

## CHAPTER 3

# Earnings inequality, low-paid employment and earnings mobility

### A. INTRODUCTION AND MAIN FINDINGS

#### 1. Introduction

Evidence that the broad post-war trend toward narrowing earnings distributions reversed during the 1980s in many OECD countries has generated much research and debate about its extent, causes and consequences [OECD (1993), Chapter 5]. This is a natural consequence of the pervasive importance of the distribution of earnings. From the perspective of business enterprises, the relative wages of different groups of workers are an important determinant of hiring, training, technology use and many other decisions. From the perspective of individual workers, their earnings levels and its evolution over the course of their working lives are important determinants of their level of economic well-being, while also influencing important choices, such as whether or not to pursue higher education or to train for a specific trade. The distribution of earnings also has consequences for public policy. For example, the prevalence of low-paid employment and unstable earnings influences the need for and costs of social insurance and anti-poverty programmes.

This chapter is intended to fill several gaps in the understanding of the distribution of earnings. Section B examines how the dispersion of earnings has changed during the first half of the 1990s. Has the broad trend toward rising inequality continued or even spread to countries that maintained stable or even falling earnings dispersion during the 1980s? Section C analyses the incidence of low-paid employment. One of the most troubling aspects of increased wage dispersion during the 1980s was the declining relative earnings – and, in some countries, the declining real earnings – of low-paid workers. Does the incidence of low pay differ across countries and can it be ascribed to particular policies or labour market institutions? Do policies and institutions that reduce the incidence of low-paid employment result in lower employment rates for low-skill workers? Section D seeks to incorporate earnings *mobility* into the comparative analysis of earnings inequality. Does mobility of individuals through the earnings distribution offset the increase in the inequality of labour market outcomes that otherwise would be associated with

comparatively high or rising levels of earnings dispersion? Do policies that seek to increase employment by deregulating relative wages increase the inequality of *life-time* earnings as much as they appear to increase the inequality of earnings *at a single point in time*? While there have been several previous international studies of earnings mobility, they have at most included four countries whereas eight countries are compared in Section D.

The analysis is subject to two important limitations, in addition to the usual problems of data comparability that plague international comparisons. First, the analysis of earnings inequality is mostly restricted to *gross cash earnings* of wage and salary workers. Although cash earnings are an important component of family incomes, there are large national differences in the relationship between the distribution of earnings across workers and the distribution of family incomes and consumption levels [OECD (1995); Gottschalk and Smeeding (1996)]. The primary rationale for analysing the distribution of gross cash earnings, rather than take-home pay or total labour compensation, inclusive of non-wage benefits, is that data on gross earnings are available for a larger number of countries. This choice also facilitates comparisons with the large literature on trends in earnings inequality, which largely adopts this definition of earnings (Freeman and Katz, 1995). Nonetheless, it must be borne in mind that data on gross cash earnings alone are not adequate to analyse trends in income distribution or labour market incentives (Chapter 2). A second limitation is that the relationships between cross-sectional earnings dispersion and economic policies, employment rates, and earnings mobility are very complex and the analysis undertaken in the chapter is exploratory. In particular, attempts to compare earnings mobility across different countries are hindered by fundamental conceptual and empirical difficulties.

#### 2. Main findings

While earnings inequality rose in many countries over the 1980s, Section B shows that there has not been a broad increase across the OECD area during the first half of the 1990s. Only the United Kingdom and the United States have continued to experience a

rapid rise in inequality. In other countries, where the rise in earnings dispersion has been more recent, this would appear to have been more closely associated with substantial labour and product market reforms. While the tendency towards increased inequality appears to have slackened somewhat, only a few countries, notably Canada, Finland and Germany,<sup>1</sup> have experienced a decline in earnings dispersion over the last 5 to 10 years. For some countries – Australia, New Zealand and the United States – a rise in earnings inequality has implied falls, or only weak growth, in real wages over the past decade for most jobs held by men in the bottom half of the earnings distribution.

As shown in Section C, the incidence of low pay tends to be highest in those countries where earnings inequality is the most pronounced. In the case of the United States, one-quarter of all full-time workers earn less than two-thirds of median earnings compared with around 7 per cent or less in Belgium, Finland and Sweden. The distribution of low-paid employment is, however, more uniform across countries. Youths and women are the most likely to be working in low-paid jobs which, typically, are heavily concentrated in the wholesaling, retailing and catering sectors. A white-collar job is not an automatic guarantee to receiving a well-paid job as the incidence of low pay for sales and personal service workers and, in some countries, clerical workers is as high, if not higher, than for blue-collar workers.

The analysis in Section C suggests that higher rates of unionisation and collective bargaining coverage reduce the incidence of low-paid employment. Other institutional factors, such as legal minimum wages set at high levels and generous welfare benefits, also appear to create a binding wage floor, and lower the incidence of low pay. The impact of these wage floors on labour market outcomes is uncertain. The simple correlations presented suggest that there is no significant tendency for employment to be lower and unemployment higher for inexperienced or low-skilled workers in countries where there are relatively few low-paid jobs available.

While labour-market institutions and the incidence of low pay vary considerably across countries, the analysis in Section D suggests that the similarities with respect to earnings mobility are more marked than the differences. In all eight countries analysed, approximately half of all workers moved at least one quintile in the earnings distribution between 1986 and 1991. Country rankings are quite sensitive to the measure used, and there is not any one country for which earnings mobility is consistently the highest. Countries with higher cross-sectional earnings inequality do not appear to have correspondingly higher relative earnings mobility, so that international differences in earnings inequality at

a single point in time probably provide a good approximation of the differences in life-time earnings inequality. However, the absolute volatility of earnings appears to increase with cross-sectional inequality. Across all countries, younger workers typically display the greatest upward mobility as they gain experience and establish careers. Another empirical regularity is that mobility increases as the time span considered lengthens.

Only a minority of low-paid workers continue to be in low-paid jobs over a five-year period, but this share varies substantially across the countries (6 per cent of Danish, but 34 per cent of American workers continued to earn less than two-thirds the median wage). Moreover, much of the movement is out of full-time employment altogether, and a considerable share of workers in low-paid jobs had also been in low-paid jobs 5 years earlier or had experienced downwards mobility. Overall, movements into and out of low-paid jobs suggest that low-paid workers have very diverse career prospects and histories. Thus, low-wage employment cannot be simply characterised as either providing a stepping-stone into a more stable and higher-paid career or as a permanent trap. Finally, countries with high cross-sectional earnings inequality tend to have lower upward mobility among low-paid workers. The United States stands out in this respect.

## B. RECENT TRENDS IN EARNINGS INEQUALITY

The substantial rise in earnings inequality over the 1980s in the United States and the United Kingdom and the smaller rise in a number of other OECD countries has spawned a major debate about the causes of this phenomenon and raised fears that a growing number of workers, particularly those with few qualifications or little work experience, face a future of low-paid jobs or no job at all. Several explanations for rising inequality have been put forward: some relate to country-specific institutional features such as declining union membership [see, for example, Freeman (1993)]; others refer to forces of a more universal nature, such as skill-biased technical change [see, for example, Katz and Murphy (1992)] or trade with low-wage developing countries [see, for example, Wood (1994)]. However, the 1993 *Employment Outlook* provided evidence that, while earnings inequality had, indeed, risen over the 1980s in many countries, there were also several, mainly European, countries where it had remained stable. It is important to establish whether these trends have persisted into the 1990s.

Table 3.1 provides information on recent trends in the distribution of earnings for 18 OECD countries

Table 3.1. Trends in earnings dispersion,<sup>a</sup> 1979-1995

		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Average 5 yearly change <sup>b</sup>	
																			1979-1989	1989 onwards
<b>Australia</b>																				
Males	D9/D5	1.69	1.70	1.74	1.73	1.68	1.67	1.62	1.70	1.70	1.72	1.68	1.62	1.74	1.79	1.76	1.77	1.75	0.00	0.06
	D5/D1	1.62	1.60	1.64	1.65	1.64	1.64	1.61	1.64	1.64	1.68	1.67	1.68	1.64	1.63	1.64	1.66	1.68	0.03	0.01
Females	D9/D5	1.50	1.53	1.51	1.55	1.60	1.59	1.58	1.63	1.61	1.59	1.59	1.59	1.62	1.62	1.59	1.59	1.60	0.04	0.01
	D5/D1	1.60	1.66	1.65	1.70	1.72	1.70	1.67	1.67	1.64	1.66	1.64	1.65	1.62	1.58	1.58	1.60	1.58	0.02	-0.05
Total	D9/D5	1.67	1.70	1.68	1.73	1.71	1.69	1.66	1.71	1.68	1.72	1.70	1.66	1.71	1.72	1.72	1.75	1.77	0.02	0.06
	D5/D1	1.64	1.67	1.68	1.67	1.69	1.71	1.64	1.68	1.67	1.68	1.69	1.69	1.66	1.64	1.62	1.64	1.65	0.02	-0.04
<b>Austria</b>																				
Males	D9/D5	..	1.62	..	..	..	..	..	..	1.65	1.67	1.65	..	..	..	..	..	..	0.02	..
	D8/D5	..	1.39	..	..	..	..	..	..	1.41	1.43	1.43	1.43	1.42	1.43	1.43	1.44	..	0.02	0.01
	D5/D1	..	1.63	..	..	..	..	..	..	1.57	1.65	1.65	1.67	1.68	1.67	1.67	1.67	..	0.02	0.01
Females	D9/D5	..	1.74	..	..	..	..	..	..	1.77	1.78	1.79	1.79	1.80	1.81	1.81	1.82	..	0.03	0.03
	D8/D5	..	1.41	..	..	..	..	..	..	1.44	1.45	1.45	1.45	1.46	1.46	1.46	1.47	..	0.02	0.02
	D5/D1	..	1.93	..	..	..	..	..	..	1.96	1.95	1.93	1.96	1.99	2.00	2.02	2.03	..	0.00	0.10
Total	D9/D5	..	1.78	..	..	..	..	..	..	1.80	1.81	1.81	1.80	1.78	1.78	1.79	1.82	..	0.02	0.00
	D8/D5	..	1.46	..	..	..	..	..	..	1.46	1.47	1.47	1.48	1.47	1.47	1.47	1.47	..	0.00	0.00
	D5/D1	..	1.94	..	..	..	..	..	..	1.93	1.96	1.94	1.95	1.98	1.99	2.00	2.01	..	0.00	0.07
<b>Belgium</b>																				
Males	D9/D5	..	..	..	..	..	..	..	1.72	1.73	1.76	1.60	1.57	..	..	..	..	..	..	..
	D8/D5	..	..	..	..	..	..	1.38	1.39	1.40	1.41	1.37	1.37	1.37	1.37	1.37	..	..	..	-0.01
	D5/D1	..	..	..	..	..	..	1.40	1.39	1.39	1.39	1.41	1.40	1.39	1.40	1.38	..	..	..	-0.03
Females	D9/D5	..	..	..	..	..	..	1.67	1.61	1.61	1.62	1.56	1.56	1.55	1.55	1.54	..	..	..	-0.03
	D8/D5	..	..	..	..	..	..	1.40	1.37	1.38	1.38	1.35	1.35	1.35	1.36	1.35	..	..	..	0.00
	D5/D1	..	..	..	..	..	..	1.37	1.37	1.37	1.36	1.40	1.41	1.42	1.42	1.44	..	..	..	0.05
Total	D9/D5	..	..	..	..	..	..	1.65	1.68	1.70	1.61	1.60	1.58	1.58	1.57	..	..	..	..	-0.05
	D8/D5	..	..	..	..	..	..	1.38	1.38	1.38	1.39	1.37	1.37	1.37	1.37	1.36	..	..	..	-0.02
	D5/D1	..	..	..	..	..	..	1.46	1.45	1.45	1.44	1.45	1.44	1.44	1.45	1.43	..	..	..	-0.02
<b>Canada</b>																				
Males	D9/D5	..	..	1.67	..	..	..	..	1.68	..	1.71	..	1.75	1.75	1.74	1.73	1.73	..	0.04	-0.03
	D5/D1	..	..	2.07	..	..	..	..	2.40	..	2.23	..	2.28	2.25	2.26	2.19	2.18	..	0.11	-0.12
Females	D9/D5	..	..	1.76	..	..	..	..	1.76	..	1.86	..	1.75	1.78	1.79	1.84	1.78	..	-0.01	0.04
	D5/D1	..	..	2.12	..	..	..	..	2.41	..	2.24	..	2.28	2.16	2.21	2.10	2.25	..	0.09	-0.03
Total	D9/D5	..	..	1.79	..	..	..	..	1.83	..	1.86	..	1.85	1.88	1.82	1.82	1.84	..	0.03	-0.01
	D5/D1	..	..	2.24	..	..	..	..	2.43	..	2.39	..	2.38	2.23	2.33	2.21	2.28	..	0.08	-0.13
<b>Czech Republic</b>																				
Total	D9/D5	..	..	..	..	..	..	..	..	..	1.44	..	..	..	1.54	..	..	..	..	..
	D5/D1	..	..	..	..	..	..	..	..	..	1.67	..	..	..	1.78	..	..	..	..	..
<b>Denmark</b>																				
Total	D9/D5	..	1.52	1.53	1.55	1.57	1.58	1.54	1.55	1.56	1.55	1.57	1.57	..	..	..	..	..	0.03	..
	D5/D1	..	1.41	1.41	1.40	1.38	1.39	1.41	1.42	1.41	1.40	1.39	1.38	..	..	..	..	..	-0.01	..
<b>Finland</b>																				
Males	D9/D5	..	1.67	..	..	1.70	..	..	1.73	1.69	1.69	1.73	1.72	1.71	1.70	1.65	1.73	..	0.04	-0.01
	D5/D1	..	1.46	..	..	1.48	..	..	1.50	1.51	1.51	1.51	1.49	1.47	1.44	1.44	1.46	..	0.03	-0.05
Females	D9/D5	..	1.47	..	..	1.49	..	..	1.51	1.55	1.57	1.57	1.54	1.52	1.50	1.50	1.52	..	0.06	-0.06
	D5/D1	..	1.40	..	..	1.39	..	..	1.40	1.40	1.37	1.38	1.37	1.37	1.36	1.30	1.30	..	-0.01	-0.08
Total	D9/D5	..	1.65	..	..	1.69	..	..	1.70	1.70	1.68	1.71	1.70	1.68	1.66	1.65	1.70	..	0.03	-0.02
	D5/D1	..	1.49	..	..	1.48	..	..	1.47	1.48	1.46	1.50	1.47	1.44	1.42	1.39	1.40	..	0.00	-0.10
<b>France</b>																				
Males	D9/D5	2.04	2.03	2.05	2.06	2.06	2.06	2.08	2.10	2.11	2.12	2.14	2.13	2.13	2.12	2.13	2.13	..	0.05	-0.01
	D5/D1	1.66	1.66	1.65	1.64	1.62	1.61	1.61	1.61	1.61	1.62	1.63	1.62	1.61	1.61	1.61	1.61	..	-0.01	-0.02
Females	D9/D5	1.70	1.69	1.69	1.69	1.68	1.67	1.68	1.68	1.68	1.68	1.71	1.72	1.73	1.74	1.73	1.72	..	0.01	0.01
	D5/D1	1.59	1.61	1.63	1.64	1.60	1.57	1.57	1.61	1.62	1.65	1.65	1.66	1.67	1.69	1.70	1.71	..	0.03	0.06
Total	D9/D5	1.94	1.93	1.93	1.94	1.94	1.93	1.95	1.96	1.97	1.97	1.99	1.99	1.99	1.97	1.99	1.99	..	0.02	0.01
	D5/D1	1.67	1.69	1.67	1.65	1.62	1.60	1.60	1.62	1.62	1.64	1.65	1.64	1.64	1.64	1.64	1.65	..	-0.01	0.00
<b>Germany</b>																				
Males	D9/D5	..	..	..	..	1.63	1.65	1.66	1.66	1.63	1.65	1.65	1.65	1.57	1.65	1.64	..	..	0.01	-0.01
	D5/D1	..	..	..	..	1.46	1.48	1.42	1.43	1.41	1.42	1.39	1.40	1.35	1.37	1.37	..	..	-0.06	-0.03
Females	D9/D5	..	..	..	..	1.56	1.60	1.58	1.62	1.58	1.58	1.59	1.58	1.62	1.57	1.59	..	..	0.02	0.01
	D5/D1	..	..	..	..	1.70	1.67	1.59	1.57	1.53	1.49	1.52	1.52	1.43	1.48	1.42	..	..	-0.15	-0.13
Total	D9/D5	..	..	..	..	1.63	1.66	1.65	1.64	1.64	1.62	1.64	1.64	1.61	1.65	1.61	..	..	0.01	-0.03
	D5/D1	..	..	..	..	1.65	1.68	1.59	1.58	1.55	1.55	1.50	1.53	1.49	1.48	1.44	..	..	-0.12	-0.08
<b>Italy</b>																				
Males	D9/D5	1.46	1.43	1.46	1.50	1.46	1.50	..	1.53	1.56	..	1.56	..	1.55	..	1.65	..	..	0.05	0.12
	D5/D1	1.57	1.63	1.49	1.54	1.53	1.53	..	1.44	1.45	..	1.39	..	1.43	..	1.60	..	..	-0.09	0.27
Females	D9/D5	1.33	1.33	1.46	1.38	1.42	1.35	..	1.33	1.39	..	1.38	..	1.45	..	1.49	..	..	0.02	0.14
	D5/D1	2.25	2.00	2.16	2.00	1.88	1.73	..	1.85	1.65	..	1.57	..	1.65	..	1.88	..	..	-0.34	0.39

Table 3.1. Trends in earnings dispersion,<sup>a</sup> 1979-1995 (cont.)

		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Average 5 yearly change <sup>b</sup>		
																			1979-1989	1989 onwards	
<b>Japan</b>																					
Males	D9/D5	1.63	1.63	1.65	1.66	1.65	1.68	1.68	1.69	1.68	1.70	1.73	1.73	1.72	1.72	1.71	1.73	..	0.05	0.00	
	D5/D1	1.59	1.60	1.61	1.63	1.64	1.65	1.65	1.64	1.65	1.64	1.65	1.64	1.64	1.62	1.61	1.60	..	0.03	-0.04	
Females	D9/D5	1.54	1.55	1.56	1.58	1.57	1.57	1.62	1.62	1.65	1.65	1.65	1.63	1.61	1.60	1.59	1.59	..	0.05	-0.06	
	D5/D1	1.42	1.40	1.40	1.41	1.41	1.40	1.41	1.42	1.41	1.42	1.42	1.41	1.43	1.41	1.41	1.41	..	0.00	-0.02	
Total	D9/D5	1.76	1.76	1.77	1.79	1.82	1.83	1.81	1.83	1.84	1.85	1.86	1.87	1.86	1.85	1.84	1.85	..	0.05	-0.02	
	D5/D1	1.71	1.71	1.72	1.72	1.72	1.72	1.72	1.72	1.71	1.70	1.70	1.69	1.67	1.64	1.65	1.63	..	0.00	-0.07	
<b>Netherlands</b>																					
Total	D9/D5	..	..	..	..	..	..	1.62	1.64	1.64	1.66	1.66	1.66	1.66	1.66	1.68	1.66	..	..	0.00	
	D5/D1	..	..	..	..	..	..	1.55	1.55	1.54	1.56	1.57	1.57	1.57	1.57	1.54	1.56	..	..	-0.01	
<b>New Zealand</b>																					
Males	D9/D5	..	..	..	..	..	1.66	..	1.61	..	1.64	..	1.76	..	1.75	..	1.79	..	..	0.04	
	D5/D1	..	..	..	..	..	1.64	..	1.69	..	1.74	..	1.75	..	1.79	..	1.77	..	..	0.02	
Females	D9/D5	..	..	..	..	..	1.54	..	1.55	..	1.53	..	1.56	..	1.62	..	1.57	..	..	0.01	
	D5/D1	..	..	..	..	..	1.57	..	1.63	..	1.64	..	1.74	..	1.67	..	1.67	..	..	-0.08	
Total	D9/D5	..	..	..	..	..	1.70	..	1.67	..	1.68	..	1.74	..	1.74	..	1.76	..	..	0.02	
	D5/D1	..	..	..	..	..	1.70	..	1.70	..	1.74	..	1.75	..	1.77	..	1.73	..	..	-0.03	
<b>Norway</b>																					
Total	D9/D5	..	1.46	..	..	1.50	..	..	..	1.49	..	..	..	1.50	..	..	..	..	..	..	
	D5/D1	..	1.41	..	..	1.37	..	..	..	1.45	..	..	..	1.32	..	..	..	..	..	..	
<b>Portugal</b>																					
Males	D9/D5	..	..	..	..	..	..	2.13	..	..	..	2.24	..	2.39	2.43	2.40	..	..	..	0.20	
	D5/D1	..	..	..	..	..	..	1.56	..	1.61	..	1.72	..	1.75	1.72	1.72	..	..	..	0.00	
Females	D9/D5	..	..	..	..	..	..	1.84	..	2.12	..	2.10	..	2.27	2.29	2.34	..	..	..	0.30	
	D5/D1	..	..	..	..	..	..	1.52	..	1.33	..	1.33	..	1.25	1.32	1.39	..	..	..	0.07	
Total	D9/D5	..	..	..	..	..	..	2.14	..	..	..	2.24	..	2.24	2.48	2.47	..	..	..	0.29	
	D5/D1	..	..	..	..	..	..	1.69	..	1.54	..	1.56	..	1.56	1.61	1.64	..	..	..	0.10	
<b>Sweden</b>																					
Males	D9/D5	..	1.61	1.56	1.57	1.55	1.55	1.58	1.60	1.58	1.57	1.60	1.56	1.60	1.62	1.62	..	..	0.02	0.03	
	D5/D1	..	1.31	1.33	1.32	1.30	1.31	1.35	1.34	1.33	1.34	1.35	1.33	1.36	1.35	1.36	..	..	0.02	0.01	
Females	D9/D5	..	1.32	1.35	1.34	1.36	1.35	1.36	1.35	1.39	1.38	1.40	1.42	1.40	1.40	1.40	..	..	-0.01	0.02	
	D5/D1	..	1.25	1.31	1.29	1.26	1.29	1.28	1.33	1.33	1.30	1.29	1.22	1.29	1.30	1.30	..	..	0.02	0.01	
Total	D9/D5	..	1.57	1.55	1.53	1.50	1.52	1.59	1.57	1.57	1.56	1.57	1.52	1.55	1.57	1.59	..	..	0.02	0.03	
	D5/D1	..	1.30	1.32	1.31	1.30	1.33	1.30	1.32	1.33	1.34	1.35	1.32	1.36	1.34	1.34	..	..	0.01	0.00	
<b>Switzerland</b>																					
Males	D9/D5	..	..	..	..	..	..	..	..	..	..	..	..	1.68	1.66	1.65	1.64	1.68	..	0.00	
	D5/D1	..	..	..	..	..	..	..	..	..	..	..	..	1.45	1.46	1.51	1.49	1.51	..	0.08	
Females	D9/D5	..	..	..	..	..	..	..	..	..	..	..	..	1.57	1.57	1.56	1.56	1.59	..	0.02	
	D5/D1	..	..	..	..	..	..	..	..	..	..	..	..	1.72	1.58	1.58	1.56	1.60	..	-0.16	
Total	D9/D5	..	..	..	..	..	..	..	..	..	..	..	..	1.69	1.67	1.67	1.68	1.71	..	0.03	
	D5/D1	..	..	..	..	..	..	..	..	..	..	..	..	1.61	1.60	1.62	1.58	1.59	..	-0.02	
<b>United Kingdom</b>																					
Males	D9/D5	1.58	1.62	1.68	1.69	1.70	1.71	1.71	1.73	1.76	1.78	1.80	1.81	1.83	1.84	1.86	1.86	1.86	0.11	0.05	
	D5/D1	1.55	1.55	1.56	1.59	1.60	1.62	1.64	1.66	1.68	1.70	1.71	1.72	1.73	1.74	1.74	1.74	1.78	0.08	0.06	
Females	D9/D5	1.58	1.60	1.72	1.68	1.67	1.66	1.64	1.70	1.72	1.78	1.80	1.79	1.81	1.83	1.82	1.82	1.82	0.11	0.01	
	D5/D1	1.43	1.46	1.47	1.49	1.50	1.51	1.52	1.54	1.56	1.58	1.59	1.60	1.62	1.64	1.65	1.65	1.68	0.08	0.08	
Total	D9/D5	1.65	1.67	1.73	1.74	1.75	1.77	1.77	1.78	1.81	1.82	1.83	1.84	1.85	1.85	1.86	1.86	1.87	0.09	0.03	
	D5/D1	1.69	1.67	1.68	1.70	1.70	1.72	1.73	1.74	1.77	1.78	1.79	1.79	1.77	1.79	1.79	1.78	1.81	0.05	0.02	
<b>United States</b>																					
Males	D9/D5	1.73	1.76	1.74	1.80	1.78	1.86	1.84	1.87	1.91	1.99	1.97	1.96	1.95	2.00	2.00	2.01	2.04	0.12	0.06	
	D5/D1	1.84	1.85	1.92	1.97	1.99	1.98	2.03	2.07	2.06	2.05	2.05	2.02	2.01	2.04	2.06	2.13	2.13	0.11	0.07	
Females	D9/D5	1.73	1.76	1.85	1.77	1.79	1.80	1.80	1.85	1.87	1.77	1.92	1.92	1.94	1.96	1.96	2.03	2.03	0.09	0.09	
	D5/D1	1.77	1.66	1.62	1.77	1.79	1.83	1.86	1.87	1.87	1.99	1.90	1.91	1.89	1.90	1.90	1.98	1.95	0.06	0.04	
Total	D9/D5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.03	2.07	2.10	..	..	
	D5/D1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.05	2.10	2.09	..	..	

