of sectors.⁷

Chart 4.5.

Employed teenagers as a per cent of employed persons aged 15-24^a

a) Teenagers refer to persons aged 15-19 except in Spain, Sweden, the United Kingdom and the United States where they refer to persons aged 16-19.

b) Data for Germany refer to 1980 and 1993; for Ireland, 1979 and 1993; for the Netherlands, 1987 and 1994; for New Zealand, 1986 and 1994; and for the United Kingdom, 1984 and 1994.

Source: OECD, *Labour Force Statistics*, Part III, 1995.

Table 4.12. **Ratio of shares of employment for those aged 15-24 relative to those aged 25 and over for selected youth-intensive industries, 1994**

	Both sexes		Men		Women	
	Hotels and restaurants	Wholesale and retail trade, repair	Hotels and restaurants	Construction	Hotels and restaurants	Personal services
Belgium	2.03	1.41	2.66	1.62	1.48	1.19
Canada ^a	3.92	1.96	4.43	0.77	3.46	1.99
Denmark	5.92	2.30	5.27	1.12	6.25	1.75
France	2.56	1.54	2.90	1.27	2.23	1.36
Germany	1.60	1.29	1.69	1.53	1.44	0.66
Greece	1.76	1.51	1.99	1.31	1.43	1.74
Ireland	2.01	1.66	2.39	0.87	1.52	1.16
Italy	1.63	1.06	1.89	1.36	1.29	1.29
Japan ^b	1.60 ^c	1.27	2.73 ^c	0.90	1.00 ^c	0.78
Luxembourg	1.65	1.71	1.74	1.27	1.38	1.12
Netherlands	3.15	1.96	3.88	1.12	2.43	0.99
Portugal	1.44	1.22	1.46	1.81	1.43	0.88
Spain ^d	1.64	1.45	2.01	1.26	1.17	1.39
United Kingdom ^d	2.44	1.68	3.22	1.04	1.96	1.48
United States ^d	..	2.14	..	0.75	..	1.14

.. Data not available.

a) Repair services are not separately identified.

b) Data refer to 1992.

c) Refers to eating and drinking places only.

d) Age refers to 16-24-year-olds.

Sources: Data for European countries were supplied by EUROSTAT on the basis of each country's labour force survey. Data for Canada and the United States are based on each country's March labour force survey and were supplied by Statistics Canada and the Bureau of Labor Statistics, respectively. Data for Japan are from the 1992 *Employment Status Survey*, Statistics Bureau, Management and Coordination Agency.

The magnitude of the difference between the distribution of youths and adults across industries does, however, differ among countries. In some, the two are far apart, implying quite distinct youth labour markets or, as noted above, a rapidly shifting industrial pattern of employment fuelled by the allocation of youths. In other countries, the distributions are not that different. The magnitude of the divergence is reflected in an index of "structural dissimilarity" between the two distributions. This is defined as the sum of the absolute value of the difference between the distribution of youth employment by industry and the distribution of the employed aged 25 years and over by industry (the index is calculated separately for men and women). Heuristically, the distribution measures the extent of reallocation in youth employment across industries necessary for them to have the same distribution of employment by industry as adults. A value of zero, for example, indicates identical distributions of youths and adults.

Table 4.13 records indices of structural differences in industry distributions in 1984 and in 1994 for both sexes, and for young men and women. There are substantial country differences in the extent to which youths are employed in the same industries as adults.⁸ In 1994, Japan and Germany had the lowest indices of industrial dissimilarity for men, whereas

Canada and the United States had the highest indices. The first two countries, despite many differences, are also ones where enterprise tenure-age profiles are particularly steep and the probability that a young man recently hired stays on is especially high. Canada and the United States exhibit the opposite pattern of considerable job-hopping [OECD (1993)]. The table also reveals increases in the dissimilarity indices over time in many countries among both men and women. In some, the increase is particularly pronounced and reflects the increased concentration of the young in "youth-intensive" industries (Germany and Luxembourg are exceptions as the index fell for both men and women). Thus, the period since 1984 has seen the development of a more bifurcated labour market by age in many countries.

E. YOUTH EARNINGS

Given the changes in the supply of, and the demand for, youth labour described in the previous section, it is of interest to quantify the net effects of these shifts on youth earnings. This section examines the outcomes for the earnings of youths relative to adults.

Table 4.13. **Indices of structural differences in employment for 15-24-year-olds compared with those aged 25 and over**

	Both sexes			Men			Women		
	1984	1994	Change	1984	1994	Change	1984	1994	Change
Belgium	.27	.34	.07	.30	.42	.12	.24	.34	.10
Canada	.46	.66	.20	.50	.64	.14	.46	.70	.24
Denmark	.34	.58	.24	.35	.48	.13	.40	.77	.37
France	.26	.32	.06	.29	.38	.09	.29	.35	.06
Germany	.29	.19	-.10	.30	.24	-.06	.29	.19	-.10
Greece	.31	.37	.06	.32	.39	.07	.47	.43	-.04
Ireland	.41	.43	.02	.35	.46	.11	.44	.42	-.02
Japan ^a	.35	.30	-.05	.28	.33	.05	.53	.34	-.19
Luxembourg	.48	.37	-.11	.44	.39	-.05	.50	.37	-.13
Netherlands ^b	.32	.48	.16	.35	.51	.16	.36	.50	.14
Portugal ^c	.42	.52	.10	.43	.49	.06	.44	.58	.14
Spain ^{c, d}	.33	.36	.04	.41	.35	-.06	.36	.43	.07
United Kingdom ^d	.28	.36	.08	.32	.39	.07	.36	.37	.01
United States ^{d, e}	.46	.55	.11	.52	.57	.05	.45	.54	.09

- Data not available.

a) Data refer to 1982 and 1992.

b) Data refer to 1985 and 1994.

c) Data refer to 1986 and 1994.

d) Age refers to 16-24-year-olds.

e) Data refer to 1983 and 1994.

Sources: See Table 4.12. In addition, the Japanese data for 1982 are from the 1982 *Employment Status Survey*, Statistics Bureau, Prime Minister's Office.

1. Youth earnings differentials

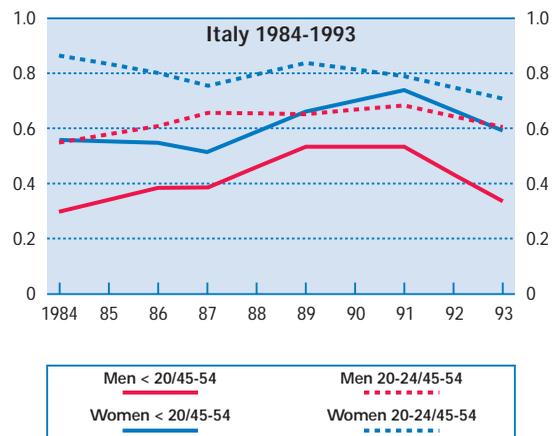
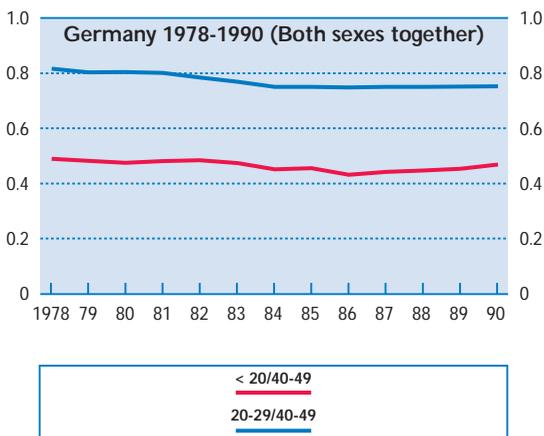
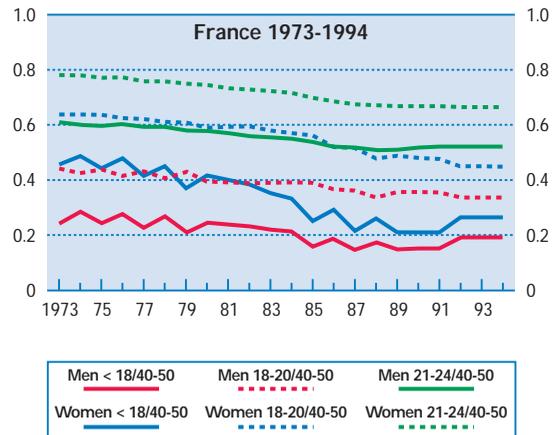
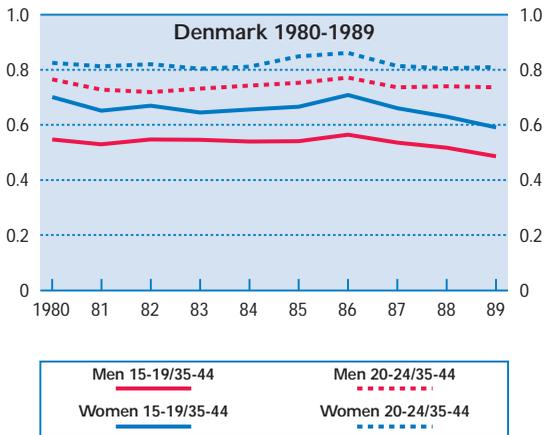
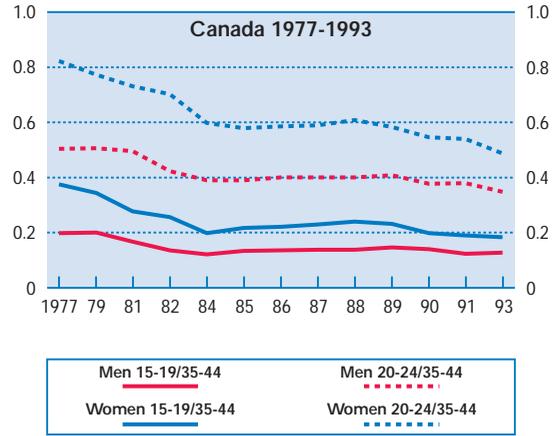
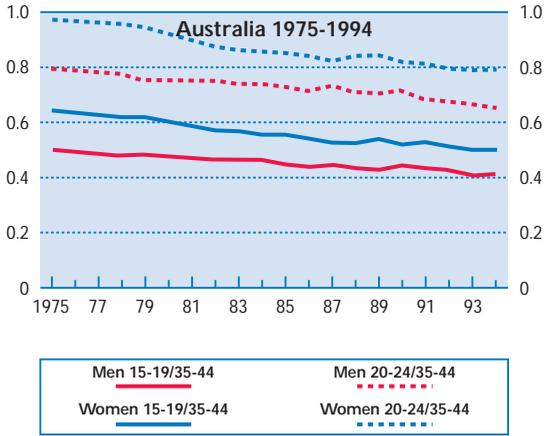
An important indicator in assessing the performance of youth in the labour market is the earnings they command. From the 1970s through the early 1980s, the average earnings of youths fell relative to adults in several countries [OECD (1986)]. One reason was the entry of the baby-boom generation to the job market. Given this pattern, some analysts and governments expected youth labour market problems to lessen considerably, all else the same, as the relative size of youth cohorts declined in the late 1980s and into the 1990s. Did this expectation show up as an improvement in the relative earnings of youths? Chart 4.6 provides a partial answer to this question. It records the ratios of the earnings of teenagers and 20-24-year-old workers, by gender, to the earnings of older workers in 11 OECD countries for which time-series data are available on earnings by age. The precise age group for older workers in the comparisons differs depending on the country. For most countries, the older groups are 35- to 44-year-olds or 40- to 49-year-olds, but the Swedish figures relate to 25- to 64-year-olds and the Japanese to 45- to 49-year-olds. There are other differences in the nature of the data that makes the comparisons of the ratios across countries imprecise, but which should be less likely to affect changes over time (see Annex 4.B).

