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# INEQUALITIES OF EMPLOYMENT AND WAGES IN OECD COUNTRIES

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Abstract
The growth of wage inequality, and increasing employment problems for the unskilled, have been a major cause for concern in OECD countries. A cross-country review of the wage dispersion data shows that widely cited figures for men exaggerate the rise in wage inequality in the whole labour force, that most of the increased wage inequality has taken place in the top half of the distribution and that there was no general increase in wage dispersion in the lower half of the distribution in the 1980s and 1990s. By contrast, detailed data from national labour force surveys, reveals a widespread tendency for the employment rates of the least qualified to decline since 1980 relative to those of the more qualified. Contrary to what is widely believed, countries where the relative wages of those at the bottom have fared worst have not shown the most favourable employment trends.

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## INEQUALITIES OF EMPLOYMENT AND WAGES IN OECD COUNTRIES

The deteriorating labour market position of the least qualified in OECD countries has been one of the most discussed problems of the past decade. There are three major issues involved Firstly what has really happened to the employment rates and wages of those at the bottom of the labour market. Secondly there is the relation between these two dimensions of labour market inequality; have those countries where wage inequality rose more preserved more jobs for the least qualified? Finally, there has also been a wide ranging debate about the causes of the problems faced by the least qualified – international trade, skill-biased technical progress, policy and institutional shifts, lack of demand for labour overall and changes in supply of different groups of workers. This paper is concerned with the first two questions only, although a proper appreciation of the stylised facts is certainly relevant to
sorting out explanations.

The first section documents briefly the trends in wage inequality; although fairly standard OECD sources are used the picture that emerges is still quite strik ing. The second section examines the employment of the least qualified. Here it is necessary to supplement published data with analysis of national labour force surveys. The third section brings together these two dimensions of labour market inequality - jobs and pay - and evaluates the trade-off between them.

### I Wage Inequality

The OECD has assembled a data set on wage inequality (OECD 1996 subsequently updated) detailing the d9/d5 ratio (wages at the 9$^{th}$ decile divided by the median) and the d5/d1 ratio (wages at the median divided by the 1$^{st}$ decile) for weekly (or annual) earnings of full-time workers. Although the time periods for which this data is available differ between countries they give the most comprehensive picture available of wage dispersion trends over the past two decades.

The first 3 columns of table 1 present trends in the d9/d1 ratios for men, for women and for the labour force as a whole. Male wage inequality has typically risen at around 1% a year; for UK and USA increases averaging more than 1% per year have been recorded over the full 20 years. Such data has been widely used to illustrate the extent of rising wage inequality. There is no obvious difference in the degree to which male wage inequality has risen in Europe as compared to the OECD as whole (as shown by the median increases for the two groups).

Women's wage inequality (column 2) has typically risen somewhat less fast than men's though the pattern is far from uniform. The overall degree of dispersion (column 3) usually rose less rapidly than the average of the rises for men and women separately, as women's pay has tended to rise towards male levels (Freeman and Katz 1994). The UK and USA illustrate this compositional effect. The net result is that total wage dispersion has tended to rise about one half as fast as dispersion for men alone (compare columns 3 and 1). Thus the widely cited data for men tend to exaggerate the overall rise in wage dispersion.

Columns 4 and 5 split up the rise in overall dispersion into that occurring in the two halves of the distribution. The top half (d9/d5) accounts for a disproportionate share of the rise in earnings inequality overall. In the countries where dispersion rose considerably it typically rose much less in the lower half of the distribution (Ireland for example); where it did not rise much overall it often slipped down in the bottom half (France or Finland). Even in the USA, where perceptions of declining relative wages for the low paid are probably strongest, two thirds of the increased wage dispersion took place within the top half of the distribution. Whilst in half of the countries d9/d5 grew by 0.5% or more per year. (including five out of six Anglo-Saxon countries) no country recorded d5/d1 rising by 0.5% per year. So although there was a rather widespread increase in wage inequality in the upper reaches, there was *no general increase in wage inequality the lower half of the distribution.*

One proviso to this important conclusion is in order. The data reported in table 1 refer to full-time workers only. Part-time workers are paid less than full time workers (median hourly wages in OECD countries are on average 25% lower for part-timers, with a larger discrepancy in Anglo-Saxon countries - OECD 1999). If the number of part-timers was increasing rapidly then falls in relative pay at the bottom of the distribution will be underestimated if they are ignored. In the 1990s however the share of part-timers increased typically by only 1% of the labour force so in most countries the omission of part-timers will not much affect the trend (unless their wages were also falling relatively to full-timers)

The last column of the table presents rough estimates of the trend in real earnings at the bottom of the distribution, reflecting the growth of average real wages and the relative position of those at the bottom as measured by the previous column (5/1 ratio). Real wages fell in four out of five of the non-European countries, whereas in Europe real wages grew in the range 0-2% per year. For example, there has been a cumulative divergence of nearly 3% per year over 20 years between the real wages for low paid workers in the UK and USA.

