

**The European-American Employment Gap, Wage Inequality,  
Earnings Mobility and Skill: A Study for France, Germany,  
the Netherlands, the United Kingdom and the United States**

*Final Report*

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## Executive summary

*Our analysis of the European-American employment gap and the earnings mobility record of four European economies (France, Germany, the Netherlands and the UK) relative to the US does not endorse the bleak picture of a ‘sclerotic’ Europe which fails to match the wage flexibility of the US. The employment gap in the European economies continues to pose challenges, but these economies have areas of significant achievement. More strikingly, the stereotype of wage rigidity in the European economies is not confirmed. This has important implications for the assessment of policies towards improving the employment position in EU economies.*

### Purpose

The report summarises most<sup>1</sup> of the results of an extensive data research project, which served the purpose of a comprehensive international comparison between four European countries (France, Germany, the Netherlands and the United Kingdom) and the United States, of:

- First, *the earnings structure of employment*. Both the situation in the mid-1990s and the evolution since 1979 were recorded. Below this is referred to as ‘benchmarking’.
- Second, the *earnings mobility of individuals* across the distribution. This was mainly done for the 1990s. Here the reference is ‘mobility’.

In addition, special attention was paid to the aspects of individual literacy and job quality.

### Benchmarking

The comparisons were made for a series of personal characteristics (gender, age, education, ethnicity) and job characteristics (industry, type of contract, size of enterprise) or a combination of both (full-/part-time, seniority). *The approach adopted has two*

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<sup>1</sup> The comparative evaluation of the European Structure of Earnings Survey ESES and the European Community Household Panel ECHP is left out here. See the full benchmarking report.

*significant properties* that aim to expand the existing knowledge of wage inequalities and employment.

- the *comparisons cover total employment, including part-time jobs* alongside full-time jobs and thus accounting for the rapid growth of part-time employment and the significant international differences in its incidence. Consequently, the results are based throughout on the full population of hourly wages, adding important insights on the earnings distribution of employment measured in terms of hours worked (*the 'hours approach'*) alongside the usual measurement in terms of persons working (*the head count approach'*).
- the comparisons also address the earnings structure as a whole including an *explicit study of high pay*, based on the definition as wages over 150 per cent (3/2) of the national median wage (mirroring that of low pay defined as below two-thirds of the median). Intermediate pay is defined as being between these two cut-offs.

The analysis has generated several new 'stylised facts':

- It *underlines the significance of including part-time jobs* in international comparisons. Their incidence in employment differs substantially – but note that the American hours volume equals the German and the French – and in the European countries it is growing significantly. Also, part-time jobs occupy different positions in the earnings distribution, concentrated on low pay in the United States and more polarised between low and high pay elsewhere.
- It *reinforces the general picture of earnings inequality* as being much higher in the Anglo-Saxon countries compared to the Continent, as the French earnings dispersion and incidence of low pay are brought closer to the German level and British inequality and incidence closer to the American level.
- It *emphasises the important role of high-wage employment* as an element of the international differences. The transatlantic employment gap is essentially two-tailed as the United States has a larger incidence of both low pay and high pay. At the intermediate levels of pay the Continental countries have an employment advantage. This, however, is much smaller for hours worked than for persons working and it is gradually decreasing over time. This is further strengthened by the finding that since 1979, on balance, American employment growth has been stronger for high-wage employment than for low-wage employment.

- This *observation is particularly relevant for women*. The transatlantic employment gap (and its growth since 1979!) is virtually identical with a higher level of female employment and the gap is particularly significant for high-wage employment. Also, two-thirds of American female employment growth has been in high-wage jobs. The European countries fail to match this. For men, longer working hours in the USA and the UK are an important constituent of the employment gap. Also, American men have been fully ‘responsible’ for the growth in low-wage employment since 1979.

Starting from the fact that the incidence of low and high pay is substantially higher in the United States, we have looked at the national structures of pay inequalities relative to these differing levels (‘the relative risk of low or high pay’).

- The *structures of pay inequalities appear to be strikingly similar* across the five countries. The same categories have comparable relative risks of either low pay or high pay. However, the range of relative risk is even wider in Europe than in the United States. Certain groups in individual European countries run an even higher absolute risk of being low paid (e.g. youths, hotel and catering workers) or high paid (e.g. managers, professionals, men working part-time, employees in utilities).
- Particularly, the *low-paying\* industries are quasi universal*: agriculture, retail trade, hotels and catering and personal services, while the high-paying industries are much more difficult to pin down. The *high-wage employment gap seems to relate more strongly to personal characteristics*, as the role of American women already suggests, than to industry. In the industries that pay high wages in the United States (30 per cent or more above the average), Europe has an employment advantage (but European wages in these industries are not necessarily high). European high-wage industries pay wages that stand out further above the average than American high-wage industries.

## Mobility

The findings from examining earnings mobility at the individual level across the four selected European economies, and between them and the United States, *do not give*

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\* Industries are defined here by their average level of pay.

*systematic support to the view of rigid labour markets in the European economies inhibiting job growth.* Specifically:

- each of the European economies, with the exception of France, shows greater earnings mobility than the United States; and France is level with the USA;
- the mobility record, in terms of the proportion escaping from low-paid employment in any one year, is found to be very similar across the five economies;
- however, transitions from low pay to non-employment are clearly higher in the UK, while the United States is very similar to France and Germany;
- the highest degree of upward earnings mobility from the bottom deciles occurs in France and Germany, with the United States again in a middle ranking;
- upwards earnings progression by those returning from unemployment is less frequent in the United States than in any of the European economies with the exception of the Netherlands, and substantially less frequent than in the UK.