Certain other difficulties in interpreting these data need to be noted. First, the summary measures and the time period covered by them are not the

same. For example, the data sometimes refer to annual, sometimes to weekly, and sometimes to monthly earnings. For the most part, the data refer to full-time workers. This provides some "control" for hours worked, but the definitions of full-time work are not the same across countries and actual hours worked by even full-time workers can differ across age groups. Thus, any observed trends in pay relativities could reflect, in these data, differences in working time. Second, many youths in jobs will be missed in these data because they work part-time. Ideally, one would prefer data on wage rates, but such data are very difficult to obtain. Third, changes in the composition of each group can affect the "true" picture of relative earnings changes. For example, if the earnings of teenagers were being compared with that of adults and over the period the proportion of older teenagers in the group increased, as it did in some countries, then, all else the same, one would likely see a rise in relative earnings of teenagers from this compositional effect alone. Fourth, taking movements in these data as an indicator of changes in labour costs can be problematic if either productivity or non-wage labour costs of different groups change over time. Finally, the existence of wage subsidies for specific groups, e.g. youth, can also complicate analysis because they may lead to changes in earnings of the target group. These issues are almost impossible to deal with and this subsection assumes that there has not been any substantial changes in these factors. Considerable caution in drawing conclusions is, therefore, necessary.

Chart 4.6.

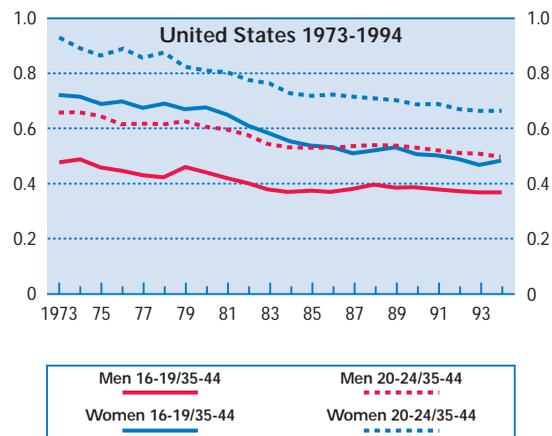
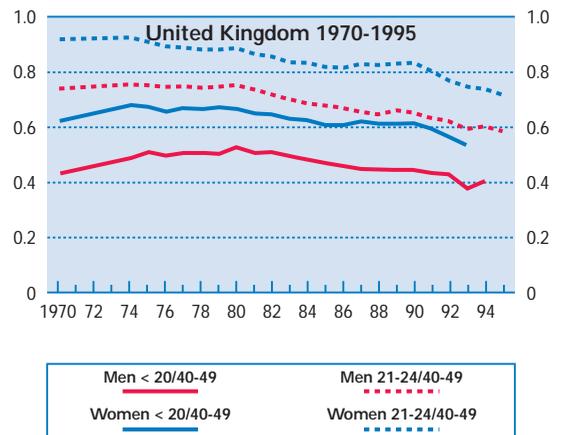
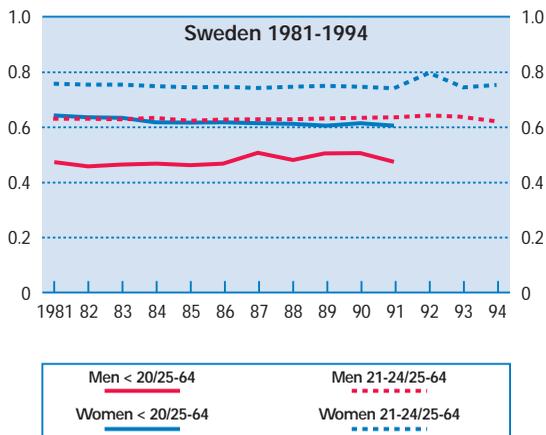
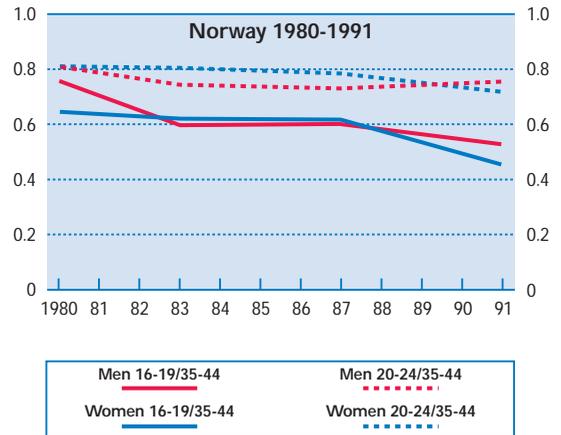
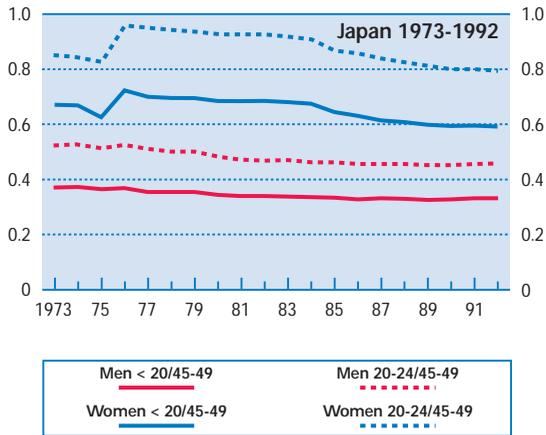
Earnings of youth relative to adults



Sources: See Annex 4.B.

Chart 4.6. (cont.)

Earnings of youth relative to adults



Sources: See Annex 4.B.

The relativities show, in all cases, that wages are lower for the youngest group. And, in most cases, earnings of young *relative* to older women are greater than the comparable relativities for men. This undoubtedly reflects differences in work experience patterns between men and women, as well as many other factors.

The data tell a fairly uniform story about changes over time. In virtually all countries, young workers experienced declines in earnings relative to older workers through the 1990s. However, there are country differences in both the magnitude and timing of this fall and there are also differences in the starting and ending point levels of relative earnings. For example, the United States and Canada had steep drops from the mid-1970s; the United Kingdom's decline was larger from the mid-1980s to the mid-1990s than in the earlier period; and Italian youth's earnings did not begin to fall relatively until the 1990s. It is the uniformity of the drop in relative pay that stands out, except in Sweden, despite the sharp fall in the relative size of youth cohorts and differences in the institutions of wage-setting. Given the caveats above, one possible implication is that the beneficial effect of the declining size of youth cohorts on youth earnings was overwhelmed by other forces in most countries. Wage-setting institutions may affect the magnitude of the youth/adult differential and possibly the magnitude of the response of that differential to market conditions, but they apparently do not rule out qualitatively similar adjustments.

Another approach to getting at the magnitude of the youth/adult pay differential is provided below. To estimate this differential, data from the International Social Survey Programme (ISSP), which provides a single source, based on nominally similar definitions for youth and adult earnings, are exploited (see Annex 4.B). Using the ISSP files for 1993, Table 4.14 shows the results of a simple regression of the "log" earnings of respondents on dummy variables for gender and age groups. For analysis of these data for earlier years see Blanchflower (forthcoming), and Blanchflower and Freeman (1992). The coefficients in this regression for persons aged 18-24 years relative to those of workers aged 35-44 years provide a rough illustration of the youth "discount" for a similarly defined group.⁹ As can be seen in Table 4.14, there is apparently a wide range of youth "discounts" across countries that seems to roughly reflect differences in the distribution of earnings and wage-setting institutions (see also Chapter 3). The differentials tend to be largest for countries with higher levels of earnings inequality and more decentralised wage setting. The biggest adult/young differential is for the United States, followed by Canada and New Zealand.

Table 4.14. **Earnings of employed 18-24-year-olds compared with employed 35-44-year-olds, 1993^a**

	Coefficient	Sample size
Canada	-1.2208	850
Germany	-0.3820	822
Ireland	-0.2282	365
Italy	-0.4830	482
Japan	-0.8500	685
Netherlands	-0.2095	698
New Zealand	-1.0837	724
Norway	-0.8106	772
Spain	-0.5367	317
United Kingdom	-0.8111	868
United States	-1.7148	895

a) Coefficient on age dummy for 18-24-year-olds compared with the excluded category of 35-44 years. All equations included five age dummies and a gender dummy.

Source: International Social Survey Programme micro-datafiles, 1993 (see Annex 4.B).

However, the results also suggest that the full story is complicated. It is, for example, not an easy matter to classify collective bargaining structures [OECD (1994)]. Moreover, Norway, characterised by fairly high union density and collective bargaining coverage rates, and Japan, sometimes considered, despite relative low unionisation, to have co-ordinated bargaining, both show sizeable differentials. Although the sample size of countries is small, simple correlations between this "discount" and union density rates show very little relation (-0.12). On the other hand, higher levels of collective bargaining coverage are correlated with smaller youth "discounts" (-0.80). While the low differential in Germany is associated with relatively low youth unemployment (presumably because of apprenticeships in the school-to-work transition), youth unemployment rates are high in some of the other countries with low youth "discounts", raising the question of whether there is a significant earnings and employment trade-off.