There has been considerable discussion of the fact that the rise in wage dispersion in the USA slackened off in the 1990s compared to the 1980s, and in the UK wage dispersion stopped rising at all in the 1990s. However this is not the general pattern. In Germany for example the trend shifted in the 1990s from falling to rising dispersion and in New Zealand and Netherlands dispersion accelerated in the 1990s. Of the countries with little trend in the 1980s some shifted to falling dispersion (Finland, France and Japan) but others to rising dispersion (Australia and Sweden). The median (for 10 countries with data for substantial parts of both periods) actually shows larger increases in dispersion in the 1990s than 1980s, with the increase focussed in the top half of the distribution.

| **Table 1 Wage Dispersion OECD Countries 1979-2000** | | | | | | | |
|---|---|---|---|---|---|---|---|
| *average annual percentage changes* | | Men d9/d1 | Women d9/d1 | All d9/d1 | All d9/d5 | All d5/d1 | Real Wages lowest decile |
| Australia | 1979-2000 | 0.7 | 0.5 | 0.5 | 0.5 | 0 | -0.2 |
| New Zealand | 1984-97 | 2.1 | 1.1 | 1.3 | 0.9 | 0.4 | -1.3 |
| Japan | 1979-99 | 0.3 | 0.1 | -0.1 | 0.2 | -0.3 | 0.9 |
| Canada | 1981-94 | 0.6 | 0.5 | 0.3 | 0.2 | 0.1 | -0.1 |
| USA | 1979-2000 | 1.4 | 1.6 | 1.0 | 0.7 | 0.3 | -0.8 |
| Finland | 1980-99 | 0.1 | -0.1 | -0.2 | 0.1 | -0.4 | 2.2 |
| France | 1979-98 | -0.2 | -0.1 | -0.3 | 0 | -0.3 | 1.3 |
| Netherlands | 1979-99 | 0.9 | 0.2 | 0.6 | 0.4 | 0.2 | 0 |
| Sweden | 1980-98 | 0.6 | 0.7 | 0.5 | 0.2 | 0.3 | 0.5 |
| UK | 1979-2000 | 1.3 | 1.2 | 0.7 | 0.6 | 0.1 | 2.0 |
| Belgium | 1985-95 | | | | | -0.1 | 0.6 |
| Germany | 1984-98 | 0.9 | -0.2 | 0.4 | 0.6 | -0.2 | 1.5 |
| Italy | 1986-96 | 1.6 | -0.6 | 0.8 | 1.4 | -0.6 | 1.2 |
| Ireland | 1987-97 | 2.3 | -1.1 | 0.7 | 1.1 | -0.4 | 2.1 |
| Switzerland | 1991-98 | 0.8 | -0.8 | -0.3 | 0 | -0.3 | - |
| Denmark | 1980-90 | | | 0.1 | 0.3 | -0.2 | 0.5 |
| Norway | 1980-91 | | | -0.4 | 0.3 | -0.6 | 1.6 |
| Median | N=14 | 0.85 | 0.15 | 0.5 | 0.45 | -0.1 | |
| Median Europe | N=9 | 0.9 | 0.1 | 0.5 | 0.4 | -0.3 | |
| Median 80s | N=10 | 0.5 | 0.5 | 0.2 | 0.3 | -0.1 | |
| Median 90s | N=10 | 1.1 | 0.4 | 0.8 | 0.6 | -0.1 | |

Medians are constructed for 10 countries with data for at least 6 years in both the 1980s and 1990s .

Real wages are calculated from real average earnings in manufacturing (OECD Historical Statistics) increased (reduced) by the rise (fall) in wages at bottom decile compared to median Source: OECD Wage Dispersion Data Base August 2001 supplied by OECD. Data for Ireland supplied by Brian Nolan.

## II Employment Inequalities and the position of the Unskilled

(i) Differences in the Late 1990s

Whereas the distribution of pay can be measured quite directly, the employment position of the unskilled is trickier to document. Educational qualifications, although difficult to compare between countries and over time, offer just about the only widely available measure of "skill". Table 2 below shows how severe the problem of joblessness was amongst the least qualified in different OECD countries towards the end of the 1990s. The data refers to employment rates, rather than unemployment, because many of the least qualified who cannot find work drop out of the labour force (or do not enter the labour force in the case of women) and are recorded as inactive (Schmitt and Wadsworth 1994). Confining attention to the 25-64 year olds evades differences across countries in numbers in education.