Turning to real wage rigidity, in terms of downwards earnings change for workers continuing in employment, with or without a job change, *the evidence again does not support wage rigidity in the European economies by contrast to the USA.* Rather:

- a significant minority (25% to 45%) of workers experience reductions in real hourly earnings in a given year in all countries;
- downwards earnings adjustment is as frequent in the European economies as in the United States;
- at the individual level wages show a substantial degree of downwards as well as upwards flexibility, in the European economies as much as in the United States.

*A key role is found for job mobility.* In general, job-changing results in increased real and relative earnings. There are cross-country differences in patterns of job-changing, but pointing to wage flexibility common to the United States and individual European countries, rather than to a United States/Europe divide:

- in France and Germany most job-changing is by individuals in the middle of the earnings distribution, while in the USA and the UK it mainly concerns workers in the upper and lower tails;

- job-changing with an intervening period of non-employment involves real earnings reductions for large proportions of workers in the USA, France and the UK.

In addition to the benchmarking results on the significance of *the role of women for the transatlantic employment gap* and the severe under-representation of women in high-wage jobs, particularly in Europe, we find that:

- European women working part-time in Europe are in the childcare years; in the United States they are approaching retirement;
- women, particularly those working part-time, are heavily concentrated in low wage jobs;
- part-time work carries a substantial pay penalty;
- this persists after the resumption of full-time work.

*Young persons feature prominently in the processes of earnings and job mobility.*

- for most young workers low paid employment is a transitory situation from which they move into better paid employment;
- there is evidence of a declining rate of return to education.

## **Literacy**

The International Adult Literacy Survey provides internationally more uniform data on cognitive skills than the usual classification of formal educational credentials. This was used to investigate the effects of liberal versus more regulated labour markets on the role of skills for pay and employment. Five Anglo-Saxon countries were compared to five Continental countries (unfortunately without France). The main finding is that the situation of the low skilled for both pay and employment combined is better in the Continental countries than in the Anglo-Saxon world. This contradicts Krugman's hypothesis of a trade-off between higher levels of pay and lower levels of employment. By contrast, the hypothesis stating that a favourable supply of low-skilled workers compared to demand can lead to higher wages and better employment perspectives at the same time is broadly consistent with the data: However, the support is limited by the fact the approach was unable to explain the variance of the situation of the low skilled within the two country groups, Anglo-Saxon versus Continental.

**Job quality**

The analysis of job satisfaction indicates that promotion prospects and career progression tend to be more important than pay levels in promoting job satisfaction, and that the extent of training provided makes a further positive contribution.

**Recommendations**

On the employment gap, our analysis reveals clear areas of strong performance by the European economies. In what can be termed the jobs 'heartland' - jobs at intermediate levels of earnings - their employment rates exceed American levels, particularly in full-time jobs for men.

An area of strong performance by the EU economies has been in the growth of part-time work. This continues to be predominantly a female activity, but its role for men has also been expanding. This is an important development in allowing individuals more flexible patterns of labour market involvement. This is particularly advantageous for women, but contributes also for younger and older workers.

Further, on the full-time equivalence measure, a significant part of the employment gap emerges from the shorter hours worked in the European economies. It is not clear that it should be an objective for the EU countries to try to match the part of employment rates attributable to the longer hours worked by American men.

However, while the employment gap is not universal, and its total elimination not an appropriate objective, a significant jobs deficit undeniably remains, and its reduction would bring significant economic and social benefits to the European economies. Our analysis points to four areas of concern:

The largest single source of the jobs deficit is in jobs for women. In this area the European economies have failed to match the employment growth achieved in the US. The growth of part-time employment has provided only a modest offset to this. This is an area clearly calling for active policies.

We have identified a clear and substantial jobs deficit in high-wage jobs in the European economies. In part this follows from the lower degree of inequality in the earnings distributions. But even with this adjustment a deficit remains. This deficit in high-wage jobs applies particularly forcefully in the case of high-wage jobs for women, where the numbers in the EU economies are shamefully low.

Our analysis confirms the employment gap in low-wage jobs, for both men and women. This gap, however, does not pose an unambiguous challenge. More jobs are better than fewer, and our analysis of earnings mobility across the economies and of the youth labour market in France confirm that the majority of low-wage jobs are held only on a transient basis. Nonetheless, for adult workers, and particularly women, they do serve as a trap.

While the expansion of part-time employment can be claimed as a success for the European economies, the new opportunities in part-time work in the EU economies have been disproportionately in low-paid jobs. Even more worryingly, the study of part-time work for women in the UK has indicated not only a current wage disadvantage to part-time work, but a continuing disadvantage even after a return to full-time work.

From a policy perspective, *our main recommendation is that it is highly important to focus on the growth of high-wage jobs, and how this can be stimulated in Europe.* The deficit in high-wage jobs would seem to lie more with the limited demand for skills by firms in the European economies than with shortfalls in their supply. However, pursuing the growth of particular industries seems to offer little scope for furthering high-wage employment – there is no clear-cut American example worth imitating. The jobs deficit applies particularly to female employment at higher levels of pay. The extremely low levels in Europe again do not appear to signal a shortage in the supply of skilled women, but rather a lack of advancement. The rising educational attainment of women, followed by their low employment rates, reinforces the untapped potential. Improving the labour market position of women overall may be the most effective approach.

