Unemployment and inequality

ANDREW GLYN

Corpus Christi College, Oxford

I. Introduction

Labour market trends in the advanced countries were subjected to an unprecedented barrage of analytical scrutiny and policy prescription in the 1990s (Commission of the EC, 1993; OECD, 1994; ILO, 1995). Figure 10.1 shows why. Unemployment fell only modestly in the expansion of the later 1980s and its subsequent further rise involved several countries, notably Sweden, finally losing their low unemployment status. The 1990s brought a few employment 'miracles'—Ireland and the Netherlands for example—and both the USA and the UK achieved lower unemployment than had been believed to be consistent with restraining inflation. Overall, however, unemployment has remained stubbornly high and increasing attention has been devoted to broader aspects of labour market inequality—such as withdrawal from the labour force (economic 'inactivity') and earnings dispersion.

Section II summarizes the main underlying trends in the OECD economies to provide the context in which the rise in unemployment has occurred. Section III documents the main features of labour market inequality, concentrating on the deteriorating position of the least qualified; the fourth section outlines alternative explanations. Section V considers the extent to which the declining position of the least qualified has contributed to overall joblessness. The conclusion outlines the main lines of policy response.
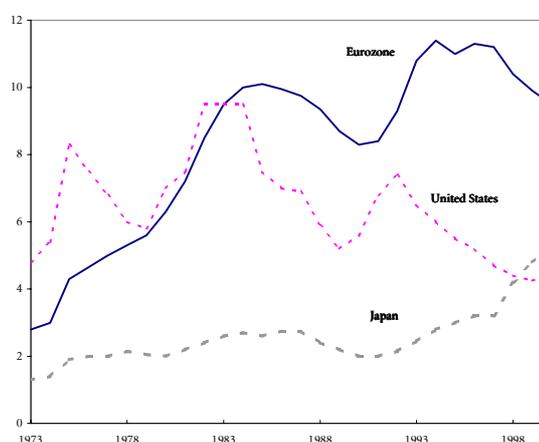
Figure 10.1. Unemployment (in percentage of labour force)

II. Macroeconomic and structural trends

1. Jobs and growth

The combination of stubbornly high unemployment and the spread of computer-based technology has led to a belief that economic growth no longer requires additional jobs to the extent characteristic of the 'golden age' of growth in the 1950s and 1960s. This is very misleading. Despite the halving of output growth in the OECD after 1973, numbers at work actually rose faster until the 1990s than before 1973 (Table 10.1). Since average hours of work seem to have been declining *less* rapidly in Europe than before 1973, there has been no slow-down in the amount of work performed. This means that the slow-down in output growth has

Table 10.1. Employment Growth, 1960–97 (average annual percentage changes)

	EU	USA	Japan
1960-73	0.3	2.0	1.3
1973-90	0.5	1.9	1.0
1990-97	0.1	1.3	0.3

Source: OECD Historical Statistics, Economic Outlook.

been reflected mainly in slower growth of productivity rather than of employment. Labour productivity in the business sector grew 1.7 per cent per year in the OECD after 1973 compared to 4.6 per cent per year from 1960 to 1973. It is quite wrong, therefore, to blame technology for 'destroying jobs' at an unprecedented rate; if this had been the case labour productivity would have been rising faster than before.

In the short term, recessions bring falling employment, while expansion in output still brings faster job creation. In the UK for example, the period 1985–8 saw output rising by 4.7 per cent per year and employment grew by 2 per cent per year; from 1990 to 1992 output fell at 1.4 per cent per year and employment declined by 3 per cent per year. The impact of output on jobs applies in the medium term as well. A cross-section analysis of the (trough-to-trough) period 1982–93 found that for every 1 per cent per year that a country increased its output growth (as compared to the previous cycle), there was a nearly 1 per cent boost to employment growth (Boltho and Glyn, 1995, table 3).

2. The pattern of jobs

Throughout the OECD the share of industrial employment (manufacturing, mining, construction and utilities) has been declining. The fastest rate of decline has been in the EU, from 40.6 per cent of total employment in 1973 to 29.8 per cent in 1997.

Industrial productivity typically grows faster than the average for the whole economy because of weak technical change in services (see Baumol *et al.*, 1989). Thus a constant share of industrial employment requires that industrial output also grows faster than GDP as a whole. After 1973, however, industrial output grew slower than GDP (by about 0.5 per cent per year in the EU), as consumer spending shifted towards services, the share of investment declined and there was an increase in the imports of the most labour intensive manufactures from lower wage economies (see Rowthorn and Ramaswamy, 1999). Combined with the usual faster growth of labour productivity in in-

dustry, the result of the slow growth of industrial output was a declining share of industrial employment.

The rate of outflow of workers from industry since 1973 has been less than from agriculture during the years of low unemployment before 1973. So why should this loss of industrial jobs be singled out as cause for particular concern? The explanation is in the nature of industrial work. Traditionally in the OECD countries this has been relatively well paid, mainly carried out by men, working full-time with skills that are specific to industrial work and require only basic education as a prerequisite (Glyn and Rowthorn, 1988). Major declines in industrial employment resulted in large-scale, geographically concentrated redundancies which flooded local labour markets with less-educated labour. It is difficult for service employment to take up the slack. Many services (public services, retail and wholesale distribution, personal services) supply a local population and are thus spread relatively uniformly across the economy. Even those producer services that are more mobile often require different skills and working schedules from industry, with the result that service employment may be unable to absorb many of those losing jobs in the industrial sector. By contrast the outflow from agriculture before 1973 occurred in the context of plentiful job opportunities in the towns.

Particularly in the early 1980s, many of the EC countries experienced a collapse of industrial employment (in the EC it fell by 13 per cent between 1980 and 1985). This was immediately reflected in rising unemployment despite the fact that employment in services rose by a similar amount in absolute terms. Many of the new service jobs were filled by women entering the labour force, leaving a large pool without work, including many men previously employed in industry.

It is often presumed that a less dynamic creation of service jobs is what lies behind the relatively sluggish growth in European employment as compared to the US 'Jobs Machine'. In part, rapid employment growth in the USA reflects faster growth of population; so the best way to assess a sector's contribution to providing work is to compare the employment it generates with the population of working age. Since 1973 service jobs in the EU have increased, but by some 5 per cent less (as percentage of population of working age) than in the USA (Table 10.2 below). However in Europe the number of jobs in both agriculture and industry have also fallen by about 4 per cent more (as a percentage of population of working age) than in the USA. So the faster decline in the number of jobs in agriculture and in industry has each been nearly as important as slower growth of services in accounting for poor employment

Table 10.2. The Pattern of Jobs, 1973–97 (change in employment as percentage of population of working age)

	EU	USA	Japan	UK
Agricultural	−4.4	−0.6	−5.5	−0.8
Industrial	−7.7	−3.4	−1.4	−10.9
Services	9.2	14.5	11.5	11.5
Total	−2.9	10.5	4.5	−0.2

Source: OECD Labour Force Statistics.

Table 10.3. Employment Growth by Occupation, 1980s (average of nine countries)

	Share (%) early 1990s	Average % p.a. changes, 1980s
Professional, technical, etc.	17.5	3.2
Administrative and managerial	8.7	2.9
Clerical and related	17.4	1.5
Sales	10.2	1.4
Service workers	10.7	1.5
Agricultural	4.4	−1.4
Transport, production, and labourers	30.5	0
Total	100	1.3

Note: Arithmetic average of G7 less Italy plus Australia, Austria, and Belgium.
Source: OECD, 1994, table 1.4.

performance in the EU compared to the USA. Services would have had to have expanded far faster in the EU than in the USA after 1973 to absorb both the larger declines in employment in other sectors and an increase in women's participation comparable to that which was occurring in the USA. If we compare the EU and USA, men lost out in the EU mainly because of the faster decline in industry, whereas women missed out more by the slower increase in the provision of service jobs (Erdem and Glyn, 2000).

Changes in industrial structure imply changes in the occupational structure of jobs, and these have occurred within sectors as well. Table 10.3 shows rapid gains at the top with employment of professional and managerial staff rising on average about 2 per cent faster than total employment during the 1980s. Service jobs in sales and clerical work have maintained their share in total employment, while that of production workers declined.

These trends imply an important expansion of opportunities for those with most educational qualifications and a contraction of jobs for those with fewest. A very detailed analysis for the USA concludes that changes in technology and the structure of production mean that 'the demands for work skills, education and functional literacy have slowly increased over the past quarter century' (Pryor and Schaffer, 1999, p. 72). This contradicts the widespread impression that the economy in the advanced countries is generating disproportionate numbers of 'bad' jobs. More of the bad jobs may be visible now, behind the hamburger counter rather than out of view in sweatshops. In some countries the bad jobs have been becoming worse in terms of conditions of work, levels of pay (relative and even absolute), and skill levels. According to the OECD (1994, Vol. I, p. 163) US studies show that 'new technologies both reduce the skill content and the share of low-skill jobs while increasing the skill content and the share of high-skill jobs'.