Since proportions of the population in given educational categories vary enormously across countries employment rates are shown for the top (Q4) and bottom quarters (Q1) of the educational distribution (see Glyn and Salverda 2000 for more discussion)[2]. The difference between their employment rates is a measure of the employment shortfall experienced by the less qualified [3]. It is not implied that all the unemployed and inactive are involuntarily without work, in the sense that they would all be working if demand for workers of their type had been persistently higher. Many would be engaged in domestic work or would be unavailable for work due to sickness and so forth. However the binding constraint on the numbers of the least qualified who are working is typically shortage of jobs (both currently and in the past), so that the actual proportion employed is a reasonable indicator of the extent to which the economy has generated jobs at the bottom end of the labour market. By analogy to earnings dispersion, "employment dispersion" will be used to indicate differences between quartile employment rates (shortened to Q4-Q1) or ratios (Q4/Q1)4.

Table 2 below presents these employment rate data for men and women separately and for the whole labour force. Whilst employment rates for the most educated men (Q4) are generally near the range 85-90%, the least educated have much lower rates and (Q4-Q1) differences are typically in the range 15-25% with Ireland and Belgium having particularly large gaps. Italy has one of the lowest unemployment rate differences between the best and least qualified. However the table

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[2] Using quartiles does not wholly avoid problems of comparability across countries especially for the bottom quartile, as the lowest educational category can comprise more than one quarter of the population force, in which case Q1 is assumed to have the employment rate of the larger category.

[3] The most commonly used measure of the relative employment position of the unskilled is the ratio of unemployment rates for unskilled and skilled (as used in Wood (1994), Nickell and Bell (1995), OECD (1994) for example). However using the *ratio* of unemployment rates can suggest that the position of the unskilled has improved even when the *absolute gap* in unemployment rates (showing the disadvantage in terms of the chances of having a job) has increased ( see Glyn and Salverda 2000).

4 Note that the quartile employment rates refer to averages *for* the quartile whereas the decile earnings shown in the previous section refer to earnings *at* the decile point in the distribution.

shows how partial an indicator unemployment is since the least unqualified there have much higher rates of inactivity rates bringing very low employment rates. Given the international debate the position of the USA is of particular interest. The proportion of the least qualified men with jobs is third only to Japan and Switzerland[5], but their relative position compared to the most qualified (Q4-Q1) is no better than in Sweden and W.Germany for example.

In fact these US figures overstate the employment rate. In 1997 around 1.75 million people were in jail or prison in the USA. Obviously they were not employed, but they are also omitted from the population figures (which refer to the "non-institutional population") and thus employment rates are exaggerated (Freeman 1995). Since the incarcerated tend to be less educated this will particularly affect Q1 employment rates (especially for men). A rough calculation suggests that their inclusion would reduce the Q1 employment rate for men by several percentage points and push up the Q4-Q1 measure of employment differences by a similar amount. This means that the data in the table somewhat flatter the US position.

Employment dispersion is greater for women than for men in every country in table 2 except Japan, since the growth of women's participation generally affected the better qualified women first. The importance of these long run social factors is illustrated by the Netherlands which has relatively high employment of least qualified men, but rather low employment of Q1 women. With traditionally very high employment rates for men it is natural to attribute declining employment of the least qualified to falling demand for less skilled labour. Overall, however, the strong positive correlation between the Q1 employment rates for men and women (0.84 for the series in table 2) suggests that the influence of demand is important for women as well.

The final three columns of the table present the Q4-Q1 measure of employment dispersion for the whole labour force; the higher proportion of women with few qualifications gives them a higher weight than men in the overall outcome. Disregarding the exceptional case of Switzerland, only Japan, Sweden and the USA have differences of less than 20%, and Q4-Q1 is around 12 percentage points less in the USA than in the average of the biggest four European economies.

[5] The exceptional position of Switzerland partly reflects the high proportion of the least qualified who are migrants whose permission to reside is linked to having work.