In regard to the deficit in low-wage jobs, the recommendation is a negative one. Our findings that the extent of earnings mobility is at least as great in the European economies as in the US, has a major policy implication: downwards wage adjustment, whether through the weakening of wage-setting institutions or otherwise, does not present itself as a necessary, or even appropriate, response to the low employment rate. On the positive side, the analysis of job satisfaction indicates that promotion prospects and career progression tend to be more important than pay levels in promoting job satisfaction, and that the extent of training provided makes a further positive contribution. This suggests that *policies towards low-wage jobs should centre on their quality at least as importantly as on the level of pay which they provide.*

Similar issues of job quality relate to part-time work. The expansion of part-time work offers major potential benefits, both economically and socially. These are in danger of being undermined by the low quality of much part-time work, both in the current rewards which it gives and, even more significantly, in its implications for future careers. The wage penalty in future earnings deriving from past part-time work can easily be seen as a significant contributor to the low presence of women in high-wage jobs. With the rapid growth of part-time work *the poor quality of part-time jobs emerges as a significant threat to women's labour market progress.*

Finally, in terms of macroeconomic stances, our study suggests the employment gap in the European economies should be seen as arising over a period characterised by adverse demand shocks *originating with anti-inflationary monetary and fiscal stances and subsequent hysteresis, rather than a period of wage rigidity brought about by inappropriate wage-setting institutions.* The degree of earnings flexibility and earnings mobility in the European economies is substantial. The challenge is to ensure that it brings career progression and job quality.

### **Future research**

A main implication from our work is the importance of exploiting national data at the microeconomic level in a comparative framework. The opportunity to make systematic use of these at the European level has been hampered by the tabular nature of the ESES data. The *systematic decomposition by low-wage and high-wage employment* – which, unfortunately, was crowded out from the present project – would provide a highly valuable addition to the aggregate knowledge gained by the present research. Our results apply to the four European countries mentioned above.

There are *three important areas for further investigation* to be derived from these results and recommendations. They include:

- the role of high-wage jobs, particularly in services and for women;
- the threat to earnings inequality from the growth of part-time work;
- the role of part-time work in career progression, particularly for potential high-earners, implying further scrutiny of the role of job quality and pay in relation to activities performed outside the labour market, in households or education.

## **Chapter 1**

### **Introduction**

This report presents the main results of a study undertaken by an international consortium of labour market researchers at the request of the Directorate-General of Employment and Social Affairs of the European Commission. The research was motivated by the jobs gap between the United States and the European Union, and aimed at relating this gap to pay at both the aggregate and the individual level. This was combined with other issues as will be explained below. At the DG ESA the study was initiated by Ruth Paserman and Georg Fischer and its progress was later supervised by Els van Winckel and Georg Fischer. We thank them for their co-operation.

Unfortunately, it was impossible to cover all EU countries in depth throughout the study. Four have been chosen (France, Germany, the Netherlands and the UK) that give strong, often contrasting, representation to many of the key features of European labour markets. Germany, France and the UK are the three largest economies in the EU. In the UK and the Netherlands employment rates are relatively high and have been rising, while in France and Germany they are lower and have been falling. Earnings inequality is high in the UK and quite low in the Netherlands and Germany. In Germany collective bargaining is the norm, supported by the extension of bargained outcomes throughout the sector. In France the role of the national minimum wage is strong. The UK, on the other hand, has placed emphasis on individualization in wage-setting as well as the deregulation of employment more widely. However, the country coverage was also broader in one part of the research, including various other countries (see ESES/ECHP evaluation and literacy below), and more restricted in another part, stressing one of the five countries including the USA (see individual contributions below).

The present report only summarises the outcomes and further detail can be found in a number of separate publications for two reasons. First, the project as a whole had a broader scope than is reported here. Particularly, regarding the benchmarking it should be

noted that the research also included an evaluation of two new European datasets: the *European Structure of Earnings Survey* 1995/96 (ESES) and the *European Community Household Panel* (ECHP). These were compared to each other for most EU countries on the one hand and to national data for the four above EU countries on the other. The comparison was made on the basis of tabular data from the ESES made available by Eurostat – we like to thank Ana Nobre and Brigitte Delville for their co-operation. This second aim of the project elaborated on the recommendation concerning ESES given by the European Low-Wage Employment Research network LoWER in its 1997 report *Statistical Data available on Low-Wage Employment in the European Unions and Its Member States*. Consequently, the benchmarking research as a whole included this two-sided evaluation as well as the transatlantic comparison which is indeed summarised below. All results are reported in full detail in the report entitled *Benchmarking Low-Wage and High-Wage Employment in Europe and the United States, A study of New European Datasets and National Data for France, Germany, the Netherlands, the United Kingdom and the United States* (or “Table Book”). This report will be made available through the website of the above Directorate-General.

Second, more detail has become available than could be usefully reported here. Only the main results have been taken from a series of individual contributions that were made by members of the consortium, who considered a number of issues in more detail:

- Peter Gottschalk treated the effects of job mobility on earnings with a focus on the United States
- Andries de Grip and Geralt Nekkens discussed skills for the four European countries,
- Sara Connolly and Mary Gregory considered gender, part-time work and pay with a focus on the UK,
- Rannia Leontaridi and Peter Sloane contributed on the role of job quality, again starting from the British situation,
- Stephen Bazen dealt with youth and earnings mobility, primarily for France, and
- Peter Mühlau and Justine Horgan analysed the literacy data available from the *International Adult Literacy Survey* set up by Statistics Canada and the OECD.

The full text of their contributions is made available as working papers through the website of the LoWER network (see the attached List of underlying reports). The present

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summary is the responsibility of the authors of this report who acted as the core team of the consortium.