.. Data not available.

a) D1 and D9 refer to the upper earnings limits of, respectively, the first and ninth deciles of employees ranked in order of their earnings from lowest to highest, i.e. 10 per cent of employees earn less than the D1 earnings limit and 90 per cent earn less than the D9 earnings limit. D8 and D5 are defined similarly and, thus, D5 corresponds to median earnings.

b) The 5 yearly averages have been calculated across the largest span of years in each period for which data are available and have been adjusted where necessary to correspond to a standard 5-year period.

Sources: See Annex 3.A.

from 1979 to the mid-1990s [see OECD (1993), Table 5.2, for data covering earlier periods]. Trends in the overall dispersion of earnings, as measured by the ratio of the upper earnings limit of the ninth decile of workers to the upper limit of the first decile (D9/D1), are plotted in Chart 3.1. No clear tendency emerges of a generalised increase in earnings inequality over the first half of the 1990s. Of the 16 countries for which recent information is available, dispersion increased in half, and was either broadly unchanged or declined somewhat in the rest. In fact, the United Kingdom and the United States stand out as the only countries where there has been a continuation of a pronounced rise in earnings inequality. In the United States, the recession of the early 1990s was accompanied by a temporary pause in the rise of earnings inequality for men, but the recovery led to a renewed increase. Earnings for higher-paid workers relative to the median have continued to drift upwards in a number of countries, such as Austria, Australia, France and Sweden, which had experienced a small rise in earnings dispersion over the 1980s, but this trend has neither been very strong nor consistent for both male and female workers. In Canada, the relative earnings of high-paid workers have declined somewhat since the mid-1980s, following a substantial rise in the first half of the 1980s. At the opposite end of the spectrum in terms of changes in earnings inequality, the earnings distribution has continued to become more compressed in Germany.

In several countries, a long-term trend towards stable or declining earnings inequality has been reversed over the past few years in the wake of substantial labour market reforms. In Italy, a large rise in earnings dispersion between 1989 and 1993 was associated with the abolition of automatic cost-of-living wage indexation (*scala mobile*) and the ending of synchronised wage bargaining across different sectors [Bank of Italy (1995)]. Earnings inequality has also grown in New Zealand, but the rise was fairly modest, given the extent of labour and product market reforms over the past decade.<sup>2</sup> The dispersion of earnings has also been increasing since the late 1980s in Mexico (data not shown) and the Czech Republic. In Mexico, it appears that significant economic restructuring and trade liberalisation has not, in fact, led to an increase in the wages of the lower-skilled, but, instead, has raised those of the higher skilled [Alarcón and McKinley (1995)]. In the Czech Republic, it was an almost inevitable consequence of the shift to a market economy following several decades of an extremely compressed structure of earnings differentials under the former command economy [Večerník (1995)]. A substantial rise in the relative earnings of higher-paid workers also occurred in Portugal.

The absence of any dominant trend across countries may be partly the result of the early 1990s recession. During an economic downturn, lay-offs are likely to be concentrated amongst those in the bottom of the earnings distribution. This could have the mechanical impact of lowering earnings inequality, particularly in the bottom half of the distribution.<sup>3</sup> On the other hand, Burtless (1990) analysed *annual* earnings of all workers in the United States, whether they worked all year round or not, and found that earnings inequality, tended to rise during a recession.

Given that the data in Table 3.1 mainly refer to weekly or hourly earnings rather than to annual earnings, it could be that, for a number of countries, the recession of the early 1990s has either muted or completely masked an underlying, upwards trend in earnings inequality. In Chart 3.2, the evolution of the D5/D1 ratio (men only) over the most recent downturn and recovery is compared with the pattern observed in the previous cycle. The United Kingdom stands out for the constancy of the rise in inequality over the past two recessions. In Australia, Japan and the United States, while the most recent recession was accompanied by an initial compression in the bottom half of the earnings distribution, this was not the case during the previous recession. In France, the decline in inequality was less pronounced during the recent recession and in Sweden there was a small rise compared with a previous decline. Thus, no uniform picture emerges either across countries or over time of a cyclical pattern in the dispersion of earnings.<sup>4</sup>

A widening in the earnings distribution in a number of countries has implied very different outcomes in terms of real wage growth for low-paid and high-paid workers. Real wages for low-paid men (first decile of male workers) in New Zealand and the United States are over 10 per cent lower than they were a decade ago, and they have also fallen in Australia (Chart 3.3). In all three countries, real wages for the entire bottom half of the male earnings distribution have either fallen or risen only slightly. The United Kingdom is somewhat of an exception; despite a strong rise in inequality, real wage gains have occurred both at the top and the bottom of the earnings distribution, albeit more at the top. Across all OECD countries, women have generally achieved larger increases in real earnings than men, narrowing somewhat the gender gap in earnings. This is not simply because of a substantial rise in the earnings of more qualified women. Wage growth for the lowest decile of female workers has not only been greater compared with the lowest decile of male workers but, in most countries, also compared with the median earnings of male workers.

Chart 3.1.

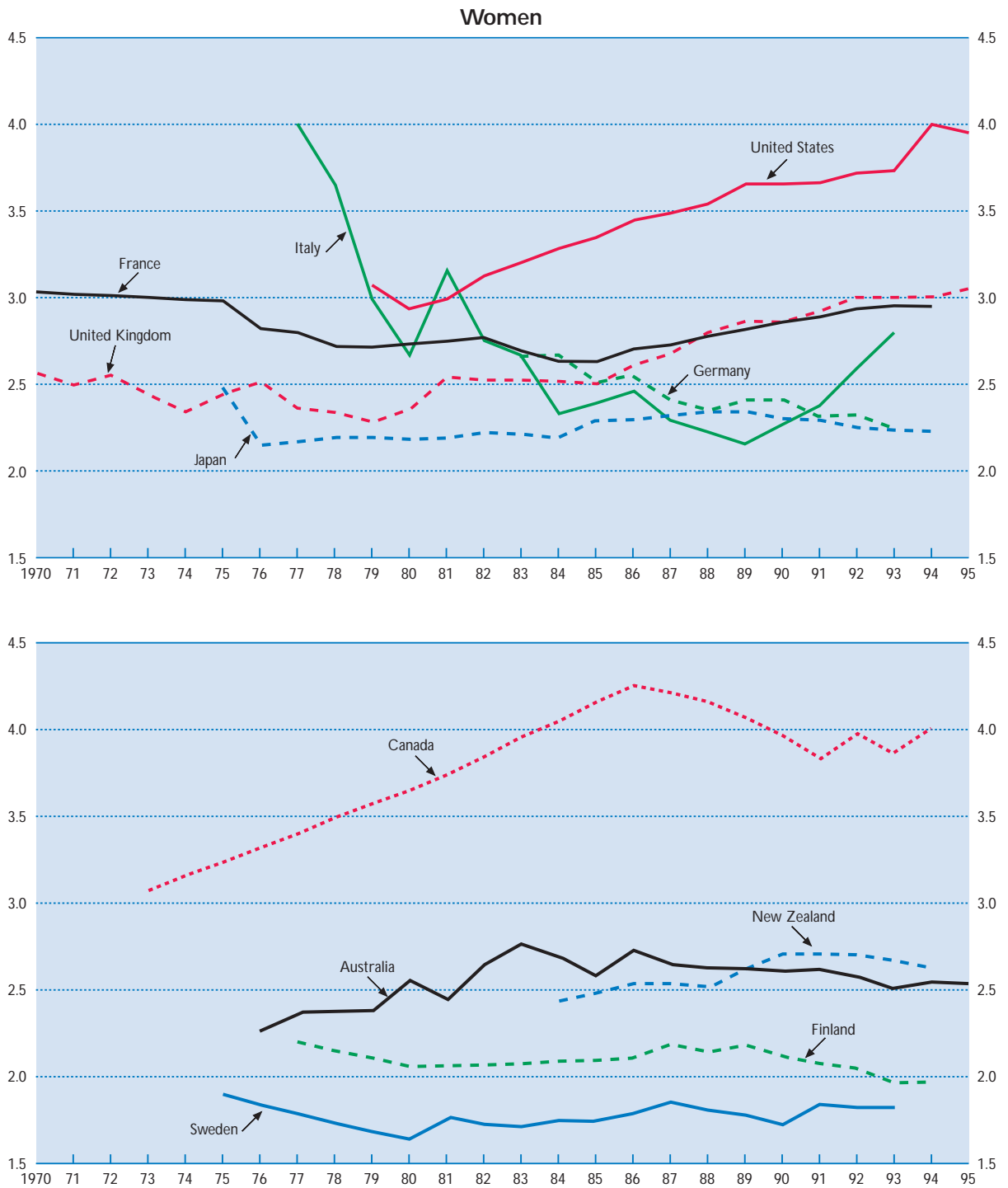
Trends in earnings dispersion:<sup>a</sup> D9/D1



a) For Canada, Italy, New Zealand and Sweden, the data have been interpolated for missing years.  
Sources: See Annex 3.A.

Chart 3.1. (cont.)

Trends in earnings dispersion:<sup>a</sup> D9/D1



a) For Canada, Italy, New Zealand and Sweden, the data have been interpolated for missing years.  
Sources: See Annex 3.A.

Chart 3.2.

Comparison of male earnings inequality (D5/D1) over business cycles<sup>a</sup>



a) Ratios are indexed to 100 at each cyclical peak (year 0).

Sources: See Annex 3.A.

Chart 3.3.

Real wage growth<sup>a</sup> over the last 10 years for low, median and high-paid workers  
 Percentage changes, not annualised



a) Earnings deflated by the consumer price index.  
 b) Decile 9 for men refers to decile 8.  
 c) Rescaled to represent a percentage change over 10 years.  
 Sources: See Annex 3.A.

## Box 1 Measuring low-paid employment

### Low-pay cut-offs

Low pay can be defined in either absolute or relative terms.<sup>1</sup> On the one hand, low pay can be measured with reference to a subsistence level of income (usually fixed in real terms). For example, several US studies have used the official poverty line in studies of the "working poor" [Gardner and Herz (1992); US Bureau of the Census (1992); US Department of Labor (1995)]. Other studies have defined low pay relative to median earnings [CERC (1991); Salverda (1994); OECD (1994)] or in relation to the level of the minimum wage [Salverda (1994); Netherlands Central Bureau of Statistics (1994)]. Alternatively, it has been identified as those workers at the bottom of the earnings distribution accounting for a fixed percentage of all workers [Salverda (1994)].

The choice of measure partly depends on the issues being addressed. If the main interest is in the relationship between low pay and poverty, it may be appropriate to use an absolute measure of low pay. But, this approach poses a number of problems for making international comparisons. For instance, what has been defined as the poverty level in one country will not necessarily correspond to the one used in another country. To some extent, the notion of a subsistence or poverty level of income is itself a relative concept, varying over time and across societies. However, even if a universally accepted basket of goods and services corresponding to a minimum standard of living could be agreed upon, there would still be a problem of determining the sum of money which would be required to purchase this basket in terms of each country's national currency.<sup>2</sup>

The risk of social exclusion or a sense of deprivation may be a function of the extent to which a worker's earnings fall below the median, even if subsistence needs can be met. This would be best captured by a relative measure of low pay. A relative measure also avoids many of the problems encountered when using an absolute measure to make international comparisons. Nevertheless, some problems of comparability remain. For example, the measurement of low pay will be sensitive to country differences in both the definition of earnings (see below) and the sources and methods used to compile earnings data.<sup>3</sup> The use of a relative measure also requires a choice of cut-off point for determining low pay. The choice is not only likely to change substantially the level of the incidence of low pay for each country, but may also alter the corresponding country rankings.<sup>4</sup>

Trends in the incidence of low pay are also likely to be sensitive to the measure adopted. For example, if workers at all points in the earnings distribution receive real increases in earnings, the incidence of low pay will fall when measured using an absolute cut-off (fixed in real terms), irrespective of whether high-paid workers have received much larger increases than low-paid workers. The United Kingdom is an example. Although earnings inequality has been rising strongly (Chart 3.1), real wages have risen for both low- and high-paid workers (Chart 3.3). In the United States, on the other hand, earnings inequality has also been rising strongly, but this has also been accompanied by falls in real earnings in the bottom half of the earnings distribution. Consequently, the incidence of low pay, measured relative to the official poverty line, for year-round, full-time workers rose sharply over the 1980s from 10.5 per cent in 1979 to just under 17 per cent in 1990 [US Bureau of the Census (1992)]. However, using a relative measure, such as two-thirds of median earnings, results in a much smaller rise in the incidence of low-paid employment from just under 25 per cent in 1979 to just below 26 per cent in 1989. By contrast, the incidence of low pay in the United Kingdom according to the same relative measure has risen somewhat more steeply over the same period from 16 to 19 per cent.

### Net versus gross earnings

The incidence of low pay is also likely to be sensitive to whether earnings are measured net or gross of taxes and allowances. In general, income taxes are progressive, and so the incidence of low pay using a relative measure would tend to be higher based on gross, rather than net, earnings. It is difficult to predict how differences across countries in the progressivity of their tax systems would affect country rankings if a net rather than a gross measure of earnings were used to measure the incidence of low pay. However, given the focus of this chapter and the consideration of data availability, low pay is generally measured in terms of gross earnings.<sup>5</sup>

1. A third alternative would be a subjective measure. For example, the perceptions of respondents to survey questions about adequate or minimum income has been used in a number of studies of poverty [for example, Van den Bosch *et al.* (1993)]. See Förster (1994) for a more extensive discussion of different measures of low income and poverty.

2. While Purchasing Power Parities (PPPs) have been constructed for national accounts aggregates, such as total private consumption expenditure, they may not necessarily be appropriate for a subsistence basket of goods and services.

(continued on next page)

(continued)

3. Annex 3.B provides details of the sources and definitions for the data used to calculate the incidence of low pay as well as, for some countries, estimates of low pay using alternative sources.
4. In actual fact, country rankings appear to be quite stable with respect to a wide range of cut-offs relative to median earnings. For instance, the incidence of low pay for a number of countries is compared in OECD (1994, Chapter 1, Table 1.11) using 50, 66 and 80 per cent of median earnings as cut-offs. The rank correlation coefficients between the various pairs of cut-offs (assigning 0 to “not significant” values for the 50 per cent cut-off) are: 0.86 between the 50 and 66 per cent cut-offs; 0.91 between the 66 and 80 per cent cut-offs; and 0.71 between the 50 and 80 per cent cut-offs.
5. In France the earnings data are net of employee social security contributions (see Annex 3.B). However, to the extent that these contributions are levied at a flat rate they will not affect the measure of the incidence of low pay. While there are ceilings to these rates, they normally lie above median earnings and so have no impact on the measure used here. Similarly, the various earnings floors, before contributions are levied, are probably too low to alter substantially the incidence of low pay amongst *full-time* workers, whether measured net or gross of social security contributions. For Austria and Italy, the data refer to earnings net of both payroll and income taxes.

## C. THE INCIDENCE AND DISTRIBUTION OF LOW-PAID EMPLOYMENT

### 1. Introduction

The strong rise in earnings inequality in some countries has raised concerns that this could result in a growing proportion of the work force falling into the category of the “working poor”. On the other hand, some view declining relative wages as the mechanism through which competitive markets enable the less skilled to remain in jobs, despite diminishing demand for their services.<sup>5</sup> In order to throw some light on this complex issue, this section considers the following questions: How does the incidence and distribution of low-paid employment differ across countries? What are some of the factors behind these differences? Is there a relationship between the incidence of low-paid work and the employment and unemployment rates of different labour force groups?

### 2. The incidence and distribution of low-paid employment

There are many ways to measure low-paid employment, and the choice partly depends on the issues being addressed (see Box 1). The use of an absolute measure poses difficult conceptual and methodological problems for making international comparisons of the incidence of low pay. As the primary focus in this chapter is on labour market outcomes and earnings dispersion at the lower end of the distribution, low pay is compared across countries using a *relative* measure. Low-paid workers are defined as full-time workers who earn less than two-thirds of median earnings for all full-time workers.<sup>6</sup> This cut-off has been chosen as a compromise between a lower value of, for example, 50 per cent, which in some countries would fall below the legal minimum wage, and a value of, say, 75 per cent,

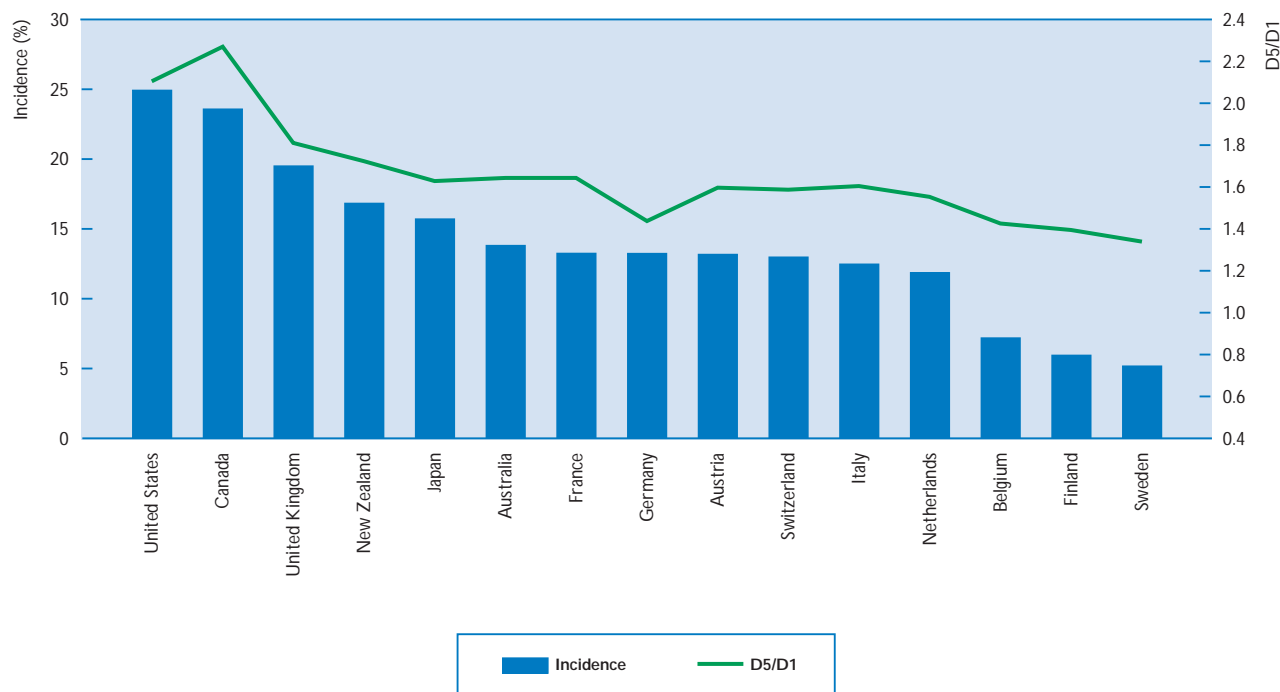
which, in many countries, would include more than one-third of all full-time workers. Part-time workers are excluded to avoid the additional complication of disentangling differences in the incidence of part-time employment from differences in relative wages. In addition, information on the distribution of hourly earnings for all workers is only available for a few countries.