**Table 2** **Employment differences by Educational Quartiles**

Employment/Population, 25-64 years old

| 1998 unless | Men | | | Women | | | All Workers | | |
|---|---|---|---|---|---|---|---|---|---|
| Specified | Q1 | Q4 | Q4-Q1 | Q1 | Q4 | Q4-Q1 | Q1 | Q4 | Q4-Q1 |
| Australia | 71.0 | 90.6 | 19.6 | 47.8 | 77.5 | 29.7 | 57.8 | 83.8 | 26 |
| Austria (94) | 70.2 | 86.6 | 16.4 | 47.0 | 70.5 | 23.5 | 55.9 | 79.7 | 23.8 |
| Belgium (94) | 52.8 | 88.0 | 35.2 | 23.2 | 76.9 | 53.7 | 36.3 | 82.6 | 46.3 |
| Canada | 67.4 | 87.2 | 19.8 | 45.4 | 78.5 | 33.1 | 56.4 | 83.1 | 26.7 |
| Denmark (94) | 65.7 | 87.6 | 21.9 | 55.5 | 85.6 | 30.2 | 60.1 | 86.6 | 26.5 |
| Finland (97) | 58.9 | 84.7 | 25.8 | 50.1 | 80.7 | 30.6 | 54.6 | 82.6 | 28.0 |
| France | 64.5 | 83.8 | 19.3 | 43.0 | 74.8 | 31.8 | 53.4 | 79.1 | 25.7 |
| W.Germany (96) | 68.9 | 83.2 | 14.3 | 37.6 | 71.3 | 33.7 | 50.5 | 79.2 | 28.7 |
| Ireland (2000) | 64.6 | 93.5 | 28.9 | 30.2 | 78.7 | 48.5 | 48.5 | 86.1 | 37.6 |
| Italy | 55.6 | 83.0 | 27.4 | 17.9 | 63.2 | 45.3 | 32.6 | 73.7 | 41.1 |
| Netherlands | 72.3 | 90.0 | 17.7 | 37.0 | 77.6 | 40.6 | 53.0 | 85.1 | 32.1 |
| N Zealand (99) | 71.1 | 87.6 | 16.5 | 49.1 | 74.8 | 25.7 | 59.0 | 81.8 | 22.8 |
| Norway (94) | 72.9 | 90.9 | 17.9 | 56.2 | 86.1 | 29.8 | 64.6 | 88.6 | 24 |
| Sweden (97) | 71.9 | 85.3 | 13.4 | 62.7 | 85.3 | 22.6 | 67.4 | 85.3 | 17.9 |
| Switz | 82.7 | 94.6 | 11.9 | 68.3 | 80.4 | 12.1 | 74.4 | 91.0 | 16.6 |
| UK (2000) | 67.1 | 90.3 | 23.2 | 51.2 | 83.9 | 32.7 | 59.1 | 87.6 | 28.5 |
| USA (99) | 76.6 | 91.2 | 14.6 | 60.1 | 80.3 | 20.2 | 67.9 | 85.9 | 18.0 |
| Japan (97) | 87.8 | 96.2 | 8.4 | 60.3 | 63.4 | 3.1 | 73.8 | 83.9 | 10.1 |

Source: Author's calculations from national labour force surveys, supplemented with data from OECD 1997 and US Statistical Abstract..

Employment disadvantage for the least qualified is not confined to older workers likely to be most affected by two decades of structural change and deep recessions. Table 3 shows that less qualified amongst younger men also suffer from much lower employment rates than their more qualified contemporaries.

Table 3 **Employment Differences by Age and Education**

| Age Groups | Employment Rate Differences for men; Fourth and First Quartiles (Q4-Q1), % |
|---|---|
| 25-34 | 11.4 |
| 35-44 | 15.0 |
| 45-54 | 17.4 |
| 55-64 | 18.8 |

Source: national labour force surveys for France, W.Germany, Netherlands, Australia, Ireland, Finland and UK for year close to 1997. Educational quartiles are calculated for each age group.

Only in a few countries, most notably Germany, Sweden and Italy, is employment disadvantage for the less educated men highly concentrated amongst older age groups and such concentration is not found for women at all.

(Ii) Trends in the 1980s and 1990s

Most of the debate about the unskilled relates to their deteriorating position in the 1980s and 1990s rather than their position at the end of the period. Table 4 below provides the relevant employment data for as long periods as possible. The first column shows the near universal decline in the employment rates of the least qualified men, averaging about 1% per year with much higher rates recorded (for the 1990s) in Finland and Italy. Only the USA and Netherlands together with Ireland and Japan in the 1990s recorded no decline in the employment position of the least qualified men. For the least educated women the position is much less uniform, with very large (proportionate) increases in employment rates in Ireland and the Netherlands (from very low base levels) and substantial increases also in North America and Australia. For the least educated quarter of the labour force as a whole employment rates tended to decline. But if we took a decline of 0.5% per year as "substantial", then only half the countries would qualify and in several instances (including Australia and the USA as well as the employment "miracles" of Ireland and the Netherlands) employment rates increased by at least 0.5% per year for the least educated quarter6.