2. Youth employment and earnings

Whether, and the extent to which, there is a trade-off between employment and earnings is an extremely difficult issue, one that has been examined numerous times with many different model specifications, in time series, cross-section and cross-country format and with many different data sources, and this chapter cannot go into any depth on the subject. The problem with any simple approach is readily seen by comparing the employment rates in Table 4.2 with the estimated "discounts" in Table 4.14. The country with the lowest youth discount, Ireland, has neither the lowest teenage nor young adult male employment

rates. And the United States and Germany do not look greatly dissimilar with respect to employment (taking the 11 countries together yields a positive, but small, correlation between higher "discounts" and the employment rates of young men of 0.41). This question of trade-offs has been most extensively examined in the United States in terms of the potential job-creating effects of falling real and relative wages for persons in the lower deciles of the earnings distribution on the amount of time they work over the year, and in terms of the effects of mandated increases in the Federal minimum wage on employment.¹⁰

Because of the extensive literature, a brief overview is useful. The evidence suggests that the large reduction in the relative pay of lower-paid workers in the United States that has occurred since the mid-1970s has not been sufficient to improve their relative or absolute employment position. Perhaps reflecting a labour supply response, the amount of time worked by lower-paid workers has fallen rather than risen. Juhn *et al.* (1991) used March Current Population Survey data to examine the percentage of persons employed/not employed and the weeks

worked for those employed at any time in the past year by their position in the earnings distribution. They found that the lower paid, whose pay fell in the 1980s, also had declines in employment and in weeks worked relative to the higher paid. Topel (1993) showed that from 1967-1968 to 1987-1989 the deciles that had the biggest drops in real wages also had the biggest increase in time spent jobless. Freeman (1995) found a similar pattern in annual hours worked using Census of Population data. A similar pattern of declining relative pay and employment has been found for Australia [Gregory (1995b)]. Yet another study compared Canada, France and the United States and found no evidence of a superior employment experience among groups whose relative pay declined [Card *et al.* (1994)]. Chapter 3 gives an additional perspective to these issues. It finds little evidence of a significant relationship, in a cross-country framework, between the availability of low-paid jobs and employment or unemployment rates.

All of these studies have examined the entire labour force, not the youths of concern here (also see Chapter 3). Table 4.15 examines the relation between pay and employment for workers aged 25-29 using the

Table 4.15. **Hours worked per year and hourly pay for 25-29-year-olds by wage decile, United States, 1970-1990^a**

Men					
Wage decile	1970	1980	1990	Per cent change in hours 1970-1990	Per cent change in hourly wages 1970-1990
1	2 280.1	2 022.2	1 997.8	-12.39	-4.21
2	2 354.9	2 078.8	2 083.5	-11.52	-18.61
3	2 265.6	2 103.0	2 111.5	-6.80	-20.89
4	2 262.0	2 098.3	2 142.9	-5.27	-20.11
5	2 194.5	2 099.8	2 164.9	-1.35	-17.81
6	2 136.8	2 101.3	2 136.9	0.01	-16.72
7	2 129.7	2 101.8	2 150.9	1.00	-14.07
8	2 031.5	2 078.7	2 126.0	4.65	-10.43
9	2 011.1	2 053.5	2 087.0	3.78	-8.41
10	1 624.5	1 726.6	1 897.3	16.79	-0.71
Women					
Wage decile	1970	1980	1990	Per cent change in hours 1970-1990	Per cent change in hourly wages 1970-1990
1	1 345.6	1 478.9	1 534.4	14.02	42.34
2	1 569.3	1 565.6	1 695.5	8.05	4.87
3	1 601.4	1 684.6	1 836.9	14.71	-0.23
4	1 839.5	1 769.1	1 839.3	-0.01	-0.34
5	1 762.5	1 795.7	1 919.4	8.91	-1.40
6	1 737.7	1 855.7	1 932.9	11.24	-0.72
7	1 725.9	1 833.0	1 895.6	9.83	-0.45
8	1 709.1	1 784.2	1 926.9	12.74	-1.44
9	1 474.2	1 747.8	1 860.3	26.19	-4.55
10	933.9	1 347.7	1 620.6	73.54	-12.96

a) For men, the 1970 sample was 46 296; the 1980 sample was 52 340; and the 1990 sample was 51 555. For women, the 1970 sample was 24 303; the 1980 sample was 40 328; and the 1990 sample was 43 138.

Source: Tabulated from US Census of Population Public-Use datafiles for 1970, 1980 and 1990.

United States Census of Population for 1970, 1980 and 1990, separately by gender. Results are disaggregated by deciles of the constructed hourly wage distribution. For men, there was a considerable decline in hours worked at the bottom of the wage distribution and an increase at the higher end. Hourly wages (in 1987 dollars) fell between 1970 and 1990 across the wage spectrum, but with the smallest declines at the higher end of the distribution. Young men in the top decile experienced virtually no cuts in their real hourly wages and increased their annual earnings by working more hours.¹¹ Those in the bottom decile experienced cuts in both their real rate of pay per hour *and* the number of hours they worked. The labour market outcomes for women were more favourable.¹² Across the wage distribution there were increases in the number of hours worked and relatively small cuts in real hourly wages. Despite substantial reductions in pay, the amount of time worked by young men did not increase. For women, increases in hours worked do not appear to have been brought about by cuts in real earnings.

Both the data and overview of some research presented in this section indicate that attempts to use simple versions of economic theory to account for cross-country and over time differences in youth participation, employment and unemployment are difficult to maintain. Perhaps greater declines in youth earnings might have generated more jobs for them, but the declines that did occur, including the large drops in the United States, did not suffice to stabilize or raise their employment rates.

F. FACTORS AFFECTING YOUTH JOB MARKET PROBLEMS

What are the major causes of the observed declines in employment rates for young, especially out-of-school people? Has the declining size of youth cohorts ameliorated the adverse changes found in employment and wages? To what extent, if at all, can youth job market problems be attributed to troubles in youth-intensive industries? How important are aggregate labour market conditions in determining the performance of youths? These questions are addressed in turn.

1. The effect of demography

All else the same, the large drop in the size of youth cohorts in the 1980s and 1990s should have raised their employment/earnings prospects and, thus, provided some insight into the response of employment and earnings to falls in relative labour supply, just as the large increase in the size of youth cohorts in the 1970s provided insights into the labour

market effects of an increase in relative labour supply. But the evidence to date suggests that all else was not the same in the 1980s and 1990s. Table 4.16 attempts to estimate the effects of demography on youth employment outcomes for 20 OECD countries. Here, data are used for young people in two age groups – 15-19 years (16-19 in some countries) and 20-24 years. Information is available separately by gender. Data are available from 1970-1994 for Australia, Canada, Finland, France, Germany, Italy, Japan, Sweden, the United Kingdom and the United States, although there are breaks in some of these series that need to be borne in mind [OECD (1995a)]. Data are also available from 1983-1994 for Belgium, Denmark, Greece and Luxembourg. In addition, there are data for Ireland (1972, 1975, 1977, 1979, 1981 and 1983-1992), the Netherlands (1972 forward), New Zealand (1986 forward), Norway (1978 forward), Portugal (1974 forward) and Spain (1972 forward).

The regressions in Table 4.16 link employment rates for teenagers and 20-24-year-olds separately by gender to the employment rates of 25-54-year-olds, the ratio of the number of young persons (15-19 or 20-24) to the number of 25-54-year-olds, a time trend, and dummy variables for countries (and gender in the regressions that pool the sexes). In addition, some of the regressions include the aggregate unemployment rate. For the pooled male and female samples, the estimated effect of the relative population is negative and significant only when the aggregate unemployment rate is excluded. The separate regressions by gender show, however, that this pattern is due to the effects of relative population on the employment rate of women: relative population has no statistically significant effect on teenage male employment rates and only a very small effect on young adult men's employment rates. Even for this latter group, the effect of declining relative cohort size was not sufficient to improve their employment rate. As can be seen in the table, adult male employment rates are strongly, positively, correlated with youth, especially male, employment rates. Relatively smaller cohorts of young people probably do ease their labour market difficulties, but not by enough to offset the other forces at work in the youth job market.

2. Effects of the changing industrial mix of employment

The fact that, in many countries, youths work in a very distinct set of industries raises the possibility that some of their labour market problems might be due to structural shifts in the composition of employment away from those industries. If the share of employment in hotels and restaurants, and wholesale and retail trade, where young workers were shown earlier to be found in disproportionate numbers, was

Table 4.16. **Econometric estimates of the effects of the aggregate unemployment rate, relative population and adults' employment/population ratio on the employment/population ratios of youth, 1970-1994^{a, b}**

	Age 15-19 ^c			Age 20-24		
	Employment/ population ratio of those aged 25-54	Relative population (15-19/25-54)	Unemployment rate	Employment/ population ratio of those aged 25-54	Relative population (20-24/25-54)	Unemployment rate
Both sexes (n = 778)	0.3431 (7.23)	-0.1038 (1.37)	-0.1626 (7.41)	0.3182 (15.62)	-0.0082 (0.32)	-0.0984 (10.98)
Both sexes	0.3971 (8.19)	-0.3110 (4.26)		0.3548 (16.40)	-0.0860 (3.17)	
Men (n = 389)	1.8487 (3.86)	0.0237 (0.26)	-0.0479 (1.40)	2.1013 (13.35)	0.0771 (2.65)	-0.0162 (1.52)
Men	2.3265 (6.95)	-0.0367 (0.46)		2.2585 (19.03)	0.0675 (2.37)	
Women (n = 389)	0.4678 (2.65)	-0.3416 (3.16)	-0.1933 (6.19)	0.4355 (6.28)	-0.0572 (1.28)	-0.0974 (8.01)
Women	0.8193 (4.67)	-0.5932 (5.64)		0.6107 (8.57)	-0.1809 (4.00)	

a) T-statistics are in parentheses. Equations also include a time trend, 19 country dummies, and a gender dummy in the equation combining men and women. The employment, unemployment and population variables are all in natural logarithms.

b) See the text for the countries included and the actual years of data availability for them.

c) For Spain, Sweden, the United Kingdom and the United States, the dependent variable refers to persons aged 16-19.

Sources: United Nations population database. OECD, *Labour Force Statistics*, Part III, various issues; and unpublished OECD labour force data.

falling, this would, all else the same, adversely affect youth job prospects. But, in nearly all countries, employment in these sectors *grew* relative to total employment. Thus, a standard shift-share analysis of the effect of changes in the overall industrial composition of employment offers little explanatory value.

Table 4.17 shows this result for 20-24-year-olds for the period 1985-1994 in selected OECD countries, using 2-digit NACE industries for the European countries, and 2-digit national classifications for Canada, Japan and the United States. Column 1 records the 20-24-year-olds' share of total employment in 1985. Given the general decline in the 20-24-year-olds' share of the population, the share of employment, as a result, should have fallen through 1994, and column 2 gives the 1994 *demographically-adjusted predicted share*. This is arrived at by multiplying the column 1 figures by the ratio of the 20-24 share of the population in 1994 to the share in 1985. Column 3 shows the actual 1994 share of employment accounted for by 20-24-year-olds. Column 4 gives the difference between the actual share and the share that would have resulted simply from the drop in the youth share of the population.