3. Labour-force growth and structure

The most important feature of labour-force change over the past two decades has been the increasing participation of women throughout the OECD and the declining participation of men in Europe. In 1974 a minority of women aged 15–64 in the OECD countries were in the labour force. By 1998 the proportion was just under 60 per cent in the EU and Japan, and 71 per cent in the USA. In the Nordic countries it was 75–80 per cent, higher than the participation rate of men in Belgium, France, and Italy. As the OECD (1994) points out, the rise in women's participation has been closely related across countries to the growth of the services sector. One factor behind declining male participation has been increased years in education. But this cannot explain the fact that male participation in the EU in 1998 was around 6 percentage points less than in the USA. Just as women have been attracted into the labour force by job opportunities in services, so men have dropped out of the labour force as job opportunities dried up, particularly in industry.

If fewer women had entered the labour force then some more men would have found service jobs, although women obviously had just as much claim to them as men leaving agriculture or industry or young people seeking work for the first time. Moreover, men have not historically fared better in the labour market in countries where women's participation increased less. On the contrary, women's participation increased fastest in Scandinavia and the USA where unemployment remained low, and least in EU countries where

unemployment was high, showing that job prospects for men and women moved together (Elmeskov and Pichelmann, 1994).

The average educational level of the OECD labour force has been rising steadily. Each decade's cohort of working age has shown around a 10 per cent higher share of people with at least an 'upper secondary education' than the previous decade's. The majority of the OECD population aged between 25 and 64 are now in this position, with the share being more than three-quarters in North America, Germany, Norway, and Switzerland (OECD, 1993). Proportions of the actual labour force with degrees have also been rising. Thus the deterioration in the relative economic position of the less well-educated, documented in the next section, has occurred in the context of their diminishing numerical importance in the labour force.

4. Conclusion

The problem of joblessness comes neither from more rapid labour-saving technical progress nor from a failure of employment to respond to faster growth. The relatively weak employment performance of the EU has reflected a much greater run-down of agricultural and industrial employment than in the USA, combined with weaker expansion of services. Men's employment in the EU has suffered from the decline in the former and women's participation has been held back by the latter. There has been a general upgrading of the educational requirements of jobs with the shift out of manual and into professional and managerial occupations. This is the background to the employment problems, in particular increasing inequality, which have accumulated within the OECD over the past 20 years.

III. Labour market outcomes and inequality

1. Broad trends in joblessness

A very unequal spread of joblessness has important policy implications because, to be effective, policies may need to be focused on the particularly disadvantaged groups. The main task of this section is to evaluate the extent to which the unskilled have been especially hard hit over the past two decades. First,

however, some broad patterns in the distribution of joblessness are outlined (Table 10.4). Unemployment is the obvious starting point and the first column shows the increase in unemployment rates comparing 1986–96 with the 'golden-age' period, 1960–73. Rises in unemployment rates in the range 5–9 per cent were typical, with Spain an outlier with a 17 per cent increase. Only Japan, the USA (which had relatively high unemployment to start with), Switzerland, and the social democratic heartlands (Austria, Sweden, and Norway) avoided much higher levels of unemployment on average during the latter period. Column 2 shows the change in unemployment rate over the 1990s. Unemployment climbed spectacularly in Finland and Sweden, which in effect moved into the high-unemployment European 'core'; unemployment fell in Denmark, the Netherlands, and Norway, but only in Ireland was the decline dramatic.

The next four columns show various respects in which joblessness differs among sections of the labour force. Column 3 shows how gender affects the likelihood of being in paid employment as reflected in the difference between the employment rates (employment/population) of prime-age (25–54) men and women. In the Nordic countries women are almost as likely to be in work as men; in the broad range of countries the differential was around 15–20 per cent, while in Italy and Spain it exceeded 30 per cent. Unemployment is everywhere higher for those under 25, than for prime-age workers (column 4), Southern Europe (now including France) having the highest differentials, and Germany, Austria, and Denmark the lowest. In all countries those over 55 have much lower employment rates than prime-age workers; however the differentials are much higher in Austria, Belgium, the Netherlands, and France, and low in Japan, Norway, and Sweden. Long-term unemployment (spells over 12 months) comprises more than 50 per cent of the total in some EU countries including Germany, but is very low in North America and Norway (column 6).

To summarize, the Nordic countries generally show least differences in joblessness between groups together with Japan and the USA; while the southern European countries, France, and Belgium spread their generally very high levels of joblessness quite unevenly. Austria and the Netherlands typify the lack of tight consistency across the different measures, with those under 25 being in a relatively similar position to prime-age workers, but with very little work for people over 55.

Table 10.4. Patterns of Joblessness, 1990s (percentage points)

	Change in unemployment rate 1960–73 to 1986–96	Change in unemployment rate 1990–8	Women's employment rates, shortfall with men's 1998	Youth unemployment 15–24—excess over rate for 25–54 1998	Older workers (55–64), employment rate shortfall with age 25–54 1998	Long-term unemployment (% of total) 1998
Japan	1.3	2.0	20	4	15	20
Canada	6.4	0.1	13	8	33	10
USA	1.4	–1.1	14	7	23	8
Australia	6.6	1.0	19	8	31	34
New Zealand	7.0	–0.3	18	8	27	19
UK	6.9	–0.8	15	7	31	33
Austria	3.5	0.7	18	3	52	28
Belgium	8.8	2.1	23	12	52	63
Denmark	8.4	–2.6	11	3	33	29
Finland	7.3	8.2	7	12	43	29
France	8.6	2.7	18	15	44	44
Germany	7.2	3.8[a]	19	2	38	52
Ireland	9.6	–6.6	28	4	29	57
Italy	5.0	3.7	35	22	39	66
Netherlands	5.8	–2.2	24	5	46	49
Norway	3.3	–2.0	9	7	19	11
Spain	17.2	2.6	37	17	38	55
Sweden	2.6	6.5	4	9	18	33
Switzerland	2.2	1.9	18	3	14	28

Notes: Unemployment rates: national definitions; figure for Switzerland in column 1 is level in 1986–96. Women's employment shortfall is difference between percentage of women aged 25–54 with jobs and corresponding percentage for men. Youth excess unemployment is difference between percentage rates for 15–24 age group and percentage rate for those aged 25–54. Older workers employment shortfall is difference between percentage of those aged 55–64 with jobs less percentage employed of those aged 25–54. [a] 1991–8 (including East Germany).
Sources: OECD *Labour Force Statistics, Employment Outlook, Jobs Report, Economic Outlook, Historical Statistics.*

2. The position of the unskilled

The position of the unskilled became a central focus of concern in the 1990s generating both demands for 'labour market flexibility', so that the less qualified 'price themselves into jobs', and warnings of the dangers of increasing economic polarization exemplified by the USA (see Freeman, 1995).

Educational qualifications, although difficult to compare between countries and over time, offer just about the only widely available measure of 'skill'. Table 10.5 below shows how severe the problem of joblessness was among the least qualified in different OECD countries in the middle 1990s. The data refer to employment rates, rather than unemployment, because many of the least qualified who cannot find work drop out of the labour force and become 'inactive' (Schmitt and Wadsworth, 1994). Data are shown for the top and bottom quarters of the educational distribution. The difference between their employment rates is a measure of the employment disadvantage suffered by the less qualified, and, by analogy to earnings dispersion, will be referred to as 'employment dispersion' (shortened to Q4–Q1). It can be compared across countries which have differing proportions of the labour force in particular educational categories. Attention is confined to men aged 25–64, because traditionally employment rates have been very high for this group so that cross-country comparisons are less affected by cultural/historical differences than in the case for women. In fact Q4–Q1 is larger for women than men in every single country, as the rise in labour-force participation has been strongest among the better-educated women (Glyn and Salverda, 2000).

Employment rates for the least educated (Q1) are generally in the range 50–75 per cent; the very high Swiss rate reflects the regulation of the numbers of less qualified through control of migration. With employment rates for the best-qualified quartile (Q4) generally between 80 per cent and 90 per cent, employment dispersion varies substantially between countries. For most countries Q4–Q1 falls in the range 15–25 per cent, with Ireland and Belgium outliers at over 30 per cent and Japan and Switzerland below 10 per cent. It is essential to include inactivity when examining employment dispersion. Italy has one of the lowest unemployment rate differences between the best and least qualified. However, this gives a misleading im-

Table 10.5. Male Employment Rates and Earnings Dispersion, 1994

	Employment rates (% of population 25–64)			Earnings dispersion decile ratio d9/d1
	Bottom quartile Q1	Top quartile Q4	Difference Q4–Q1	
Australia	73.0	88.0	15.0	2.9
Austria	70.2	86.6	16.4	2.4
Belgium	52.8	88.0	35.2	1.9
Canada	64.2	86.3	22.1	3.8
Denmark	65.7	87.6	21.9	2.2
Finland	54.6	80.3	25.7	2.5
France	60.5	85.0	24.5	3.4
W. Germany (95)	71.1	88.2	17.1	2.2
Ireland	58.6	89.1	30.6	5.0
Italy	60.6	84.7	24.1	2.6
Netherlands	66.6	86.9	20.3	2.6
New Zealand	67.5	90.3	22.8	3.2
Norway	72.9	90.9	17.9	2.0
Spain	63.6	80.8	17.1	
Sweden (96)	73.1	87.2	14.1	2.2
Switzerland	90.6	93.3	2.7	2.4
UK	65.1	88.3	23.2	3.2
US	70.1	90.6	20.6	4.1
Japan	89.6	97.6	8.0	2.8

Sources: Employment rates: Glyn and Salverda (2000); earnings dispersion OECD (1996), Ireland from Nolan (1998). Earnings dispersion data for Denmark, Norway, and the Netherlands are for men and women combined (in 1990 for Denmark).

pression of joblessness for the unqualified since much higher inactivity rates for the least qualified pushes Q4–Q1 for Italy above the OECD average.