6 Since the US prison population nearly quadrupled between 1980 and 2000 the real US trends are somewhat less favourable than those reported in the tables and text.

The last three columns relate to the *relative* employment position of the least qualified. Q4/Q1 refers to the ratio of employment rates for the most and least qualified and show the very general deterioration for those at the bottom of the labour market. The Netherlands and the USA stand out for having bucked the general trend towards rising employment inequality between the fourth and first quartiles. The earlier discussion of rising earnings inequality noted that this took place disproportionately in the top half of the distribution. The Q4/Q23 column shows the change in the employment rate of the top quartile as compared to the middling two; whereas the final column compares the middle two quartiles with the bottom. There is no clear pattern comparing the top and the middle. In a number of countries jobs for the middle rose faster than at the top; this reflected rising women' participation spreading down the educational distribution (Ireland being a case in point). Increases in employment inequality between middle and bottom (Q23/Q1) are much more frequent, with the median increase in Europe approaching 1% per year (implying that the employment rate of the bottom quarter tended to fall by some 20% as compared to the middle of the distribution over two decades). Netherlands is the only case where Q1 employment appears to have grown faster than the middle, although in the USA, Germany and Australia there was virtually no change[7].

Comprehensive employment rate data for both the 1980s and 1990s is limited, but in the eight countries for which a run of data is available (including France, Germany, UK and USA) the position of the least qualified usually deteriorated more in the 1980s. Indeed the median increase in Q4/Q1 is 0.7% per year in the 1980s but -0.3% per year in the 1990s, implying employment rates rising faster at the bottom than the top (for men and women combined.) during the 1990s. Only in Australia did the relative employment of those at the bottom of the distribution deteriorate more in the 1990s.

The trends in the USA are of particular interest. Over the 1980s and 1990s as a whole the employment position of the bottom quartile did not deteriorate at all as compared to those in the middle, and actually improved as compared to the top quartile as women's participation began to catch up. However there had already been a severe deterioration in their employment position in the 1970s. Employment rates for the least educated quartile of men fell at 1.3% per year between 1970 and 1979 and for the least educated quarter of men and women by 0.6% per year. This decline in job opportunities for the least educated in the US has been much less studied than the subsequent fall in their relative pay in the 1980s. The longer-term picture is that the least educated lost out in terms of jobs in the US in the 1970s, in terms of relative pay in the 1980s, and broadly held their position in both respects in the 1990s – the decade when the impacts of skill biased technical progress and globalisation might be expected to have been sharpest but where the overall labour market was most buoyant.

Summarising the above, there is an interesting contrast between the patterns for earnings and

[7] This may also be true for Sweden where the survey method changed (for the better) in 1996 resulting in a big decline in recorded employment rates at the bottom end. The numbers in the table assume that all this fall represents a genuine deterioration spread over the whole period since 1980 (ie that the earlier survey became increasingly inaccurate) but this (pessimistic) assumption may well exaggerate the fall in Q1 in Sweden.

employment. Earnings inequality tended to increase more in the 1990s than in the 1980s, whereas employment inequalities grew more in the 1980s. Earnings inequality has increased mainly in the top half of the distribution, employment inequality in the bottom half. The middle has lost out relatively to the best qualified in terms of pay, but gained in terms of employment rates as compared to the bottom. The net effect is that the bottom quartile has fallen behind the top quartile both in terms of relative pay and in terms of the chance of being in work.

Changes in the employment dispersion and in earnings dispersion can be added together to form a measure of labour market inequality (INDEED or "index of earnings and employment dispersion"). This gives equal weights to a 1% increase in the relative pay of the top decile and to a 1% point rise in the relative employment rate of the most qualified quartile (even though a 1% fall in employment might be regarded as the more damaging). It can also be thought of as roughly measuring the change in the proportion of the wage bill going to the least qualified as compared to the most qualified. This measure is constructed both for the top of the distribution relative to the bottom (INDEED 91) and for the middle relative to the bottom (INDEED51)8.

Increases in the index implying growing disparities predominate (see figure 1). In a few cases the rises were very large (UK and New Zealand, together with Italy and Ireland in the 1990s) with a deterioration in the position of the bottom relative to the middle constituting the bulk of rise inequality overall. However the picture is far from uniform. The USA shows quite a modest increase in inequality overall on both 9/1 and 5/1 measures. Rising wage inequality was partly offset by declining employment inequality (see previous tables) and both of these trends were considerably less unfavourable to those at the bottom of the labour market when the whole labour force is analysed rather than just men. Wages at the bottom declined around 0.3% per year compared to the middle, representing a cumulative fall of 6%; their relative employment rate remained steady. Of course the least qualified had much lower wages than the middle to begin with and considerably lower employment rates. But their relative situation only deteriorated to a moderate degree.