The final column gives the *predicted* effect of the change in industry mix. It is the sum of the change in the share of total employment in each industry multiplied by the 20-24-year-old share of employment in those industries scaled for the change in the group's share of the population.¹³ In all the countries save Belgium, the predicted effect is positive. This implies, all else the same, that the youth proportion of employment should have risen, not fallen, as a mechanical result of the changing mix of employment

by sector. Thus, on their own, structural shifts in the industry composition of jobs cannot account for the observed aggregate changes in young adult's employment prospects.¹⁴

3. The impact of aggregate unemployment on youth employment and unemployment

The concordance of a decline in the relative supply of young persons to the job market for demographic reasons and a modest increase in relative demand due to shifts in employment toward youth-intensive sectors should have, all else the same, improved the job market for youths. But, in general, no such overall improvement occurred. What explains this situation? One possibility is found in the disproportionately large response of youth employment and unemployment to changes in overall unemployment or other indicators of aggregate economic activity.

The effect of fluctuations in the aggregate economy on youths has long been an issue in analyses of the youth labour market [Clark and Summers (1982); Franz (1982); OECD (1986); OECD (1994)]. The standard generalisation is that youth employment and unemployment is quite sensitive to aggregate economic fluctuations. No such clear generalisation has emerged about the effect of the aggregate economy on youth enrolment in school. Betts and McFarland (1995) have shown that unemployment in the United States increases enrolments in junior/community colleges, but their results for completion of secondary school are more ambiguous, in part, perhaps, because of legal requirements on schooling for given age groups.

Table 4.17. **Changes in young adults' share of total employment due to demographic changes and changes in employment by 2-digit industry, 1985-1994**

	(1) Young adults' (20-24) share of total employment, 1985	(2) Share of employment expected in 1994 given the change in their share of the population	(3) Actual share of employment, 1994	(4) Actual minus expected share (column 3-column 2)	(5) Change in young adults' share of employment due to change in the industry mix of employment
Belgium	11.7	10.2	8.8	-1.4	-0.1
Canada	14.5	10.3	9.8	-0.5	0.1
Denmark	11.4	10.2	9.5	-0.7	0.1
France	11.0	10.3	7.9	-2.4	0.2
Germany	12.4	9.4	8.9	-0.5	3.6
Greece	7.5	7.8	7.8	0.0	0.2
Ireland	16.9	16.6	14.0	-2.6	0.5
Japan ^a	12.2	12.9	13.3	+0.4	0.7
Luxembourg	14.5	12.0	10.4	-1.6	0.5
Netherlands	14.4	12.8	11.8	-1.0	0.2
Portugal ^b	9.9	10.2	9.7	-0.5	0.2
Spain ^b	10.2	9.8	9.9	+0.1	0.4
United Kingdom	13.0	11.0	10.4	-0.6	0.1
United States ^c	13.4	10.5	10.2	-0.3	0.2

a) Refers to the age group 15-24. Years are 1982 and 1992.

b) Years are 1986 and 1994.

c) Years are 1983 and 1994.

Sources: See Table 4.12 and Table 4.13.

The remainder of this subsection considers the sensitivity of the education participation/employment status of youths to aggregate economic forces. The activities of youth fall into four disjoint states. The first is the starting point for the transition: youths in school but not working. The second is being in school and employed. The third is being out of school and not working. The fourth is being out of school and in employment. For ease of analysis, these states have been combined into three overlapping classifications: the per cent in education; the per cent employed; and the per cent of the labour force unemployed (also see Tables 4.A.2 and 4.A.3).

Estimates of the effect of aggregate labour market conditions on youths in these three states are computed by regressing the proportion of each age-gender group in the particular category on the rate of national unemployment in each year; a gender dummy; age dummies; and a time trend (see Annex 4.A). These estimates are done for each country separately using a linear probability model as well as for a pooled sample of countries, with the inclusion of country dummy variables.¹⁵ Table 4.18 summarises the results in terms of the coefficients on the rate of aggregate unemployment, the variable of interest. The effect of unemployment on the proportion in education (column 1) reveals a disparate pattern across countries. In some cases, it is strongly positively related to unemployment (Germany, the

Netherlands and Portugal); in other cases, it is negatively related to aggregate unemployment (Italy, Luxembourg, the United Kingdom and Belgium); while in yet others, there is little relation (the United States, Canada, Denmark, Spain, Ireland and Greece). Pooling all the countries together, schooling is positively related to unemployment, implying that increases in unemployment lead to increased enrollments, but the diverse country results gainsay any generalisation.

By contrast, there is little ambiguity as to the effect of aggregate unemployment on the proportion of a cohort working or unemployed (columns 2 and 3). The proportion employed falls with unemployment in most countries, with the absolute value of the coefficient often greater than 1. In the pooled sample, a one point increase in aggregate unemployment reduces the employment rate of youths by 1.1 percentage points. The proportion of the cohort unemployed is similarly positively related to aggregate unemployment with a coefficient greater than one almost everywhere.

Employment while in school and employment for out-of-school youths generally have different importance in the lives of youths. In many cases, employment during school is a secondary activity (though for some youths, it must be emphasized, it may be the only way they can afford to further their education) whereas for out-of-school youth, employ-

Table 4.18. **Econometric estimates of the effects of the aggregate unemployment rate on the proportion of youth attending school, employed and unemployed^a**

	Percentage attending school	Percentage employed	Percentage of the labour force unemployed
Australia	.1642 (1.46)	-1.5841 (6.77)	1.3126 (19.76)
Belgium	-.3293 (2.80)	-.6059 (2.37)	1.6860 (11.45)
Canada	.0970 (1.01)	-1.3471 (7.48)	1.4105 (21.20)
Denmark	.2872 (1.38)	-1.3720 (8.98)	1.4387 (14.19)
France	.4588 (1.69)	-.9025 (2.29)	1.7659 (9.74)
Germany	1.3584 (4.51)	-1.7491 (3.03)	1.1043 (7.06)
Greece	-.2016 (0.76)	-.8348 (1.43)	1.0472 (3.61)
Ireland	-.3205 (0.99)	-.8461 (2.29)	1.0893 (10.45)
Italy	-1.0467 (7.79)	.3013 (0.86)	1.1343 (6.84)
Luxembourg	-.9221 (2.68)	-.3289 (0.41)	1.4779 (5.21)
Netherlands	1.8998 (3.38)	-1.6295 (3.01)	.8277 (3.81)
Portugal	.6442 (3.63)	-1.9387 (9.13)	1.7040 (15.29)
Spain	.0453 (0.77)	-1.0520 (6.97)	1.4933 (20.34)
United Kingdom	-.3442 (4.70)	-1.8338 (9.35)	1.3519 (18.13)
United States	-.0370 (0.72)	-.6547 (3.58)	1.3622 (31.20)
All (pooled)	.3890 (7.50)	-1.1267 (14.45)	1.3492 (33.71)

a) T-statistics are in parentheses. Equations also include 19 age dummies, a time trend, and a gender dummy, plus 14 country dummies in the overall pooled equation.

Sources: See Table 4.11.

ment is potentially the dominant allocation of time. As shown earlier with more aggregate figures, the non-employment rates of out-of-school youths, especially men, have tended to increase.

Accordingly, the sensitivity of the employment rate of young people conditional on their school status to aggregate economical conditions was also investigated. Table 4.19 records the results of linear probability estimates of the coefficients of aggregate unemployment and a time trend on the employment rates of in- and-out-of-school youths by country, for men and women separately. The results suggest that the employment rates of youths in school, although generally negatively related to overall unemployment, are less sensitive to aggregate unemployment than the employment rates of youths out of school. This is true for all countries taken together for men (a coefficient on unemployment for the in-school group of -0.83 vs. -1.40 for the out-of-school group) and for women (a coefficient on unemployment for the in-school group of -0.90 vs. -1.03 for the out-of-school group) and holds in 23 of 30 country-gender comparisons. Among the out-of-school group, moreover, the employment of men is more sensitive to aggregate unemployment than is the employment of women. The major difference by gender, however, concerns the estimated trends. The trend coefficients are positive for women in virtually every country compared with a general trend decline in employment rates for men. This is especially true for those not attending school. Because unemployment rates have risen in most countries since the 1980s, this does not mean that the proportion of young out-of-school employed

women has risen, only that it has risen relative to the rising rate of unemployment. The gap between the proportion of young women employed and the proportion of young men employed is declining over time.

These results relate to all the age groups in the sample together. But the sensitivity of educational participation and employment rates to aggregate unemployment varies considerably by age, declining as youths get older. Table 4.20 documents this pattern using the pooled data set that includes all the countries in the sample. The table records coefficients on aggregate unemployment from regressions of the proportion of youths in school, employed, and unemployed by single year of age, with a dummy variable for gender, a time trend and individual country dummies. There is a noticeable decline in the size of the coefficients on aggregate unemployment with age for all three outcome measures. The percentage of persons enrolled in school is less sensitive to unemployment among those in their late 20s/early 30s. Similarly, as persons age the proportion employed or unemployed also becomes somewhat less sensitive to aggregate unemployment, although there is still an impact. The decline with age in the estimates of the aggregate unemployment effect supports the generalisation that youth employment and unemployment is exceptionally sensitive to the overall state of the labour market.

Table 4.21 examines the age pattern of the employment rate responsiveness to aggregate unemployment for the separate school/gender groups.

Table 4.19. **Econometric estimates of the effects of the aggregate unemployment rate and a time trend on the proportion of youths employed by schooling status and gender**^a