Employment dispersion reflects a mixture of supply- and demand-side influences. More of the less educated may voluntarily retire early after a long working life. Others may take early retirement as a result of lack of work. It is striking that employment dispersion is by no means confined to the oldest age group (in the UK in 1997 Q4–Q1 was 16.3 per cent points for men aged 25–34 and 15.4 per cent points for men aged 55–64).

Perhaps the most important result in the table is that the employment difference in the USA lies close to the average for Europe as a whole, with the least educated quartile 21 per cent less likely to have a job than the most educated quartile. This degree of employment disadvantage was higher than in allegedly inflexible West Germany.

Table 10.5 includes also a measure of earnings inequality for the mid-1990s—the ratio between male earnings 10 per cent from the top of the distribution (d9) to earnings 10 per cent from the bottom (d1), the standard indicator of earnings dispersion. The well-known picture is that earnings inequality distribution was considerably higher in North America than Europe, and especially as compared to Northern Europe.

It is important to fill out this snapshot of the position of the less qualified in 1994 with information about how employment and earnings inequality developed. Table 10.6 gathers data for as many countries as possible and presents the annual change in employment dispersion (Q4–Q1) and in earnings dispersion (d9/91) for successive decades starting from the 1970s. A country is included if it has data covering at least half of the decade; the periods covered by the changes in employment dispersion and earnings dispersion are roughly comparable.

Employment dispersion increased in the great majority of cases, with the relative employment of the least qualified worsening most in the USA in the 1970s, in New Zealand, the UK, France, and Italy in the 1980s and in Australia, Finland, Italy, Spain, and Switzerland in the 1990s. There is no obvious tendency for increases in Q4–Q1 to be greater in the 1990s than the 1980s. The pattern in the USA is very interesting; there was a large increase in employment dispersion in the 1970s as the least-educated lost jobs very heavily in the mid-1970s recession and restructuring. Their position then stabilized in the 1980s and even improved slightly in the 1990s when the jobs market was especially buoyant. The impact on employment dispersion of episodes of strong employment growth in the middle and later 1990s is discussed in the last section.

Earnings dispersion rose very rapidly in the USA, Canada, the UK, and New Zealand in the 1980s, but changed relatively little in European countries. There seems to have been a general tendency for earnings dispersion to increase less in the 1990s than the 1980s.

Changes in the employment dispersion and in earnings dispersion can be combined into changes in an index of labour market inequality (LMI), giving equal weights to a 1 per cent decline in the pay at the bottom decile relative to the top and to a 1 per cent point fall in the employment rate of the least qualified quartile relative to the most qualified.[1] Increases were almost universal, and were most spectacular in the UK, New Zealand, and the USA in the 1980s, and New Zealand, Ireland, and Italy in the 1990s. In countries where inequality rose rapidly in the 1980s it rose less fast or even

[1] The LMI index is being used here as an indicator of the relative welfare of those at the bottom of the labour market compared to those at the top. It is a rough measure of the change in the proportion of the wage bill going to the unqualified, which is now often used as an indicator of the change in relative demand for the unqualified as compared to the qualified.

Table 10.6. Employment, Wage, and Labour-market Inequality Trends, Men 1970s–90s

	Employment differences Q4–Q1, change in % points per year			Wage dispersion d9/d1 % change per year			Inequality index (Q4–Q1) + d9/d1		
	1970s	1980s	1990s	1970s	1980s	1990s	1970s	1980s	1990s
USA	0.9	0	−0.2	0.2	2.1	0.9	1.1	2.1	0.8
Canada		0.4	−0.1		1.5	−1.4		1.8	−1.5
Australia		−0.1	0.8		0.3	0.9		0.2	1.7
New Zealand		1.4	0.6		2.1	2.1		3.5	2.7
UK	0.4	1.3	0.3	0.2	2.2	0.7	0.6	3.5	1.0
Denmark		0.6	0.6		0.1			0.7	
Finland		0.5	0.9		0.8	−1.3		1.3	−0.4
France		1.3	0.4		0.3	−0.8		1.6	−0.4
W. Germany	0.2	0.6	0.6	0	−0.6	0.9	0		1.5
Ireland			0.6			3.5			4.1
Italy		0.9	1.1		−0.1	1.1		0.8	2.2
Netherlands		0.4	-0.6		1.3	1.6		1.7	1.0
Norway		0.5	0.5		−0.4			0.1	
Spain		0.5	0.9						
Sweden	0.4	−0.1[a]	0.6[a]	0.5	0.3	1.3	0.9	0.5	1.5
Switzerland			0.8			1.1			1.9
Japan		0.1			0.9	−0.3		1.0	

Notes: Data cover maximum period within decades (e.g. 1979–89); an observation is included if it covers at least half of the decade. [a] Swedish changes in 1980s and 1990s are very rough owing to survey changes.
Sources: Q4–Q1 calculated from National Labour Force Surveys supplied by National Statistical Offices and from background data to OECD *Employment Outlook* 1997, ch. 3. D9/d1 from OECD Earnings Dispersion Database, 1999 edition, and from *Employment Outlook* 1996, 1993. Data for Ireland kindly supplied by Brian Nolan.

declined in the 1990s; where inequality was steady in the 1980s it typically rose in the 1990s (Australia, Germany, Italy, and Sweden).

IV. Why has labour-market inequality increased?

The previous section has confirmed that a deterioration in the labour-market position of the least qualified, either in terms of joblessness or relative pay or both has been a central feature of the past 25 years. With the proportion of the labour force with low qualifications declining, evidently the demand for the less qualified has declined faster still. Why has this happened? Four factors have been proposed as the main influences and this section in turn briefly discusses skill-biased technical change, the displacement of low skill manufacturing by imports from the low-wage 'South', institutional change such as the weakening of trade unions, which had previously preserved jobs for the less skilled, and finally weak demand for labour

overall, which may have led to the less qualified being 'bumped down' off the jobs ladder.

1. Skill-biased technical change (SBTC)

A good deal of evidence has accumulated that technical advance has favoured the employment of more qualified workers. Substitution towards skilled labour has taken place generally within individual industries (manufacturing and services) across a range of OECD economies, rather than mainly reflecting the decline of less skill-intensive industries, and it has been strongest in industries producing machinery, including computers, electrical machinery, and printing and publishing, where case studies indicate significant technological change (Berman *et al.*, 1998). It is the more R&D-intensive industries, which also typically are more intensive in computer use, which have seen the faster increases in the employment of more qualified workers (Machin and van Reenen, 1998). This latter study suggested, however, that in the countries where the shift in demand against the less qualified has

been greatest (the USA and UK) SBTC was by no means the whole explanation.

2. Trade with the south

The most debated issue is the impact of trade with the south in hastening the replacement of low-skilled jobs in the north by those demanding higher educational levels. At first sight it seems most implausible that imports of manufactures from low-wage countries could have played a very important role. After all they were only a tiny fraction of the market (tripling to about 3.5 per cent of GDP in the USA between 1980 and 1995, and doubling to around 2 per cent of GDP in the OECD as a whole—Wood (1998, Figure 1). Adrian Wood argues that these imports would require much more labour to produce in the north than their low value would suggest—perhaps three times as much (Wood, 1994, table 4.5). Correspondingly, very many more jobs were lost in the north than were gained there in the more skill-intensive sectors that produced the goods (machinery etc.) exported to the south to pay for the labour-intensive imports. Wood went on to argue that this direct effect has been compounded by the pressure from imports leading to rationalization (and thus job shedding) in northern industry. As re-formulated (in Wood, 1998) his claim is not that SBTC has been unimportant, but rather that it is the grow-ing importance of trade with the south (rather than an *acceleration* of SBTC) which better explains the ap-parent *faster* decline in the demand for less-skilled workers than in previous decades

Those critical of a stress on trade have noted that the shift towards more-qualified labour has taken place within non-traded as well as highly traded sectors, such as manufacturing (see, for example, Desjonqueres *et al.*, 1999), and that there does not seem to be a strong relationship across industries between rises in south-ern import penetration and in the skill intensity of pro-duction. However, trade with the south does seem to be responsible for some of the run-down in manufac-turing employment in OECD countries (perhaps one-fifth, according to Rowthorn and Ramaswamy, 1999); across countries there is some tendency for countries with more southern imports to have greater employ-ment dispersion (Glyn and Salverda, 2000). Many would agree with the view that 'trade is a moderate source contributing to income inequality trends; it may not overshadow other sources but it cannot be shrugged away' (Richardson, 1995, p. 51).