Of course, the use of a relative measure implies that the absolute cut-off point for determining low pay differs across countries. In fact, when each country’s cut-off point is converted to a monthly equivalent for the year 1994, and expressed in US dollars using purchasing power parities for GDP, there are substantial differences (data not shown), indicating that a relative measure cannot be used to make inferences about international differences in the incidence of poverty or the working poor relative to a universal standard. For example, the level of median earnings, expressed in a common currency, is much higher in the United States than in Belgium. Thus, some of the “low-paid” in the United States may receive earnings well above the limit defining low-paid work in Belgium. Nevertheless, the relative measure is a useful indicator of the dispersion of earnings in the lower half of the distribution which can be broken down by different worker characteristics.

Given these caveats, the overall incidence of low-paid employment is shown in Chart 3.4. The variation across countries is striking: one-quarter of all full-time workers in the United States are in low-paid jobs compared with under 6 per cent in Finland and Sweden. The pattern closely mirrors differences in the simple D5/D1 measure, and the simple correlation between the two is very high (0.94). Thus, not surprisingly, those countries with large earnings inequality are also the ones with a higher incidence of low-paid jobs.

As shown in Panel A of Table 3.2, the incidence of low-paid employment also varies according to the

Chart 3.4.

Incidence of low pay and earnings inequality (D5/D1)<sup>a</sup>

a) The incidence of low pay refers to full-time employment only. Low pay is defined as less than two-thirds of median earnings for all full-time employees. The D5/D1 ratio refers to earnings of all full-time workers. See Table 3.2 for the reference year for each country. Sources: For the incidence of low pay, see Annex 3.B; for the ratio D5/D1, see Annex 3.A.

demographic, occupational and industry characteristics of workers. Given that wages tend to increase with experience and tenure, it is not surprising that women and younger workers are much more likely to be in low-paid jobs than men and older workers.<sup>7</sup> In several countries, low-paid work accounts for around one-third, or more, of all female employment.<sup>8</sup> Youth face an even greater risk of low-paid employment than women. In the United States, in particular, nearly two-thirds of full-time employed youth were low-paid. In some countries, most noticeably Japan and the United Kingdom, older workers are also more likely to be in low-paying jobs than prime-age workers.

There has been considerable debate about whether high-paid jobs in the shrinking manufacturing sector are increasingly being replaced by low-paid jobs in the growing services sector. For the majority of countries, the incidence of low pay is, indeed, somewhat higher in the services sector. Japan and Italy are noticeable exceptions, with low pay being

much more prevalent in manufacturing than in services. However, Table 3.2 only provides point-in-time estimates of the incidence of low pay and does not provide any information about whether employment growth is occurring mainly in relatively low-paid or high-paid jobs. Moreover, while the overall incidence of low-paid employment is generally higher in the services sector than in manufacturing, there is considerable variation within the former. Typically, a high proportion of all jobs in wholesale/retailing, hotels and restaurants are low-paid, whereas there are relatively few low-paid jobs in transport and communications, and public administration.

The incidence of low pay also varies considerably within both blue-collar and white-collar occupations. For instance, Panel A of Table 3.2 shows that being a white-collar worker is not an automatic guarantee of being in a relatively high-paid job. Sales workers and, in some countries, clerical workers, face a higher risk of being employed in low-paid jobs than trades and craft workers. On the other hand, very few managerial,

technical and professional workers are in low-paid jobs.

Where are most low-paid jobs located? As is shown in Panel B of Table 3.2, the bulk are in services. In most countries, wholesale and retail trade, including hotels and restaurants, and personal services account for half or more of all low-paid jobs. Many of these jobs are held by women who, overall, comprise the majority of low-paid workers, except in Australia and New Zealand. By age, prime-age workers make up the largest share, except in Australia and Italy,<sup>9</sup> but this simply reflects their high share of total employment.

Given that the overall incidence of low-paid employment varies considerably across countries, it is difficult to discern whether it is much more concentrated amongst certain groups of workers in some countries than in others. An indicator of concentration which abstracts from these country differences in the overall incidence of low pay can be constructed by dividing the incidence for each category of worker by the overall incidence (see Panel C of Table 3.2).<sup>10</sup> A value greater (lower) than one for a specific group of workers indicates that the risk of low pay for that group is greater (lower) than the average risk for all workers.

Women are much more likely to be working in low-paid jobs than men in all countries, particularly in Belgium, Germany, Japan and Switzerland. In these countries, the risk of low-paid employment for women in full-time jobs is at least twice as high, if not higher, than for all workers. Younger workers also face a much higher than average incidence of low-paid employment, with only Austria (lower) and Finland (higher) departing significantly from the central figure of two-and-a-half times the average risk. Japan and, to a lesser extent, the United Kingdom, are the only countries where the incidence of low-paid employment is significantly higher for older workers than for prime-age workers. By industry, low-paid employment is highly concentrated in wholesale/retailing, hotels and restaurants in nearly all countries. Consequently, it is also tends to be highly concentrated amongst sales and personal services workers, as well as unskilled labourers.

Low pay also depends on other factors which are not shown in Table 3.2, such as educational qualifications, job tenure and experience, nationality and firm size. The incidence of low pay among workers with less than upper secondary education is typically more than twice the average for all workers. Similarly, the risk is higher for immigrants than nationals. For example, in Austria, foreign workers are more than twice as likely to be in low-paid jobs than national workers. Workers in smaller firms are also more likely to be working in low-paid jobs than workers in larger firms.

### 3. Low-paid employment and labour market outcomes

One explanation for the large differences across countries in the overall incidence of low pay could be that the skill distribution of workers is much wider in countries with a higher incidence of low-paid employment. However, at best, this can only be a partial explanation because the differences between countries in the incidence of low pay for workers in similar occupations or with similar educational qualifications are as large as, if not larger than, differences in the overall incidence.<sup>11</sup> For example, under 10 per cent of workers in France with upper secondary education have low-paid jobs compared with over 32 per cent in the United States<sup>12</sup> – a gap of over 20 percentage points, compared with just 12 percentage points in the overall incidence.

Another explanation centres on wage-setting practices and social security arrangements as important determinants of the incidence of low pay. For example, a number of countries have mandatory minimum wages which, if they are legally enforced, may truncate the earnings distribution from below. In the extreme, as the minimum wage approaches the cut-off limit used in this chapter for determining low pay, its incidence must approach zero. This may partly explain the large differences between France and the United States: both countries have a legal minimum wage but, in the case of France, it corresponds to almost 60 per cent of median earnings compared with only around 34 per cent in the United States.<sup>13</sup> Mishel and Bernstein (1994) and Dinardo *et al.* (1994) suggest that the decline in the relative value of the minimum wage in the United States may have been an important factor in rising earnings inequality, particularly for women workers. In the United Kingdom, minimum wages in a number of low-pay sectors prior to 1993 were established by Wages Councils which have subsequently been abolished. Machin and Manning (1994) have estimated that, in these sectors, the decline in the minimum relative to the average wage over the 1980s accounted for between 9 to 20 per cent of the rise in the dispersion of earnings.

Other features of wage setting may have an impact. As shown in Table 3.3, the simple cross-country correlations between the incidence of low pay, collective bargaining coverage and trade union density are quite high and negative, *i.e.* higher coverage and density rates are associated with a lower incidence. A number of US studies have also found that the decline in unionisation partly contributed to rising earnings inequality [Freeman (1993); Mishel and Bernstein (1994); Dinardo *et al.* (1994)]. In their international study, Blau and Kahn (1996) also find that institutional features, such as high rates of unionisation and collective bargaining coverage,

Table 3.2. **Incidence, distribution and concentration of low-paid employment<sup>a</sup>****A. Incidence<sup>b</sup>**

	Australia 1995	Austria 1993	Belgium 1993	Canada 1994	Finland 1994	France 1995	Germany 1994	Italy 1993	Japan 1994	Netherlands 1994	New Zealand 1994/95	Sweden 1993	Switzerland 1995	United Kingdom 1995	United States 1994
<b>Total</b>	<b>13.8</b>	<b>13.2</b>	<b>7.2</b>	<b>23.7</b>	<b>5.9</b>	<b>13.3</b>	<b>13.3</b>	<b>12.5</b>	<b>15.7</b>	<b>11.9</b>	<b>16.9</b>	<b>5.2</b>	<b>13.0</b>	<b>19.6</b>	<b>25.0</b>
<b>By sex</b>															
Men	11.8	7.0	3.9	16.1	3.3	10.6	7.6	9.3	5.9	..	14.4	3.0	6.8	12.8	19.6
Women	17.7	22.8	14.2	34.3	8.7	17.4	25.4	18.5	37.2	..	20.7	8.4	30.4	31.2	32.5
<b>By age<sup>c</sup></b>															
Under 25	34.5	19.5	22.2	57.1	27.1	49.5	50.4	27.0	36.4	..	41.3	18.7	44.0	45.8	63.0
25-54	8.8	12.1	5.3	20.1	5.5	10.6	6.7	6.7	9.6	..	11.6	4.3	9.0	15.0	21.2
55 and over	12.5	9.6	4.9	20.8	4.4	10.5	5.4	7.4	19.8	..	15.6	2.9	9.2	22.9	23.7
<b>By industry<sup>d</sup></b>															
Manufacturing	13.6	10.9	5.1	18.9	4.0	11.5	10.6	14.2	20.9	10.8	15.3	..	12.1	17.8	20.9
Construction	15.1	8.4	1.8	23.4	7.0	14.6	..	..	9.6	8.2	20.3	..	7.9	13.7	24.9
All services	13.4	14.7	8.5	25.3	6.3	13.2	14.7	8.7	14.8	13.1	16.2	..	13.6	20.8	25.8
Wholesale/retail trade	20.4	23.8	15.7	40.3	11.1	22.6	22.9	24.2	14.4	24.4	30.9	..	23.4	36.1	40.4
Transport/Communication	8.2	8.7	..	15.8	4.3	4.5	12.4	..	8.1	5.1	10.1	..	8.6	10.8	13.1
Finance/Business	9.9	6.3	2.7	20.8	4.6	12.2	9.7	2.6	14.5	10.4	6.7	..	9.7	17.0	23.4
Public administration	7.5	6.4	..	8.9	2.0	4.6	6.1	..	..	4.9	..	..	2.7	11.3	10.1
Personal services	12.7	16.5	6.8	23.8	6.9	14.3	16.6	6.6	18.5	12.1	13.9	..	13.2	20.0	24.9
<b>By occupation</b>															
Professional/Technical	4.1	4.3	..	14.6	0.6	2.5	5.2	..	..	..	6.8	..	5.7	3.8	8.7
Managers	9.6	1.8	..	13.7	..	0.7	0.0	..	..	..	8.3	..	2.2	5.5	9.0
Clerical	12.7	9.0	..	32.3	8.5	7.3	11.9	..	..	..	12.2	..	13.2	29.3	29.6
Sales	..	23.3	..	31.6	..	39.5	22.4	..	..	..	42.5	..	..	40.1	28.4
Personal services	20.2	27.1	..	44.8	12.3	38.2	26.6	..	..	..	31.4	..	37.4	39.7	53.4
Trade/craft	19.9	..	..	20.9	..	9.1	..	..	..	..	..	..	11.0	16.1	18.0
Labourers	18.9	11.3	..	20.3	6.6	36.8	14.7	..	..	..	22.0	..	23.1	28.2	36.4

Table 3.2. **Incidence, distribution and concentration of low-paid employment**<sup>a</sup> (cont.)**B. Distribution**<sup>e</sup>

	Australia 1995	Austria 1993	Belgium 1993	Canada 1994	Finland 1994	France 1995	Germany 1994	Italy 1993	Japan 1994	Netherlands 1994	New Zealand 1994/95	Sweden 1993	Switzerland 1995	United Kingdom 1995	United States 1994
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>By sex</b>															
Men	55.7	32.2	36.6	40.0	28.2	47.8	38.9	48.2	25.8	..	52.5	34.4	49.1	41.7	45.4
Women	44.3	67.8	63.4	60.0	71.8	52.2	61.1	52.2	74.2	..	47.5	65.6	50.9	58.3	54.6
<b>By age</b> <sup>c</sup>															
Under 25	46.6	24.3	34.7	22.9	11.5	26.1	58.6	60.9	41.4	..	41.0	25.9	38.8	28.5	21.6
25-54	47.1	72.4	60.8	69.9	82.7	68.5	37.9	30.8	43.9	..	51.9	67.4	53.8	59.8	68.7
55 and over	6.2	3.2	4.6	7.2	5.8	5.4	3.7	8.5	14.7	..	7.1	6.8	7.5	11.7	9.8
<b>By industry</b> <sup>d</sup>															
Manufacturing	18.2	24.1	18.1	15.8	18.2	21.0	33.4	42.7	43.7	22.1	19.9	..	24.5	22.4	17.8
Construction	6.6	6.2	1.8	3.9	3.3	8.0	..	..	4.8	6.0	6.1	..	5.1	2.9	4.9
All services	67.9	66.2	72.0	76.6	71.8	66.8	60.7	40.6	51.2	70.2	60.4	..	67.5	72.8	73.9
Wholesale/retail trade	30.5	31.1	29.9	33.4	19.4	25.2	16.0	16.4	17.5	35.4	28.0	..	32.5	28.9	29.7
Transport/Communication	4.5	5.1	..	5.1	5.2	2.4	4.7	..	4.9	3.5	4.5	..	5.5	4.3	4.4
Finance/Business	10.0	3.5	1.5	6.0	9.4	12.8	2.9	1.4	5.6	11.1	4.8	..	10.9	14.8	10.3
Public administration	3.6	4.6	..	3.4	2.7	3.6	4.9	..	..	4.0	..	..	1.3	5.1	2.8
Personal services	19.3	21.4	40.7	28.6	35.2	22.8	32.2	22.7	23.1	16.1	23.1	..	17.3	19.6	26.7
<b>By occupation</b>															
Professional/Technical	6.9	4.1	..	11.7	3.3	3.8	7.6	..	..	..	10.1	..	15.0	4.0	6.5
Managers	6.2	0.8	..	11.2	..	0.3	0.0	..	..	..	7.2	..	1.0	4.7	5.6
Clerical	16.4	12.2	..	20.2	44.8	15.0	21.5	..	..	..	10.9	..	15.8	29.1	18.7
Sales	..	11.9	..	10.3	..	9.6	10.2	..	..	..	11.3	..	..	10.4	11.6
Personal services	16.9	35.4	..	20.5	22.4	16.5	16.8	..	..	..	12.0	..	27.3	14.4	22.9
Trade/craft	23.2	..	..	12.7	..	18.2	..	..	..	..	..	..	19.9	9.9	8.6
Labourers	30.3	32.2	..	10.2	22.7	29.6	25.6	..	..	..	37.1	..	19.4	27.5	22.6

Table 3.2. **Incidence, distribution and concentration of low-paid employment<sup>a</sup>** (cont.)**C. Concentration<sup>f</sup>**

	Australia 1995	Austria 1993	Belgium 1993	Canada 1994	Finland 1994	France 1995	Germany 1994	Italy 1993	Japan 1994	Netherlands 1994	New Zealand 1994/95	Sweden 1993	Switzerland 1995	United Kingdom 1995	United States 1994
<b>Total</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>
<b>By sex</b>															
Men	0.9	0.5	0.5	0.7	0.6	0.8	0.6	0.7	0.4	..	0.9	0.6	0.5	0.7	0.8
Women	1.3	1.7	2.1	1.4	1.5	1.3	1.9	1.5	2.4	..	1.2	1.6	2.3	1.6	1.3
<b>By age<sup>c</sup></b>															
Under 25	2.5	1.5	3.1	2.4	4.6	3.7	3.8	2.2	2.3	..	2.4	3.6	3.4	2.3	2.5
25-54	0.6	0.9	0.7	0.8	0.9	0.8	0.5	0.5	0.6	..	0.7	0.8	0.7	0.8	0.8
55 and over	0.9	0.7	0.7	0.9	0.7	0.8	0.4	0.6	1.3	..	0.9	0.6	0.7	1.2	0.9
<b>By industry<sup>d</sup></b>															
Manufacturing	1.0	0.8	0.7	0.8	0.7	0.9	0.8	1.1	1.3	0.9	0.9	..	0.9	0.9	0.8
Construction	1.1	0.6	0.3	1.0	1.2	1.1	0.8	1.1	0.6	0.7	1.2	..	0.6	0.7	1.0
All services	1.0	1.1	1.2	1.1	1.1	1.0	1.1	0.7	0.9	1.1	1.0	..	1.0	1.1	1.0
Wholesale/retail trade	1.5	1.8	2.2	1.7	1.9	1.7	1.7	1.9	0.9	2.0	1.8	..	1.8	1.8	1.6
Transport/Communication	0.6	0.7	..	0.7	0.7	0.3	0.9	0.2	0.5	0.4	0.6	..	0.7	0.6	0.5
Finance/Business	0.7	0.5	0.4	0.9	0.8	0.9	0.7	0.2	0.9	0.9	0.4	..	0.7	0.9	0.9
Public administration	0.5	0.5	0.9	0.4	0.3	0.3	0.5	0.5	..	0.4	0.8	..	0.2	0.6	0.4
Personal services	0.9	1.2	..	1.0	1.2	1.1	1.3	0.5	1.1	1.0	..	..	1.0	1.0	1.0
<b>By occupation</b>															
Professional/Technical	0.3	0.3	..	0.6	0.1	0.2	0.4	..	..	..	0.4	..	0.4	0.2	0.3
Managers	0.7	0.1	..	0.6	..	0.1	0.0	..	..	..	0.5	..	0.2	0.3	0.4
Clerical	0.9	0.7	..	1.4	1.4	0.5	0.9	..	..	..	0.7	..	1.0	1.5	1.2
Sales	1.5	1.8	..	1.3	..	3.0	1.7	..	..	..	2.5	..	..	2.0	1.1
Personal services	..	2.1	..	1.9	2.1	2.9	2.0	..	..	..	1.9	..	2.9	2.0	2.1
Trade/craft	1.4	0.9	..	0.9	1.1	0.7	1.1	..	..	..	..	..	0.8	0.8	0.7
Labourers	1.4	..	..	0.9	..	2.8	..	..	..	..	1.3	..	1.8	1.4	1.5

.. Data not available.

a) The data refer to full-time employees only. Low pay is defined as less than two-thirds of median earnings for all full-time workers.

b) Percentage of workers in each category who are low paid.

c) For Italy, the age groups refer to: under 31; 31 to 50; and 51 and over.

d) The wholesale and retail trade sector includes hotels and restaurants. For Belgium, the transport and communications sector is included in the sector comprising public administration and personal services.

e) Percentage share of all low-paid employment in each category.

f) Incidence of low-paid employment in each category divided by overall incidence of low-paid employment.

Sources: See Annex 3.B.

Table 3.3. **Cross-country correlations between the incidence of low pay and earnings inequality, institutional factors and labour-market outcomes<sup>a</sup>**

Correlated with	Incidence of low pay	
	Overall	Group specific <sup>b</sup>
<b>Earnings inequality</b>		
Earnings decile ratio (D5/D1)	0.94**	
<b>Institutional factors</b>		
Collective bargaining coverage, 1994	-0.78**	
Union density, average 1990-1994	-0.65**	
Unemployment benefit replacement rates <sup>c</sup>		
Gross, 1995	-0.59*	
Net, 1994/1995	-0.58*	
<b>Labour-market outcomes</b>		
Unemployment rates, average 1990-1994		
All persons	0.03	
Women	-0.10	-0.41
Women relative to men	-0.29	-0.10
Youth (under 25)	-0.08	-0.08
Youth relative to adults (aged 25-64)	-0.12	-0.28
Unemployment rates by skill <sup>d</sup> 1992		
Low-skilled	0.28	
Low- relative to high-skilled	-0.04	
Full-time employment/population ratios, average 1990-1994		
All persons	0.17	
Women	0.08	-0.17
Women relative to men	-0.01	-0.31
Youth (under 25)	0.13	-0.01
Youth relative to adults (aged 25-64)	0.08	-0.03
Total employment/population ratios by skill, <sup>d</sup> 1992		
Low-skilled	-0.17	
Low- relative to high-skilled	-0.07	

\* Significant at the 10% level.

\*\* Significant at the 5% level.

a) See Table 3.2 for the countries included in the correlations and for the reference year of the incidence of low pay and earnings inequality measures. The reference years for the other variables are indicated in the table.

b) The group specific incidence of low pay refers to women and to youth for the correlations with the labour market outcomes of, respectively, women and youth. The Netherlands is not included in the group specific correlations.

c) The gross (net) replacement rate refers to the before-tax (after-tax) level of unemployment benefit entitlements relative to gross (net) earnings. The replacement rates refer to an average across different types of family situations, durations of unemployment spells and earnings categories (for more details, see Chapter 2 of this *Outlook* and Chapter 8 of *The OECD Jobs Study: Evidence and Explanations, 1994*). Housing benefits are included in the calculation of the net replacement rate only. Austria is excluded from the correlation with the net replacement rate.

d) Skill is defined with respect to educational attainment: persons with less than upper secondary education are classified as low-skilled and those with higher (tertiary level) education as high-skilled.

Sources: The incidence of low pay and the D5/D1 ratio are from, respectively, Tables 3.2 and 3.1; the estimates of collective bargaining coverage and union density are updates by the OECD Secretariat of data presented in Chapter 5 of the 1994 *Employment Outlook*; the unemployment benefit replacement rates are from the OECD database on taxation and benefit entitlements; full-time employment/population ratios and unemployment rates by sex and age are from OECD, *Labour Force Statistics*, Part III, and the OECD full-time and part-time employment database; employment/population ratios by skill are taken from OECD, *Education at a Glance*, 1995.

appear to create wage floors and reduce earnings dispersion, particularly in the bottom half of the distribution. It is also possible that unemployment and related benefits may create a wage floor below which workers will be reluctant to accept jobs (see Chapter 2, which discusses the work disincentives which may arise from the interaction of the tax and benefits systems). Table 3.3 shows that there is a negative and significant correlation between gross and net benefit replacement rates and the incidence of low pay.