In addition to the two aims of the study already mentioned, relating the jobs gap to pay and evaluating the European dataset, a third intention was to discuss first thoughts on job quality to help drafting the agenda for future research. This has been done by Leontaridi and Sloane in the paper mentioned above.

Finally, it was originally intended to also consider earnings mobility in relation to literacy, and not only to the formal level of skill. Unfortunately, the data were insufficient for this purpose and in stead the effects of literacy on pay and employment have been considered more broadly. Two hypotheses explaining pay and employment, biased technological change or supply and demand of skills, were discussed in the above paper by Mühlau and Horgan.

In contrast to the ESES/ECHP evaluation, both are reported below, in a stand-alone format.

The outcomes are presented in the following sequence. First, Chapter 2 deals with the benchmarking. Chapter 3 considers the range of earnings mobility issues. Finally, Chapter 4 summarises the results on literacy and job quality. All conclusions and recommendations are listed in the Executive Summary.

Scheme 1 presents an overview of the project as a whole, detailing its parts, contributions and publications. The parts indicated in bold are covered in this report. Those in italic are published in more detail elsewhere.

*Scheme 1 Overview of the study*

<i>Aims</i>		<i>chapter</i>	<i>full publication</i>	<i>country coverage</i>	<i>contributor</i>		
<b>benchmarking</b>	evaluating	mutually		FR, UK and 9 other EU countries	Salverda, Nolan, Maître, Mühlau		
	ESES/ECHP	to national microdata		“ <i>Table Book</i> ” DE, FR, NL, UK			
	<b>comparing US/EU</b>		<b>2</b>			DE, FR, NL, UK, US	
<b>mobility</b>	<b>comparison</b>		<b>3.2</b>		DE, FR, NL, UK, US	Bazen	
	<b>job-change</b>		<b>3.3</b>	<i>working paper</i>	mainly US	Gottschalk	
	<b>skills</b>		<b>3</b>	<b>3.4</b>	<i>working paper</i>	DE, FR, NL, UK	De Grip/Nekkers
	<b>part-time</b>			<b>3.5</b>	<i>working paper</i>	mainly UK	Connolly/Gregory
	<b>youth</b>			<b>3.6</b>	<i>working paper</i>	mainly FR	Bazen
<b>literacy</b>		<b>4</b>	<b>4.1</b>	<i>working paper</i>	DE, NL, UK, US and 6 other countries	Mühlau/Horgan	
<b>job quality</b>			<b>4.2</b>	<i>working paper</i>	UK and EU	Leontaridi/Sloane	

## Chapter 2

### Benchmarking Low-wage and High-wage Employment

The first part of the research project comprised a benchmarking exercise aimed at providing a detailed comparative description of the incidence and composition of employment in the different segments of the earnings distribution – low, medium and high pay –, differentiated by labour force and job characteristics and a mixture of the two (gender, age, educational level, full-time/part-time, seniority, industry, permanent or temporary contract). Hopefully, the result can serve as a point of reference for future studies of international differences in the structure of pay.

The benchmarking started from a study attempting to evaluate, between countries and against national data, the new European data provided by the European Structure of Earnings Survey (ESES) and the Community Household Panel. (ECHP) survey. The resulting evaluation was included in the separately published report *Benchmarking Low-Wage and High-Wage Employment in Europe and the United States, A study of New European Datasets and National Data for France, Germany, the Netherlands, the United Kingdom and the United States*. The objective of an evaluation, however, explains the tabulated nature of the research – the above report is essentially a “table book” as we had no access to the microdata of the ESES and had to make do with tables provided on request by Eurostat. However, the evaluative part is left out here as we focus on the transatlantic differences in employment and pay.

#### 2.1 The approach

In order to make international comparisons of employment and pay we adopted what we have termed ‘the hours approach’. Where the typical approach looks at the distribution of workers across the earnings distribution, the ‘hours approach’ focuses on the distribution of hours of work across hourly earnings. Several considerations motivate this approach. The first is the increasing role of part-time work and differences in this across countries.

The 'hours approach' enables a comprehensive comparison, taking into account the entire economy, full- and part-time workers, and not only part of it such as commonly used segments of men with full-time jobs. Focusing on full-time workers can be quite misleading as a representation of the national economy. Table 2.1 shows the major differences between countries in this, with full-time men ranging from 53 to 61 per cent of the total economy and full-time women even more widely, between 18 and 38 per cent of the whole economy. The proportion of the part-time economy, men and women taken together, varies between 10 per cent for the United States, Germany and France via 15 for the UK to 21 per cent for the Netherlands. Consequently, the full-time/part-time composition of the economy is an important determinant of the national employment input and of its evolution and an adequate comparison of pay and employment should include part-time workers. The only meaningful way to do this is, is by means of full-time equivalents or hours worked. A second reason is that the average length of the working week differs significantly, particularly for full-time men. The average length of their working week ranges from 38.5 to 45 hours a week, a 16-per cent gap, representing 1.10 to 1.28 full-time equivalents (FTE), defined as a working week of 35 hours. For female full-timers the international variation is much less; women are essentially working the same hours across countries, and average part-time hours are also quite similar across countries. At the national level, the international variation is relatively small, with the major exception of the Netherlands, but the above categories will be concentrated differently across the earnings distribution. One should therefore account systematically for hours worked also for this reason. . Given the data available we have done this on a weekly basis; on an annual basis the absolute gap between the United States and the four European countries will be even larger (cf. OECD, *Employment Outlook*, Table F) but the pattern across the pay distribution will likely be unchanged.