3. Institutional change

There has been growing emphasis on the role of la-bour-market institutions and policies—trade unions and minimum-wage regulations, for example—in shaping trends in wage inequality (Rowthorn, 1992; Fortin and Lemieux, 1997; Lucifora, 2000, for exam-ple). An obvious extension is the recognition that fac-tors such as union strength affects employment rates as well (Gordon, 1996). An illustration is the case of the UK deep-mined coal industry. Employment fell from 181,000 in March 1984 (before a year-long min-ers' strike) to 10,000 a decade later . The loss of jobs was mainly for men who were unqualified (in terms of education), in areas with few alternative opportu-nities for work. Output fell by some 60 per cent, of which one-third reflected competition from coal im-ports, partly from low-wage countries. But labour pro-ductivity in the 16 collieries that survived also doubled, as employment was halved with the exploitation of innovations in mining technology and control systems (Glyn and Machin, 1997). Both the closure of so many mines, and the rationalization of those which survived, could never have been achieved as rapidly without the transformation of industrial relations after the defeat of the strike. The contrast with the much higher cost West German coal industry, where employment fell more gradually over this period, highlights the role of politics and industrial relations, played out against the background of changes in market competition and in technology. It is impossible to disentangle the relative importance of the various influences on employment even in a single industry such as UK coal. However, the difficulty of estimating the effect of institutions on the position of the least qualified does not mean that it has been secondary.

4. Excess labour supply and bumping-down

The above explanations for declining demand for the less qualified depend either on the decline of indus-tries where the less qualified are particularly concen-trated, or on falling numbers of jobs within individual industries filled by people without qualifications. De-clining employment trends of the less qualified across the whole spectrum of industries makes it clear that the shifting industrial structure cannot be the whole story. But is it correct to interpret the increasing pro-portions of better qualified workers as necessarily

pointing to technical or organizational change within industries? There is an alternative hypothesis which is that the less qualified are being increasingly bumped out of jobs that they could adequately carry out by an excess supply of better qualified workers. Employers may prefer those with qualifications, believing them to be more adaptable, diligent, or reliable. If this explanation is important, then weak labour demand overall will squeeze the less qualified out of work. The concentration of joblessness on the less qualified then reflects the overall shortage of jobs, and this shortfall becomes increasingly concentrated on the declining group of workers whose lack of qualifications increasingly sets them apart. If demand for labour was higher, then employers could not afford to be so choosy, workers would tend on average to shift up the jobs ladder, and more of the least qualified would get back on to the lower rungs.

A detailed study of US occupations and qualifications (Pryor and Schaffer, 1999) has claimed that such bumping down has been important:

Although the number of jobs requiring more education has risen considerably faster than the number with lower educational requirements, the number of educated workers has risen even faster. Moreover, women have filled a disproportionate number of these jobs. These two circumstances have initiated a chain reaction of job displacements. More specifically, university-educated women have replaced men with a similar education, but with lower cognitive abilities than others with the same education. Those displaced have taken jobs previously held by workers with less education who, in turn, have displaced those with even lower cognitive skills. Many of the least educated workers have been knocked completely out of the labor force. (p. 217)

There is no overall consensus on which of the factors described above has been the most important in worsening the labour-market position of the least qualified. It is widely believed, however, that the flexibility of relative wages is the main factor determining what proportion of the least qualified end up jobless. We now turn to this question.

5. Does relative wage inflexibility explain employment inequalities?

If greater wage dispersion encourages employment at the bottom end of the labour market, then there would be a trade-off between these two dimensions of labour market inequality. Divergent trends in flexible USA and inflexible Europe are widely interpreted in this way (Krugman, 1994; OECD, 1994).

A diagram (Figure 10.2, taken from Howell, 1999) helps to clarify the argument. The supply of labour is
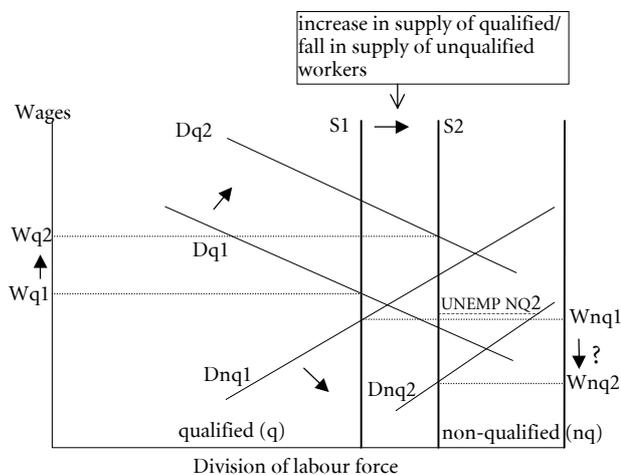

Figure 10.2. Demand and Supply for Qualified/Not-qualified Labour
Note: 1 refers to period 1, 2 to period 2, q to qualifed, nq non-qualified, D demand.

divided into the qualified and unqualified with separate demand curves (Dq1 and Dnq1). Initially the market for both types of workers clears, with wages Wq1 and Wnq1. The proportion of the labour force comprising the qualified increases, but the relative demand for qualified workers grows even faster (Dq2 rises and Dnq2 declines). Market clearing would dictate an increase in wage differential (to Wq2 –Wnq2). If wages are inflexible (represented in the diagram by the failure of wages for the unqualified to decline), then some of the unqualified become unemployed. A smaller increase in wage inequality is bought at the cost of inequality in the chances of being in work.

A number of studies have examined the relationship of employment performance and earnings dispersion. OECD (1996) found no significant correlation between employment rates of the low-skilled and the incidence of low pay. Nickell and Bell (1995, p. 46) examined the declining demand for less educated workers over the 1970s and 1980s and found no evidence that 'unemployment effects are any more severe in countries where wage effects [increases in wage dispersion] are small'. Blau and Kahn (1996), by contrast, found that the greater wage dispersion in the USA was associated with smaller differences in employment rates (especially between the low- and middle-skill categories) than in continental European countries; however they only used employment data for six countries. These studies do not give consistent support to the idea that wage dispersion has been the main influence on employment for the less qualified, and a similar conclusion is reached in the much more

detailed comparisons with US experience of employment rates in the 1980s in France and Canada by Card *et al.* (1999) and in Germany by Krueger and Pischke (1997).

Comparing the data on levels of employment dispersion (Q4–Q1) and earnings dispersion (d9/d1) shown in Table 10.5 shows no relationship. A stronger test comes from regressing employment dispersion on earnings dispersion when controls are included for the overall employment rate and for the dispersion of productivity of workers (as reflected in the dispersion of literacy skills of the labour force). There is no significant relation between earnings dispersion and employment rate differences (Glyn and Salverda, 2000).

The data assembled in Table 10.6 on *changes* in employment dispersion and wage dispersion provide an additional test by controlling for country differences in labour-force structure and demand patterns. Large increases in pay dispersion did not stop the employment position of the least qualified declining sharply in the UK and New Zealand in the 1980s; falling wage differentials in Canada in the 1990s were not accompanied by rising employment differences. If growing earnings dispersion was the major influence on how much employment dispersion increased, then there should be a strong negative relationship across countries (and time) between these variables. Figure 10.3 shows the scatter of these variables and refutes the notion of such a dominant trade-off. A regression of the change in Q4–Q1 on the change in d9/d1 across the countries and time periods included in Table 10.6 yields a wholly insignificant coefficient.[2] There is no confirmation in these data of the 'Unified View' that rising wage dispersion is the necessary price to pay for maintaining employment at the bottom end of the labour market.

Such simple regressions cannot show that wage dispersion has *no* influence on employment. However, the evidence is not consistent with the view that wage flexibility is the *dominant* influence explaining why the less qualified are less employed in some countries than in others. Nor do other indicators of labour market flexibility, such as the generosity of minimum wages, various measures of unemployment benefit replace-

Figure 10.3. Changes in Employment and Earnings Inequality, 1970s, 1980s, 1990s

ment rates, or the severity of employment protection legislation, show any systematic relation to employment rate differences between educational quartiles (Glyn and Salverda, 2000). Whatever influence labour-market flexibility may have has evidently been swamped by other influences.

There are a number of explanations for this conclusion. One possibility is that the demand for less-qualified labour is rather insensitive to relative wages, despite the fact that substitution for more qualified workers could take place both within industries and between sectors (as when a decline in relative wages for the less unqualified stimulates demand for service sectors heavily dependent on such labour). There is a good deal of uncertainty about this elasticity of substitution.[3] The range of estimates suggests that to compensate for a 10 per cent fall in relative demand for the unskilled might require anything from a 3 per cent to a 20 per cent fall in relative wages, an enormous range. The finding that changes in minimum wages have small employment effects (Card and Krueger, 1995; Dolado *et al.*, 1996), is certainly consistent with a fairly low substitution elasticity.