Different institutional settings do, indeed, affect the incidence of low pay. However, does this occur because low-paid workers are effectively “pushed” up the earnings ladder or are many potential workers excluded from even gaining a foothold on the ladder? This is a difficult question to answer. Some partial evidence is provided in the lower half of Table 3.3, in the form of simple cross-country correlations between the incidence of low-paid employment and various employment and unemployment rates for

selected groups. If low-paid jobs provide an entry into employment for the low-skilled and inexperienced, one might expect a positive correlation between the incidence of low pay and their employment/population ratios. The same reasoning would also suggest that the correlation would be negative with their unemployment rates. In the case of employment/population ratios for youth and women, the sign of the correlation coefficient changes according to whether it refers to the overall or group-specific incidence of low pay; in all cases, the correlations are low and not significant. The correlations with unemployment rates for youth and women are always negative, but are never significant. Employment and unemployment rates for low-skilled workers also do not appear to be strongly correlated with the incidence of low-paid work.

These correlations only provide indicative evidence because of the small number of countries in the sample and because no other factors are taken into account. However, based on the analysis of comparable micro-data, Card *et al.* (1996) also find little evidence that less wage flexibility over time in Canada and France compared with the United States has generated substantially different patterns of relative employment growth by skill. On the other hand, Blau and Kahn (1996)<sup>14</sup> find in their study of a larger number of countries than Card *et al.* that employment/population ratios for the low skilled tend to be lower in those countries where the earnings distribution is the most compressed. In the case of youth, the evidence presented in Chapter 4 suggests that other factors, such as overall labour market conditions and institutional differences across countries in training, may be more important in explaining their labour-market outcomes.

To summarise, while the overall incidence of low pay varies substantially across OECD countries, it tends to be concentrated amongst the same workers in the same jobs virtually everywhere. Low-skilled and less-experienced workers face the greatest risk – the incidence is highest for youth and women and is heavily concentrated amongst sales and personal services workers and unskilled labourers. Different institutional settings, with regard to wage bargaining, legal minimum wages and the generosity of unemployment and other related benefits, appear to account for some of the wide variation across countries in the overall incidence of low pay. However, there is little solid evidence to suggest that countries where low-paid work is less prevalent have achieved this at the cost of higher unemployment rates and lower employment rates for the more vulnerable groups in the labour market, such as youth and women.

## D. EARNINGS MOBILITY<sup>15</sup>

### 1. Introduction

Section B showed that the dispersion of individual earnings widened in a number of OECD countries over the 1980s and first half of the 1990s. However, analysis of earnings inequality at different points in time needs to be supplemented by longitudinal analysis of earnings mobility in order to gauge fully trends in inequality. If the forces causing wider earnings dispersion within a single year also create a more fluid labour market, in which the relative position of workers within the earnings distribution varies more over time, then life-time inequality of earnings will increase by less than what is observed cross-sectionally. It is also possible for rising cross-sectional inequality to be accompanied by declining earnings mobility, so that inequality over longer horizons increases more sharply than the inequality of annual earnings. Clearly, data on earnings mobility can greatly enrich the analysis of trends in earnings inequality.

#### ***Prior studies of earnings mobility in a single country and historical period***

Although there is a large literature on earnings mobility, comparative analysis is in its infancy. Valuable lessons can, however, be gleaned from studies that examine samples of workers from a single country during a single period of time. This section briefly discusses several of those lessons, relying heavily on Atkinson, Bourguignon and Morrison's (1992) useful survey. Several recent comparative studies of earnings mobility are then reviewed.

#### *Conceptual issues*

There is no single correct approach for incorporating mobility into the analysis of earnings inequality. It is intuitively clear that the "effective" degree of inequality associated with any given level of cross-sectional inequality is reduced if the positions of workers within the earnings distribution change substantially over time. If changes in relative earnings were predictable (e.g. they reflected stable career progressions) and no capital market imperfections impeded the shifting of purchasing power from high to low-earnings years, differences in the discounted value of earnings cumulated over entire working lives would provide a natural benchmark for assessing inequality. A similar logic applies to unpredictable, but transitory, variations in earnings around a predictable, permanent level. In practice, the evolution of workers' earnings are only partially predictable and it may be costly or impossible for individuals with

temporarily low earnings to finance current consumption by borrowing against the anticipation of higher future earnings. Thus, two individuals with the same discounted level of life-time earnings, or of earnings averaged over an intermediate period, may not have equally desirable earnings trajectories. Less stable and less predictable histories would tend to be less desirable than more stable and predictable ones, on the assumption that most individuals are risk averse. In sum, the existence of earnings mobility means that measures of annual inequality overstate life-time inequality, but quantifying the magnitude of this effect is difficult.

Just as different inequality indices, such as the Gini coefficient and the Theil index, reflect different aspects of inequality at a point in time [Atkinson (1983); Jenkins (1991)], different mobility measures capture different aspects of the diverse ways in which individuals' earnings change over time. It follows that comparisons of mobility that are robust across a range of indices are likely to be more firmly grounded than those relying on a single measure.

#### *Data issues*

Data limitations are also important. Mobility analysis requires longitudinal or panel data which follow the same workers over time.<sup>16</sup> Until recently, the limited availability of such data has greatly restricted analysis.

Even when available, panel data tend to exacerbate the problems of nonresponse and measurement error already present in cross-sectional data. Nonresponse tends to cumulate over time in panel data, because it is not always possible to track individuals or to induce them to continue to participate in the survey. The resulting sample attrition can be very high and, if non-random, can lead to false conclusions [Westergård-Nielson (1989); Baudelot (1983)]. For example, if individuals whose economic fortunes change significantly are more difficult to follow because they are more likely to move or refuse to be interviewed, panel data would tend to underestimate the extent of earnings mobility unless an adjustment is made for the unrepresentative character of the remaining sample. Longitudinal analysis may also be particularly susceptible to measurement error in earnings or other variables. For example, it might not matter greatly for a cross-sectional analysis of earnings if individuals report their earnings somewhat imprecisely, say within a range of plus or minus five per cent of the true value. However, the same reporting error would tend to have a much larger effect on the results of an analysis of earnings mobility, because year-to-year changes in random reporting error would tend to be much more than five per cent of the true changes in earnings. Several validation stud-

ies of the Panel Study of Income Dynamics in the United States are somewhat reassuring about these issues, in that these problems were not found to be serious [Hill (1992); Bound *et al.* (1994)]. Nonetheless, relatively little is known about how accurately panel data sets reflect the true distributions of individual histories, due to the absence of reliable benchmarks.

#### *Common findings*

Differences in mobility measures, which groups of workers are studied, for which years and subject to how much and what sort of measurement error, greatly limit the comparability of past studies. Despite this, Atkinson *et al.* (1992) have identified several tentative empirical regularities. These include: *i*) mobility increases with the length of the time period considered; *ii*) mobility is highest for young adults just beginning their careers; and *iii*) approximately two-thirds of the cross-sectional variance in annual earnings reflects persistent differences in relative earnings. The first two findings have great intuitive appeal, but the third is rather surprising. It says that mobility is essentially constant everywhere, in the sense that it causes long-run or life-time inequality to be approximately two-thirds of cross-sectional inequality, despite large differences in labour market institutions and economic conditions. It is unclear what economic process would produce such a constancy across countries, because there is no well-developed theory of international differences in earnings mobility.

#### ***Prior studies comparing earnings mobility over time or across countries***

Gittleman and Joyce (1995, 1996), Gottschalk and Moffit (1994), Rose (1993, 1994, 1995) and Schiller (1994) all used panel data for the United States to examine whether an increase in earnings mobility between the 1970s and the 1980s prevented the inequality of permanent earnings from rising as rapidly as the inequality of annual earnings. All concluded that relative earnings mobility did not change significantly. Thus, the large increase in cross-sectional earnings dispersion was accompanied by an approximately proportionate increase in long-run inequality. Gottschalk and Moffit (1994) emphasise that the relative constancy of mobility, despite a large increase in cross-sectional earnings dispersion, implies that the variance of transitory earnings (*i.e.* the instability of earnings) increased at about the same rate as the variance of permanent earnings. Morissette's (1996) analysis for Canada reached similar conclusions.

Several recent studies have compared earnings mobility across several countries. Aaberge *et al.*

## Box 2 Interpreting the mobility measures

This study uses correlation coefficients and transition matrices to summarise and compare earnings mobility. These common and intuitive measures are closely related to the issue of how much mobility reduces the inequality of earnings over longer periods of time below the level of inequality observed in a single year. Mobility reduces inequality because some of the differences in earnings for a single year reflect transitory factors, unusually high earnings for some workers and unusually low for others. These factors tend to cancel out over longer observation periods, leaving the residual level of permanent differences in earnings levels.

Correlation coefficients for earnings in two years provide a summary measure of the degree of *persistence* in individual earnings. A value of one indicates that the relative position of individual workers was unchanged, while a value of zero indicates no persistence of relative position and equality of long-run earnings. In the simplest version of the “permanent income model,” which provides a starting point for much analysis of mobility, the correlation coefficient is equal to the proportion of the total cross-sectional variation of earnings which is due to the *permanent* differences in earnings [Atkinson, Bourguignon and Morrison (1992)]. The relationship between the correlation coefficient and permanent inequality is more complicated for more complex models, but higher values of the correlation coefficient continue to indicate that more of the inequality within a single year persists.

Although the correlation coefficient is a valuable summary measure of the persistence of inequality, it does not provide much descriptive information about the pattern of changes in the position of workers. Transition matrices are a useful way to summarise this information. Each year, workers are ordered from lowest to highest earnings and grouped into equal strata, *e.g.* by deciles or quintiles. Interest then focuses on transition probabilities, such as the likelihood that a worker beginning in the first quintile is still in the first quintile five years later. The probabilities can be grouped into a transition matrix in which the rows indicate earnings strata in the origin year and the columns indicate destination-year strata. Individuals on the primary diagonal have maintained their position in the earnings distribution, while those above (below) the diagonal have experienced upward (downward) mobility. The more that individuals’ positions change over time, the stronger is the effect of mobility on reducing permanent inequality below cross-sectional inequality.

The transition-matrix analysis reported here includes two extensions. First, transitions between nonemployment and positions in the earnings distribution are examined. Second, transition patterns are analysed across earnings bands defined by proportions of the median wage, rather than by quantiles. Mobility measures derived from transition probabilities between quintiles, or other quantile ranges, are purely relative. In a country with a low level of cross-sectional earnings inequality, a modest increase in earnings could cause a large change in an individual’s relative position. For example, a 10 per cent increase in earnings might move a worker from the bottom (first) quintile to the middle (third) quintile. The same quintile transition in a second country, with high cross-sectional inequality, would require a larger percentage increase in earnings. Thus, equal quintile transition probabilities for these two countries would indicate similar relative mobility, in the sense that the frequency of changes in the earnings rankings of workers is the same in both countries, but much more volatility in the level of individual earnings in the second country (with its wider quintile bands). Both the extent of relative mobility and the absolute magnitude of intertemporal changes of earnings are important dimensions of labour market mobility. A high level of relative mobility means that inequality over longer periods will tend to be significantly lower than annual inequality, while large absolute changes in earnings suggest either strong ageing effects or high earnings volatility.

(1996) compared Denmark, Norway, Sweden and the United States; Burkhauser and his various collaborators [Burkhauser and Holtz-Eakin (1994); Burkhauser *et al.* (1995a, b); Burkhauser and Poupore (1996)] compared Germany and the United States; Bigard *et al.* (1996) compared private-sector workers in France and Italy; and Asplund *et al.* (1996) compared manufacturing workers in Finland and Denmark. Two tentative conclusions emerged. First, it appears that it is now possible to compare earnings mobility systematically across a number of countries, at least for the period since the mid-1980s. Second, initial results

suggest more similarities than differences across countries.

### **Overview of mobility analysis**

The remainder of this section presents comparative measures of earnings mobility for eight countries: Denmark, Finland, France, Germany, Italy, Sweden, the United Kingdom, and the United States. These countries have well-documented panel data sets that trace the earnings histories of broadly-based samples of the work force since the mid-1980s. Although

descriptive measures of mobility are presented for the entire working-age population during the period 1986-1991, most of the analysis is restricted to full-time workers, so that differences in rates of pay can be better isolated from differences in hours worked. The earnings measure used throughout is gross earnings of wage and salary workers. Tax payments, non-cash fringe benefits, and self-employment earnings are not taken into account.<sup>17</sup> The analysis considers two broad questions. First, what are the commonalities and differences in overall earnings mobility across these eight countries? Second, how “high” is the earnings mobility of low-paid workers and does it differ across countries?

Table 3.4 provides an overview of the longitudinal data-sets used for this analysis. Although selected for their suitability for comparative analysis, a number of important noncomparabilities require emphasis. One is that some data are based on administrative sources and some come from surveys. The German and United States data are exclusively from household surveys, while the Danish, French and Italian data are derived exclusively from administrative sources. The Finnish and Swedish data are primarily from household surveys, but administrative tax data were used to refine the earnings measures for some of the observations. The data for the United Kingdom are also a hybrid. The sample of workers is drawn from administrative data, but most of the information – including workers’ earnings – was gathered from a survey of employers. When comparing mobility measures, it should be borne in mind that the earnings data collected from administrative sources are almost certainly more accurate than those collected from survey interviews [Westergård-Nielsen (1989)]. A second difference is that some of the data sets do not cover the entire working-age population, or even the entire wage and salary work force. This is particularly a problem for some of the panels constructed from administrative data. For example, the French and Italian data are collected from social security records that exclude much of the public sector and all non-workers. Third, the quality of the working-time measures varies considerably. In the data for Finland, it is not possible to distinguish part-time from full-time workers, and measurement error appears to be relatively severe for the working-time variable used to calculate monthly earnings. Finally, the statistical reliability of the different data sets varies considerably due to large differences in sample sizes and attrition rates. Sample sizes are particularly small for Sweden. The surveys for Germany and the United States provide sophisticated probability weights intended to correct for attrition bias and these weights have been used in the analysis. Analogous corrections could not be made for the other data sets.

## 2. Summary measures of earnings mobility

Summary measures of earnings mobility for full-time wage and salary workers, between 1986 and 1991, are presented in Table 3.5 (see Box 2). They are juxtaposed with measures of cross-sectional earnings dispersion (see Section B) and with the mobility levels that would prevail in hypothetical labour markets characterised by either perfect (*i.e.* fully random) mobility or the total absence of mobility.<sup>18</sup>

The correlation coefficients range from 0.65 for Denmark to 0.79 for Germany, clearly indicating that no country closely approximates the polar cases of total mobility or immobility.<sup>19</sup> (The correlation coefficient for Finland is much lower, at 0.36, but is not strictly comparable. Both the inclusion of part-time workers and measurement error appear to exaggerate the level of earnings mobility in Finland.) The clustering of the correlations around 0.7 is broadly consistent with the finding in many earlier studies that approximately two-thirds of the inequality observed in a single year persists, while the remainder reflects transitory factors. Since five years is considerably shorter than a working life, these estimates understate the extent to which life-time earnings inequality is lower than annual inequality. It probably is not the case, however, that lengthening the observation period would reveal large international differences in mobility not evident for the 1986-1991 period. Aaberge *et al.* (1996) examined earnings mobility for both 1986-1990 and 1980-1990. Mobility was higher for the longer period, but continued to be quite similar in the four countries studied.

The conclusion that similar and substantial levels of mobility prevail across countries is also confirmed when movements across earnings quintiles are examined. Approximately half of the workers in all of the countries were in a different earnings quintile in 1991 than in 1986, and between 11 and 17 per cent (22 per cent for Finland) were at least two quintiles higher or lower than they had been, indicating large changes in relative earnings. Both indices suggest that Denmark, the United Kingdom and the United States (and, perhaps, Finland) had somewhat higher rates of earnings mobility than France, Germany, Italy and Sweden. But the overall picture is, nevertheless, one of considerable similarity.<sup>20</sup>

Table 3.5 also shows transition probabilities for moving between “equal-width” earnings bands, where the ranges are defined as proportions of the median wage.<sup>21</sup> These measures are a useful complement to those used above, because national differences in cross-sectional earnings inequality and, hence, quintile widths are substantial. Cross-country results differ between quintile measures and median-proportions measures. Earnings mobility in Denmark and Sweden appears much higher when measured by

Table 3.4. **Overview of longitudinal datasets used in earnings mobility analysis**

Source of data	Type of data	Wage and salary workers missed by sampling frame	Data on the non-employed	Sample size		Earnings concept	
				Total working age population	Full-time wage and salary workers in both 1986 and 1991 <sup>a</sup>		
Denmark	Data from the Danish Longitudinal Database (DLD), supplied by Niels Westergaard-Nielsen and Paul Bingley, Centre for Labour Market and Social Research, Aarhus Business School.	Administrative.	–	Yes	14 438	6 422	Gross weekly earnings
Finland	Data from the Census Longitudinal Dataset (CLD), supplied by Tor Eriksson and Lajos Parkatti, Centre for Labour Market and Social Research, Aarhus Business School.	Household survey (sampled from the Population Census and matched to administrative tax data).	–	Yes	358 773	203 519	Gross monthly earnings
France	Data from Déclarations Annuelles des Données Sociales (DADS), supplied by Yves Guillotin and Alain Bigard, Groupe d'Analyse des Itinéraires et Niveaux Salariaux (GAINS), Université du Maine.	Administrative.	General government	No	856 422	287 821	Gross monthly earnings
Germany	Data from the German Socio-Economic Panel (GSOEP), supplied by Viktor Steiner, Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim.	Household survey.	–	Yes	8 775	2 168	Gross monthly earnings
Italy	Data from the Istituto Nazionale de Previdenza Sociale Dataset (INPSD), supplied by Claudio Malpede, Lia Pacelli, Riccardo Revelli, Ricerche e Progetti, Torino.	Administrative.	General government	No	143 851	52 877	Gross monthly earnings
Sweden	Data from the HUS, supplied by Anders Klevmarken, University of Uppsala.	Household survey (matched to administrative tax data).	–	Yes	1 362	615	Gross monthly earnings
United Kingdom	Data from the New Earnings Survey Panel Dataset (NESPD), supplied by Peter Elias, Warwick University.	Establishment survey (sampled from administrative data).	Very low earners	No	219 201	71 453	Gross monthly earnings
United States	Data from the Panel Study of Income Dynamics (PSID), supplied by David Fasenfest, Purdue University.	Household survey.	–	Yes	9 776	3 915	Gross weekly earnings

a) For Finland, full-time or part-time wage and salary workers in both 1986 and 1991.

Table 3.5. **Alternative measures of five-year earnings mobility for full-time wage and salary workers, 1986-1991**

	Cross-sectional earnings inequality		Correlation of 1986 and 1991 earnings		Transitions among quintiles				Transitions among 5 earnings bands based on proportions of median earnings <sup>a</sup>			
	Ratio of 90th to 10th percentile wage, 1991	1986-1991 trend in D9/D1 ratio <sup>b</sup>	Pearson correlation coefficient	Spearman rank correlation coefficient	Average quintile move	Stayed in same quintile (%)	Moved up or down one quintile (%)	Moved 2 or more quintiles (%)	Average band move	Stayed in same band (%)	Moved up or down one band (%)	Moved 2 or more bands (%)
Denmark	2.15	-	0.649	0.652	0.764	47.6	35.6	16.8	0.555	55.2	36.1	8.8
Finland <sup>c</sup>	2.47	0	0.363	0.540	0.891	44.1	34.4	21.5	0.796	46.1	36.0	17.9
France	3.26	+	0.760	0.754	0.587	56.8	32.0	11.2	0.506	60.5	31.2	8.3
Germany	2.52	-	0.793	0.754	0.621	53.0	35.7	11.2	0.541	55.3	37.6	7.1
Italy	2.64	0	0.785	0.725	0.679	50.6	35.3	14.1	0.524	55.6	37.6	6.9
Sweden	2.11	0	0.711	0.695	0.676	52.7	33.8	13.5	0.468	61.6	32.1	6.3
United Kingdom	3.28	++	0.705	0.709	0.716	48.1	36.8	15.1	0.697	48.2	37.6	14.2
United States	3.66	++	0.680	0.674	0.732	48.8	35.5	15.7	0.784	47.8	35.0	17.3
Perfect mobility	x	x	0.000	0.000	1.6	20.0	32.0	48.0	x	x	x	x
No mobility	x	x	1.000	1.000	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0

x Not applicable.

a) The five earnings bands relative to the median are: Less than 0.65, 0.65 to 0.95, 0.95 to 1.25, 1.25 to 1.55, and greater than 1.55.