	Men				Women			
	Employed/In school		Employed/Out of school		Employed/In school		Employed/Out of School	
	Unemployment rate	Trend	Unemployment rate	Trend	Unemployment rate	Trend	Unemployment rate	Trend
Australia	-1.1048 (4.99)	-0.8774 (9.16)	-1.8932 (15.76)	-0.2084 (4.01)	-1.3754 (5.41)	0.4250 (3.86)	-1.4457 (5.22)	0.6286 (5.25)
Belgium	1.1388 (1.74)	-0.1339 (0.37)	-1.4609 (5.84)	-1.0993 (7.96)	1.1944 (1.46)	-0.0659 (0.15)	-1.3627 (4.01)	-0.0452 (0.24)
Canada	-1.4660 (5.12)	-0.1337 (1.59)	-2.0752 (20.84)	-0.3294 (11.23)	-0.2700 (1.03)	0.2517 (3.27)	-1.0504 (5.13)	0.7591 (12.59)
Denmark	-1.4041 (1.89)	-0.2123 (0.65)	-1.4528 (7.16)	0.1127 (1.28)	-1.0644 (1.39)	-0.7137 (2.14)	-1.2616 (3.97)	0.3316 (2.40)
France	0.1327 (0.24)	0.3163 (1.69)	-1.6863 (8.12)	-0.0908 (1.30)	-0.0797 (0.11)	-0.3910 (1.60)	-1.1139 (5.35)	0.3643 (5.19)
Germany	-0.9212 (0.98)	2.1182 (7.72)	-0.3503 (0.99)	-0.0486 (0.47)	-0.4543 (0.48)	1.6508 (5.94)	-0.5836 (1.01)	0.7693 (4.53)
Greece	1.4227 (1.04)	-1.1520 (4.45)	-0.9029 (3.21)	-0.2869 (5.34)	0.0652 (0.05)	-0.8721 (3.14)	-1.6912 (5.69)	0.8090 (14.28)
Ireland	0.2443 (0.36)	-1.3307 (4.53)	-1.6437 (5.81)	-0.4309 (3.55)	-1.7319 (2.38)	-0.7332 (2.36)	-1.2158 (3.04)	0.7270 (4.25)
Italy	-2.4761 (3.86)	-0.4522 (2.77)	-0.4052 (1.90)	-0.7384 (13.62)	-0.9476 (1.47)	-0.1203 (0.73)	-0.1910 (0.81)	0.1486 (2.47)
Luxembourg	-0.5900 (0.31)	0.2724 (0.78)	-2.1767 (4.03)	-0.6542 (6.41)	-2.8387 (1.21)	-0.6038 (1.31)	-2.1578 (2.97)	0.0035 (0.03)
Netherlands	-4.3383 (6.01)	-3.4451 (5.79)	-0.4907 (0.90)	0.2297 (0.51)	-2.2364 (3.47)	-0.5257 (0.99)	0.6612 (1.29)	2.4205 (5.74)
Portugal	-1.0876 (2.17)	-0.2931 (1.21)	-1.7686 (10.06)	-0.3834 (4.51)	-1.7110 (2.92)	-0.1604 (0.57)	-2.0144 (9.82)	1.1501 (11.60)
Spain	-1.2379 (5.50)	1.6958 (6.58)	-1.7209 (19.65)	0.5046 (5.27)	-0.6303 (3.11)	0.3915 (1.66)	-1.0743 (14.36)	1.4230 (17.38)
United Kingdom	-1.6567 (4.38)	0.5584 (3.27)	-2.3621 (14.72)	-0.6422 (8.85)	-1.6592 (3.97)	1.0701 (5.66)	-1.6975 (9.33)	0.5733 (6.96)
United States	-0.7469 (2.43)	0.1134 (1.90)	-1.6006 (21.36)	-0.2784 (19.28)	-0.2764 (1.09)	0.3685 (7.46)	-0.0500 (0.33)	0.9290 (31.45)
All (pooled)	-0.8273 (5.39)	-0.1095 (1.93)	-1.3975 (21.98)	-0.3560 (15.30)	-0.8992 (5.60)	0.1620 (2.71)	-1.0295 (11.36)	0.7345 (22.14)

a) T-statistics are in parentheses. Equations also include 14 country dummies, plus 19 age dummies in the overall pooled equation.

Sources: See Table 4.11.

Table 4.20. **Econometric estimates of the effects of the aggregate unemployment rate on the proportion of youth across labour market states by age and gender^a**

	Percentage in school	Percentage employed	Percentage of the labour force unemployed
All ages	.3890 (7.50)	-1.1267 (14.45)	1.3492 (33.71)
16	.4429 (1.66)	-1.2778 (7.24)	2.2670 (9.61)
17	.5273 (1.87)	-1.3276 (7.42)	2.2113 (11.69)
18	.4552 (1.68)	-1.2436 (7.37)	1.8698 (9.48)
19	.3542 (1.31)	-1.2073 (7.18)	1.8333 (10.85)
20	.4201 (1.79)	-1.2706 (7.93)	1.8478 (13.09)
21	.4441 (2.28)	-1.2756 (7.65)	1.7088 (12.67)
22	.4976 (3.10)	-1.2777 (7.28)	1.5694 (11.97)
23	.4954 (3.70)	-1.2808 (7.55)	1.4347 (11.34)
24	.4507 (4.10)	-1.2607 (7.55)	1.3236 (11.19)
25	.3955 (3.96)	-1.1911 (7.22)	1.2284 (11.55)
26	.4663 (5.28)	-1.1567 (6.86)	1.1263 (11.56)
27	.4291 (5.45)	-1.1159 (6.40)	1.0727 (11.45)
28	.3906 (5.27)	-1.2054 (6.53)	1.0876 (12.12)
29	.3547 (4.62)	-.9872 (5.20)	.9925 (11.67)
30	.2928 (4.36)	-.9702 (4.81)	1.0219 (12.21)
31	.2968 (4.01)	-.9772 (4.68)	.9466 (11.78)
32	.2885 (4.13)	-.9060 (4.18)	.9438 (11.85)
33	.2551 (3.36)	-.8848 (3.97)	.9048 (11.65)
34	.2817 (3.54)	-.8446 (3.79)	.8679 (11.63)
35	.2605 (3.30)	-.8101 (3.52)	.8048 (11.17)
Women	.3793 (5.34)	-.9654 (10.73)	1.2491 (22.26)
Men	.3996 (5.46)	-1.2868 (16.19)	1.4554 (34.05)

a) T-statistics are in parentheses. Equations also include 14 country dummies, a time trend, and 19 age dummies in the "all ages" equation.
Sources: See Table 4.11.

It presents estimated coefficients on aggregate unemployment and a time trend from regressions for single years of age in the pooled country data set. For those in school, there is no strong age pattern in the effect of unemployment on employment for either gender, except, perhaps, for those under the age of 19. By contrast, there is a drop in the effect of aggregate unemployment on employment for those out of school: older persons out of school are less affected by changes in overall unemployment. Nonetheless, the absolute value of the coefficient exceeds 1 for men even through the age of 28. And, as noted earlier, the calculations show a differential trend in employment for women than for men. Among women out of school, the coefficients on the time trend rise markedly with age. However, among men out of school the coefficients remain negative even for those aged 35. That is, their employment rates have trended downward over the 1980s and 1990s.

In sum, the employment and unemployment probabilities of youths are highly dependent on the overall rate of unemployment, particularly younger youths and, importantly, those out of school. The long-term upward secular trend of employment for women has, in part, offset the adverse effects of aggregate unemployment on the employment and unemployment rates of young women.

G. CONCLUSIONS

The economic state of the average youth in OECD countries falls short of what is desirable. On the positive side, more are enrolled in education for longer periods of time. This will have a potential pay-off in the future if the additional education augments their competencies and if OECD economies grow enough to make use of an improved work force. However, part of this extension of schooling, in some countries, is a response to adverse labour market conditions. The other results presented show that youth employment and unemployment are very sensitive to aggregate labour market developments, in line with previous research. The effects of overall labour market slack are especially detrimental for out-of-school youths, particularly young men. Moreover, the proportion of young men neither in school nor working has tended to increase in many countries. Even "controlling" for the state of the aggregate labour market, the evidence indicates a statistically significant trend decline in most countries in the employment rates of male out-of-school youths, with the strongest effects for the younger ages. At the same time, again controlling for labour market slack, the employment rates of older, out-of-school women have tended to increase. Finally, there has been an

Table 4.21. **Econometric estimates of the effects of the aggregate unemployment rate and a time trend on the proportion of youth employed by schooling status and gender^a**

	Men				Women			
	Employed/In school		Employed/Out of school		Employed/In school		Employed/Out of School	
	Unemployment rate	Trend	Unemployment rate	Trend	Unemployment rate	Trend	Unemployment rate	Trend
All ages	-.8273 (5.39)	-.1095 (1.93)	-1.3975 (21.98)	-.3560 (15.30)	-.8992 (5.60)	.1620 (2.71)	-1.0295 (11.36)	.7345 (22.14)
16	-1.2135 (6.57)	.1950 (2.94)	-2.2724 (5.18)	-.6466 (4.12)	-1.0626 (5.73)	.3991 (5.97)	-1.9615 (3.62)	-.1894 (0.98)
17	-1.1764 (5.39)	.1996 (2.48)	-1.8401 (4.81)	-.6874 (4.91)	-.8984 (4.33)	.4345 (5.70)	-1.1297 (2.76)	-.3382 (2.26)
18	-1.0151 (4.09)	.2188 (2.41)	-1.8722 (6.48)	-.5970 (5.63)	-.7814 (3.91)	.5921 (8.09)	-1.4028 (4.35)	-.3143 (2.66)
19	-.7492 (3.18)	.2712 (3.14)	-2.0161 (8.22)	-.4542 (5.05)	-.9369 (4.40)	.5191 (6.62)	-1.2103 (4.92)	-.0976 (1.08)
20	-.7396 (3.12)	.3163 (3.41)	-1.9956 (10.04)	-.3907 (5.36)	-.7302 (3.43)	.4155 (3.43)	-1.0484 (5.09)	.1008 (1.34)
21	-.5851 (2.40)	.2837 (3.18)	-2.0222 (11.73)	-.3062 (4.84)	-.5421 (2.41)	.5198 (6.28)	-.9018 (4.95)	.2564 (3.84)
22	-.6864 (2.63)	.2450 (2.57)	-1.6546 (11.09)	-.3247 (5.94)	-.5801 (2.10)	.3411 (3.35)	-1.0289 (6.16)	.4164 (6.80)
23	-.2335 (0.77)	.0642 (0.58)	-1.5331 (13.19)	-.2895 (6.80)	-.7115 (2.35)	.3266 (2.93)	-1.0875 (8.14)	.7096 (14.49)
24	-.3502 (1.06)	.1281 (1.05)	-1.5251 (13.64)	-.3206 (7.82)	-.5114 (1.21)	.2265 (1.46)	-.9398 (6.72)	.9292 (18.13)
25	-.2068 (0.56)	-.0186 (0.14)	-1.3153 (14.68)	-.2511 (7.65)	-.8113 (1.99)	.3880 (2.59)	-.9944 (6.99)	.9551 (18.32)
26	-.6646 (1.36)	-.1715 (0.95)	-1.2263 (11.90)	-.2763 (7.31)	-.6226 (1.33)	.1981 (1.15)	-.9164 (6.41)	1.1603 (22.14)
27	-.8057 (1.85)	-.0694 (0.43)	-1.2935 (16.71)	-.2951 (10.40)	-.7838 (1.33)	.1401 (0.64)	-.8159 (5.41)	1.2255 (22.15)
28	-1.0272 (1.84)	-.2648 (1.29)	-1.2624 (16.51)	-.2949 (10.53)	-.9200 (1.76)	.0047 (0.02)	-1.0213 (7.29)	1.2603 (24.54)
29	-.4233 (0.77)	-.2360 (1.15)	-.9656 (13.29)	-.2643 (9.93)	-1.1259 (1.73)	-.3138 (1.31)	-.9818 (5.89)	1.2680 (20.77)
30	-1.6739 (2.49)	.1109 (0.45)	-.9559 (13.48)	-.2888 (11.11)	-1.7955 (2.92)	-.2021 (0.86)	-.7937 (5.11)	1.2494 (21.94)
31	-1.6963 (2.34)	-.3685 (1.37)	-.9618 (12.17)	-.2970 (10.25)	-1.7072 (2.63)	-.1906 (0.78)	-.9096 (5.33)	1.1911 (19.05)
32	-.5339 (0.80)	-.3199 (1.28)	-.7927 (10.72)	-.2883 (10.64)	-.9426 (1.35)	.1244 (0.48)	-.9785 (5.89)	1.1749 (19.28)
33	-.3374 (0.47)	-.8315 (3.07)	-.8769 (12.39)	-.2887 (11.13)	-1.4784 (2.02)	-.3146 (1.06)	-.8723 (4.92)	1.2114 (19.64)
34	-.7821 (1.18)	-1.0477 (4.28)	-.8171 (10.96)	-.2669 (9.77)	-.0221 (0.03)	-.0852 (0.29)	-.8411 (5.44)	1.2509 (22.07)
35	-.8955 (1.23)	-.7850 (2.78)	-.8012 (11.72)	-.2900 (11.58)	-.5751 (0.68)	-.1198 (0.37)	-.7598 (5.20)	1.2468 (23.29)

a) T-statistics are in parentheses. Equations also include 14 country dummies, and 19 age dummies in the "all ages" equation.