A consistent relation across countries between changes in unemployment and changes in dispersion presupposes similar shifts in relative demands and

---

[2]   A simple regression of changes in Q4–Q1 on changes in d9/d1 yields a positive coefficient with a t value of 0.6. Adding time dummies and a variable measuring changes in the employment rate for the highest educational quartile does not bring the coefficient anywhere near to significance. If changes in the ratio of wages at the median to the bottom decile is used instead (d5/d1 instead of d9/d1), on the grounds that it is dispersion at the bottom which is relevant for less qualified employment, the coefficient is still quite insignificant.
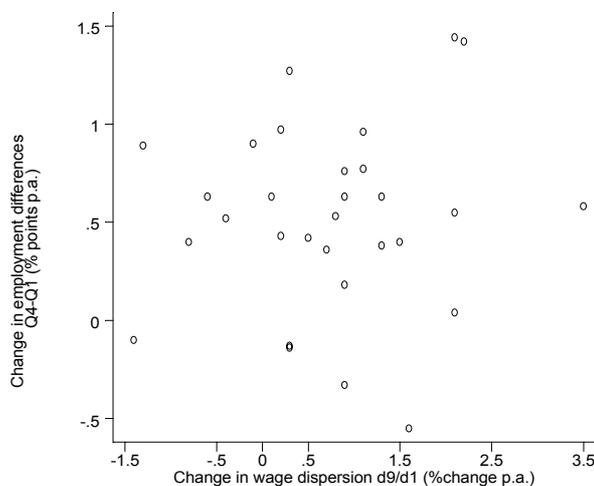
[3]   Wood (1994, pp. 132–3) reports most econometric estimates lying in the range 1–2, but takes 0.5 as a central estimate; Gregg and Manning (1997) believe a sensible estimate is the range 1–1.5, Autor *et al.* (1998) give a consensus best estimate of 1.4–1.5 and Nickell and Bell (1995) take 3.

supplies of different types of workers in different countries. If this is not the case then the pattern of changes in relative wages and employment will be all over the place (as simple experiments with Figure 10.2 will confirm). The decline in relative demand for unskilled workers may have taken place at very different rates in different countries; for example technology may be introduced at different speeds and import competition may develop faster or slower. Relative supplies of qualified workers grow with varying speeds (Katz and Autor, 1999). Nickell and Bell (1996) raised the possibility that the relatively high level of educational attainment of the less qualified in Northern Europe may have left them better equipped to cope with new technology than in the Anglo-Saxon countries (in effect implying a slower fall in demand for the less qualified in Germany, for example, than in the UK). Glyn and Salverda (2000) confirmed that employment disadvantage was less (for men) in countries where the dispersion of literacy scores within the labour force was less. Finally, as discussed earlier, institutional influences (such as the weakening of trade unions) have had very different effects on the demand for the less qualified across OECD countries. The headlong decline in the relative employment *and* relative pay of the least qualified in both the UK and New Zealand in the 1980s strongly support the idea that the increase in labour-market inequality was greatest where unions' power was most undermined.

It may be concluded that differences in the employment position of the least qualified across countries have *not* been closely tied to wage dispersion and there are many complementary explanations as to why this is the case.

V. What about the NAIRU?

1. Has unskilled unemployment raised total unemployment?

The previous section analysed the degree to which the less qualified have suffered more from joblessness and the reasons for this disadvantage. But there is a further fundamental question. Does the fact that joblessness is concentrated on the less qualified simply affect its incidence or is the overall level of joblessness affected as well? In the first case it would be wrong to say that SBTC, or some other explanation for the plight of the less qualified, was *responsible* for the higher level of unemployment overall. The concentration of job-

lessness on the less qualified would simply reflect the *form* that higher unemployment took, while the higher overall unemployment was determined by other factors. However, if more unemployment for the less qualified brought higher total unemployment, then the factors reducing the relative demand for the less qualified would contribute to the overall level of joblessness.

This issue is seldom confronted explicitly, perhaps because many labour economists, particularly in the USA, use what is in effect a market-clearing 'natural rate of unemployment' framework. Unemployment (or economic inactivity) is seen as essentially voluntary, reflecting the balance of economic incentives facing the individual worker. If the marginal productivity of a particular group of workers falls below their reservation wage then they will become unemployed, and perhaps lapse into inactivity when work at an acceptable wage does not materialize. Unemployment has no macroeconomic function; its total is simply the number of individuals in this position. If demand for the less qualified had not declined so much, then more of them would have jobs and unemployment would have been correspondingly less. In this framework the cause of unemployment among a particular group is automatically responsible for raising total unemployment.

Within the NAIRU framework, more popular within Europe (Carlin and Soskice, 1990; Layard *et al.*, 1991), this conclusion does not necessarily follow. Unemployment has the macroeconomic function of acting as a 'reserve army of labour' which constrains wage pressure. If all unemployment was equally 'effective' (Layard, 1997) in holding down wages, then it makes no difference whether it is suffered by the most qualified or the least qualified. In this case the overall level of unemployment would be determined by how the particular configuration of labour-market institutions and policies (strength of unions, bargaining structures, unemployment benefit systems) responded to pressures such as terms of trade 'shocks' or changes in the trend of productivity growth. If the outcome was that a larger reserve army was required to hold down wages, then macroeconomic forces would eventually generate the higher unemployment which might be disproportionately concentrated on the least qualified through 'bumping down'. Alternatively, if underlying trends (such as SBTC) reduced the demand for unskilled labour and pushed up their unemployment rate, then wage pressure in the economy would be diminished. Aggregate demand would be increased, for example through a relaxation of monetary policy, and unemployment rates for other groups

would fall. Either way the deterioration in the position of the unskilled would *not* be a cause of higher overall unemployment.

Few people would wholly discount the impact of declining employment for the less qualified, although it sometimes barely figures in accounts of rising unemployment (for example Blanchard, 1999; Blanchard and Wolfers, 2000). More elaborate NAIRU models relax the assumption that all unemployment is equally effective in restraining wage claims. In Layard *et al.* (1991, ch. 6) the bargaining power of each group of workers depends on the log of their unemployment rate so that a percentage point rise in unemployment for the less qualified, who already suffer from high unemployment, has a smaller effect in depressing their wages than an equal absolute (but greater proportionate) rise for the most qualified. This non-linearity means that for a given average unemployment rate, aggregate wage pressure is stronger the bigger the gap between the unemployment rates of the more and less qualified. This makes the NAIRU an increasing function of labour-market mismatch—differential joblessness. Wood (1994, ch. 8) takes the extreme case where institutional rigidities make the degree of upward pressure on nominal wages depend on the 'demand–supply balance only in the skilled submarket, in which labour is generally scarcer' (p. 304). In this case *all* excess unemployment rate of the unskilled represents mismatch and thus raises the NAIRU, in effect the same conclusion as for a competitive labour market.

It is simple to calculate what part of increased unemployment or non-employment *reflects* the higher joblessness among the less qualified as compared to a situation where all were in the same position as the most qualified; it is just the difference between the rise in average unemployment (or non-employment) and the rise for the most educated quartile. This is shown in the first two columns of Table 10.7 for a sample of countries for which a reasonable run of data is available.

The results are surprisingly consistent across the unemployment and non-employment measures, with the exception of Spain where unemployment did not rise more for the less qualified, though inactivity did. Around 30–60 per cent of the rise in joblessness reflects the greater increase for those without the top (first quartile) level of educational qualifications. There is some tendency for the excess of overall joblessness over that for the most qualified to be more important for non-employment than unemployment, reflecting somewhat greater concentration of inactiv-

Table 10.7. Unemployment and Non-Employment Changes, Male Workers Aged 25–64 (percentage of total rise *accounted for* by excess rise of those not in Q4)

	Unemployment	Non-employment
W. Germany 1970–95	38	47
UK 1979–1997/8	33	46
USA 1970–1998	(100)	65
France 1982/3–1998	15	39
Sweden 1971/3–1997/8	42	22
Finland 1989–97	30	35
Canada 1976/7–1997/8	33	29
Denmark 1981–94	37	50
New Zealand 1981–99	29	45
Norway 1981–94	41	56
Spain 1981–94	2	34

Sources: Calculated from national labour-force data and from background data to OECD *Employment Outlook*, 1997. In the USA Q4 unemployment fell over the period.

ity on the less qualified as compared to unemployment.

On a natural rate interpretation, or on Wood's assumption that the excess joblessness of the less qualified has *no* restraining effect on wage pressure, then all the higher joblessness of the less qualified would contribute to total unemployment or non-employment. This is rather plausible for excess inactivity among the least qualified because less qualified workers who are not in the labour force presumably exert little influence on wages. Many (though not all) of the inactive are not going to take a job, even if their original loss of work was quite involuntary.

The extent to which additional unemployment among the less qualified has a restraining effect on wages is much less clear. A consensus view would probably be that unemployment among the less skilled has a lesser but not necessarily zero effect on wages (as in Layard *et al.*, 1991 discussed earlier). Long-term unemployment is even more disproportionately concentrated on the less qualified than overall unemployment (Machin and Manning, 1999) and it is generally (but not universally) believed that long-term unemployment has a weaker effect on wage bargaining than short-term (typically one-third as much according to Elmeskov and Macfarlan, 1994). Moreover, unemployment among the least qualified varies more across regions than among the more qualified (Glyn and Erdem, 1999) and this regional mismatch would tend to reduce the effect of unskilled unemployment on wage bargaining.