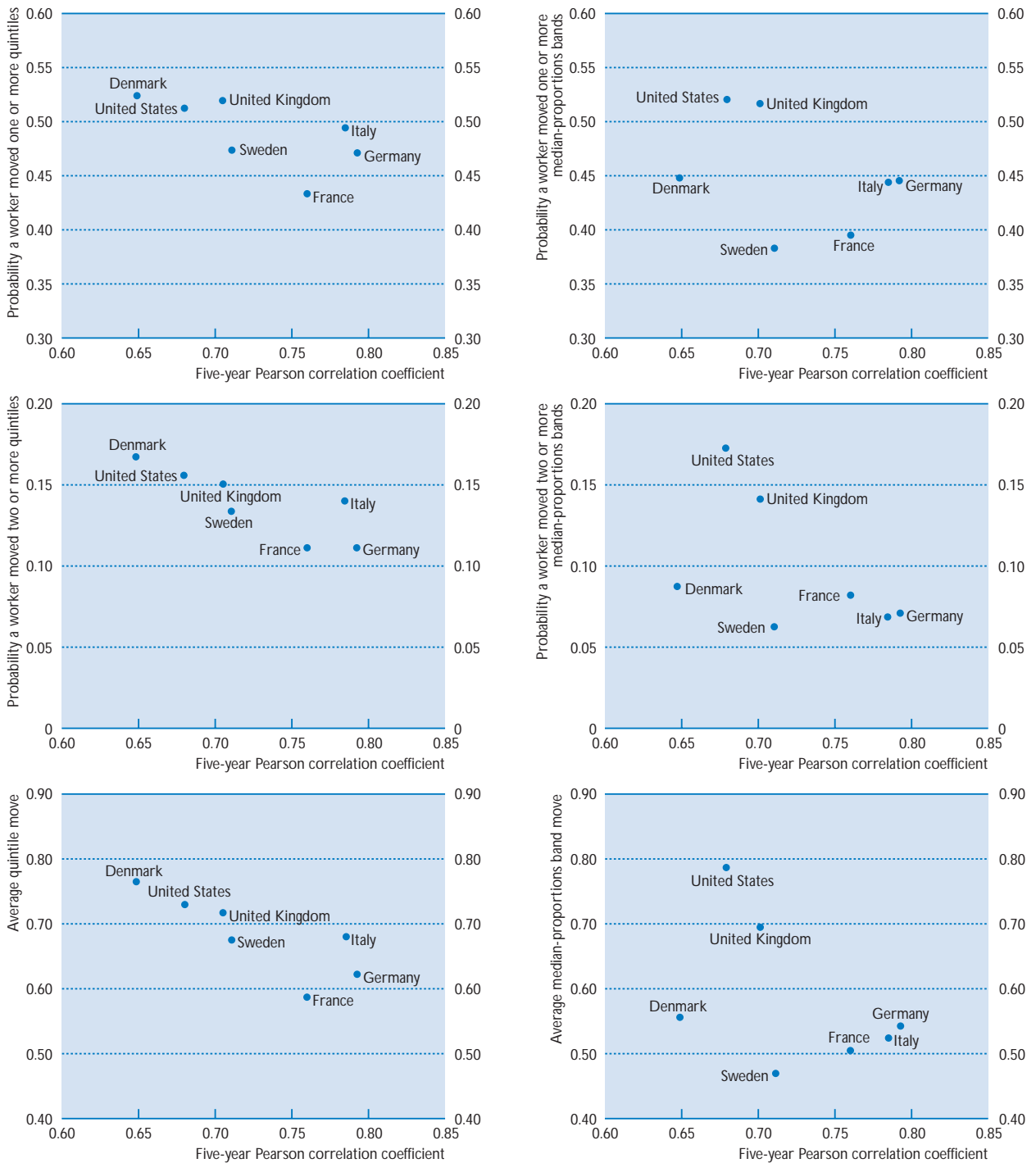
b) The symbols ++, +, - and 0 denote strongly rising, rising, falling and approximately stable earnings dispersion.

c) Five-year earnings mobility is calculated for the years 1985-1990 and for all wage and salary workers.

Sources: See Table 3.4.

Chart 3.5.

Alternative measures of earnings mobility over five years, 1986-1991



Sources: See Table 3.4.

transitions across quintiles than across median-proportions earnings bands. The cross-sectional earnings distribution in these two countries is relatively compressed, causing relatively small changes in individual earnings to result in relatively large movements across quintiles. At the other extreme, the United States has considerably higher mobility, in terms of median-proportions earnings bands, than the other seven countries and, hence, the largest absolute changes in individual earnings over 1985-1991. The relatively high cross-sectional dispersion of wages in the United States explains why relative earnings mobility is similar in Denmark, Sweden and the United States, even though individual earnings are much more volatile in the United States.

Chart 3.5 presents bivariate associations between the Pearson correlation coefficient and mobility measures based on transition probabilities, which confirm that alternative measures can produce significantly different country rankings. Higher correlations tend to be associated with less movement among quintiles, although these measures capture somewhat different aspects of relative earnings mobility. There is no such correspondance between the correlation coefficients and measures based on median-proportions earnings bands. Countries in which absolute earnings changes are relatively large also tend to have relatively high cross-sectional earnings dispersion, so that the net effect on relative mobility is indeterminant.

Chart 3.6 (Part A) examines the relationships between cross-sectional inequality and relative and absolute mobility. Earnings dispersion in a single year has no apparent relationship to mobility across quintiles. This implies that international comparisons of cross-sectional inequality probably provide a reliable indication of relative levels of inequality measured over longer periods, because high static inequality is not offset by high relative mobility. There is some indication of a positive relationship between cross-sectional inequality and mobility across median-proportions earnings bands. This suggests that individual earnings tend to be more volatile in countries with high cross-section inequality, although it should be emphasized that this conclusion is greatly influenced by the case of the United States.

Focusing on persistently full-time workers tends to understate total earnings mobility. Table 3.6 provides measures of mobility for a broader population, and for men and women separately. Even focusing on a constant cohort (individuals between the ages of 15 and 64 in 1986), there was substantial movement both into and out of full-time employment over 1986-1991.<sup>22</sup> In Denmark, Germany and Sweden, approximately 20 per cent of full-time workers in 1986 were no longer full-time workers in 1991, while 31 per cent exited full-time employment in the

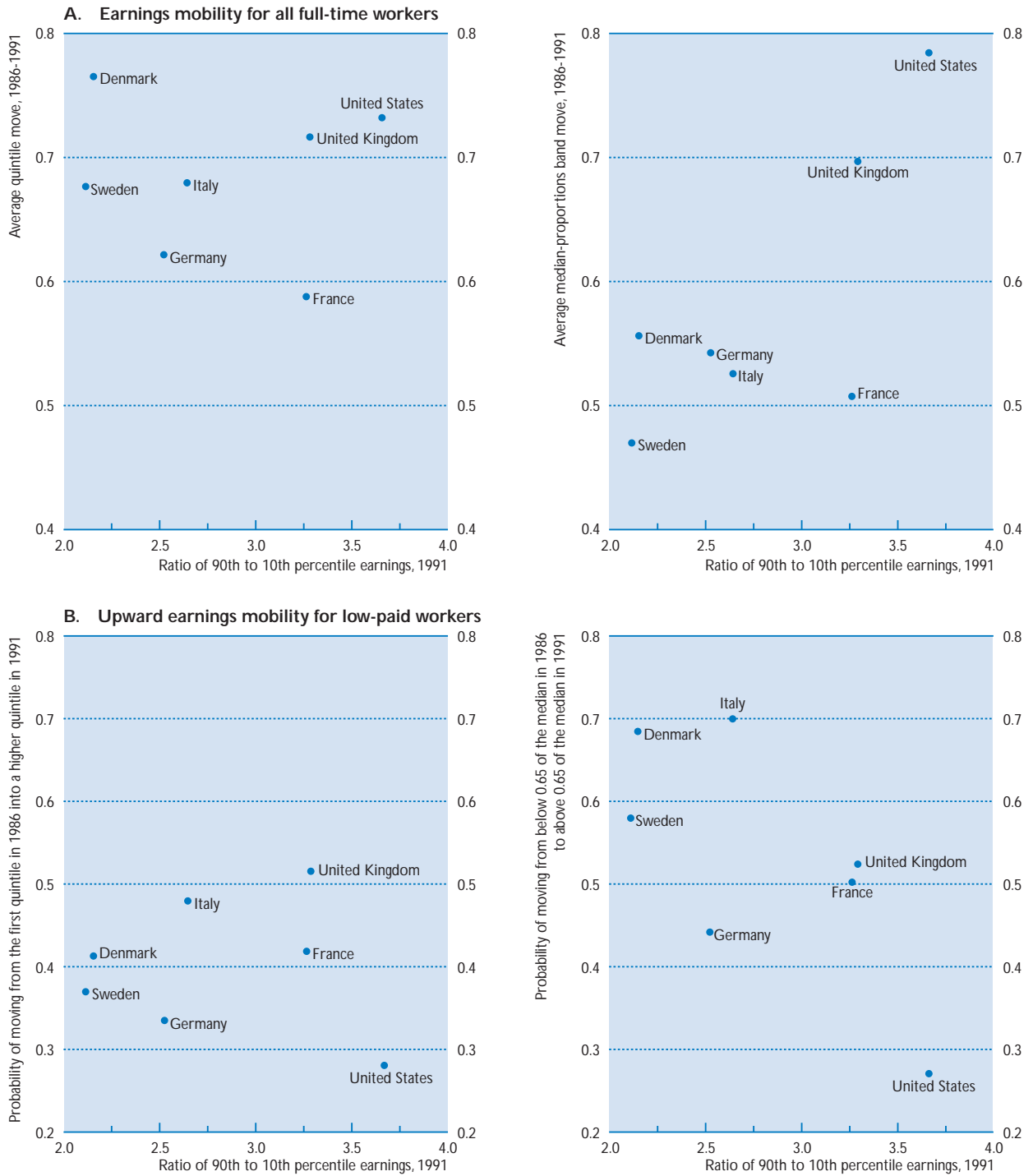
United States. Among those not employed full-time in 1986, between 18 and 36 per cent entered full-time employment over the five-year period. Exit rates from full-time employment are higher for women than for men, reflecting less continuous work patterns. Importantly, both entries and exits tend to be concentrated in the bottom quintile, a pattern that is especially strong for women. This means that focusing solely on persistently full-time workers disproportionately excludes low and intermittent earners and may, thus, understate the extent of low and unstable earnings. However, it is not straightforward to incorporate non-earners into an analysis of earnings mobility, because their *potential* earnings may be of greater interest than their actual (zero) earnings, but are unobservable.<sup>23</sup> Nonetheless, it is important to place earnings mobility patterns for continuously employed workers within the context of large movements in and out of full-time employment.

When earnings mobility is examined for all workers, it tends to be a little higher than for just full-time workers (Table 3.6, right-hand side). More detailed analysis (not shown here) indicates that workers moving between full-time and part-time status typically experienced large changes in earnings. However, this greater variability does not consistently show up as higher quintile transition rates, because the increase in the width of the quintiles moving from the full-time to the total sample is approximately proportional to the increase in intertemporal earnings variability. Mobility measured across median proportions-based earnings bands does increase modestly. Nonetheless, the basic conclusion is the overall similarity of measured mobility within countries, whether analysing all workers or just those working full-time. Thus, the rest of this section will only consider full-time workers.

Earnings mobility among persistently full-time workers is moderately higher for women than for men in Denmark, Finland, France, Germany, and Italy, but a bit lower in Sweden and the United Kingdom, and about the same in the United States.<sup>24</sup> Mobility is particularly high for Danish women, 18 per cent of whom moved two or more quintiles in the earnings distribution. Differences by age are larger, with workers under 35 experiencing much more mobility than older workers (Table 3.7a). It is also predominately upward, as these young workers gain experience and establish careers. By contrast, although earnings are quite stable overall for the 50-64 age group, downward mobility is substantially more common for this group than is upward. Earnings tend to be most stable for workers with a university degree and those in managerial and profession occupations, who are particularly unlikely to experience downward mobility (Table 3.7b).

Chart 3.6.

Cross-sectional earnings inequality and five-year earnings mobility for full-time workers



Sources: See Table 3.4.

Table 3.6. **Five-year earnings mobility for full-time and for all wage and salary workers, 1986-1991**

	Full-time wage and salary workers									All wage and salary workers								
	Pearson correlation coefficient	Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)	Left full-time employment <sup>a</sup> (%)	Share of leavers in bottom quintile in 1986 (%)	Entered full-time employment <sup>b</sup> (%)	Share of entrants in bottom quintile in 1991 (%)	Pearson correlation coefficient	Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)	Left wage and salary employment (%)	Share of leavers in bottom quintile in 1986 (%)	Entered wage and salary employment <sup>c</sup> (%)	Share of entrants in bottom quintile in 1991 (%)
<b>Denmark</b>																		
Total	0.649	0.764	47.5	35.6	16.8	19.2	26.6	29.7	34.1	0.615	0.812	46.2	34.8	19.0	16.6	25.3	33.2	33.9
Male	0.667	0.736	49.0	35.0	15.9	16.0	14.9	32.6	21.8	0.634	0.769	49.1	32.8	18.0	16.3	15.2	34.7	24.8
Female	0.446	0.807	45.4	36.5	18.1	21.0	41.4	27.8	42.9	0.415	0.860	42.8	37.1	19.9	16.9	36.1	32.0	41.6
<b>Finland<sup>d</sup></b>																		
Total	..	..	..	..	..	..	..	..	..	0.363	0.891	44.1	34.4	21.5	19.4	28.0	41.7	35.4
Male	..	..	..	..	..	..	..	..	..	0.390	0.841	47.1	33.0	19.9	17.1	24.2	43.2	30.7
Female	..	..	..	..	..	..	..	..	..	0.256	0.947	40.9	36.0	23.2	21.2	31.5	40.3	40.3
<b>France</b>																		
Total	0.760	0.587	56.8	32.0	11.2	13.0	30.2	49.3	25.3	0.718	0.683	53.0	32.4	14.6	..	..	..	..
Male	0.776	0.582	57.3	31.5	11.2	11.0	23.8	60.1	16.6	0.733	0.670	54.1	31.6	14.3	..	..	..	..
Female	0.629	0.595	55.9	33.0	11.1	16.4	37.9	41.2	35.2	0.588	0.704	51.4	33.5	15.2	..	..	..	..
<b>Germany</b>																		
Total	0.793	0.621	53.0	35.7	11.2	23.4	30.9	17.7	37.0	0.777	0.647	52.3	35.3	12.4	21.4	29.4	17.1	49.6
Male	0.774	0.659	53.6	34.5	11.9	18.1	16.3	13.1	17.7	0.744	0.652	53.7	32.8	13.4	17.6	14.5	10.7	22.3
Female	0.759	0.727	51.7	38.3	10.1	34.7	47.3	28.1	57.2	0.703	0.637	49.7	39.7	10.5	27.2	44.3	26.3	65.7
<b>Italy</b>																		
Total	0.785	0.679	50.6	35.3	14.1	8.3	48.5	55.3	28.7	0.782	0.685	50.3	35.4	8.5	..	..	..	..
Male	0.788	0.659	52.1	34.2	13.6	2.2	41.7	16.8	18.3	0.786	0.656	52.2	34.3	13.4	..	..	..	..
Female	0.704	0.726	46.8	38.1	15.0	13.8	49.6	62.1	32.8	0.684	0.749	46.2	37.8	16.0	..	..	..	..
<b>Sweden</b>																		
Total	0.711	0.716	52.7	33.8	13.5	19.2	28.7	35.9	33.3	0.741	0.684	50.5	36.1	13.4	12.7	24.4	47.3	27.1
Male	0.665	0.720	52.5	32.7	14.8	14.7	8.3	41.6	16.9	0.653	0.692	51.0	35.6	13.4	10.7	7.3	41.9	9.0
Female	0.800	0.707	53.1	36.2	10.7	26.5	48.7	33.4	42.5	0.709	0.676	50.0	36.7	13.3	14.7	36.8	63.8	40.9
<b>United Kingdom</b>																		
Total	0.705	0.716	48.1	36.8	15.1	6.4	35.5	30.6	37.0	0.726	0.660	51.4	35.4	13.2	..	..	..	..
Male	0.679	0.720	48.7	35.7	15.6	2.7	13.8	69.8	19.9	0.663	0.660	51.8	34.9	13.2	..	..	..	..
Female	0.725	0.707	46.5	39.7	13.8	14.6	44.3	26.5	41.7	0.719	0.660	50.7	36.2	13.2	..	..	..	..
<b>United States</b>																		
Total	0.680	0.732	48.8	35.5	15.7	30.8	26.9	23.0	36.0	0.685	0.758	47.2	36.4	16.4	28.0	27.3	26.5	38.9
Male	0.715	0.747	48.6	35.3	16.1	26.3	14.7	29.5	24.1	0.707	0.751	48.7	35.0	16.4	24.7	13.2	30.2	19.7
Female	0.465	0.708	49.1	35.8	15.1	37.0	38.6	19.4	46.0	0.498	0.767	45.3	38.2	16.4	31.9	40.1	24.3	53.4

.. Data not available.

a) For France, Italy and the United Kingdom, only exits into part-time, wage and salary employment are included in the calculation.

b) Share of working age population not employed full-time in 1986, who were employed full-time in 1991, except that entry rates for France, Italy and the United Kingdom only refer to part-time, wage and salary workers in 1986.

c) Share of working age population not employed in 1986, who were employed in 1991.

d) Five-year earnings mobility is calculated for the years 1985-1990.

Sources: See Table 3.4.

Table 3.7a. **Five-year earnings mobility for full-time wage and salary workers by age, 1986-1991<sup>a</sup>**

	Pearson correlation coefficient	Transitions among quintiles					
		Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)	Moved to a higher quintile (%)	Moved to a lower quintile (%)
<b>Denmark</b>							
Under 25	0.225	1.159	32.9	35.2	31.9	49.4	17.7
25-34	0.561	0.813	43.5	38.5	18.1	33.3	23.2
35-49	0.715	0.617	54.3	34.1	11.6	22.9	22.9
50-64	0.781	0.598	55.3	33.9	10.8	15.7	29.0
<b>Finland<sup>b</sup></b>							
Under 25	0.120	1.225	29.1	37.7	33.1	47.4	23.5
25-34	0.331	0.857	44.5	35.6	19.9	30.1	25.4
35-49	0.457	0.663	55.4	30.8	13.8	17.2	27.4
50-64	0.478	0.698	56.2	28.4	15.4	13.8	30.0
<b>France</b>							
Under 25	0.286	0.975	35.6	40.6	23.9	52.6	11.7
25-34	0.636	0.610	53.4	35.8	10.8	32.9	13.7
35-49	0.801	0.436	66.4	26.6	7.0	17.6	15.9
50-64	0.825	0.492	64.3	26.5	9.2	14.5	21.1
<b>Germany</b>							
Under 25	0.391	0.939	39.2	40.0	20.8	52.9	7.8
25-34	0.729	0.693	49.0	37.6	13.4	33.7	17.4
35-49	0.871	0.470	59.9	33.7	6.4	15.3	24.8
50-64	0.886	0.500	59.2	32.3	8.4	9.5	31.3
<b>Italy</b>							
Under 25	0.385	0.934	37.2	40.2	22.6	42.7	20.1
25-34	0.701	0.725	47.5	37.2	15.3	30.9	21.6
35-49	0.834	0.526	59.1	31.6	9.2	18.6	22.4
50-64	0.840	0.561	57.4	32.3	10.3	18.2	24.4
<b>Sweden</b>							
Under 25	0.654	0.673	53.1	28.5	18.3	38.8	8.2
25-34	0.478	0.748	44.3	42.7	13.1	38.3	17.4
35-49	0.700	0.662	53.9	33.6	12.5	26.5	19.5
50-64	0.817	0.639	57.4	27.8	14.8	12.0	30.6
<b>United Kingdom</b>							
Under 25	0.482	1.118	29.7	39.9	30.4	61.7	8.6
25-34	0.653	0.719	45.3	40.8	13.9	37.7	17.0
35-49	0.746	0.553	56.7	33.7	9.6	21.8	21.5
50-64	0.755	0.582	55.7	33.7	10.6	16.2	28.1
<b>United States</b>							
Under 25	0.523	0.944	36.1	40.2	23.7	53.5	10.4
25-34	0.634	0.715	46.4	39.5	14.0	40.2	13.5
35-49	0.725	0.712	51.1	34.0	14.9	23.4	25.5
50-64	0.702	0.690	55.3	28.3	16.4	18.0	26.6

a) Age as measured for 1986 (1985 for Finland).

b) Five-year earnings mobility is calculated for the years 1985-1990 and for all wage and salary workers.

Sources: See Table 3.4.

Table 3.8 shows, not surprisingly, that mobility increases as the time-span considered increases. While not a very demanding test, this finding is consistent with virtually all prior studies, thereby providing some support for the validity of the data and methods used here. It is theoretically possible that international comparisons of mobility could differ for different durations. For example, the same level of single-year mobility in two countries could lead to

different amounts of five-year mobility, if the proportion of single-year changes in earnings that persisted was higher in one country. The limited data presented in Table 3.8 do not provide any clear evidence that these countries differ much in the extent to which year-to-year changes in earnings persist. There is also no consistent evidence that persistence differs between men and women.

Table 3.7b. **Five-year earnings mobility for full-time wage and salary workers by education/occupation, 1986-1991<sup>a</sup>**

	Pearson correlation coefficient	Transitions among quintiles					
		Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)	Moved to a higher quintile (%)	Moved to a lower quintile (%)
<b>Denmark (education)</b>							
Less than upper secondary school-leaving certificate	0.624	0.701	50.3	34.6	15.1	25.4	24.3
Upper secondary school-leaving certificate	0.802	0.500	69.0	21.4	9.5	16.7	14.3
Tertiary education but no university degree	0.723	0.641	52.1	36.0	12.0	26.7	21.2
First university degree or higher	0.637	0.518	61.3	29.5	9.3	27.3	11.5
<b>France (occupation)</b>							
Blue-collar	0.627	0.480	60.9	32.3	6.8	22.7	16.4
Clerical, sales and service	0.672	0.476	62.5	30.0	7.5	22.4	15.1
Managerial, professional and technical	0.772	0.375	72.0	22.0	6.1	15.4	12.6
<b>Germany (education)</b>							
No vocational training	0.827	0.499	60.3	34.6	5.1	28.7	11.0
Vocational training without university degree	0.754	0.537	56.2	35.8	8.0	32.2	11.6
University degree or comparable vocational training	0.893	0.299	73.8	22.9	3.4	18.1	8.1
<b>Italy (occupation)</b>							
Blue-collar	0.687	0.771	41.1	44.3	14.6	44.8	14.1
Clerical, sales and service	0.830	0.544	57.8	32.0	10.2	38.5	3.7
Manager	0.824	0.280	80.2	12.6	7.1	16.5	3.3
<b>Sweden (education)</b>							
Less than intermediate school-leaving examination	0.644	0.750	43.0	45.0	12.0	33.0	24.0
Intermediate school-leaving examination	0.600	0.840	41.5	41.5	17.0	27.7	30.9
Higher school examination ( <i>gymnasium</i> )	0.637	0.580	56.8	34.1	9.1	25.0	18.2
College/university examination	0.611	0.492	68.9	22.9	8.2	24.6	6.6
<b>United Kingdom (occupation)</b>							
Blue-collar	0.593	0.722	45.8	39.4	14.8	25.2	29.0
Clerical, sales and service	0.738	0.566	53.5	37.8	8.7	32.4	14.1
Managerial, professional and technical	0.706	0.490	59.7	33.3	7.0	28.7	11.6
<b>United States (education)</b>							
Less than upper secondary school-leaving certificate	0.267	0.995	40.8	32.5	28.7	18.6	40.6
Upper secondary school-leaving certificate	0.704	0.644	51.5	37.1	11.4	31.7	16.7
Tertiary education but no university degree	0.685	0.780	41.8	42.5	15.7	42.9	15.3
First university degree or higher	0.738	0.540	57.0	34.2	8.8	35.7	7.3

a) Mobility tabulations are for ages 35-49 only, with education/occupation and age as measured for 1986 (1985 for Finland).