Note that the table also reveals important differences within the EU. Although the UK lies between the United States and the Continental economies in terms of its participation rate it does not do so in terms of average working hours – French working hours are longer and German hours are comparable. However, men with full-time jobs in the UK work the same long hours as their American counterparts, while in the Netherlands and Germany they work substantially shorter hours

Table 2.1 The role of gender and working hours in the economy, 1996

	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Employment-to-Population ratio (15-64)</i>					
<i>Total (head)</i>	73.9	58.7	65.0	66.3	68.9
<i>Total (FTE*)</i>	82.0	63.9	65.6	59.3	71.9
<i>% full-time men</i>	53	57	59	61	56
<i>% full-time women</i>	38	32	30	18	29
<i>% part-time men</i>	3	2	1	6	2
<i>% part-time women</i>	7	8	10	15	13
<i>Average FTE per person</i>					
<b><i>Total</i></b>	1.11	1.09	1.01	0.89	1.04
<i>full-time men</i>	1.28	1.19	1.10	1.10	1.25
<i>full-time women</i>	1.15	1.14	1.10	1.09	1.13
<i>part-time men</i>	0.61	0.66	0.68	0.52	0.63
<i>part-time women</i>	0.59	0.68	0.60	0.52	0.57

Full-time equivalent = 35 hours a week.

Source: national microdatasets, usual weekly hours worked (annual hours may deviate).

The approach in the present report is comprehensive also in two further respects. First, in addition to the study of low pay, separate attention is paid to the upper part or high-wage end of the earnings distribution. This is measured as earnings in excess of 150 per cent of the median wage – a definition that mirrors the well-known measure of low pay as below two-thirds of the median wage. Second, in addition to these two median-related measures of pay the comparison is extended to the lowest (first) decile and (first) quartile on the one hand, and the highest (fourth) quartile and (tenth) decile on the other, as alternative measures of low and high pay respectively

Below we summarise the most important outcomes of the research; for other aspects, further detail and explanation we refer to the separate report mentioned above.

## 2.2 Inequality and the incidence of low and high pay

The hours approach to the analysis of employment and earnings inequality in the five economies sheds a different light from the usual head-count approach for all five countries. The differences reflect in particular the divergent concentration of part-time work at the two ends of the pay distribution but also the variation in hours worked by full-time workers.

Compared to OECD data, which refer to full-time workers only, the hours approach presented in the FTE column substantially attenuates the level of overall inequality for the United States, France and Germany, while raising it in the UK (see Table 2.2). The

Netherlands is hardly affected. The downwards adjustment for France and the upwards adjustment for the UK also apply in earlier years, while for the other three countries the adjustment is in the opposite direction. Comparing the hours measure to the head count from the same national sources of microdata (see Persons column) rather than the OECD measures, the adjustments are downward for all countries except France (unchanged). In the United States, Germany and the Netherlands the change primarily affects the lower half of the distribution (D5:D1 ratio) while in the UK the upper half changes most.

*Table 2.2 Wage inequality and incidence of low and high pay in the USA, France, Germany, the Netherlands and the United Kingdom, microdata versus OECD data, 1995/1996*

	<i>Inequality</i>			<i>Incidence</i>			
		<i>OECD</i>	<i>Persons</i>	<i>FTE</i>	<i>OECD</i>	<i>Persons</i>	<i>FTE</i>
<b><i>United States</i></b>	D9:D1	4.63	4.49	4.37			
	D9:D5	2.19	2.18	2.14	≥ 3/2 median	n.a.	26.1
	D5:D1	2.11	2.05	2.05	≤ 2/3 median	25.0*	25.2
<b><i>France</i></b>	D9:D1	3.06	2.60	2.60			
	D9:D5	1.91	1.78	1.76	≥ 3/2 median	n.a.	18.1
	D5:D1	1.60	1.46	1.48	≤ 2/3 median	13.3	8.4
<b><i>Germany</i></b>	D9:D1	2.86**	2.80	2.68			
	D9:D5	1.79	1.70	1.69	≥ 3/2 median	n.a.	15.1
	D5:D1	1.60	1.64	1.59	≤ 2/3 median	13.3*	13.7
<b><i>Netherlands</i></b>	D9:D1	2.82**	3.12	2.89			
	D9:D5	1.72	1.73	1.72	≥ 3/2 median	n.a.	16.0
	D5:D1	1.64	1.80	1.68	≤ 2/3 median	11.9*	16.6
<b><i>United Kingdom</i></b>	D9:D1	3.47	4.14	3.98			
	D9:D5	1.90	2.11	2.03	≥ 3/2 median	n.a.	24.3
	D5:D1	1.83	1.96	1.96	≤ 2/3 median	19.6*	23.9

\*) 1994, \*\*) 1995

Source: OECD, Employment Outlook 1996 and updated database.

Unfortunately, looking back to the recent decades the national microdata did not allow to study the evolution of the hours measure over the same years for all five countries. For France (1985/1990) and the UK (1992) the effects were comparable to those of 1996, while the United States (1979/1985/1989), Germany (1985/1991) and the Netherlands (1979/1985/1989) show different adjustments depending on the year.

Turning to the incidence of low pay, the hours approach shows the French level (8.9 per cent) significantly below that of the OECD (13.3) while the opposite holds for the Netherlands (11.9 and 14.4 per cent respectively) and the UK (19.6 and 22.7).