Sources: See Table 4.11.

increase in the proportion of youth living in households where no other person is employed; this is a worrying trend for the future.

Despite a demographic decline in the relative number of youths, and employment shifts among industries toward youth-intensive sectors, the employment and earnings position of youths worsened, in some countries substantially. Differences in school-to-work transitions affect the outcomes along some dimensions, for instance in the number of jobs that youths hold during the transition, but seem generally more dominated by whatever forces have caused an overall decline in the economic position of youths in most OECD countries.

While a key finding is the sensitivity of youth prospects to aggregate conditions, it is also clear from the large cross-country differences in the levels of, and changes in, employment and unemployment rates, that other factors are at work. In addition to labour market slack, the employment (and earnings) of youths may have been adversely affected by the

apparent shift in the composition of labour demand toward more skilled and experienced workers that is also sometimes associated with rising overall earnings inequality in some OECD countries (see Chapter 3). The rise in the education premium suggests larger disparities in employment outcomes among young workers across education categories (not examined in this chapter), while the rising premium to labour market experience would tend to disadvantage all youths. However, more comparative analysis is needed to verify this hypothesis.

A number of key issues remain unanswered: What, if any, are the long-term consequences of youth joblessness? Does it lead to further bouts of joblessness? What is the impact, if any, on lifetime earnings? And, are there particularly vulnerable groups who face many problems in getting a solid foothold in the labour market, how large are they and does their size and composition differ across countries? These issues will be addressed in future editions of the *Employment Outlook*.

Notes

1. This chapter is based largely on a report prepared for the OECD by Professors David G. Blanchflower and Richard B. Freeman of Dartmouth College and Harvard University, respectively. They are also associated with the National Bureau of Economic Research and the Centre for Economic Performance at the London School of Economics. It also draws upon work done for the OECD by Bénédicte Gendron (France), and Christian Brinch and Erik Hernaes (Norway).
2. Data showing cross-country or age group differences in the incidence of long-term unemployment should be used cautiously. It can be misleading to consider only continuous measured unemployment spells or to believe that shorter spells necessarily imply faster moves from unemployment to jobs [OECD (1984); OECD (1988)]. Research on youth labour markets conducted during the late 1970s and early 1980s found that unemployment tended to be concentrated within a relatively small "minority" of each cohort; these persons either remained unemployed for long consecutive periods of time or appeared in labour force surveys to move in and out of the labour force with, perhaps, periodic short stays in jobs [OECD (1984)]. OECD (1988) also showed the importance of distinguishing the destination of those exiting unemployment for a proper understanding of the measured incidence of long-term unemployment. That analysis found that young people who had been unemployed for less than one year at time t were less likely to be counted as unemployed one year later compared with prime-age workers. While this group was somewhat more likely to have a job by that time, they were also more likely than prime-age workers to break their spell of unemployment by dropping out of the measured labour force. The probability of being without a job was less different across the two groups compared with the probability of remaining unemployed.
3. This chapter focuses only on the dichotomy "in education/not in education" rather than analysing the various levels of education. A considerably higher proportion of those reported as enrolled in school are likely to be in upper secondary school in Europe than is the case in the United States. Part of this reflects a greater propensity in some European countries for students to repeat years, a practice less common in the United States. To illustrate the first point, according to Table PO4 of *Education at a Glance* [OECD (1995b)], the distribution of those aged 20 years who were enrolled in school full-time in various kinds of education was as follows:

	Upper secondary	Non-university tertiary	University
Australia	11.3	21.3	67.4
Belgium	21.6	40.1	38.3
Canada	29.4	20.2	50.4
Finland	45.2	16.8	38.0
France	25.8	25.5	48.7
Greece	18.0	35.7	46.3
Ireland	23.4	26.8	49.8
New Zealand	7.7	17.7	74.6
Norway	47.7	24.9	27.4
Spain	40.3	1.6	58.1
Sweden	16.3	47.6	36.1
United Kingdom	9.7	11.3	79.0
United States	4.9	21.9	73.2

4. For example, a number of important questions arise as to the impact, if any, of differing degrees of labour market churning on age-earnings profiles, wage gains or losses, and skill development. The links between turnover and company-based training have received particular attention. Lynch's (1991) examination of American data suggested that few young workers received formal training, that young workers who did receive training were less likely to leave and that most of the training that did occur only took place after being with the employer for over one year. On the other hand, a Japanese survey of enterprises found that almost two-thirds of all new hires from high school were given formal company training straightaway [OECD (1993)].
5. These two ages were chosen as they roughly correspond to leaving upper secondary and university education. The general trends are little affected by the choice of age group.
6. This does not mean that the employment/population rates of students increased, only that a higher proportion of all employed youth are also students [see OECD (1994) for a discussion of the former].
7. Disaggregating these data into teenagers and young adults shows that youth-intensive industries are the same for each. The main difference is the magnitude of the ratios. For example, the "employment coefficients" for hotels and restaurants, and wholesale/retail trade and repairs are generally higher for teenagers compared with young adults. This reflects the process of settling into the world of work. With age and experience, many youths are able to move into a broader range of industries.
8. Further disaggregating these data into teenagers and young adults does not change the cross-country patterns of differences or changes over time. In all countries, however, the indices are higher among teenagers. In Canada, Denmark, France, the United Kingdom and the United States, the values of the index

- exceed 0.70, implying a very separated job market for teenagers.
9. The earnings variable in Table 4.14 has been transformed into the natural logarithm. The interpretation of the coefficients is defined as the incremental average earnings, in logs, as defined in each country data set, of workers aged 18-24 compared with workers aged 35-44. As expected, all the signs are negative as young workers' pay is less than that of adults. The results can be transformed into the ratio of youth-to-adult average earnings as follows: $\ln(\text{average adult earnings}) - \text{the youth coefficient}$. The results from the simple equation in Table 4.14 show that youth earnings as a per cent of adults' are: Canada, 29 per cent; Germany, 68 per cent; Ireland, 79 per cent; Italy, 62 per cent; Japan, 43 per cent; the Netherlands, 81 per cent; New Zealand, 34 per cent; Norway, 44 per cent; Spain, 58 per cent; the United Kingdom, 44 per cent; and the United States, 18 per cent. These are illustrative only. A more detailed specification controlling for hours worked, education, marital status, union status and others would undoubtedly lower the age coefficient [see Blanchflower (forthcoming)].
 10. There is a growing literature on the relation between youth employment and increases in the minimum wage in the United States and the United Kingdom (see, for example, Card and Krueger (1995) for the United States; Machin and Manning (1994, 1996) for the United Kingdom) which shows, at most, modest job losses in response to mandated increases in the minimum wage. However, others find more pronounced effects [Abowd *et al.* (1996); Neumark and Wascher (1994); Hashimoto (1982)]. An earlier United Kingdom study also found that relative pay for youth affected their relative employment [Wells (1983)].
 11. Note that this type of analysis does not necessarily imply that those at the bottom of the wage decile at one point-in-time remain there. For a first attempt at analysing earnings mobility with longitudinal data, see Chapter 3.
 12. The data for women at the upper and lower deciles for both hours and hourly earnings in 1970 give results that do not seem plausible. The high percentage change in hourly earnings for the 0-10 decile from 1970-1990 reflects an extraordinarily low rate of pay for women in 1970, which may be the result of measurement error. The percentage change in wages from 1980 to 1990 for the 0-10 decile was just 2.1 per cent. The high percentage change in hours worked for women in the top decile reflects the extraordinarily low hours reportedly worked by them in 1970.
 13. Specifically, let a_{ij} be the 20 to 24-year-old share of employment in industry j in 1985, b_i be the share of industry i in total employment, and r be the ratio of the 20 to 24-year-old share of the population in 1994 to its share in 1985. The industry shift measure is then:

$$= \sum_{j=1}^n r a_{ij} \Delta b_j$$
 where the change is measured from 1985 to 1994.
 14. For some countries, slightly different results are obtained for teenagers whose relative population dropped more than that of young adults. The predicted effect of the change in industry mix on teenage employment is negative in Belgium, Greece, Portugal and the United Kingdom, but positive in all other countries in Table 4.17.
 15. These regressions were also estimated using a logit transformation and the results were essentially unchanged. Hence, results using the linear probability model, which are easier to interpret, are presented.

ANNEX 4.A.

Definitions of school attendance for the cohort and regression analyses

1. Definitions

Data by single year of age from 16 to 35 years of age have been gathered on the labour force status of persons classified by their education attendance, as measured in the labour force surveys of 15 OECD countries. However, there are some important differences across countries in definitions and concepts, particularly with respect to what is considered an educational institution.

Students are generally defined as those who have been attending a course in an educational institution, either currently or in the four weeks preceding the one in which the survey was conducted. Persons attending an educational institution include, but are not always limited to, those enrolled in primary and secondary schools, colleges and universities. In some countries, such as Australia, those in technical and trade schools, which can range from secretarial to computer programming schools, are also considered to be students. In some others, they are not counted as students. Such definitional differences can affect cross-country comparisons of labour market activity among students and others.

The line of separation between education and work may be less clear-cut in some countries than in others. The importance of intermediate situations, such as dual apprenticeship systems, which combine on-the-job training with education, differs across countries. Unless explicitly noted in the chapter, young persons in such situations are, in principle, not counted as students in the data presented. Thus, when the analysis turns on the question of schooling and work combinations, it focuses on those areas where the work activity is not directly connected to the "educational" institution in question.

In addition, these data are obtained at a particular point-in-time each year. Among the European Union countries, the surveys generally take place in the spring and are often spread over several months. In Australia, Canada and the United States, the data are based on surveys conducted in May and March, respectively.