Sources: See Table 3.4.

The above analysis suggests more broad commonalities than differences across these countries, despite large differences in their labour market institutions, performance and economic structure. This suggests that cross-country differences in "life-time" inequality are probably quite similar to the differences in earnings inequality for a single year, although it would be desirable to verify this finding for longer panels and more countries. The analysis also suggests that earnings tend to be more volatile in countries with a greater point-in-time dispersion. While overall earnings mobility is shown to be sub-

stantial, the mobility of low-paid workers is of particular interest. Yet, summary measures of mobility throughout the entire earnings distribution may not provide a reliable indication of the extent to which workers in low-paid jobs are vulnerable to becoming trapped at a low earnings level. This issue is taken up next.

### 3. Earnings mobility of low-paid workers

One of the dilemmas facing policymakers is the possibility that policies designed to raise minimal

Table 3.8. **Earnings mobility of full-time wage and salary workers over 1, 2, 3, 4 and 5 years<sup>a</sup>**

	Males					Females				
	Pearson correlation coefficient	Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)	Pearson correlation coefficient	Average quintile move	Stayed in the same quintile (%)	Moved one quintile (%)	Moved 2 or more quintiles (%)
<b>Denmark</b>										
1986-1987	0.853	0.488	62.1	29.6	8.3	0.756	0.612	56.8	30.4	12.8
1986-1988	0.789	0.609	55.5	32.8	11.7	0.629	0.769	49.6	32.7	17.8
1986-1989	0.761	0.667	52.6	33.6	13.9	0.588	0.828	45.5	35.2	19.3
1986-1990	0.696	0.724	49.1	36.1	14.8	0.517	0.898	41.6	37.1	21.3
1986-1991	0.667	0.777	46.3	36.5	17.2	0.446	0.923	40.1	38.4	21.5
<b>France</b>										
1986-1987	0.823	0.364	71.4	23.2	5.4	0.711	0.427	68.7	23.3	8.0
1986-1988	0.823	0.443	65.6	27.4	7.0	0.696	0.500	63.5	27.0	9.5
1986-1989	0.768	0.519	59.8	31.7	8.5	0.672	0.542	60.2	29.5	10.1
1986-1991	0.776	0.584	56.6	32.6	10.9	0.629	0.621	55.6	31.9	12.6
<b>Germany</b>										
1986-1987	0.906	0.371	68.8	26.4	4.8	0.925	0.348	70.1	25.8	4.1
1986-1988	0.892	0.423	65.1	29.2	5.7	0.882	0.463	61.1	33.1	5.8
1986-1989	0.859	0.506	59.8	32.0	8.1	0.822	0.605	53.1	37.0	9.8
1986-1990	0.832	0.598	53.7	35.8	10.5	0.781	0.665	51.0	35.6	13.3
1986-1991	0.774	0.646	51.8	36.5	11.7	0.759	0.750	45.6	38.3	16.1
<b>Italy</b>										
1986-1987	0.897	0.417	66.0	28.2	5.8	0.817	0.485	63.8	27.2	9.0
1986-1988	0.861	0.537	57.9	33.1	9.0	0.774	0.624	55.5	31.5	12.8
1986-1989	0.809	0.617	53.8	34.4	11.9	0.708	0.712	51.3	32.4	16.4
1986-1990	0.795	0.660	51.4	35.4	13.2	0.700	0.757	48.5	34.0	17.5
1986-1991	0.788	0.679	50.2	36.0	13.8	0.704	0.789	44.9	35.9	19.2
<b>Sweden</b>										
1984-1986	0.840	0.451	64.2	29.4	6.4	0.786	0.616	54.9	33.9	11.2
1986-1991	0.665	0.766	46.3	38.4	15.3	0.800	0.821	43.9	40.3	15.8
<b>United States</b>										
1986-1987	0.838	0.488	61.1	31.6	7.3	0.717	0.514	59.8	32.8	7.4
1986-1988	0.723	0.625	54.3	33.9	11.8	0.687	0.630	52.4	37.2	10.4
1986-1989	0.681	0.700	48.8	37.6	13.6	0.754	0.675	52.3	33.3	14.4
1986-1990	0.651	0.804	42.5	41.0	16.5	0.714	0.718	48.2	37.3	14.5
1986-1991	0.715	0.787	46.6	35.7	17.7	0.465	0.741	48.9	35.5	15.6

a) Earnings quintiles calculated separately for males and females.

Sources: See Table 3.4.

Table 3.9. **Five-year earnings mobility of low-paid workers, 1986-1991**

Percentages of full-time wage and salary workers

	Low-paid defined as bottom quintile									Low-paid defined as below 0.65 median earnings									
	Share of low-paid workers in 1986	1991 earnings status of 1986 low-paid workers				1986 earnings status of 1991 low-paid workers				Share of low-paid workers in 1986	1991 earnings status of 1986 low-paid workers				1986 earnings status of 1991 low-paid workers				
		No longer employed full-time	Still in bottom quintile	Moved to second quintile	Moved to quintiles 3-5	Not employed full-time	In bottom quintile	In second quintile	In quintiles 3-5		No longer employed full-time	Still below 0.65 median	0.65 to 0.95 median	Above 0.95 median	Not employed full-time	Below 0.65 median	0.65 to 0.95 median	Above 0.95 median	
<b>Denmark</b>																			
<b>Total</b>	<b>20.0</b>	<b>26.7</b>	<b>32.1</b>	<b>20.5</b>	<b>20.7</b>	<b>38.3</b>	<b>33.3</b>	<b>15.3</b>	<b>13.2</b>	<b>6.5</b>	<b>25.7</b>	<b>6.0</b>	<b>43.1</b>	<b>25.2</b>	<b>52.7</b>	<b>10.4</b>	<b>25.2</b>	<b>11.8</b>	
Sex: Male	10.3	27.9	19.6	18.6	33.9	35.4	21.5	19.8	23.3	3.9	25.3	4.8	28.5	41.4	50.6	10.1	15.7	23.6	
Female	34.4	26.3	37.6	21.3	14.9	39.4	38.2	13.4	9.0	10.3	25.9	6.7	51.4	16.0	53.6	10.5	29.2	6.7	
Age: Under 25	51.2	22.6	27.8	20.9	28.8	54.6	29.9	7.8	7.7	24.7	21.1	3.6	44.5	30.8	69.1	6.4	18.1	6.4	
25-34	17.1	26.1	30.1	23.3	20.6	24.9	34.0	23.0	18.1	4.3	22.2	10.1	46.5	21.2	30.4	17.9	32.1	19.7	
35-49	11.8	24.6	41.6	21.2	12.6	27.3	36.7	18.2	17.7	1.9	44.6	7.1	42.9	5.4	19.5	11.1	47.2	22.2	
50-64	11.7	51.9	34.6	9.9	3.7	27.5	37.6	22.2	12.8	2.0	-	-	-	-	-	-	-	-	
<b>Finland<sup>a</sup></b>																			
<b>Total</b>	<b>20.0</b>	<b>26.3</b>	<b>28.8</b>	<b>20.1</b>	<b>24.8</b>	<b>32.8</b>	<b>28.9</b>	<b>16.1</b>	<b>22.2</b>	<b>16.1</b>	<b>27.6</b>	<b>26.7</b>	<b>25.0</b>	<b>20.7</b>	<b>33.2</b>	<b>25.3</b>	<b>21.7</b>	<b>19.8</b>	
Sex: Male	15.0	27.1	30.1	14.5	28.4	36.4	29.0	10.7	24.0	12.6	28.8	30.0	18.0	23.2	34.5	27.4	14.6	21.6	
Female	25.4	25.8	28.0	23.7	22.6	30.3	28.9	19.8	21.0	19.9	26.8	24.5	29.8	18.9	30.9	23.8	26.8	18.6	
Age: Under 25	35.0	19.2	24.3	25.3	31.2	37.2	29.2	17.4	16.3	27.1	19.8	20.8	33.2	26.2	37.0	23.6	25.4	14.0	
25-34	15.8	25.4	28.9	20.1	25.7	26.0	27.1	18.6	28.3	12.8	26.6	26.6	24.9	22.0	26.5	23.6	24.5	25.4	
35-49	12.7	29.6	40.1	14.0	16.3	32.0	31.0	12.9	24.0	10.8	31.1	39.6	15.7	13.7	33.2	29.6	15.5	21.7	
50-64	17.4	61.3	30.0	4.7	4.0	40.9	29.4	9.0	20.7	15.2	62.1	30.0	4.7	3.2	42.2	27.8	11.9	18.0	
<b>France<sup>b</sup></b>																			
<b>Total</b>	<b>20.0</b>	<b>22.5</b>	<b>35.7</b>	<b>23.8</b>	<b>18.0</b>	<b>19.9</b>	<b>45.3</b>	<b>20.4</b>	<b>14.5</b>	<b>11.0</b>	<b>26.2</b>	<b>23.2</b>	<b>35.4</b>	<b>14.8</b>	<b>22.3</b>	<b>29.9</b>	<b>33.7</b>	<b>14.1</b>	
Sex: Male	15.0	20.2	28.5	27.8	23.5	16.3	40.2	23.2	20.4	7.9	23.1	17.5	39.4	20.1	17.9	26.1	34.0	22.0	
Female	28.9	24.7	42.4	20.0	12.9	22.7	49.2	18.2	9.9	39.8	29.6	28.0	32.0	10.5	25.1	32.3	33.6	9.1	
Age: Under 25	46.2	22.9	29.1	25.6	22.4	26.6	50.7	16.0	6.8	25.9	25.1	18.0	39.9	17.0	28.1	34.0	32.8	5.0	
25-34	18.7	21.2	38.0	24.5	16.3	17.9	46.5	21.8	13.9	9.9	25.8	26.4	34.5	13.3	20.3	31.7	34.8	13.2	
35-49	11.6	23.3	42.6	20.3	13.8	17.1	41.3	22.2	19.4	6.3	29.8	27.5	28.8	13.8	20.4	27.0	32.9	19.8	
50-64	13.4	24.3	46.4	18.6	10.8	14.1	35.0	24.1	26.9	7.7	32.4	30.4	27.4	9.8	16.9	19.7	35.0	28.4	
<b>Germany</b>																			
<b>Total</b>	<b>20.0</b>	<b>39.3</b>	<b>27.4</b>	<b>16.8</b>	<b>16.6</b>	<b>39.1</b>	<b>32.1</b>	<b>22.0</b>	<b>6.8</b>	<b>18.7</b>	<b>40.5</b>	<b>15.5</b>	<b>29.7</b>	<b>14.3</b>	<b>45.5</b>	<b>28.2</b>	<b>23.3</b>	<b>3.0</b>	
Sex: Male	11.3	30.5	14.4	21.4	33.7	35.9	23.1	26.5	14.5	10.7	30.9	10.7	29.2	29.2	42.5	26.0	21.9	9.6	
Female	38.5	44.3	34.6	14.2	6.9	40.3	35.4	20.3	4.0	35.9	46.0	18.2	30.0	5.8	42.1	28.9	23.9	5.1	
Age: Under 25	59.1	51.4	24.9	21.8	1.9	43.8	45.5	10.8	0.0	56.1	34.8	11.7	37.3	16.2	54.3	35.0	10.7	0.0	
25-34	12.0	43.4	19.3	14.5	22.9	42.9	19.1	33.3	4.8	10.5	48.0	12.0	20.0	20.0	49.2	14.8	34.4	1.6	
35-49	7.4	42.4	42.4	6.1	9.1	38.9	21.4	29.8	9.9	6.9	43.4	28.3	20.0	8.3	43.9	25.8	30.3	0.0	
50-64	8.6	61.2	36.7	2.0	0.0	17.7	35.3	21.6	25.5	8.3	62.5	29.2	8.3	0.0	20.0	35.0	27.5	17.5	
<b>Italy<sup>b</sup></b>																			
<b>Total</b>	<b>20.0</b>	<b>8.3</b>	<b>43.8</b>	<b>25.1</b>	<b>22.8</b>	<b>1.4</b>	<b>51.8</b>	<b>26.5</b>	<b>20.4</b>	<b>10.0</b>	<b>10.8</b>	<b>19.4</b>	<b>52.0</b>	<b>17.8</b>	<b>2.1</b>	<b>42.5</b>	<b>40.6</b>	<b>14.8</b>	
Sex: Male	13.9	2.2	37.2	30.1	30.6	0.6	46.0	25.1	28.3	6.9	2.9	15.3	56.4	25.4	0.8	39.9	36.8	22.5	
Female	32.0	13.8	49.8	20.7	15.8	2.1	56.4	27.6	13.9	16.1	17.7	23.0	48.2	11.1	2.9	44.2	43.0	9.9	
Age: Under 25	43.6	5.0	43.7	28.4	22.9	1.3	63.2	23.3	12.2	22.7	5.6	13.1	64.6	16.8	1.9	44.2	45.8	8.1	
25-34	16.9	10.4	38.6	24.1	26.8	1.9	41.1	29.4	27.7	7.4	16.1	21.4	39.8	22.7	2.7	32.9	41.8	22.7	
35-49	10.9	14.8	48.1	18.5	18.6	1.5	41.8	29.4	27.3	5.6	20.5	32.7	29.5	17.3	2.5	48.3	32.2	17.1	
50-64	12.3	14.4	54.7	14.1	17.0	0.2	47.7	27.1	25.0	6.3	22.1	44.7	20.0	13.2	0.5	46.4	38.3	14.8	



standards for pay and other job characteristics may reduce the labour-market opportunities of low-skilled workers by “pricing” them out of the labour market. The actual quantitative terms of any trade-off between job quality and quantity have yet to be seriously analysed. Furthermore, the job-quality dimension has a dynamic element that has received very little attention – the trade-off, if any, between minimal job standards and mobility.

Table 3.9 presents summary measures of earnings mobility of low-paid workers. Two different definitions are considered: workers in the bottom quintile; and workers earning less than 0.65 of median earnings. The latter corresponds best to the idea of minimum job standards and is essentially identical to that used in Section C.<sup>25</sup> The quintile definition is more easily compared with some previous studies [Schiller (1994)] and avoids the problem of small sample sizes that arise in some countries for the median-based cut-off.

There is considerable movement out of low-paid jobs, but it is not possible to generalise about the prospects of these workers (Chart 3.7). Only a minority of low-paid workers in 1986 were still low-paid workers in 1991 in all countries, and this share was especially low in Denmark and Sweden for the median-based definition. However, much of the movement is out of full-time wage and salary employment altogether, rather than into higher earnings ranges. For example, only 15.5 per cent of German workers below the 0.65 median earnings cut-off in 1986 were still in that earnings range in 1991, but nearly as many had dropped out of full-time employment (40.5 per cent) as had moved up the earnings distribution (44.0 per cent).<sup>26</sup> From the perspective of policy, it would be desirable to know why such a substantial number left full-time employment. Two insights can be gleaned from the data assembled for this chapter. First, in the five countries in which workers leaving wage and salary employment can be tracked, it is always the case that a large majority of those leaving full-time employment left employment altogether, rather than moving into part-time jobs or self-employment. Second, the exit rate is substantially higher for workers with low earnings than for better-paid workers. Averaging over the eight countries, first-quintile earners were about twice as likely to leave full-time employment as were third-quintile workers.

Table 3.10 presents additional data on the mobility of low-paid workers, restricting the analysis to those who remain in full-time employment. Cross-country differences in the share of 1986 low-earners who moved significantly higher in the earnings distribution by 1991 are quite large, especially when low-pay is defined as less than 0.65 median earnings. Chart 3.8 examines the relationship between overall

earnings mobility and the upward mobility of low-paid workers. Surprisingly, there is, at most, a very weak positive relationship with relative earnings mobility, as measured by quintile transitions, while absolute earnings volatility is more strongly, but *negatively*, related to their prospects of moving up. However, the key underlying relationship may be that low-paid workers have greater difficulty moving up in labour markets in which cross-sectional inequality is higher (Chart 3.6, Part B). More detailed and longer career history data will be required to characterise adequately the complex dynamics of low-paid jobs and how they are affected by overall mobility and the level of wage inequality.

Upwards earnings mobility, particularly large gains, are more common for young workers than for prime-age and older workers. Thus, low-paid employment may frequently provide valuable experience for young workers beginning their careers. The pay-off for women appears to be low. Even among these full-time workers, women are significantly less likely to move up than are men, except in Finland. Both the heterogeneity of mobility paths and the lower upward mobility rates for women and older workers suggest that some do become trapped in low-paid jobs, or cycle between them and nonemployment.

The patterns of movement into low-paid jobs also suggest that low-paid workers in any given year have very diverse prospects and histories (Tables 3.9 and 3.10). There is, for example, a large flow of young people into low-paid, full-time employment from part-time work or nonemployment. For many of them, this will be a relatively brief phase of the school-to-work transition (see Chapter 4 for a fuller discussion of the youth labour market). However, a considerable share of low-paid workers in 1991 were either also low-paid workers in 1986 or had experienced downward earnings mobility. The former group shows considerable persistence in low-paid employment and probably has relatively poor prospects for obtaining significantly better jobs. The prospects of workers experiencing downward mobility are more difficult to assess and are probably quite diverse. However, studies of displaced workers in the United States have found substantial persistence of wage losses [Podgursky and Swaim (1987); Ruhm (1991)].

## E. CONCLUSIONS

Contrary to what might have been predicted at the end of the 1980s, only a relatively few countries experienced a significant increase in earnings inequality over the first half of the 1990s. A strong, persistent, trend rise in inequality is evident only for the United Kingdom and the United States. In other

Chart 3.7.

Earnings mobility of low-paid workers

A. 1991 earnings status of full-time workers who were in the bottom quintile in 1986

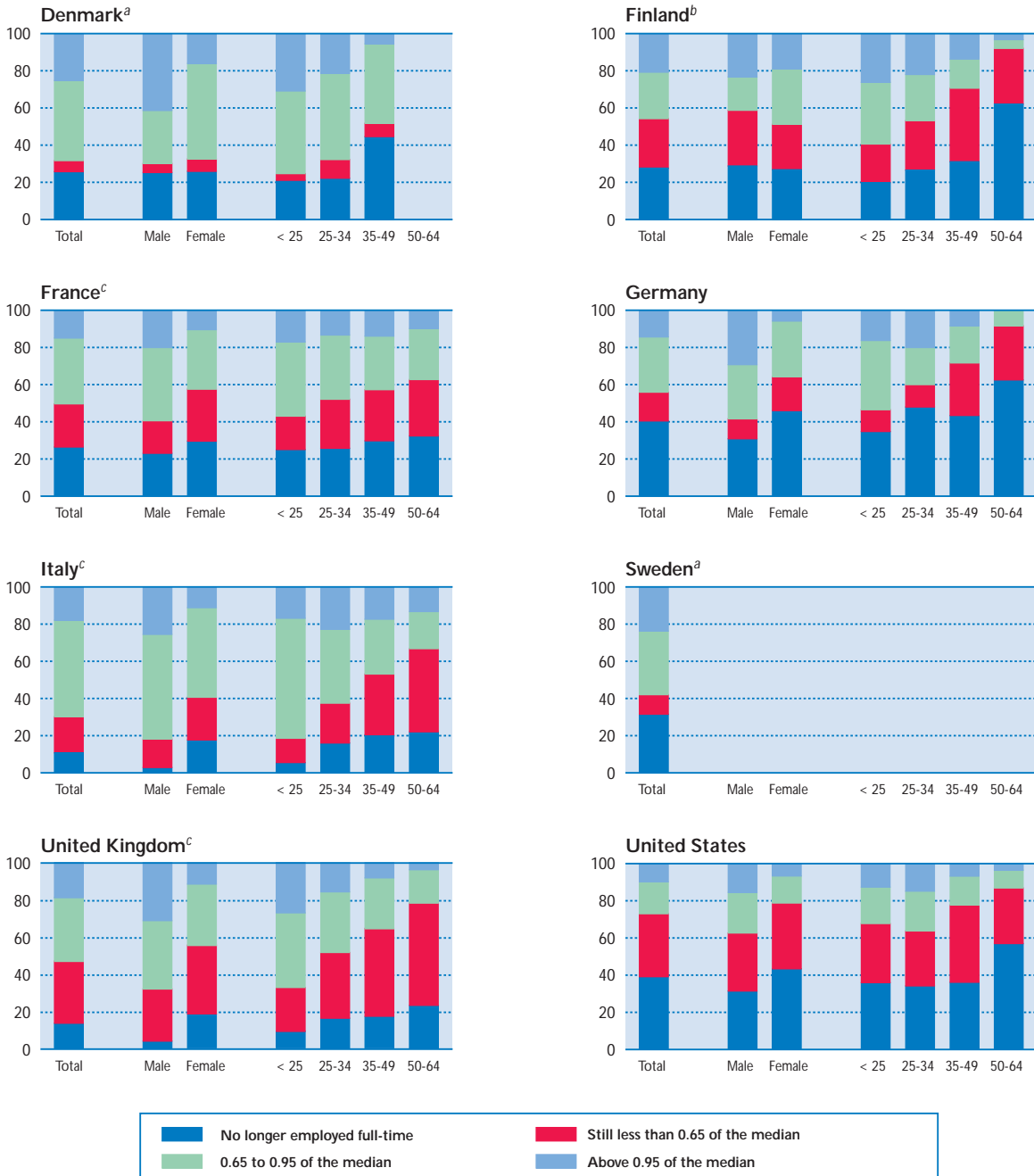


a) Calculations are for the years 1985-1990 and for all wage and salary workers.  
 b) Calculations exclude workers leaving wage and salary employment.  
 Sources: See Table 3.4.

Chart 3.7. (cont.)

Earnings mobility of low-paid workers

B. 1991 earnings status of full-time workers who were earning less than 0.65 times median earnings in 1986



a) Distributions not presented when fewer than thirty observations were available.  
 b) Calculations are for the years 1985-1990 and for all wage and salary workers.  
 c) Calculations exclude workers leaving wage and salary employment.  
 Sources: See Table 3.4.

countries where the dispersion of earnings has risen, the increase has either been modest or a relatively recent phenomenon and closely associated with substantial labour and product market reforms. A few countries, notably Canada, Finland and Germany, experienced declines in inequality over the past decade.