Nickell and Bell (1995, 1996) estimate that 10–30 per cent of the rise in unemployment is the result of

declining demand for the unskilled (20 per cent for the UK).[4] Such a range looks quite consistent with the data in Table 10.7, especially if the excess rise in unemployment for the least qualified has some impact on wages, but less than higher unemployment for the most qualified. Probably declining demand for the unskilled has contributed rather more to rising non-employment (since inactivity is more concentrated on the less qualified than is unemployment and probably has rather little effect on wages). If declining demand for the less qualified has a 'modest but significant' (Nickell and Bell, 1996) effect on unemployment, it seems likely that its effect on overall non-employment is 'substantial but not overwhelming'.

2. The NAIRU, institutions, and inequality

It has become conventional to partition changes in unemployment into changes in the NAIRU (the 'equilibrium' unemployment rate at which inflation does not alter) and shifts in unemployment around the NAIRU. Changes in the NAIRU are then accounted for by supply-side shocks (such as the deterioration in the terms of trade as a result of the oil-price increases in the 1970s, or the subsequent slow-down in productivity growth) interacting with labour market institutions which determine how much unemployment is required to absorb the shock (for example, wage-bargaining structures, unemployment benefit systems). Unemployment rises above the NAIRU either because the government attempts to force down the inflation rate, as in the UK in the early 1980s or France after 1982, or as a result of demand 'shocks', such as the collapse of consumer booms in Scandinavia and the UK in the early 1990s. This approach to cross-country analysis has been developed in Bruno and Sachs (1985), Calmfors and Driffill (1988), Layard *et al.* (1991), and Nickell (1997) to cover an expanding set of institutional features and shocks including employment protection legislation, home ownership patterns, and real interest rates.

Space prevents a comprehensive survey of this work, which is thoroughly reviewed in Nickell and Layard (1999) and Blanchard (1999), and criticized (by Ball,

1999) for neglecting the effect of sustained levels of high unemployment on the NAIRU itself (for example through the build-up of long-term unemployment). While the pattern of institutions does a reasonable job in accounting for average cross-country unemployment differences over the period from the mid-1980s to the mid-1990s, Nickell (1998) emphasizes that this framework cannot really explain why the 1980s unemployment pattern is so different from that of the 1960s (when Germany's unemployment rate was around 1 per cent and the US rate about 5 per cent, for example). Differing 'shocks' across countries, or differing institutional evolutions could provide the answer. However, Blanchard and Wolfers (2000) report that neither the country-specific pattern of 'shocks' (such as the productivity slow-down) nor changes over time in institutional patterns within countries (such as unemployment benefit regimes) are very successful in their regressions (the equations work better with common shocks for all countries interacting with the country's average institutional pattern in the late 1980s/early 1990s). This seems to confirm Calmfors's (1994) conclusion that 'in the end we do not have much more than individual country examples that may be open to many interpretations' (p. 182).

Active labour-market policies (ALMP—help to the unemployed in finding jobs through work of labour offices, training, temporary work programmes, etc.) provides a good example of how difficult it is to draw very firm conclusions. Sweden has always been an outlier in terms of a very high expenditure on these programmes. Although their effects have been controversial in Sweden (Calmfors and Skedinger, 1995) ALMP showed up strongly in Nickell's cross-country regressions with the implication that they helped to account for low Swedish unemployment until the 1990s. However Sweden no longer has low unemployment (see Table 10.4 above) and it seems likely that cross country unemployment regressions for the later 1990s would show ALMP as much less significant. Their effects may well have been exaggerated originally (if some other unmeasured feature was helping to keep unemployment low in Sweden), but could be underestimated now (because the demand collapse is keeping unemployment high).

With these reservations in mind, the fundamental result which emerges from this body of work is that there have been different routes to relatively low unemployment. For example, trade-union strength can lead to additional wage pressure and thus require higher unemployment to hold inflation down. However, if bargaining is conducted in a coordinated way, then the externalities from additional wage pressure

---

[4] Nickell and Bell are mainly concerned with how much unemployment *originated* from declining relative demand for the unskilled as compared with a 'neutral' demand shock. We are concerned rather with how much of the total rise in unemployment could be said to be *caused* by the excess increase for the less qualified. These are not the same questions (a high proportion of total unemployment could reflect a decline in relative demand for the unskilled without there being any effect on total unemployment).

(for example, the impact on inflation and thus real wages) can be internalized and wage moderation exercised (see Calmfors, 1994, for a review of a range of externalities). In Nickell (1998), for example, the impact of greater union and employer coordination in Germany as compared to the USA offsets the effect on unemployment of not only higher union membership, but also the greater coverage of union agreements and the higher tax rate (reducing the post-tax real wage) in Germany.[5] Similarly, the unemployment benefit system is widely regarded as increasing unemployment, by reducing the incentives for individuals to search for work and take poor jobs or by reducing the cost of job loss for union members. In Nickell's cross-sections, both higher replacement rate and longer benefit duration are associated with higher unemployment. But these effects are counteracted by ALMP. In a comparison of Germany and the USA, the more generous benefit system is fully offset by more generous spending on ALMP.[6]

It is usually assumed that institutional features raise or lower unemployment by lowering or raising employment. But this requires that inactivity and thus the labour force is not affected. Blondal and Pearson (1995) found that unemployment benefits had as big an effect on participation as on unemployment and thus no effect on employment rates. Conversely high sickness and invalidity benefits reduce labour-force participation rather than employment. Nickell and Layard's more comprehensive framework (1999, tables 15 and 16) confirms that replacement rates, in particular, have insignificant effects on employment (though the position is less clear for benefit duration).

The most controversial of all these results concerns the influence of Employment Protection Legislation (EPL—strictness of protection against dismissals, regulation of temporary employment, regulation of collective dismissals), because it exemplifies the con-tentious issue of labour-market flexibility. Nickell (1997) found no effect of an index of EPL on unemployment, while Blanchard and Wolfers (2000) found a significant effect. OECD (1999, p. 88) concluded that 'EPL strictness has little or no effect on overall unemployment', though seeming to reduce unemployment of prime-age males. The lack of robustness noted by Blanchard and Wolfers (2000) may reflect the fact that the impact of EPL depends on the overall institutional pattern of the economy—perhaps having different effects in the high-skill context of Northern Europe, where firms are thereby encouraged to retrain workers, than in countries where employer strategies involve adjustment via lay-offs.

The main thrust of the OECD Jobs Report was to urge greater 'labour market flexibility' on OECD countries as a precondition for reducing unemployment. The studies of aggregate unemployment summarized briefly above suggest that such 'flexibility' can be achieved in different ways—coordinated bargaining can achieve wage restraint as effectively as a deregulated labour market, employment regulation does not necessarily destroy jobs. The same institutions which tend to generate a relatively egalitarian distribution of wages (including strong trade unions and generous unemployment benefits—Rowthorn, 1992; Lucifora 2000) are consistent with high employment provided other institutional features apply (coordination of bargaining).

This discussion of institutions and aggregate unemployment may also help to explain why there is apparently no trade-off between a more egalitarian wage distribution and jobs for the least qualified. Strong coordinated unions may engage in a number of strategies which maintain a high level of employment overall—coordination of wage bargaining in a restrained fashion, blocking of mass redundancies which would flood local labour markets, pressure for high public spending, and an egalitarian distribution of educational achievement. All of these policies could help to maintain a relatively high level of demand for the less qualified, through reducing bumping down, limiting local concentrations of joblessness, and better equipping workers at the bottom end of the distribution to deal with technical change. Coordinated wage bargaining to secure overall wage moderation and support for ALMP could well offset any negative impact on jobs of bargaining strategies or minimum wage legislation which kept up pay at the bottom of the distribution.

---

[5] Coordination is 3 index points higher in Germany which reduces log unemployment by 1.29, union density is 17 per cent higher which raises unemployment by 0.17 points, union coverage is 2 index points higher which raises unemployment by 0.76 points, and the tax rate is 9.2 per cent higher which raises unemployment by 0.25 points (calculated from Nickell, 1998, tables 1 and 2).

[6] Benefit duration is put at 3.5 years longer in Germany which increases log unemployment by 0.35 points, the replacement ratio is 13 per cent higher in Germany which increases unemployment by 0.17 points, but the ALMP index is 22.7 points higher in Germany which reduces unemployment by 0.52 points (calculated from Nickell, 1998, tables 1 and 2).

VI. Policies to reduce labour-market inequalities

The less qualified must benefit from a general expansion of demand and employment, but the question is how much? The most spectacular examples of employment rising in the 1990s are Ireland (where the employment rate (15–64 year olds) rose from 52.3 per cent in 1990 to 59.8 per cent in 1998) and the Netherlands (a rise from 60.8 per cent in 1990 to 68.8 per cent in 1998). In some other countries there is optimism that the cyclical expansion of the second half of the 1990s can go further than previous inflationary experience would suggest because the NAIRU has fallen, though no unanimity as to why (see Wadhwani, 1999 on the UK, and Gordon, 1998, and Katz and Krueger, 1999, for the USA). Table 10.8 provides data for the position of the less qualified in some countries where there have been strong cyclical rises in employment in the later 1990s.