Country-specific information is presented below [for more detailed information see OECD (1988)].

Australia

The data come from the May Supplement to the regular monthly survey, called "The Transition from Education to Work" and cover the period 1983-1994. Persons attending an educational institution are those enrolled in schools, universities, colleges of advanced education, and public and private colleges. Also included under these categories are business, commercial and secretarial schools, religious and theological colleges, and those enrolled full-time in

colleges of technical and further education (TAFE). Excluded are institutions whose primary role is not education, such as hospitals. Unless noted otherwise, persons attending TAFE on a part-time basis, which tends to mean attendance one day per week, are also excluded. They are counted as being in an apprenticeship.

Canada

The data are from the monthly Labour Force Survey and refer to March, and cover the period 1976-1995. Education attendance refers to persons reporting that they were attending any type of public or private educational establishment, including primary and high schools, universities, community colleges, vocational schools and other schools, such as secretarial schools. Furthermore, only persons taking "credit courses" which count towards a degree, diploma or certificate are included.

Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom

The data were supplied by EUROSTAT on the basis of each country's regular labour force survey and cover the period 1983-1994 (1985 and 1987-1994 for the Netherlands, and 1986-1994 for Portugal and Spain). The reference period refers to the four-week period prior to the actual conduct of the survey. The surveys are conducted over the following time periods: Belgium, generally conducted during the month of April; Denmark, generally conducted in a particular week during the April to May period; France, conducted in March; Germany, conducted during a week in April from 1986 and during a week in May prior to 1986; Greece, generally conducted during a week over the March to July period; Ireland, generally conducted in May; Italy, generally conducted in April; Luxembourg, generally conducted during the month of April; the Netherlands, generally conducted during a week over the period from March to May; Portugal and Spain, generally conducted during a week over the April to June period; and the United Kingdom, generally conducted during a week over the March to May period.

While the exact form of the question on education/training differs across these countries, and more detail on this can be found in OECD (1988), as a rule, from 1983-1991, attending school refers to those attending general education, those receiving training by attending a school providing specific subject matter or by attending a university, and those attending college part-time. Those not attending school include those receiving training in a business firm and nowhere else, those receiving training in the framework of an apprenticeship, those receiving training in other forms of dual-training systems and those not attend-

ing any education/training. Thus, unless otherwise noted, dual-system apprentices are excluded from the student population. The figures used for apprenticeship refer to apprenticeship and other forms of dual training systems.

From 1992 forward, attending school refers to those attending general education, those attending vocational school, those studying for third-level qualifications, studying for a university degree, studying for a post-graduate degree and studying for another qualification. Not attending school refers to those who received no education/training during the reference period, those who received specific vocational training in a working environment and those in any form of a dual-system apprenticeship training. The latter two responses are counted as apprenticeships.

Two other issues should be noted. First, from 1991 the data for Germany refer to reunified Germany. Second, a number of changes and additions were introduced to the European Labour Force Survey in 1992. These result in some problems of comparability for the time series used in this chapter. However, it is unlikely that they affect the analysis or conclusions greatly.

United States

The data are from the monthly Current Population Survey and refer to March, and cover the period 1970-1993. These data are based on the "main activity question" in the survey. Respondents are asked what they were doing most of last week: working, going to school or something else. Thus, there can be individuals who are actually enrolled in school, but who say that their main activity was something else. They will be counted as not attending school. Examination of responses to this main activity question compared with a question on school enrolment (which is now asked regularly in the survey, but prior to 1985 was only asked in October) suggests that the former understates the proportion attending school. However, this does not seem to be a severe problem, especially when a comparison of enrolment rates from administrative data by single years of age was made with the main activity responses by single year of age. The reported enrolment rate and the main activity "going to school" rate were almost identical. Moreover, the trends in the changes in schooling, employment and unemployment probabilities for the cohorts presented here are not much affected by this definitional difference.

2. Regression analysis: pooled cross-section and time series

As is clear from the preceding description, the data bases contain both a cross-section and time series component. This has been taken advantage of by, for each country and for all countries together, pooling the data to greatly expand the number of observations available (Table 4.A.1). For example, Australian data on labour force status and education participation are available by single year of age from 16 to 35 (20 ages), by gender (2 groups) and from 1983-1994 (12 years). Pooling all these data points together yields 480 observations ($20 \times 2 \times 12$). Doing the same procedure for each country in the sample and pooling all of them together yields over 7 000 observations. In addition, the country- and time-specific aggregate unemployment rates were added to the data set. Note that the fully pooled

Table 4.A.1. **Details of data files used in regressions**

	Years	Number of observations	Means of the unemployment rate over the period
Australia	1983-1994	480	8.4
Belgium	1983-1994	480	9.6
Canada	1976-1994	760	9.3
Denmark	1983-1994	479	8.2
France	1983-1994	479	10.0
Germany	1983-1994	450	7.0
Greece	1983-1994	474	8.1
Ireland	1983-1994	480	15.8
Italy	1983-1994	480	11.0
Luxembourg	1983-1994	438	2.4
Netherlands	1985, 1987-1994	360	8.4
Portugal	1987-1994	320	5.7
Spain	1986-1994	360	19.4
United Kingdom	1983-1994	480	9.8
United States	1970-1993	922	7.0
All	1970-1994	7 442	

data set is an unbalanced panel as the length of the time series differs across countries.

The econometric method employed throughout this chapter is that of pooling both dimensions. The easiest way to see this is to consider the regression results shown in Table 4.20, in particular the one for 16-year-olds which combines all the countries in the sample. The regression includes the independent variable of interest (the country- and time-specific aggregate unemployment rate), a set of incidental dummy variables – country and gender – designed to "control" for omitted variables specific to each cross-section unit and a time trend. The estimated equation is:

$$Y_{it} = \alpha_i + \beta_1(\text{Un}_{it}) + \beta_2(\text{Gender}_{it}) + \beta_3(\text{Country}_{it}) + \beta_4 T_i + E_{it}$$

where:

- Un_{it} = the unemployment rate of country i at time t ;
- Gender_{it} = a (1,0) gender dummy;
- Country_{it} = a (1,0) country dummy;
- T_i = time trend; and
- E_{it} = stochastic error term.

The coefficients on the unemployment rate, the gender dummy and the trend are constrained to be the same in the regressions which pool all countries. The country dummies are allowed to vary. The "controls" for all equations presented are listed in the notes to the tables.

In addition to the aggregate unemployment rate, equations were also run using the adult employment rate and adult unemployment rate with qualitatively similar results.

All equations were estimated by OLS (ordinary least squares) using STATA software. Two issues which often arise with respect to pooled data are heteroskedasticity – non-constant variance of the error term, and serial correlation – the disturbance at time t may be correlated with that at another point-in-time. These have given rise to a large literature and debate as to how, and whether, to handle them econometrically. They remain the subject of on-going research, and are beyond the scope of the present study.

Table 4.A.2. **Econometric estimates of the effects of the aggregate unemployment rate on the proportion of youth across mutually exclusive statuses^a**

	Percentage in school and not working	Percentage in school and working	Percentage not in school and not working	Percentage not in school and working
Australia	.3954 (5.04)	-.2311 (3.26)	1.1694 (5.57)	-1.3337 (5.46)
Belgium	-.4004 (3.53)	.0852 (3.25)	1.0309 (4.23)	-.7601 (2.95)
Canada	.3513 (5.73)	-.2543 (3.61)	.9958 (6.02)	-1.0928 (5.88)
Denmark	.3532 (2.66)	-.0788 (0.53)	1.0173 (7.98)	-1.3010 (7.06)
France	.2010 (0.76)	.2503 (5.98)	.6898 (2.35)	-1.1682 (4.48)
Germany	1.0375 (4.09)	.3212 (3.34)	.7121 (1.14)	-2.0347 (3.52)
Greece	-.2010 (0.74)	.0166 (0.53)	1.0537 (2.00)	-.8396 (1.39)
Ireland	-.3879 (1.29)	.0696 (0.91)	1.2333 (2.72)	-.8796 (2.39)
Italy	-.9559 (7.12)	-.0909 (5.82)	.6545 (1.61)	.3922 (0.95)
Luxembourg	-.5497 (1.37)	.0338 (0.46)	1.3796 (1.97)	-1.7295 (1.97)
Netherlands	2.3066 (5.63)	-.4067 (1.37)	-.6770 (1.16)	-1.2228 (2.09)
Portugal	.7432 (4.07)	-.0989 (1.69)	1.1955 (6.00)	-1.8397 (8.88)
Spain	.0884 (1.53)	-.0836 (6.24)	.9183 (5.34)	-.9215 (6.14)
United Kingdom	.1733 (3.51)	-.5175 (7.25)	1.6606 (8.00)	-1.3164 (6.66)
United States	.1078 (2.37)	-.1413 (4.29)	.5499 (3.13)	-.5639 (3.13)
All (pooled)	.4298 (7.58)	-.0136 (0.39)	.7336 (11.53)	-1.1538 (16.03)

a) T-statistics are in parentheses. Equations also include 19 age dummies, a time trend, and a gender dummy, plus 14 country dummies in the overall equation.

Sources: See Table 4.11.

Table 4.A.3. **Econometric estimates of the effects of the aggregate unemployment rate on the proportion of youth across mutually exclusive statuses by age and gender^a**

Age	Percentage in school and not working	Percentage in school and working	Percentage not in school and not working	Percentage not in school and working
16	1.2941 (4.55)	-.8509 (6.86)	-.0134 (0.06)	-.4588 (3.75)
17	1.1736 (4.30)	-.5958 (4.52)	.2052 (0.96)	-.7741 (4.91)
18	.7916 (3.29)	-.3045 (2.43)	.4745 (2.36)	-.9511 (5.84)
19	.5940 (2.52)	-.1936 (1.91)	.6561 (3.48)	-1.0544 (6.29)
20	.5420 (2.72)	-.1026 (1.16)	.7336 (4.36)	-1.1711 (6.78)
21	.4797 (2.96)	-.0090 (0.12)	.8183 (5.19)	-1.2938 (7.31)
22	.4556 (3.40)	.0659 (1.02)	.8378 (5.53)	-1.3511 (7.31)
23	.3712 (3.61)	.1308 (2.16)	.9153 (5.95)	-1.4130 (7.82)
24	.3293 (4.15)	.1287 (2.24)	.9406 (5.63)	-1.3985 (8.01)
25	.2702 (4.03)	.1292 (2.25)	.9303 (5.71)	-1.3343 (7.67)
26	.3035 (5.37)	.1604 (3.04)	.8563 (4.82)	-1.3254 (7.52)
27	.2571 (5.31)	.1772 (3.46)	.8723 (4.85)	-1.3215 (7.24)
28	.2331 (5.62)	.1618 (3.15)	.9759 (5.14)	-1.3565 (7.23)
29	.1861 (3.91)	.1733 (3.47)	.8290 (4.32)	-1.1812 (6.01)
30	.2083 (5.59)	.0969 (2.02)	.7603 (3.69)	-1.0603 (5.26)
31	.1768 (4.29)	.1242 (2.45)	.8161 (3.80)	-1.1332 (5.35)
32	.1560 (4.07)	.1449 (3.02)	.7752 (3.50)	-1.0724 (4.91)
33	.1479 (3.35)	.1198 (2.23)	.7462 (3.28)	-1.0541 (4.85)
34	.1310 (2.81)	.1613 (3.11)	.7224 (3.18)	-1.0329 (4.67)
35	.1472 (2.96)	.1299 (2.65)	.6749 (2.86)	-.9382 (4.06)
All ages	.4298 (7.58)	-.0136 (0.39)	.7336 (11.53)	-1.1538 (16.03)
Women	.4154 (5.10)	-.0133 (0.26)	.5801 (8.99)	-.9781 (11.42)
Men	.4447 (5.74)	-.0139 (0.29)	.8853 (23.28)	-1.3142 (19.25)

a) T-statistics are in parentheses. Equations also include 14 country dummies, a time trend, and 19 age dummies in the "all ages" equation.