Despite the absence of a generalised trend, rising earnings inequality in some OECD countries has raised concerns that skill-biased technical change or growing trade with low-wage countries could result in a growing polarisation between workers with good jobs and those with bad jobs. These concerns have been reinforced by the fact that real wage growth over the past 10 years in countries such as Australia, New Zealand and the United States, has been either weak or negative for most jobs held by men in the bottom half of the earnings distribution. Not surprisingly, the incidence of low-paid employment tends to be highest in those countries where earnings inequality is greatest, accounting for one-quarter of all full-time workers in the United States, compared with 6 per cent or less in Finland and Sweden. In all countries, the incidence of low pay tends to be concentrated amongst low-skilled and inexperienced workers. Women and youth face a higher-than-average risk in all countries of being employed in low-paid jobs, particularly in the wholesale and retail trade and catering sectors. Nevertheless, there are some country differences in this pattern. Relative to the average for all workers, the risk of being in a low-paid job is particularly high for women in Belgium, Germany, Japan and Switzerland, for youth in Finland and for older workers in Japan and the United Kingdom.

Different institutional settings in terms of wage-setting practices and welfare provisions do appear to have an impact on the incidence of low pay. Typically, countries with high rates of collective bargaining coverage and trade unionisation tend to have a low incidence of low-paid employment. In countries where the legal minimum wage is high in relation to average earnings, the incidence of low pay tends to be low. There is also some evidence that generous welfare benefits create a binding wage floor. It is less clear whether these wage floors, which limit the number of low-paid jobs, also adversely affect the overall chances of finding employment for lower-skilled and inexperienced workers. The employment or unemployment rates of youth, women and unskilled workers do not appear to be significantly correlated across countries with the incidence of low-paid employment. This suggests that factors other than relative wages, such as the overall level of aggregate demand or the amount of training received, may be more important

for determining labour-market outcomes of these groups.

In many respects, earnings mobility is quite similar in the countries examined in detail, with approximately half of the workers moving one or more quintiles over a five-year period. The level of mobility over the period 1986-1991 suggests that approximately two-thirds of the inequality observed in a single year is permanent, or at least quite persistent, in all of these countries. It follows that international comparisons of cross-sectional inequality in earnings probably provide a reliable indication of relative levels of inequality measured over longer periods, although it would be desirable to verify this finding for longer time periods and more countries. There is considerable turnover in low-paid jobs in all of the countries. But, the share of low-paid workers in 1986 who were still low-paid in 1991 ranged from below 10 per cent in Denmark to approximately one-third in the United States. For many youths, these jobs appear to provide an initial toe-hold in the labour market which initiates a period of significant wage growth. Older workers in low-paid jobs are much less likely than youths to experience upward mobility and frequently move between them and nonemployment. Countries with higher cross-sectional inequality of earnings appear to have higher earnings volatility and lower upward mobility among low-paid workers, a pattern most evident in the United States.

A number of issues concerning earnings inequality and mobility are touched upon in this chapter, but merit further attention. Whether countries face a trade-off between "allowing" earnings inequality to rise or worsening the employment prospects of low-skilled workers is far from resolved. Earnings inequality has risen slightly or remained stable in a number of countries, but there is little evidence that the relatively low incidence of low-paid jobs in these countries is associated with lower employment rates for low-skilled and inexperienced workers. From a dynamic perspective, the situation is even more complex. Low-paid workers in any one year tend to have very diverse career and earnings prospects, with many moving up the earnings ladder, but also many leaving full-time employment altogether. The factors determining why some workers move into better jobs, but others do not, are not well understood. The relationship between trends in earnings inequality at any point in time and lifetime inequality of earnings needs to be developed further. Thus, the growth of earnings inequality and its causes and consequences are likely to remain topics of intense study and debate for some time to come.

Table 3.10. **Five-year earnings mobility of low-paid workers who were employed full-time both in 1986 and in 1991**

Percentages

	Low-paid defined as bottom quintile						Low-paid defined as below 0.65 median earnings					
	1991 earnings status of 1986 low-paid workers			1986 earnings status of 1991 low-paid workers			1991 earnings status of 1986 low-paid workers			1986 earnings status of 1991 low-paid workers		
	Still in bottom quintile	Moved to second quintile	Moved to quintiles 3-5	In bottom quintile	In second quintile	In quintiles 3-5	Still below 0.65 median	0.65 to 0.95 median	Above 0.95 median	Below 0.65 median	0.65 to 0.95 median	Above 0.95 median
<b>Denmark</b>												
<b>Total</b>	<b>43.8</b>	<b>27.9</b>	<b>28.3</b>	<b>54.0</b>	<b>24.7</b>	<b>21.3</b>	<b>8.1</b>	<b>58.1</b>	<b>33.9</b>	<b>22.0</b>	<b>53.2</b>	<b>24.8</b>
Sex: Male	27.2	25.8	47.5	33.3	30.6	36.1	6.5	38.1	55.4	20.5	31.8	47.7
Female	51.0	28.9	20.2	63.0	22.1	14.9	9.0	69.4	21.6	22.7	62.9	14.4
Age: Under 25	35.9	27.0	37.2	65.9	17.1	17.1	4.6	56.4	39.0	20.7	58.6	20.7
25-34	40.7	31.5	27.8	45.3	30.6	24.2	13.0	59.7	27.3	25.6	46.2	28.2
35-49	55.2	28.2	16.7	50.5	25.1	24.4	12.9	77.4	9.7	-	-	-
50-64	71.8	20.5	7.7	51.9	30.6	17.6	-	-	-	-	-	-
<b>Finland<sup>a</sup></b>												
<b>Total</b>	<b>39.1</b>	<b>27.3</b>	<b>33.6</b>	<b>43.0</b>	<b>23.9</b>	<b>33.0</b>	<b>36.9</b>	<b>34.6</b>	<b>28.5</b>	<b>37.0</b>	<b>32.4</b>	<b>29.7</b>
Sex: Male	41.3	19.9	38.9	45.6	16.8	37.7	42.1	25.3	32.6	43.2	22.9	33.9
Female	37.7	31.9	30.4	41.5	28.4	30.1	33.5	40.7	25.8	34.4	38.7	26.7
Age: Under 25	30.1	31.3	38.6	46.5	27.7	25.9	26.0	41.4	32.7	37.4	40.4	22.2
25-34	38.7	26.9	33.4	36.7	25.1	38.2	36.2	33.9	29.9	32.1	33.3	34.6
35-49	56.9	19.9	23.2	45.6	19.0	35.4	57.5	22.7	19.8	44.3	23.2	32.5
50-64	77.6	12.1	10.3	49.8	15.2	35.0	79.3	12.3	8.4	48.2	20.6	31.2
<b>France</b>												
<b>Total</b>	<b>49.8</b>	<b>28.9</b>	<b>21.4</b>	<b>50.6</b>	<b>30.6</b>	<b>18.8</b>	<b>31.6</b>	<b>48.2</b>	<b>20.2</b>	<b>38.4</b>	<b>43.4</b>	<b>18.2</b>
Sex: Male	39.6	32.3	28.1	40.9	33.0	26.1	22.7	51.2	26.1	31.8	41.5	26.8
Female	59.8	25.4	14.8	59.9	28.2	11.9	39.7	45.4	14.9	43.1	44.8	12.1
Age: Under 25	44.6	31.0	24.4	64.4	26.6	9.0	24.0	53.0	22.9	47.3	45.7	7.0
25-34	53.1	26.6	20.3	39.9	33.7	26.4	35.5	46.5	18.0	39.8	43.7	16.5
35-49	62.2	24.4	13.4	40.8	34.0	25.2	39.0	41.1	19.7	33.9	41.3	24.8
50-64	63.7	23.6	12.7	37.6	32.8	30.6	44.9	40.6	14.5	23.8	42.1	34.2
<b>Germany</b>												
<b>Total</b>	<b>45.1</b>	<b>27.6</b>	<b>27.3</b>	<b>52.8</b>	<b>36.1</b>	<b>11.2</b>	<b>26.0</b>	<b>50.0</b>	<b>24.0</b>	<b>51.7</b>	<b>42.9</b>	<b>5.4</b>
Sex: Male	20.8	30.8	48.5	36.0	41.3	22.7	15.5	42.3	42.3	45.2	38.1	16.7
Female	62.2	25.4	12.4	59.3	34.0	6.7	33.7	55.6	10.7	54.3	44.8	1.0
Age: Under 25	37.9	33.2	28.9	80.8	19.2	0.0	17.9	57.2	24.9	76.6	23.4	0.0
25-34	34.0	25.5	40.4	33.3	58.3	8.3	23.1	38.5	38.5	29.0	67.7	3.2
35-49	73.7	10.5	15.8	35.0	48.8	16.3	50.0	35.3	14.7	46.0	54.1	0.0
50-64	-	-	-	42.9	26.2	31.0	-	-	-	43.8	34.4	21.9
<b>Italy</b>												
<b>Total</b>	<b>47.7</b>	<b>27.5</b>	<b>24.9</b>	<b>52.8</b>	<b>26.6</b>	<b>20.6</b>	<b>22.9</b>	<b>57.2</b>	<b>19.9</b>	<b>44.5</b>	<b>40.5</b>	<b>15.0</b>
Sex: Male	38.1	30.7	31.2	46.7	24.9	28.4	17.3	56.8	25.2	42.0	36.1	21.9
Female	57.4	24.2	18.4	57.9	27.9	14.2	28.7	57.6	13.7	46.2	43.6	10.2
Age: Under 25	45.6	30.2	24.2	64.0	23.6	12.4	14.3	67.8	18.0	45.3	46.4	8.3
25-34	43.4	26.6	30.0	42.1	29.8	28.1	27.8	45.7	26.5	35.7	41.6	22.7
35-49	56.8	21.8	21.4	43.5	29.0	27.5	43.3	35.5	21.2	51.2	31.5	17.3
50-64	64.0	16.5	19.6	48.5	26.3	25.2	58.9	25.2	15.9	47.1	38.6	14.3

Table 3.10. **Five-year earnings mobility of low-paid workers who were employed full-time both in 1986 and in 1991** (cont.)

Percentages

	Low-paid defined as bottom quintile						Low-paid defined as below 0.65 median earnings					
	1991 earnings status of 1986 low-paid workers			1986 earnings status of 1991 low-paid workers			1991 earnings status of 1986 low-paid workers			1986 earnings status of 1991 low-paid workers		
	Still in bottom quintile	Moved to second quintile	Moved to quintiles 3-5	In bottom quintile	In second quintile	In quintiles 3-5	Still below 0.65 median	0.65 to 0.95 median	Above 0.95 median	Below 0.65 median	0.65 to 0.95 median	Above 0.95 median
<b>Sweden</b>												
<b>Total</b>	<b>49.1</b>	<b>25.5</b>	<b>25.5</b>	<b>57.5</b>	<b>23.4</b>	<b>19.2</b>	-	-	-	-	-	-
Sex: Male	26.3	29.0	44.7	31.3	28.1	40.6	-	-	-	-	-	-
Female	61.1	23.6	15.3	71.0	21.0	8.1	-	-	-	-	-	-
Age: Under 25	53.3	23.3	23.3	-	-	-	-	-	-	-	-	-
25-34	-	-	-	-	-	-	-	-	-	-	-	-
35-49	47.4	26.3	26.3	58.7	23.9	17.4	-	-	-	-	-	-
50-64	-	-	-	-	-	-	-	-	-	-	-	-
<b>United Kingdom</b>												
<b>Total</b>	<b>41.1</b>	<b>31.9</b>	<b>27.1</b>	<b>64.0</b>	<b>21.3</b>	<b>14.7</b>	<b>39.0</b>	<b>39.8</b>	<b>21.1</b>	<b>61.2</b>	<b>27.2</b>	<b>11.6</b>
Sex: Male	32.0	28.6	39.4	45.8	27.3	26.9	29.2	38.7	32.1	42.8	35.3	21.9
Female	47.4	34.1	18.5	78.6	16.5	4.9	45.6	40.7	13.7	75.3	21.1	3.7
Age: Under 25	28.2	34.8	37.1	82.1	12.6	5.4	26.0	44.8	29.2	79.0	16.6	4.4
25-34	42.9	33.2	23.9	55.0	25.4	19.6	42.4	39.6	18.0	52.1	32.2	15.7
35-49	58.0	28.4	13.6	58.2	24.3	17.5	57.3	33.8	8.9	55.3	31.3	13.4
50-64	73.8	20.9	5.3	55.3	25.5	19.3	71.9	24.3	3.8	53.2	31.6	15.2
<b>United States</b>												
<b>Total</b>	<b>52.2</b>	<b>28.5</b>	<b>19.3</b>	<b>57.1</b>	<b>20.0</b>	<b>23.0</b>	<b>55.8</b>	<b>28.2</b>	<b>16.0</b>	<b>65.1</b>	<b>16.0</b>	<b>18.9</b>
Sex: Male	43.6	25.8	30.6	42.9	22.6	34.5	45.4	31.9	22.6	49.3	20.4	30.4
Female	57.7	30.2	12.1	67.9	17.9	14.2	62.5	25.8	11.7	76.7	12.8	10.5
Age: Under 25	42.0	30.7	27.3	84.3	10.2	5.5	49.7	30.7	19.6	89.2	7.1	3.7
25-34	45.5	30.5	24.0	68.2	24.8	7.0	45.0	32.5	22.5	72.1	20.2	7.8
35-49	58.9	28.8	12.3	47.2	19.6	33.2	65.2	24.5	10.3	57.5	14.7	27.9
50-64	73.0	17.3	9.8	48.5	21.1	30.4	69.6	22.4	8.0	56.3	20.3	23.4

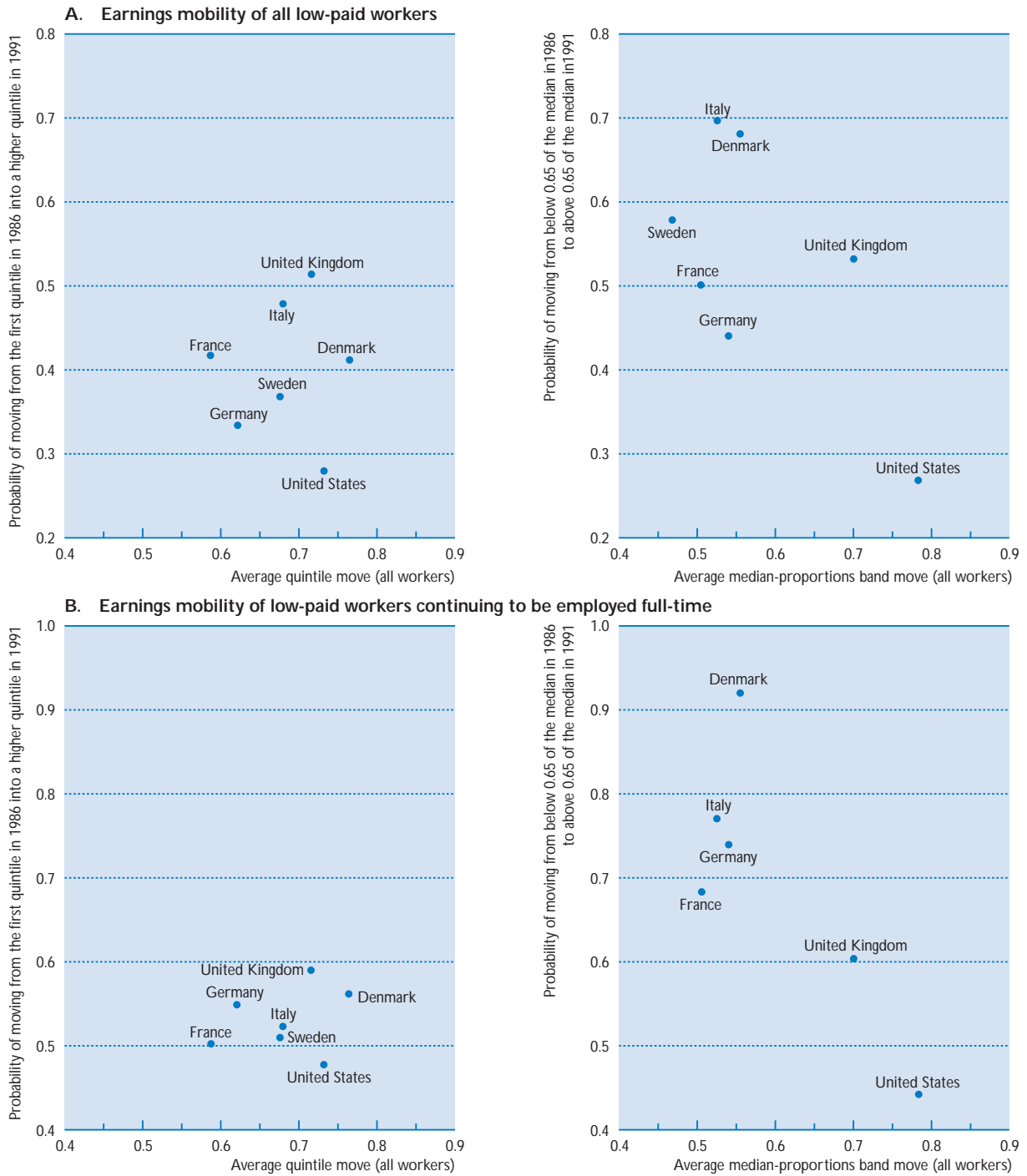
- Value not reported because the data refer to fewer than 30 observations.

a) Five-year earnings mobility is calculated for the years 1985-1990 and for all wage and salary workers.

Sources: See Table 3.4.

Chart 3.8.

Overall earnings mobility and the upward mobility of full-time, low-paid workers, 1986-1991



Sources: See Table 3.4.

## Notes

1. In this chapter, the earnings data for Germany refer to western Germany only.
2. While the dispersion of weekly earnings for all full-time workers showed a small rise between 1984 to 1994, there was no rise in the dispersion of hourly earnings for all workers. A careful and detailed analysis of the distribution of earnings in New Zealand between 1984 to 1994 is provided by Dixon (1996).
3. The impact of the business cycle on the *overall* dispersion of earnings is uncertain. While lay-offs during a recession may result in some compression in the lower half of the earnings distribution for those remaining in work, this may be partly offset by the greater weight given to the dispersion of earnings in the top half of the distribution.
4. To test somewhat more rigorously whether earnings inequality does have a cyclical element, a number of simple regressions were carried out separately for men and women for each of the countries shown in Chart 3.2 (except for Sweden). The D5/D1 ratio was separately regressed against two measures of the business cycle – the unemployment rate and the ratio of actual to trend GDP (as captured by the Hodrick-Prescott filter) – and a time trend. For Australia, France and the United Kingdom (output gap measure only), there is some evidence that cyclical fluctuations do have a small positive, rather than negative, impact on earnings inequality for men, but no evidence of a similar effect for women.
5. Europe (low earnings inequality, rising unemployment) and the United States (growing earnings inequality, stable unemployment) are often compared in terms of such a trade-off. But this is a complex issue, and recent research has not confirmed the existence of a consistent relationship or trade-off between relative wages and employment by skill level [Card *et al.* (1996)]. The relationship between the earnings dispersion and income distribution is also complex. For example, it is possible that an increase in earnings inequality could be associated with an increase in employment, especially of unskilled workers and, thus, with greater equality in the income distribution.
6. In some countries, the incidence of low-paid employment is measured with respect to year-round, full-time workers rather than all full-time workers *per se* (see Annex 3.B).
7. There has been considerable discussion about the factors behind the earnings gap between men and women. Gender differences in average job tenure and experience as well as in the composition of employment by industry and occupation partly account for women receiving lower earnings, on average, than men. Nevertheless, a substantial part of the gap usually remains unexplained even after controlling for these and many other factors [Blau and Kahn (1995)].
8. If part-time employment were included in the analysis, the proportion of women in low-paid jobs could well be even higher, given their predominant share of part-time work in most OECD countries.
9. In Table 3.2, the age groups for Italy (under 31, 31 to 50, 51 and over) are not the same as for the other countries which may explain the relatively low proportion of all low-paid workers in the prime-age group.
10. Equivalently, the concentration measure can also be obtained by dividing the low-paid employment share of each sub-group of workers by its overall employment share.
11. Blau and Kahn (1996) find that it is greater wage inequality (*i.e.* larger returns to skill) in the United States, and not a different distribution of skills, which explains the larger earnings dispersion in the United States than in several other industrialised countries.
12. It could well be that, in terms of similar aptitudes, workers in France with a “Bac” or an equivalent qualification should be compared with workers in the United States who have received some college education. However, even in this case, the incidence of low pay for these workers is still 8 percentage points higher in the United States than in France.
13. The minimum wage in the United States in 1994 was \$4.25 per hour which, if multiplied by 40 hours per week and by 52 weeks in the year, corresponds to 34 per cent of median annual earnings of full-year, full-time workers (estimated as being around \$26 000).
14. The countries included in the study of Blau and Kahn (1996) are: Australia, Austria, Great Britain, Hungary, Italy, Norway, Sweden, Switzerland, the United States and western Germany. However, only Australia, Austria, Great Britain, Norway, the United States and western Germany are included in their comparison of employment/population ratios by skill.
15. The secretariat is grateful to the following consultants who provided the longitudinal earnings data underlying this section: Niels Westergård-Nielsen and Paul Bingley (Centre for Labour Market and Social Research, Aarhus Business School, Danish data); Tor Eriksson and Lajos Parkatti (Centre for Labour Market and Social Research, Aarhus Business School, Finnish data); Yves Guillotin and Alain Bigard (Groupe d'Analyse des Itinéraires et Niveaux Salariaux, Université de Maine, French data); Viktor Steiner (Zentrum für Europäische Wirtschaftsforschung, German data); Claudio Malpede, Lia Pacelli and Riccardo Revelli (Ricerche e Progetti, Italian data); Anders Klevmarken and Sten Hansen

- (University of Uppsala, Swedish data); Peter Elias (Warwick University, United Kingdom data); and David Fasenfest (Purdue University, United States data).
16. Cross-sectional data for two successive years might indicate that 15 per cent of the work force earned less than two-thirds of the median weekly wage in both years. In the absence of further information, it is impossible to know if the same individuals held low-paid jobs in both years or, if different, equally-sized groups of workers temporarily received low pay. A panel data set that follows the same workers over the two years is required to measure the extent of mobility into and out of low-wage employment.
  17. Social security contributions are not included in the French and Italian earnings data.
  18. Perfect mobility prevails if a worker's position in the distribution in one year has no influence over his or her position in subsequent years. For example, a worker beginning in the first quintile has a 20 per cent probability of being in each of the five quintiles in a subsequent year, the same as a worker beginning in any of the other four quintiles.
  19. Pearson correlation coefficients can be quite sensitive to extreme observations. Spearman rank correlation coefficients are more robust and, hence, provide a test of the extent to which measurement error biases the Pearson correlation coefficient. The two sets of values turn out to be quite similar, except that the very low Pearson correlations for American women in Table 3.6 correspond to Spearman correlations that are much higher and consistent with those obtained for the other countries.
  20. All of the results presented for earnings quintiles are qualitatively similar to the results that were obtained for decile-level transition matrices. Erling Barth (Institute for Social Research, Oslo) provided the Secretariat with decile transition data for Norway which – while not strictly comparable – indicate a similar level of mobility. Fifty-two per cent of Norwegian workers moved one or more quintiles in the earnings distribution between 1989 and 1993.
  21. Earnings bands, expressed in proportions of the median, such as workers earning between 0.65 and 0.95 median earnings, are not strictly of equal width across countries because median wages differ. However, ranges defined in terms of multiples or proportions of the median do provide useful indications of absolute differences in the levels of earnings.
  22. The lower age limit was slightly higher in several of the countries. The entrance and exit rates discussed in the next two sentences of the text only consider the five countries with data on the entire working-age cohort, regardless of their employment status.
  23. Econometric techniques have been developed for imputing potential earnings, but they require strong assumptions whose validity can not easily be verified. Additional assumptions would be required to characterise unobserved changes in potential earnings. For these reasons, imputations were not made for this study.
  24. The figures in Table 3.6 assess men and women in terms of the overall distribution of earnings. It is also possible to examine gender mobility in terms of quintiles defined for that gender alone. Table 3.8 presents such data. Comparisons of mobility levels for men and women are not affected.
  25. Consistent with the analysis in Section C, the incidence of working at a job paying less than 0.65 median earnings differs significantly across countries, ranging from a low of 5 per cent for Sweden to a high of 28 per cent for the United States. Youth and women more often hold such jobs than do other workers.
  26. Although the numbers differ somewhat, qualitatively similar patterns hold for the other countries.