The table shows that the employment rate for the least qualified men rose considerably in most cases of strong employment recovery; unemployment always fell, but Canada appears to be the only case where male inactivity fell, and in Australia and Ireland a rise in inactivity offset the fall in unemployment. Employment of least-qualified women rose roughly in parallel with men in the North American upswings, and much more in Australia, Ireland, and the Netherlands (the two latter countries having low participation by OECD standards). In Finland and the UK, however, least-qualified women continued to lose jobs in the recovery, offsetting the improved position of men.

The pattern is quite a mixed one, therefore, but suggests that rising demand for labour overall usually brings expanded job opportunities for the least qualified, with unemployment more responsive than inactivity, as would be expected. There is every reason, therefore, for further examination of the institutional patterns which have underpinned employment recoveries and, in particular, the role of centralized negotiations on wage restraint which appear to be an important component of a number of these employment recoveries (on the Netherlands, see Hartog, 1999). However, experience from the 1990s also suggests that overall expansion of demand is rather unlikely to provide the whole solution to joblessness for the less qualified and so more-focused policies are also required.

If higher demand for labour overall is insufficient to deal with the position of the least qualified, this may be tackled more directly either on the supply or de-

Table 10.8. Employment Recoveries and the Least Qualified (changes, % points over period)

	Men least-educated quartile			Women least-educated quartile		
	emp./pop.	unemp./pop.	inact./pop.	emp./pop.	unemp./pop.	inact./pop.
Australia 1993–98	0.1	–3	2.8	2.4	–0.6	–1.7
Canada 1993–98	3.4	–1.4	–2	4.5	–0.9	–3.5
Finland 1994–7	3.3	–5.2	1.9	–1.9	–1	2.8
Ireland 1993–97	0	–4.1	4.1	5.5	–1	–4.6
Netherlands 1994–97	3.4			7.8		
New Zealand 1992–97	2.6	–4.1	1.6	2.3	–1.6	–0.8
UK 1993–98	2.6	–4.8	2.2	–3.2	–0.7	4
USA 1992–98	4.3	–4.5	0.2	5.1	–1.1	–4

Source: Calculated from national labour-force surveys.

mand side (for an excellent review see Wood, 1994, ch. 10). If the NAIRU is in part a function of skill shortages, then policies to enhance the skills of the unemployed offer a way of reducing it. To take the crudest example, if wage pressure depended only on the unemployment rate of the skilled, then training unemployed workers so that they became skilled would reduce the NAIRU. Provided the government ensured that demand expanded appropriately, then the newly skilled workers could find jobs with no impact on wage pressure. The effect would be even greater as the expanding employment of the skilled would, given permissive demand conditions, also generate complementary unskilled jobs, again without inflationary pressure. Such an approach is egalitarian in terms of its effects on both employment and the distribution of earnings; further, it will tend to enhance long-run productive capacity via its effects on the stock of human capital. Assuming the budget was already appropriately balanced, the costs of training (including employment of trainers and extra allowances for the unemployed) would have to be met out of general taxation and the cost per additional long-term job created would depend on the effectiveness of the programme in enhancing skills and the impact of additional supply of skills on the NAIRU. However, the international evidence from training programmes aimed at the unemployed suggests very limited effectiveness unless they are very targeted and rather expensive (Robinson, 2000).

Given limited possibilities for the unskilled and jobless to be trained into being skilled and employed, attention has also been devoted to boosting the demand for unskilled labour. The market approach to encouraging such demand is to ensure that the cost of unskilled labour falls by removing impediments to such flexibility in the form of unemployment benefits or minimum wages. The evidence presented above refutes the suggestion that lack of flexibility of relative wages has been the dominant influence on employment at the bottom end of the labour market over the past decades. However, the relative underdevelopment of European services as compared to the USA noted earlier suggests one route through which pay flexibility at the bottom end might promote employment creation. There is evidence (Glyn, 1998) that service sectors, such as retailing, have developed fastest where pay dispersion grew. But the direction of causation is not entirely clear (rapid expansion of low-wage services for other reasons may brings more low-wage jobs and thus greater dispersion). Certainly the price elasticity of demand appears small for services as a whole (Summers, 1985), suggesting that reducing their price, via cuts in low pay, may have small effects on employment.

If skilled and unskilled labour can be very readily substituted, then a relatively small fall in the relative wages of the unskilled would provide a way of maintaining demand for the less qualified in the face of underlying trends in the opposite direction. But there are widely differing interpretations of the available evidence on substitutability, as was noted earlier, and it seems hard to reconcile the very large declines in both the relative demand for less-qualified labour and in their relative wages, at least in the UK and USA, with a very high degree of substitutability. If substitutability is modest, then the distributional implications of relying on wage flexibility are highly inegalitarian—the worse-paid sections of the population have to bear the cost of reducing unemployment via substantial cuts in their wages, while the better-off sections of society benefit from the cheaper services.[7]

Concern at the distributional implications of encouraging declines in relative wages has led to suggestions that the employment of the less qualified should be subsidized via their employers paying lower social security contributions (as is already the case to some degree in the UK) or more substantially via direct

employment subsidies of one sort or another. The EC (Commission of the European Communities, 1993, p. 142) reports simulations showing that reductions in social security contributions at the bottom end of the pay scale, financed by a carbon tax, could have quite substantial effects on employment. An alternative tack accepts that market pressures have to force down relative wages (and thus labour cost to employers) but aims to support the incomes of the workers concerned via some form of negative income tax for the low paid, or most radically by a basic income for everybody. The Earned Income Tax Credit in the USA, and Working Families Tax Credit in the UK have brought large increases in these 'in-work benefits', with substantial benefits to low-paid workers, though their effect on employment is more uncertain (see, for example, Blundell, 2000).

The final approach is the direct public-sector creation of jobs, which can be concentrated on sectors where less-qualified workers predominate (construction or some basic public services would be examples). It is striking that the Scandinavian countries, where public-sector job creation played such an important role, managed best to preserve the employment and earnings position of the least qualified. The impact on employment of such government spending is much more predictable than the impact of wage cutting or subsidization of employers or workers in private services. Cuts in the relative pay of the less qualified are not required, provided that taxpayers will accept the costs of redistributing some consumption from themselves to those currently unemployed. Taxpayers benefit in terms of the public-sector infrastructure and services provided and in terms of avoidance of the social divisions and dislocations which persistent mass unemployment brings.

There is a further reason for the deliberate creation of jobs for the less qualified. In many countries joblessness among the least qualified is highly concentrated regionally. In the old industrial areas of the UK for example, a *majority* of men in the bottom educational quartile are without work (Glyn and Erdem, 1999), more than double the joblessness of the bottom quartile in the most prosperous areas. Given the impediments and social costs to mobility there is every reason to try to steer work for the less qualified to the areas where they live (see Gudgin, 1995).

The OECD claimed in the Jobs Report that increased public expenditure was infeasible. 'New Jobs must certainly be generated by the private sector, because in nearly all countries budget deficits and resistance to tax increases rule out significant expansion of the public sector' (OECD, 1994, p. 33). If this was correct,

---

[7] Cuts in working time in order to share out available unskilled work would raise labour costs and threaten employment unless pay was reduced commensurately, which this section of the labour force is least able to afford.

any measures involving significant net costs to the rest of society (such as subsidies for the creation of private-sector jobs) would be ruled out. This would imply that unemployment can only be tackled by relying on market forces and that there is just no alternative to accepting the distributional effects this generates, however harsh. This was always a thoroughly defeatist conclusion, and is even more so now that budgetary consolidation has been achieved in many countries.

References

Autor, D., Katz, L., and Krueger, A. (1998), 'Computing Inequality: Have Computers Changed the Labour Market', *Quarterly Journal of Economics*, **113**(4), 1169–214.

Ball, L. (1999), 'Aggregate Demand and Long-Run Unemployment', *Brookings Papers on Economic Activity*, 2, 189–251.

Baumol, W., Batey Blackman, S., and Wolff, E. (1989), *Productivity and American Leadership*, Cambridge, MA, MIT Press.

Berman, E., Bound, J., and Machin, S. (1998), 'Implications of Skill-Biased Technical Change: International Evidence', *Quarterly Journal of Economics*, **113**(4), 1215–44.

Blanchard, O. (1999), 'European Unemployment: The Role of Shocks and Institutions', MIT mimeo.

—— Wolfers, J. (2000), 'The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence', *The Economic Journal*, **110**, C1–33.

Blau, F., and Kahn, L. (1996), 'International Differences in Male Wage Inequality: Institutions versus Market Forces', *Journal of Political Economy*, **104**, 791–837.

Blondal, S., and Pearson, M. (1995), 'Unemployment and Other Non-Employment Benefits', *Oxford Review of Economic Policy*, **11**(1), 136–69.

Blundell, R. (2000), 'Work Incentives and 'In-Work' Benefit Reform: A Review', *Oxford Review of Economic Policy*, **16**(1), 27–44.

Boltho, A., and Glyn, A. (1995), 'Can Macroeconomic Policies Raise Employment?', *International Labour Review*, **134**(4–5), 451–70.