Sources: See Table 4.11.

ANNEX 4.B

Sources and definitions of earnings data

Australia

Data are from the *Weekly Earnings of Employees (Distribution)*, Australia, Australian Bureau of Statistics, Catalogue No. 6310.0. Prior to 1988, the data refer to mean weekly earnings in all jobs of full-time workers. From 1988 forward, the data refer to mean gross weekly earnings of full-time workers in their main job.

Canada

Data are from the Survey of Consumer Finances, taken from the publication *Earnings of Men and Women*, Statistics Canada. Data refer to mean annual gross earnings, including self-employment income, of all earners. Additional, unpublished, data from the same survey were provided by Statistics Canada.

Denmark

Data were supplied by the Ministry of Economic Affairs and are based on a longitudinal sample of individuals taken from administrative records. Earnings refer to mean daily gross wages calculated as yearly wages divided by days worked per year. Data exclude those working less than 30 hours per week, those who received sickness benefits for more than 13 weeks during the year and all persons working less than 13 weeks.

France

Data were supplied by the Direction des Statistiques Démographiques et Sociales of INSEE and are based on the Déclarations Annuelles des Données Sociales. The data refer to net mean annual earnings for full-time workers in the private and semi-public sectors.

Germany

Data were supplied by Statistisches Bundesamt from social security information. Earnings refer to annual gross wages of full-time, full-year employees in western Germany.

Italy

Data were supplied by the Bank of Italy and are based on its Survey of Household Income and Wealth. Data refer to mean annual earnings of full-time workers.

Japan

Data are from the Basic Survey of Wage Structure and refer to regular employees in firms of 10 or more workers. Earnings refer to mean total monthly cash earnings.

Norway

Data are based on the Level of Living Survey and were supplied by the Central Bureau of Statistics. Earnings refer to mean hourly wages of employees, estimated as reported before-tax hourly, weekly, fortnightly or monthly wages divided by the corresponding usual hours worked in the main occupation.

Sweden

Data were supplied by Statistics Sweden and refer to mean gross monthly salaries of full-time workers in mining, quarrying and manufacturing only.

United Kingdom

Data are from the Department for Education and Employment, *New Earnings Survey*, various issues. Earnings refer to average gross weekly earnings of full-time workers whose pay for the survey period was not affected by absence.

United States

Data were supplied by the Bureau of Labor Statistics and are based on the Current Population Survey. Earnings refer to usual median gross weekly earnings of full-time workers. Prior to 1979 the data are based on the outgoing rotation groups of the May Survey. From 1979 forward, the data are based on the outgoing rotation groups for each

monthly survey and are then averaged over the 12-month period.

International Social Survey Programme, 1993

This chapter also uses information on earnings gathered from the ISSP. This is a continuing programme carried out by a group of national research institutes. Each institute conducts an annual survey of social attitudes and values, with the topics changing from year-to-year. As a condition of membership, each country undertakes to do a short, annual, self-completion survey with an agreed set of ques-

tions for a probability-based sample. For a description of the technical details of the surveys, see Jowell *et al.* (1989).

The earnings variables are defined as follows: Canada, annual income before taxes; Germany, net earnings per month after taxes and social insurance; Ireland, average annual earnings before taxes; Great Britain, annual earnings before income tax and national insurance; Italy, net monthly income after taxes; Japan, annual gross earnings; the Netherlands, annual earnings before taxes; New Zealand, annual income before taxes; Norway, gross annual income before taxes and allowances; Spain, annual earnings before taxes; and the United States, annual earnings before taxes.

ANNEX 4.C

Data sources for the jobs-held analysis

Germany

Data came from the German Socio-Economic Panel which is a representative longitudinal data set of persons, households and families in the Federal Republic of Germany. Questions have focused on changing household composition, employment, income, assets, job and regional mobility. In addition, the survey contains information on education, health, leisure, satisfaction and self-worth. In 1984, about 6 000 households were surveyed. Once a year all members of the households aged 16 or older are questioned. Respondents who move continue to take part in the study as long as the move is within the Federal Republic. For further details, see the *German Socio-economic Panel: User Handbook*, German Institute of Economic Research, Berlin.

In 1984, all respondents were asked a set of retrospective questions. One sought to count the number of jobs they had held over the prior 10 years. Responses to this question from those 25 years old in 1984 and not in school are used in this chapter. Examination of the 10-year history of those aged 26-30 in 1984 did not produce different results.

Japan

The data are derived from the 1985 *Survey on Employment Conditions of Youth*. This consisted of a sample of 21 000 persons under the age of 30, no longer in school and employed in establishments with more than 10 regular employees.

The number of jobs held is an estimate derived from Table 59 of the 1985 *Yearbook of Labour Statistics*. The table shows the proportion who had never changed jobs, the proportion who had changed once, twice and three or more times, and the proportion who had held a side-job or had been self-employed. For those who had changed jobs three or more times, they were assumed to have held five jobs in total. For those who also had held side jobs, it was assumed to be just one time.

Because the sample consisted of those employed at the time of the survey, the number of jobs may be underestimated because one misses those not employed, but who had worked at some point since leaving school. Given differences in participation rate patterns between Japanese men and women, the estimates for the latter are probably underestimated.

Norway

The Norwegian data have been constructed by linking a number of registers. A detailed description can be found in Hernaes and Strom (1995). The data calculations were done by Christian Brinch and Erik Hernaes. The registers which have been linked and which provide a variety of data from 1989 currently through to 1993 are: the register of employers and employees (EER), which is the main source for the jobs-held data; the register of wages, benefits and taxes; the unemployment register, giving data on spells of unemployment (including data on labour market programme participation); and the Norwegian educational register, which gives data on all types of educational activity, including time of leaving school, whether or not they subsequently returned, the type of education and whether or not it was completed. The data base contains information on all residents of Norway.

The population for this chapter consists of all persons under age 25 in 1989 who were registered in education on 1 October 1988 and who were not registered on 1 October 1989, a total of 69 075 persons (as compared to a cohort size of about 60 000). This is the total outflow, within this age group, from the educational system in that year, starting with the last grade of compulsory school and including doctoral awards (theoretically). Labour market and (further) educational careers are then tracked throughout 1989-1992. Among other variables are gender, age, place of residence, and parents' income and educational qualifications.

The number of jobs can be defined through a number of variables. The analysis here counts the number of jobs each person held from July 1989 through the end of 1992, using the individual register of employees (EER). This register is regularly updated with starting and termination dates of jobs with each employer.

Great Britain

The first data source is the National Child Development Study which is a longitudinal survey taking as its subjects all those living in Great Britain who were born between 3 and 9 March 1958. Since the original Perinatal Mortality Study was undertaken in 1958, the survey has monitored the social, economic, educational and health circumstances of the surviving subjects. To this end, major surveys were carried out in 1965 (NCDS1), 1969 (NCDS2), 1974 (NCDS3) and 1981 (NCDS4) and 1991 (NCDS5). For the purposes of the first 3 surveys, the birth cohort was augmented by including those new immigrants born in the relevant week. Information was obtained separately from parents, teachers and doctors as well as members of the

NCDS cohort. The 1981 survey which is used here – when the respondents were all aged 23 – differs in that no attempt was made to include new immigrants since 1974 and information was obtained from the respondent only. The 1981 survey contained a total of 12 537 interviews or approximately 76 per cent of the original target sample and 93 per cent of those traced and contacted by interviewers. The interview survey was carried out between August 1981 and March 1982. The count of the number of jobs covers the period between 1974-1981. For further details of the survey, see Elias and Blanchflower (1988).

The second data source is the British Household Panel Survey (BHPS). The BHPS started in 1991 and is conducted on an annual basis. It is managed by the ESRC Research Centre on Micro-social Change at Essex University. Wave 2 was a random sample of private addresses in Great Britain. Each subsequent wave follows respondents into their current households and any new members are also interviewed. The original sample size was 10 264.

Wave 2, which is used in this chapter, asked questions on respondents job history since leaving full-time education. Here, the sample consisted of all persons aged 24-28 in 1992. Tabulations are the number of jobs held from the age of leaving school up to 1990. There may be a small number of people who subsequently returned to education over the interval, but no attempt has been made here to correct for this. The unweighted sample size was 360 women and 281 men. For more information on the BHPS, see Buck *et al.* (1994).

United States

The data source is the National Longitudinal Survey Youth Cohort, sponsored by the Bureau of Labor Statistics

and the Department of Labor. This is an annual survey of a group of people who were aged 14-21 in 1978. Since 1979, respondents have been interviewed annually about all aspects of their labour market activity. The sample was selected to be representative of all Americans born during a given period such that conclusions drawn about the group would be generaliseable. Sample selection procedures ensured that the labour market dilemmas of non-whites and the economically disadvantaged could also be examined. The response rate has been fairly high, at around 90 per cent. The original sample consisted of 12 686 persons. For the jobs-held analysis, these individuals were followed from 1979-1988.

Jobs are identified directly in the survey as each annual questionnaire asks respondents to identify their previous 12 months labour market activity.

The actual calculations were done several ways to check on the robustness of the results. The first approach was to take the 1992 wave and obtain each individuals' level of education at that time. The sample then consisted of those whose educational attainment in 1992 matched that for prior years. This is one way to ensure that one is not counting jobs held while attending school. Calculations were done for persons aged 14 to 22 in 1979. The second approach deleted from the sample in *each* year anyone who reported that their main activity was participation in education.

In the event, the results were virtually identical and the first approach is reported in the chapter. Although the chapter reports the results for those aged 16 in 1979, the number of jobs held by those aged 18 in 1979 over their first 10 years in the labour market was, again, almost the same.

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