## ANNEX 3.A

## Definitions and sources of earnings data for Table 3.1, Charts 3.1, 3.2 and 3.3.

For some countries, information is also provided on recent trends in earnings inequality using alternative sources of earnings data.

**Australia**

*Definition:* Gross weekly earnings of all full-time employees in their main job.

*Source:* *Weekly Earnings of Employees (Distribution)*, Australia, ABS Catalogue No. 6310.0, various editions (now incorporated as an annual supplement to *The Labour Force, Australia*, ABS Catalogue No. 6203.0). The data are obtained as an annual supplement (usually in August) to the monthly labour force survey and refer to the most recent pay period prior to the interview. The published data on the distribution of employees by earnings class have been interpolated by the OECD Secretariat to obtain the decile earnings limits.

*Alternative data:* In Chapter 5 of the 1993 *Employment Outlook*, the data on earnings inequality was obtained from a sample survey of employers, carried out in May of each year (see *Distribution and Composition of Employee Earnings and Hours, Australia*, ABS Catalogue No. 6306.0). The data referred to gross weekly earnings of full-time employees, excluding managerial workers as well as other workers not covered by the survey (e.g. the armed forces, workers in agriculture, forestry and fishing, domestic servants, embassy employees, etc.). However, while the earnings estimates from the May employer survey are probably more precise than those from the August household survey, they suffer from a number of drawbacks for examining trends over a long period of time. Firstly, no survey was carried out in either 1982 or 1984 and, secondly, the results of the survey for 1983 onwards are not strictly comparable with those for earlier years because of a change in the sampling frame. Data updating Table 5.2 of the 1993 *Employment Outlook* according to the May survey (for full-time, non-managerial employees) are as follows:

May data, excluding managerial workers		1989	1990	1991	1992	1993	1994	1995
Males	D9/D5	1.54	1.56	1.59	1.57	1.56	1.58	1.61
	D5/D1	1.45	1.44	1.44	1.41	1.45	1.45	1.48
Females	D9/D5	1.48	1.47	1.49	1.52	1.52	1.51	1.51
	D5/D1	1.34	1.34	1.33	1.34	1.34	1.35	1.36

**Austria**

*Definition:* Gross daily earnings, standardized to a monthly basis, taking into account the recorded number of days of insurance contributions, referring to wage earners and salaried employees but excluding most civil servants and all apprentices. The figures include special payments such as holiday and Christmas remunerations. Earnings above the ceiling for social insurance contributions are recorded at the level of that ceiling, precluding the calculation of D9 for certain years.

*Source:* The data and decile calculations were supplied by the Austrian Central Statistical Office based on social security data.

*Alternative data:* The Austrian Statistical Yearbook (*Statistisches Jahrbuche*) provides the following data for 1989 onwards based on the same source as above but including civil servants:

Including civil servants		1989	1990	1991	1992	1993	1994
Males	D9/D5	..	..	..	..	..	..
	D8/D5	1.43	1.43	1.42	1.43	1.43	1.44
	D5/D1	1.59	1.61	1.62	1.62	1.61	1.61
Females	D9/D5	1.81	1.81	1.83	1.84	1.85	1.86
	D8/D5	1.47	1.47	1.48	1.48	1.48	1.49
	D5/D1	1.96	1.97	2.00	2.01	2.03	2.03
Total	D9/D5	1.79	1.77	1.75	1.76	1.77	1.80
	D8/D5	1.46	1.47	1.46	1.47	1.46	1.47
	D5/D1	1.92	1.92	1.96	1.96	1.96	1.97

The Austrian Central Statistical Office has also provided the following data on the distribution of *net* monthly earnings – standardised to a 40 hour working-week – based on the *Mikrozensus* (household survey):

Mikrozensus		1981	1983	1985	1987	1989	1991	1993
Males	D9/D5	1.59	1.54	1.61	1.61	1.66	1.66	1.75
	D5/D1	1.44	1.41	1.47	1.43	1.53	1.49	1.52
Females	D9/D5	1.58	1.55	1.59	1.56	1.60	1.65	1.71
	D5/D1	1.52	1.49	1.63	1.51	1.61	1.53	1.59
Total	D9/D5	1.61	1.57	1.62	1.61	1.66	1.66	1.75
	D5/D1	1.56	1.51	1.60	1.50	1.62	1.56	1.60

## Belgium

*Definition:* Gross daily earnings over a three-month period (between 1983 and 1988) or over a year (1989 onwards) of full-time workers. Earnings above the ceiling for social insurance contributions are recorded at the level of that ceiling, precluding the calculation of D9 for certain years.

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

## Canada

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

*Source:* The data were supplied by the Analytical Studies Branch, Statistics Canada, based on the *Survey of Consumer Finances* after making special adjustments to improve coverage and comparability between the years shown.

## Czech Republic

*Definition:* Earnings (including self-employed income), gross of employee taxes but net of employer taxes, of full-time workers.

*Source:* As published in Večerník (1995) based on data from the Microcensuses of 1989 and 1993.

## Denmark

*Definition:* Hourly gross earnings data. Persons with wage rates lower than 80 per cent of the minimum wage are excluded.

*Source:* The data are derived from annual wage-income (including all types of taxable wage-income) recorded in tax registers, divided by actual hours worked, as recorded in a supplementary pension scheme register, and were supplied by Professor Niels Westergård-Nielsen, Centre for Labour Economics, Aarhus Business School, as used in the NAUT project (The Nordic Labour Market in the 1990s).

## Finland

*Definition:* Gross annual earnings of full-year, full-time workers.

*Source:* The data and decile calculations were provided by Statistics Finland based on the *Income Distribution Survey*.

## France

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

*Source:* The data are based on salary records of enterprises as reported in *Déclarations Annuelles des Données Sociales* (DADS) and were supplied by the Institut national de la statistique et des études économiques (INSEE), Paris.

## Germany (western Germany only)

*Definition:* Gross monthly earnings of full-time, full-year workers including  $\frac{1}{12}$  of supplementary payments comprising 13th month pay, 14th month pay, holiday allowances and Christmas allowances.

*Source:* The data and decile calculations were provided by Victor Steiner, Zentrum für Europäische Wirtschaftsforschung, Mannheim, based on the *German Socio-Economic Panel*.

## Italy

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

*Source:* The data and decile calculations were provided by Andrea Brandolini and Paolo Sestito of the Bank of Italy based on the Bank of Italy's *Survey of Household Income and Wealth*. See Brandolini and Sestito (1996) for a detailed description of this data and trends in earnings dispersion in Italy over the period 1977 to 1993.

*Alternative data:* For 1986 onwards, the following data on the distribution of net monthly earnings of full-time workers, i.e. excluding part-time workers, are also available based on the same source:

Full-time workers		1986	1987	1989	1991	1993
Males	D9/D5	1.52	1.56	1.56	1.56	1.65
	D5/D1	1.45	1.42	1.39	1.43	1.53
Females	D9/D5	1.33	1.36	1.38	1.39	1.40
	D5/D1	1.55	1.46	1.33	1.50	1.67
Total	D9/D5	1.43	1.60	1.44	1.51	1.57
	D5/D1	1.56	1.44	1.50	1.50	1.61

## Japan

*Definition:* Monthly scheduled earnings of regular workers (excluding part-time workers), aged 18 and over, as reported by enterprises in the *Basic Survey on Wage Structure*. The data exclude the general government sector, public enterprises, agriculture, forestry and fisheries, private household services, employees of foreign governments and all establishments with less than 10 regular workers.

*Source:* The decile earnings limits are Secretariat calculations based on data published in the *Yearbook of Labour Statistics* on the distribution of employees by earnings class. However, they correspond exactly to the decile limits reported in the *Yearbook* (i.e. in both cases, a simple linear interpolation of the grouped data has been carried out).

*Alternative data:* The *Basic Survey* also covers public enterprises and establishments with 5 to 9 regular workers, but this is not reported in the *Yearbook*. Inclusion of these groups would only change the decile earnings slightly, as is shown below for all persons, based on calculations from the report on the *Basic Survey* for 1994:

	D9/D5	D5/D1
Treatment of public enterprises and small establishments:		
Excluded	1.85	1.63
Included	1.84	1.64

## Netherlands

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

*Source:* The decile earnings limits are Secretariat calculations based on *Survey of Earnings* data on the distribution of employees by earnings class as published in *Sociaal-Economische Maandstatistiek*, Netherlands Central Bureau of Statistics, various issues.

## New Zealand

*Definition:* Usual gross weekly earnings of full-time employees.

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

## Norway

*Definition:* Hourly wages, estimated as hourly/weekly or monthly wages divided by the corresponding number of working hours. Observations of less than 25 kroner per hour and greater than 1 000 kroner per hour (both in 1991 kroner) are excluded. Age limits are 19 to 55 years.

*Source:* The data and decile calculations were provided by Erling Barth and Halvor Mehlum, Institute for Social Research, Oslo, based on the Norwegian *Level of Living Surveys*, 1980, 1983, 1987 and 1991.

*Alternative data:* The following, roughly, comparable data for 1989 and 1993 from the *Norwegian Survey of Organisations and Employees* (NSOE) (excluding firms with

less than 2 employees) were provided by Erling Barth and Marius Kongsgården, Institute for Social Research, Oslo:

NSOE		1989	1993
Males	D9/D5	1.49	1.51
	D5/D1	1.34	1.37
Females	D9/D5	1.38	1.35
	D5/D1	1.28	1.29
Total	D9/D5	1.50	1.49
	D5/D1	1.34	1.34

## Portugal

*Definition:* Weekly earnings for full-time workers, excluding the agricultural sector and public administration.

*Source:* Provisional estimates provided by the Departamento de Estudos e Planeamento, Ministério para a Qualificação e Emprego, based on a sample of the *Quadros de Pessoal*, personnel records of employers with at least one employee.

## Sweden

*Definition:* Gross annual earnings of full-year, full-time workers aged 23 and over.

*Source:* The data and decile calculations were provided by Statistics Sweden based on the *Income Distribution Survey*.

## Switzerland

*Definition:* Gross annual earnings of full-year equivalent, full-time workers as reported in the annual Swiss labour force survey, *Enquête Suisse de la Population Active* (EPSA).

*Source:* The data and decile calculations were provided by the Swiss Office fédéral de la statistique.

## United Kingdom (Great Britain only)

*Definition:* Gross weekly earnings of full-time employees paid at adult rates, whose pay for the survey week was not affected by absence. Data prior to 1983 refer to men aged 21 and over and to women aged 18 and over, rather than to all persons on adult rates, but have been adjusted to take into account this change in coverage.

*Source:* Establishment data as reported in the (former) UK Department of Employment, *New Earnings Survey*.

*Alternative data:* In Table 5.2 of the 1993 *Employment Outlook*, the decile measures were based on gross hourly earnings of persons paid on adult rates, whose pay for the survey week was not affected by absence. An update of

these series, also reported in the *New Earnings Survey*, is given below:

Hourly earnings		1991	1992	1993	1994	1995
Males	D9/D5	1.99	2.01	2.01	2.02	2.05
	D5/D1	1.69	1.69	1.72	1.71	1.76
Females	D9/D5	1.93	1.96	1.93	1.93	1.97
	D5/D1	1.61	1.62	1.65	1.64	1.69
Total	D9/D5	1.98	2.01	2.01	2.01	2.03
	D5/D1	1.69	1.69	1.71	1.70	1.75

### United States

*Definition:* Gross weekly earnings of full-time workers aged 25 and over.

*Source:* All data provided by the US Bureau of Labor Statistics based on the results of the *Current Population Survey*.

*Alternative data:* In Table 5.2 of the 1993 *Employment Outlook*, the decile measures were based on *hourly earn-*

*ings* derived from information on annual earnings and annual hours worked in the March supplement to the *Current Population Survey*. An update of these series is given below:

Hourly earnings		1989	1990	1991	1992
Males	D9/D5	2.14	2.18	2.17	2.17
	D5/D1	2.63	2.56	2.58	2.56
Females	D9/D5	2.15	2.14	2.16	2.18
	D5/D1	2.28	2.29	2.22	2.23
Total	D9/D5	2.22	2.23	2.22	2.25
	D5/D1	2.50	2.39	2.42	2.40

These data were supplied by Dr. Lynn A. Karoly, of the Rand Corporation, as a supplement to Table B.2 of her article, "The Trend in Inequality Among Families, Individuals and Workers in the United States: A Twenty-Five Year Perspective", in Danziger, S. and Gottschalk, P. (eds.), *Uneven Tides: Rising Inequality in America*, Russell Sage Foundation, New York, 1993, pp. 19-97.

## ANNEX 3.B

## Earnings definitions and sources of low-pay data for Tables 3.2 and 3.3 and Chart 3.4.

For some countries, a comparison is also made with alternative sources. For all countries, the reference year and the value (in local currency) of median earnings, used to define the cut-off for low pay, are given. Low pay is defined as less than two-thirds of median earnings for all full-time employees. Low-paid employment refers to full-time employees on low pay.

### Australia

*Definition:* Gross weekly earnings of full-time employees in their main job.

*Source:* *The Labour Force, Australia*, ABS Catalogue No. 6203.0, December 1995 (data for earlier years were published in *Weekly Earnings of Employees (Distribution), Australia*, ABS Catalogue No. 6310.0) and unpublished tabulations provided by the Australian Bureau of Statistics. The data are obtained as an annual supplement (usually in August) to the monthly labour force survey and refer to the most recent pay period prior to the interview. The data on the distribution of employees by earnings class have been interpolated by the OECD Secretariat to obtain the number of low-paid employees.

*Year and value of median earnings:* August 1995; SA 556 per week.

*Alternative data:* A sample survey of employers is carried out for May of each year from which data on low-paid employment can be derived (see *Distribution and Composition of Employee Earnings and Hours, Australia*, ABS Catalogue No. 6306). When calculated using this source, the incidence of low-paid employment in 1995 was around 9 per cent for all full-time employees on *adult* rates, *i.e.* almost 5 percentage points lower than the household (August) survey estimate in Table 3.2. A rough adjustment to include full-time employees on junior rates raises the incidence of low-paid employment by just over 2 percentage points. The exclusion of some groups of employees from the May survey, such as agricultural and domestic staff, may partly explain the remaining 2.5 percentage point difference between the two sources. It is also possible that there may be some under-reporting of low-paid jobs in the May survey. Part of the difference may also be due to reporting errors which are likely to be more substantial in the August survey than in the May survey.

### Austria

*Definition:* Net monthly earnings – standardised to a 40-hour working-week – for all employees

*Source:* Results of the Austrian *Mikrozensus* of households for 1993. All data were supplied by the Austrian Central Statistical Office.

*Year and value of median earnings:* June 1993; Sch 13 600 per month (net). Gross median earnings according to social security data (see Annex 3.A) were Sch 22 390 per month in 1994.

### Belgium

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

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

*Year and value of median earnings:* 1993; BF 2 624 per day.

### Canada

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

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

*Year and value of median earnings:* 1994; C\$ 32 690 per year.

### Finland

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

*Source:* For all tables and charts, the data were supplied by Statistics Finland based on the preliminary 1994 results of the *Income Distribution Survey*.

*Year and value of median earnings:* 1994; Mk 119 200 per year.

## France

*Definition:* Net earnings of full-time employees in month prior to the survey, adjusted to include annual bonuses.

*Source:* Data supplied by the Institut national de la statistique et des études économiques (INSEE) based on the March 1995 results of the labour force survey, *Enquête sur l'emploi*.

*Year and value of median earnings:* March 1995; FF 8 000 per month (net). Gross median earnings according to DADS data (see Annex 3.A) were FF 10 530 per month in 1994.

*Alternative data:* The incidence of low-paid employment can also be obtained from the DADS (enterprise/establishment data) source (see Annex 3.A). An interpolation of published tabulations of employment by earnings class (*Les Salaires dans l'industrie, le commerce et les services en 1992*, INSEE-Résultats, Emploi-Revenus, No. 97, November 1995) yields an estimate for the incidence of low-paid employment in 1992 of just under 15 per cent, i.e. somewhat higher than the *Enquête sur l'emploi* estimate of 13.3 per cent for 1995. A rough adjustment to the DADS data to include general government employees (based on earnings distribution data in "Les salaires des agents de l'État en 1994", *INSEE Première*, No. 409, November 1995) raises the incidence of low-paid employment by about one-half of a percentage point. Some of the difference between the two data sources may be due to differences in the population covered. In the *Enquête sur l'emploi*, earnings data is collected only for those persons who are counted as employed at the time of the survey, whereas the DADS data source potentially covers earnings of all persons who were employed at some point during the year. Part of the difference may also simply be due to reporting errors which are likely to be more substantial in the *Enquête sur l'emploi* than in the DADS source.

## Germany (western Germany only)

*Definition:* Gross monthly earnings (not including annual bonuses) of full-time workers (including apprentices).

*Source:* Data provided by Victor Steiner, Zentrum für Europäische Wirtschaftsforschung, Mannheim, based on the *German Socio-Economic Panel*.

*Year and value of median earnings:* 1994; DM 4 000 per month.

## Italy

*Definition:* Monthly net earnings (obtained by dividing annual earnings by the number of months worked) of full-time wage and salary earners in their main job.

*Source:* Data provided by Andrea Brandolini and Paolo Sestito of the Bank of Italy based on the Bank of Italy's *Survey of Household Income and Wealth*. See Brandolini and Sestito (1996) for a detailed description of

this data and trends in the incidence of low-pay in Italy over the period 1977 to 1993.

*Year and value of median earnings:* 1993; L 1 808 000 per month (net).

## Japan

*Definition:* Monthly scheduled earnings of regular employees (excluding part-time employees) aged 18 and over. The survey excludes establishments with less than 5 regular employees. Agriculture, forestry and fisheries, private household services, employees of foreign governments and the general government sector are also excluded from the scope of the survey.

*Source:* *Basic Survey on Wage Structure 1994*, Policy Planning and Research Department, Ministry of Labour, Japan. The published (establishment) data on the distribution of employees by earnings class have been interpolated by the Secretariat to obtain the number of low-paid employees.

*Year and value of median earnings:* June 1994; scheduled monthly earnings: ¥ 253 800 per month (or an estimated ¥ 353 200 including overtime earnings and one-twelfth of annual "special" earnings).

## Netherlands

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

*Source:* *Survey of Earnings*, Netherlands Central Bureau of Statistics, as reported in *Sociaal-Economische Maandstatistiek*, Netherlands Central Bureau of Statistics, December 1995. The published (establishment) data on the distribution of employees by earnings class have been interpolated by the Secretariat to obtain the number of low-paid employees.

*Year and value of median earnings:* 1994; Gld 51 500 per year.

## New Zealand

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

*Source:* Data provided by Statistics New Zealand based on the *Household Economic Survey*.

*Year and value of median earnings:* 1994/95; NZ\$ 26 700 per year.

## Sweden

*Definition:* Gross annual earnings of full-year, full-time employees aged 18 and over.

*Source:* Data supplied by Statistics Sweden based on the 1993 results of the *Income Distribution Survey*.

*Year and value of median earnings:* 1993; SKr 185 300 per year.

### **Switzerland**

*Definition:* Gross annual earnings of full-time, full-year equivalent employees.

*Source:* Data provided by the Swiss Office fédéral de la statistique based on the results for the second quarter of 1995 of the annual Swiss labour force survey, *Enquête Suisse de la Population Active* (EPSA).

*Year and value of median earnings:* 1995; SF 66 150 per year.

### **United Kingdom (Great Britain only)**

*Definition:* Gross weekly earnings of full-time employees paid at adult rates, whose pay for the survey week was not affected by absence.

*Source:* Data provided by the UK Central Statistical Office based on the April 1995 results of the *New Earnings Survey*.

*Year and value of median earnings:* April 1995; £290 per week.

### **United States**

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

*Source:* Data provided by US Bureau of the Census based on the *Current Population Survey*.

*Year and value of median earnings:* 1994; US\$26 000 per year.

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