In W Germany there was no overall rise in disparities in the 1980s and first half of the 1990s. Japan is not shown in the table because reliable employment data for the earlier period is not readily available but partial estimates suggest very little if any rise in employment inequality over the 1980s and 1990s along with no rise in earnings inequality (shown in table 1). Thus in the three largest economies increases in labour market inequality were, at most, undramatic and the same holds for a number of other European countries. Perhaps the fairest summary is that the labour market position of those at the bottom of the distribution has tended to decline over the past two decades, but that the spectacular increases in the UK and New Zealand for example have not been typical, with no more than a relatively modest decline in many countries, including the largest OECD economies.

8 Changes in earnings dispersion and in employment dispersion were combined for periods as closely aligned as possible, so that the numbers used differ in some instances from those in Tables 1 and 4.

| **Table 4** | **Changes in Employment Rates and Dispersion** | | | | | |
|---|---|---|---|---|---|---|
| average annual % changes | Men Q1 | Women Q1 | All Q1 | All Q4/Q1 | All Q4/Q23 | All Q23/Q1 |
| Australia (84-98) | -0.6 | 2.1 | 0.6 | 0.4 | 0.3 | 0.1 |
| New Zealand (81-99) | -1.1 | 0.3 | -0.6 | 0.7 | -0.6 | 1.2 |
| Canada (1979-98) | -0.7 | 1.6 | 0 | 0.2 | -0.3 | 0.5 |
| USA (1979-99) | 0.1 | 1.5 | 0.7 | -0.5 | -0.6 | 0.0 |
| Finland (1989-97) | -2.6 | -3.4 | -2.9 | 2.0 | 0.6 | 1.4 |
| France (1981-99) | -1.2 | -0.1 | -0.6 | 0.3 | -0.5 | 0.9 |
| W. Germany (1980-96) | -1.2 | 0.0 | 0 | 0.3 | 0.2 | 0.1 |
| Ireland (1988-2000) | 0.1 | 5.9 | 1.4 | 0.1 | -1.5 | 1.6 |
| Italy (1989-98) | -2.6 | -3.1 | -3.3 | 2.9 | 0.1 | 2.9 |
| Netherlands(1981-98) | 0.1 | 4.3 | 1.6 | -1.0 | -0.1 | -0.9 |
| Sweden (1980-97) | -0.9 | 0 | -0.5 | 0.1 | -0.3 | 0.4 |
| Switzerland (1991-97) | -0.8 | 0.1 | -0.3 | 0.9 | 0.4 | 0.5 |
| UK (1979-2000) | -1.2 | -0.3 | -0.8 | 1.2 | 0.2 | 1.1 |
| Denmark (1981-94) | -1.2 | -0.6 | -1.1 | 1.1 | 0 | 1.1 |
| Norway (1981-94) | -1.0 | 0.5 | -0.2 | 0.4 | 0.1 | 0.3 |
| Japan (1987-97) | 0 | 0.1 | 0.1 | 0.5 | 0.2 | 0.3 |
| | | | | | | |
| OECD Median | -1.0 | 0.1 | -0.3 | 0.4 | 0.1 | 0.5 |
| Median Europe | -1.1 | 0 | -0.5 | 0.4 | 0.1 | 0.9 |

Source: author's calculations calculated from National Labour Force surveys, supplemented with data from Employment Outlook (1997) and the US Statistical Abstract.

## III Jobs or Wages?

If greater wage dispersion strongly encourages employment at the bottom end of the labour market, then there would be a clear 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). If wages are inflexible at the bottom, then declining demand for the least qualified mean that some 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". Bertola et al (2001), by contrast, do report a negative relation unemployment and wage dispersion across countries once country and time dummies are included, whilst Howell and Huebler (2001) find no effect in simple cross sections. These studies do not add up to consistent support for 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 (1996) and in Germany by Krueger and Pischke (1997).

If employment dispersion is regressed 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 employment rate differences and earnings dispersion (Glyn and Salverda 2000). The data assembled in tables 1 and 4 on *changes* in employment dispersion and wage dispersion provide a stronger test by controlling for consistent 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 1980s. If growing eamings 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.