We can conclude that the effects of the hours approach on the picture of inequality are not uniform but depend on time and place which in turn refers to the incidence and pay of part-time work and the length of the working week. The outcomes confirm the view that overall wage inequality is much higher in the United States than in Continental Europe. The UK still finds itself in an intermediate position, but definitely closer now to the American pattern than to the Continental. The ninth-to-first-decile ratios are much higher in the two Anglo-Saxon countries, four or more against less than three for France, Germany and the Netherlands. Similar differences apply in the incidence of low pay. This is around 25 per cent for the USA and the UK on the one hand against about 10 per cent for France and Germany on the other, with the Netherlands in between at 15.

### 2.3 The employment gap

The national employment-to-population ratio is much higher for the United States than for France, Germany or the Netherlands, again with the UK somewhere in the middle. These ratios define the transatlantic ‘employment gap’. This is due to both higher participation rates and longer average working hours for the USA as we have seen in Table 2.1.

Broken down by levels of pay, the employment gap can be seen to be located at either end of the earnings distribution (see Table 2.3, Panel A). Employment-to-population ratios in the USA are substantially higher not only for low pay but also for high pay, and strikingly the two gaps appear to be roughly equal to each other. Consequently, the employment gap cannot simply be identified as a deficiency of low-wage employment in Europe. The same two-tailed pattern applies to the UK but here the gaps are much smaller than for the Continental economies. For France and Germany, the employment shortfall in the tails is partly offset by higher employment ratios than the USA in the middle range of earnings (between two-thirds and 150 per cent of the median wage). For the Netherlands and the UK, however, the employment ratio in the middle range is comparable to the USA. The European advantage in the middle range is considerably larger for head count employment but a significant part of this disappears when hours worked are taken into account via the use of FTEs.

Table 2.3 The employment gap by level of pay, 1996 (full-time equivalents)

	United States	France	Germany	Netherlands	United Kingdom
<i>Employment-to-Population ratio (15-64)</i>					
<i>(gap to USA in brackets)</i>					
<b>A. All</b>					
<i>Total (FTE)</i>	82.0	63.9 (18.1)	65.6 (16.4)	59.3 (22.7)	71.9 (10.1)
≤ 2/3 median	20.9	5.7 (15.2)	8.3 (12.6)	8.6 (12.3)	16.3 ( 4.6)
in between	40.1	47.4 (-7.3)	47.4 (-7.3)	41.4 (-1.3)	39.2 ( 0.9)
≥ 3/2 median	21.0	10.8 (10.2)	9.9 (11.1)	9.3 (11.7)	16.4 ( 4.6)
<b>B. Men</b>					
<i>Total (head)</i>	37.6	33.1 (4.5)	36.8 (0.8)	39.6 (-2.0)	34.1 (3.5)
<i>Total (FTE)</i>	45.5	37.8 (7.7)	39.3 (6.2)	39.8 (5.7)	41.6 (3.9)
≤ 2/3 median	9.4	2.6 (6.8)	2.9 (6.5)	4.0 (5.4)	6.7 (2.7)
in between	21.7	27.9 (-6.2)	28.3 (-6.6)	27.7 (-6.0)	23.5 (-1.8)
≥ 3/2 median	14.4	7.4 (7.0)	8.1 (6.3)	8.1 (6.3)	11.3 (3.1)
<b>C. Women</b>					
<i>Total (head)</i>	36.2	26.4 (9.8)	27.5 (8.7)	26.7 (9.5)	34.8 (1.4)
<i>Total (FTE)</i>	36.5	26.0 (10.5)	26.3 (10.2)	19.5 (17.0)	30.3 (6.2)
≤ 2/3 median	11.5	3.1 (8.4)	5.4 (6.1)	4.5 (7.0)	9.9 (1.7)
in between	18.4	19.5 (-1.1)	19.1 (-0.7)	13.7 (4.7)	15.7 (2.7)
≥ 3/2 median	6.6	3.4 (3.2)	1.8 (4.8)	1.3 (5.3)	5.0 (1.6)

Panels B and C analyse the gap differentiated by gender. For men the difference in the participation rate does not emerge as the prime cause of the employment gap, although it is of some importance for France and the UK. The Dutch rate even exceeds the American. The main source is the diverging length of the working week, due to the substantially longer hours worked by American men. Focusing on the low and high pay ranges, the male employment disadvantage in the Continental economies is about equal between low pay and high pay, and of similar size to their advantage in the middle range of pay. However, since the incidence of low pay in the United States is three to four times larger than in Europe the implied employment gap in low pay is relatively greater. For the UK likewise the employment gaps at the tails are equally sized but are only half as large as for France, Germany and the Netherlands while the advantage in the middle is also rather small.

By contrast, for women there is a very large employment gap between the Continental countries on the one hand and the USA and the UK on the other. Although the low pay gap is substantial – to the USA as well as the UK – it is also clear that very few women in Germany and the Netherlands are high paid. In the United States the share of women in the highest bracket is four to five times as large as in these two countries.