Bruno, M., and Sachs, J. (1985), *Economics of Worldwide Stagnation*, Oxford, Basil Blackwell.

Calmfors, L. (1994), 'Centralisation of Wage Bargaining and Macroeconomic Performance—A Survey', *OECD Economic Studies*, **21**, 161–91.

—— Driffill, J. (1988), 'Bargaining Structure, Corporatism and Macroeconomic Performance', *Economic Policy*, 6.

—— Skedinger, P. (1995), 'Does Active Labour Market Policy Increase Employment?', *Oxford Review of Economic Policy*, **11**(1), 91–109.

Card, D., and Krueger, A. (1995), *Myth and Measurement: The New Economics of the Minimum Wage*, Princeton, NJ, Princeton University Press.

—— Kramarz, F., and Lemieux, T. (1999), 'Changes in the Relative Structure of Wages and Employment: A Comparison of the US, Canada and France', *Canadian Journal of Economics*, **32**(4), 843–77.

Carlin, W., and Soskice, D. (1990), *Macroeconomics and the Wage Bargain*, Oxford, Oxford University Press

Commission of the European Communities (1993), *Growth, Competitiveness and Unemployment*, Brussels.

Desjonqueres, T., Machin, S., and Van Reenen, J. (1999), 'Another Nail in the Coffin? Or Can the Trade Based Explanation of Changing Skill Structures be Resurrected?', *Scandinavian Journal of Economics*, **101**(4), 533–54.

Dolado, J., Kramarz, F., Manning, A., Margolis, D., Teulings, C. (1996), 'The Economic Impact of Minimum Wages in Europe', *Economic Policy*, 23, 317–72.

Elmeskov, J., and MacFarlan, M. (1994), 'Unemployment Persistence', *OECD Economic Studies*, 21, 59–88.

—— Pichelman, K. (1994), 'Interpreting Unemployment: The Role of Labour Force Participation', *OECD Economic Studies*, 21, 139–60.

Erdem, E., and Glyn, A. (2000), 'Employment Growth, Structural Change and Capital Accumulation', in R. Schettkat and T. ten Raa (eds), *Services: High Costs, Strong Demand*, Cambridge, Cambridge University Press.

Fortin, N., and Lemieux, T. (1997), 'Institutional Changes and Rising Wage Inequality: Is There a Linkage?', *Journal of Economic Perspectives*, **11**(2), 75–96.

Freeman, R. (1995), 'The Limits of Wage Flexibility to Curing Unemployment', *Oxford Review of Economic Policy*, **11**(1), 63–72.

Glyn, A. (1998), 'Low Pay and Employment Performance', The Labour Market Consequences of Technical and Structural Change Discussion Paper No. 30, Institute of Economics and Statistics, Oxford University.

—— Erdem, E. (1999), 'The UK Jobs Gap—Lack of Qualifications and the Regional Dimension', Memorandum submitted to the Employment Sub-Committee of the Education and Employment Select Committee Inquiry into Employability and Jobs: Is There a Jobs Gap?

—— Machin, S. (1997), 'Colliery Closures and the Decline of the UK Coal Industry', *British Journal of Industrial Relations,* **35**(2), 197–214.

—— Rowthorn, R. (1988), 'European Unemployment, Corporatism and Structural Change', *American Economic Review*, **78**, 194–9.

—— Salverda, W. (2000), 'Employment Inequalities', in M. Gregory, W. Salverda, and S. Bazen (eds), *Labour Market Inequalities: Problems and Policies of Low-Wage Employment in International Perspective*, Oxford, Oxford University Press.

Gordon, D. (1996), *Fat and Mean: The Corporate Squeeze of Working Americans and the Myth of Managerial Downsizing*, Free Press.

Gordon, R. (1998), 'Foundations of the Goldilocks Economy: Supply Shocks and the Time-Varying NAIRU', *Brookings Papers on Economic Activity*, 2, 297–346.

Gregg, P., and Manning, A. (1997), 'Skill-biased Change, Unemployment and Wage Inequality', *European Economic Review*, **41**, 1173–200.

Gudgin, G. (1995), 'Regional Problems and Policy in the UK', *Oxford Review of Economic Policy*, 11(2), 18–63.

Hartog, J. (1999), 'Whither Dutch Corporatism?', *Scottish Journal of Political Economy*, **46**(4), 458–87.

Howell, D. (1999), 'Increasing Earnings Inequality and Unemployment in Developed Countries: A Critical Assessment of the 'Unified Theory'', New School for Social Research, New York, mimeo.

ILO (1995), *World Employment Report*, International Labour Office, Geneva.

Katz, L., and Autor, D. (1999), 'Changes in Wage Structure and Earnings Inequality', in O. Ashenfelter and D. Card (eds), *Handbook of Labour Economics*, Vol. III.

—— Krueger, D. (1999), 'The High Pressure US Labor Market of the 1990s', *Brookings Papers on Economic Activity*, 1, 1–88.

Krueger, A., and Pischke, J.-S. (1997), 'Observations and Conjectures on the US Employment Miracle', NBER Working Paper 6146, Cambridge, MA.

Krugman, P. (1994), 'Past and Prospective Causes of High Unemployment', in *Reducing Unemployment: Current Issues and Policy Options*, The Federal Reserve Bank of Kansas City.

Layard, R. (1997), 'Preventing Long-term Unemployment', in D. Snower and G de la Denesa (eds), *Unemployment Policy*, Cambridge, Cambridge University Press.

—— Nickell, S., and Jackman, R. (1991), *Unemployment*, Oxford, Oxford University Press.

Lucifora, C. (2000), 'Wage Inequalities and Low Pay: The Role of Labour Market Institutions', in M. Gregory, W. Salverda, and S. Bazen (eds), *Labour Market Inequalities: Problems and Policies of Low-Wage Employment in International Perspective*, Oxford, Oxford University Press.

Machin, S., and Manning, A. (1999), 'Long Term Unemployment in Europe', in O. Ashenfelter and D. Card (eds), *Handbook of Labour Economics*, Vol. III.

—— Van Reenen, J. (1998), 'Technology and Changes in Skill Structure: Evidence for 7 OECD countries', *Quarterly Journal of Economics*, **113**(4), 1215–44.

Nickell, S. (1997), 'Unemployment and Labour Market Rigidities', *Journal of Economic Perspectives*, **11**(3), 55–74.

—— (1998), 'Unemployment: Questions and Some Answers', *The Economic Journal*, **108**, 802–16.

—— Bell, B. (1995), 'The Collapse in Demand for the Unskilled and Unemployment Across the OECD', *Oxford Review of Economic Policy*, **11**(1), 40–62.

—— and —— (1996), 'Changes in the Distribution of Wages and Unemployment in OECD Countries', *American Economic Review*, **86**(2), 302–8.

—— Layard, R. (1999), 'Labour Market Institutions and Economic Performance', in O. Ashenfelter and D. Card (eds), *Handbook of Labour Economics*, Vol. III.

Nolan, B. (1998), 'Low Pay, the Earnings Distribution and Poverty in Ireland 1987–94', in S. Bazen, M. Gregory, and W. Salverda (eds), *Low Wage Employment in Europe*, Cheltenham, Edward Elgar.

OECD (1993), *Employment Outlook*, Paris, OECD.

—— (1994), *The OECD Jobs Study: Evidence and Explanations*, (2 Vols), Paris, OECD.

—— (1996), *Employment Outlook*, Paris, OECD.

—— (1997), *Employment Outlook*, Paris, OECD.

—— (1999), *Employment Outlook*, Paris, OECD.

Pryor, F., and Schaffer, D. (1999), *Who's Not Working and Why*, Cambridge, Cambridge University Press.

Richardson, J. (1995), 'Income Inequality and Trade: How to Think, What to Conclude', *Journal of Economic Perspectives*, **9**(3), 33–54.

Robinson, P. (2000), 'Active Labour-market Policies: A Case of Evidence-based Policy-making?', *Oxford Review of Economic Policy*, **16**(1), 13–26.

Rowthorn, R. (1992), 'Corporatism and Labour Market Performance', in J. Pekkarinen, M. Pohjola, and R. Rowthorn (eds), *Social Corporatism*, Oxford, Oxford University Press.

—— Ramaswamy, R. (1999), 'Growth, Trade and Deindustrialisation', *IMF Staff Papers*, **46**(1), 18-41.

Schmitt, J., and Wadsworth, J. (1994), 'The Rise in Economic Inactivity', in A. Glyn and D. Miliband (eds), *Paying for Inequality*, London, Rivers Oram.

Summers, R. (1985), 'Services in the International Economy', in T. Inman (ed.), *Managing the Service Economy*, Cambridge, Cambridge University Press.

Wadhwani, S. (1999), 'British Unemployment and Monetary Policy', at www.bankofengland.co.uk/Speeches/speech64.pdf

Wood, A. (1994), *North South Trade, Employment and Inequality*, Oxford, Oxford University Press.

—— (1998), 'Globalisation and the Rise in Labour Market Inequalities', *The Economic Journal*, **108**, 1463–82.