There is no obvious reason why increases in pay differentials between the top and the middle should have any bearing on the ability of those at the bottom to find work. So the most appropriate measures of the alleged trade-off between wage flexibility and jobs for the least qualified involves comparisons with the middle of the distribution (d5/d1 for wages and Q23/Q1 for employment respectively). Where there is sufficient data it has been broken up for individual countries into an observation for the 1980s (with 8 added to the country name) and the 1990s (indicated by a 9).

Figure 2 shows the scatter between these measures of changes in wage dispersion and changes in employment inequality. The quite insignificant relationship between the two refutes the notion of

such a dominant trade-off.[9] . There is no confirmation in this data of the "Unified View" (see Howell and Huebler 2001) that rising wage dispersion is the necessary price to pay for maintaining employment at the bottom end of the labour market. This evidence is the more powerful since there could well be a spurious correlation tending to *support* the trade-off; any other factor which tended to increase the employment of the least qualified (for example some demand shift) should tend to increase wage dispersion as more would be employed near the bottom of the wage distribution.

Such simple scatters cannot show that wage dispersion has *no* influence on employment. Capitalism has not changed its spots and workers are still hired for profit. However the evidence is inconsistent with the view that wage flexibility is the *dominant* influence explaining why the less qualified have become 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 replacement 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 [10] The range of estimates suggests that to compensate for a 10% fall in relative demand for the unskilled and prevent loss of jobs might require anything from a 3% to a 20% fall in relative wages, an enormous range! The finding that changes in minimum wages have small employment effects (Card and Krueger 1994, Dolado et al 1996), is certainly consistent with a fairly low substitution elasticity. Leuven et al (1999) however do find that countries with relatively high wage dispersion employ more workers with low educational achievement (measured by test scores and controlling for industry structure). This is certainly consistent with wages dispersion having some effect on jobs.

A consistent relation across countries between changes in employment and changes in dispersion presupposes similar shifts in relative demands and supplies of different types of workers in different country. If this is not the case then the pattern of changes in dispersion and employment will be all over the place 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

[9] Regressions of changes in relative employment on changes in relative wages yield insignificant (though negative coefficients) irrespective of whether distribution is measured from top to bottom or from middle to bottom as in the chart or whether the data is split up into decades (as in the chart) or pooled. Glyn (2000) reported a similar lack of trade off when the regression was limited to data for men

[10] Wood (1994 p 132/133) reports most econometric estimates lying in the range 1 to 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 to 1.5 and Nickell and Bell (1995) take 3.

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 equip ped 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 was less. If the employment series in figure 2 is regressed on the earnings series and a dummy for North European countries (which tend to have a lower dispersion of test scores) then the dummy is negative and significant at the 10% level. This confirms that such countries tended to have lesser increase in employment inequality11. Finally 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 strong decline in the relative employment *and* relative pay of the least qualified in both the UK in the 1980s and New Zealand in the 1990s strongly support the idea that the increase in labour market inequality was greatest where union power was being most seriously undermined.

## IV **Policies to reduce labour market inequalities**

Most of the policy prescriptions from the OECD emphasise the supply side of the labour market and are designed to increase "flexibility". The implication of this paper however is that increased wage dispersion ( resulting from a reduction in benefits, lower minimum wages, reduced employment protection and so forth) is neither the only route, nor necessarily even an effective route, to higher employment for the least qualified.

It might be tempting to conclude that generalised increases in demand for labour were the solution. Table 5 below provides some evidence from countries which did secure strong increases in employment in the mid to late 1990s.

**Table 5 Employment Recoveries and the least qualified**

| % change over period | Employment Rate of Least Qualified Quartile | Ratio of Q23/Q1 employment rates |
|---|---|---|
| Ireland 1993-2000 | 25.5 | 6.0 |
| Netherlands 1990-1998 | 17.7 | -9.2 |
| UK 1993-2000 | 3.8 | 3.5 |
| USA 1992-2000 | 8.6 | -2.6 |

Source: as for table 4

11 The growth of earnings inequality remains insignificant; this is equally true if a time dummy is added .

In three of these cases employment of the least qualified did rise rather strongly, the exception being the UK where only slight improvement was recorded. However in Ireland as well as the UK employment rates at the bottom rose less than in the middle of the qualification distribution. In the Netherlands and to a lesser extent the USA employment grew faster at the bottom end leading to falls in the Q23/Q1 measure of employment inequality. The conclusion is that growing demand for labour does typically have an effect on low qualification jobs but that it may need specific measures to improve employment for these groups if it is to make serious inroads in the serious jobs gap for the least qualified discussed above.