Table 2.4 Employment-to-population ratios by gender and segment of pay, 1979-1996  
Per cent of full population aged 15-64

	1979	1985	1989*	1996
<b>Men</b>				
<b>United States</b>				
≤ 2/3 median	6.4	8.3	8.8	9.4
in between	24.8	20.9	22.1	21.7
≥ 3/2 median	14.3	14.5	14.8	14.4
<b>France</b>				
≤ 2/3 median		3.2	3.1	2.6
in between		30.3	29.3	27.9
≥ 3/2 median		8.7	8.3	7.4
<b>Germany</b>				
≤ 2/3 median		2.4	2.2	1.8
in between		34.1	30.4	29.8
≥ 3/2 median		7.7	8.8	8.5
<b>Netherlands</b>				
≤ 2/3 median	3.2	1.9	2.8	4.0
in between	36.6	28.6	31.1	27.7
≥ 3/2 median	7.1	6.4	7.6	8.1
<b>United Kingdom</b>				
≤ 2/3 median			5.7	6.7
in between			25.2	23.5
≥ 3/2 median			12.3	11.3
<b>Women</b>				
<b>United States</b>				
≤ 2/3 median	10.4	10.9	11.1	11.5
in between	16.9	16.9	18.5	18.4
≥ 3/2 median	2.1	3.8	5.2	6.6
<b>France</b>				
≤ 2/3 median		3.3	3.4	3.1
in between		17.8	19.1	19.5
≥ 3/2 median		2.4	3.0	3.4
<b>Germany</b>				
≤ 2/3 median		5.2	5.2	4.4
in between		16.8	17.5	18.4
≥ 3/2 median		1.0	1.7	1.7
<b>Netherlands</b>				
≤ 2/3 median	2.7	2.6	3.8	4.5
in between	5.1	11.1	12.6	13.7
≥ 3/2 median	0.4	0.4	0.7	1.3
<b>United Kingdom</b>				
≤ 2/3 median			9.1	9.6
in between			16.7	15.7
≥ 3/2 median			4.5	5.0

\*) 1990 for France, 1991 for Germany and 1992 for the UK

Table 2.4 shows how the gaps in employment-to-population ratios have moved over time. Low-wage employment has shown a significant increase among American men, but only

a slight increase for American women. The European disadvantage in low-wage employment has remained relatively constant for both men and women. In the middle range of pay the European economies have lost a substantial part of their employment advantage for men while women have moved closer to the American level with the exception of the UK. The high-pay employment ratio for American men has, perhaps surprisingly, remained stable. The European experience in high-wage employment for men is diverse, with the employment gap widening in France and the UK but narrowing in Germany and the Netherlands. The position on high-wage employment for women is the most striking. In the United States the high-pay female employment ratio has risen rapidly, tripling from 2.1 to 6.6 between 1979 and 1996. On balance almost two thirds of the growth in female employment in the United States occurred in high-wage employment. Although high-wage employment for women has also been growing in the European economies, albeit from a low base, European women are increasingly lagging behind their American sisters.

Summarizing we can say that since 1979 the American employment-to-population ratio has grown by seven percentage points, entirely due to the increased employment of women. No less than two-thirds of this female growth was in high-wage employment. The employment ratio for American men by contrast has seen no growth, a three percentage points decline in the middle range being offset by an equal increase in the low-paid tail. In the European economies the growth of female employment has barely balanced the decline for men, except in the Netherlands, and has been concentrated in the lower earnings ranges, with a growing employment gap emerging in high pay.

The above analysis has been carried out for the full economy and, unfortunately, does not allow us to distinguish between the effects of weekly hours and participation rates within each of the three pay brackets. This should be an important topic for future research.

## **2.4 Groups at risk**

Unsurprisingly, the incidence of both low pay and high pay based on different characteristics, such as gender, working week, age, industry, education, seniority, and ethnicity, is also substantially higher in the USA. However, the estimated incidence shows significant variation with the measure used to determine low or high pay. Wages

below two-thirds or above 150 per cent of the median wage each involve about one quarter of American and British employment and, roughly speaking, only one-tenth of European employment for low pay and one-sixth for high pay. Consequently, the application of these median-based measures implies a comparison of very different slices of the population. By contrast, proportions across the Atlantic are often much closer, and sometimes even reversed, when a quartile or deciles basis is used. Naturally, the quartiles and deciles correspond to different levels of pay relative to the median wage.

With that caveat, we now look at the categories at risk of low or high pay. We will view these within the individual countries, using the median-related measures, and taking as given the international differences in the incidence. These chances will be indicated through concentration ratios which measure the frequency with which a group is found on low or high pay in comparison to the national average of low or high pay incidence; for example, with a ratio of 200 a category's incidence of pay is twice the national average. Contrary to what was said above about the incidence, it generally appears to make very little difference for these concentration ratios whether the deciles or quartiles are considered or, alternatively, the median-related measures. Consequently, the latter present a rather reliable picture of the entire tail of the distribution. Tables 2.5 and 2.6 list all the groups – from a set of 40 categories present across all datasets – involved in low and high pay respectively, ranked by concentration ratio and grouped in five bands (100-150; 151-200; 201-250; 251-300, and more than 300). The figures in brackets express the incidence of low or high pay as a percentage of the specific category. An asterisk indicates the categories in other countries with an incidence equal to the American level or above. Naturally there are many overlaps between categories e.g. between educational levels and industry, employment type and occupation.

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<sup>3</sup> The index is calculated as  $M=(1-\text{average proportion remaining in same decile})/0.9$ . If there is no mobility the value of  $M$  is zero (see A. Shorrocks, *The measurement of income mobility*, *Econometrica*, 1978).