One important reason that general increases in demand cannot be relied on is that joblessness for the less qualified is heavily regionally concentrated. In the old industrial areas of the UK for example, a *majority* of men in the bottom educational quartile are without work (Erdem and Glyn this journal), more than double the joblessness of the bottom quartile in the most prosperous areas. Regional data are available for four countries, France, W. Germany, UK and USA and in each case differences in employment rates for the least qualified category of workers is more than 20% points higher in the lowest employment region than in the highest employment region[12]. Indeed the regional employment problem is in a large measure a problem at the lower end of the labour market. Policies to sustain growing demand overall need be complemented by deliberate policy to steer jobs for the less qualified to regions where the lack is greatest.

**Conclusion**

This paper has attempted to provide a comprehensive account of what has happened to the relative labour market position of the least qualified in the OECD countries. It is very important to look at the whole labour force, since the fact that least qualified men have done especially badly both in terms of jobs and pay means that focussing exclusively on them can give a misleading picture. The least qualified overall have tended to lose out in terms of pay as compared to those at the top of the wage distribution and in terms of jobs as compared to those in the middle. However the decline in their position qualified has varied substantially across countries, being at most modest in the largest OECD countries, undermining the idea of a spectacular general deterioration as a reflection of ineluctable global forces. Moreover, the extent to which their relative employment rates have declined has *not* been closely tied to the extent to which their relative wages have declined. This refutes the suggestion that lack of wage flexibility is the dominant explanation for differences in the degree of job loss at the bottom of the labour market. This opens up the space for measures to improve employment prospects for the least qualified without reducing their relative pay, including general and targeted increases in demand.

[12] The difference is actually greatest in the USA. Those with less than completed high school education had employment rates of 36.6% in West Virginia and 72.2% in Iowa over the years 1995-97.

Figure 1 Indices of Labour Market Inequality 1980s & 1990s

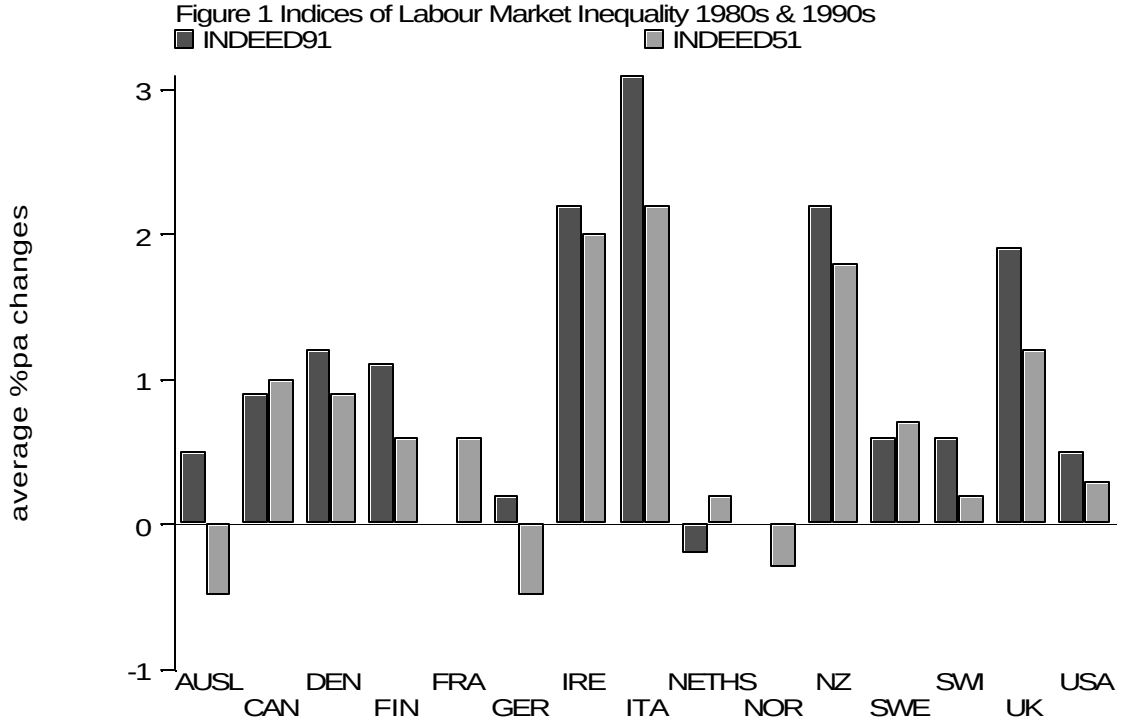

Figure 2 Employment v Wage Inequalities 1980s & 1990s

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