Table 2.5 Low-paid categories ranked by concentration ratios, 1996 (full-time equivalents)

	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
>300		youths 489 (43.7)	hotels & catering 413 (52.3)*		
		shop workers 400 (35.7)	manual workers 341 (43.1)	youths 424 (61.3)*	
		hotels & catering 394 (35.2)	agriculture 314 (39.7)		hotels & catering 307 (69.6)*
251-300			youths 294 (37.2)	retail trade 277 (40.0)	
	part-time men 257 (65.4)	manual workers 247 (22.0)		manual workers 250 (36.1)	youths 254 (57.6)
201-250	youths 241 (61.3)	seniority <2 years 245 (21.9)		hotels & catering 239 (34.4)	manual workers 242 (54.9)*
	agriculture 237 (60.5)				shop workers 238 (54.0)*
	hotels & catering 237 (60.5)		shop workers 220 (27.9)	shop workers 223 (32.2)	
	low educated 234 (59.5)	part-time women 217 (19.4)	part-time women 211 (26.7)	seniority <2 years 223 (32.2)	
	part-time women 221 (56.4)		seniority <2 years 205 (26.0)	part-time men 211 (30.5)	retail trade 204 (46.3)
			retail trade 204 (25.8)		
151-200	manual workers 198 (50.5)	retail trade 197 (17.6)			part-time women 188 (42.6)
	retail trade 178 (45.46)	part-time men 197 (17.6)		real estate/bus. services 185 (26.7)*	
	shop workers 177 (45.0)	agriculture 196 (17.5)			
	seniority <2 years 167 (41.4)	other services 178 (15.9)		part-time women 162 (23.3)	part-time men 163 (37.0)
			other services 158 (20.0)	full-time women 160 (23.0)	
			low educated 152 (19.2)	low educated 156 (22.6)	
100-150	other services 141 (35.9)	low educated 144 (12.9)	health 145 (18.4)	agriculture 139 (20.1)	low educated 142 (32.2)
			full-time women 145 (18.4)	other services 127 (18.3)	other services 141 (32.1)
		seniority 2-4 years 129 (11.5)		clerks 122 (17.6)	operators 138 (30.4)
	operators 118 (30.0)	middle educated 113 (10.1)		seniority 2-4 years 120 (17.3)	seniority <2 years 131 (29.8)
	middle educated 115 (29.4)	full-time women 113 (10.1)	wholesale trade 119 (15.0)	wholesale 112 (16.2)	full-time women 118 (26.8)
	seniority 2-4 years 110 (27.1)		seniority 2-4 years 108 (13.7)		wholesale 109 (24.7)
	full-time women 106 (27.0)	aged 25-39 years 106 (9.4)			
	health 103 (26.2)	health 105 (9.4)			agriculture 108 (24.5)
avg.	(25.5 %)	(8.9%)	(12.6%)	(14.4 %)	(22.7 %)

Table 2.6 High-paid categories ranked by concentration ratios, 1996 (full-time equivalents)

	United States	France	Germany	Netherlands	United Kingdom
>300		managers 403 (68.0%)*	managers 450 (68.1%)*		
		professionals 379 (64.0%)*	part-time men 313 (47.3%)*		
251-300		high educated 262 (44.1%)		managers 274 (43.1%)	professionals 266 (60.4%)*
		technicians 253 (42.7%)*			
201-250			high educated 241 (36.4%)	professionals 248 (39.0%)	utilities 246 (56.1%)*
		education 223 (37.7%)*		high educated 243 (38.2%)	managers 211 (48.0%)*
		part-time men 213 (35.9%)*	education 210 (31.7%)	utilities 241 (38.0%)	
	utilities 207 (53.0%)*	utilities 208 (35.1%)	professionals 231 (34.9%)	mining 239 (37.7%)*	
		financial services 204 (34.5%)*		education 236 (37.1%)*	
				aged 55-64 years 203 (32.0%)*	
151-200	professionals 198 (50.7%)*		seniority 20+ years 193 (29.2%)*	seniority 20+ years 192 (30.2%)*	education 194 (44.0%)*
	seniority 20+ years 192 (50.4%)*	seniority 20+ years 177 (29.8%)*	aged 55-64 years 170 (25.7%)*	aged 40-54 years 173 (27.3%)*	public admin. 169 (38.4%)*
	managers 181 (46.4%)*	aged 55-64 years 166 (28.0%)*	utilities 162 (24.5%)*	public admin. 163 (25.7%)*	high educated 160 (36.3%)*
	high educated 176 (45.1%)*		financial services 159 (24.1%)*	financial services 157 (24.7%)*	real estate, bus. serv. 160 (36.3%)*
	public admin. 152 (38.8%)*				middle educated 153 (34.9%)*
100-150	seniority 10-19 yrs 145 (38.0%)*	real estate, busserv. 146 (24.7%)*	technicians 143 (21.7%)*	seniority 10-19 years 143 (22.5%)*	financial services 142 (32.4%)*
	aged 40-54 years 140 (36.0%)*	aged 40-54 years 143 (24.1%)*	aged 40-54 years 138 (20.9%)*	part-time men 132 (20.7%)*	technicians 142 (32.4%)*
	mining 134 (34.3%)*		manufacturing 136 (20.5%)*	full-time men 129 (20.3%)*	aged 40-54 years 134 (30.4%)*
	full-time men 129 (33.0%)*		full-time men 133 (20.1%)*		part-time men 133 (30.3%)*
	real estate, busserv. 128 (32.7%)*		mining 122 (18.4%)*		
	financial services 127 (32.6%)*				
	education 126 (32.2%)*				
	transport communic 124 (31.8%)*			other services 113 (17.8%)*	full-time men 119 (27.1%)*
	seniority 5-9 years 120 (31.4%)*	full-time men 112 (18.9%)*		real estate, bus. serv. 113 (17.8%)*	seniority 2-4 years 116 (26.4%)*
	aged 55-64 years 117 (30.1%)*	part-time women 110 (18.5%)*			seniority 5-9 years 110 (25.0%)*
	manufacturing 113 (29.0%)*	mining 108 (18.2%)*			seniority 10-19 years 109 (24.8%)*
	crafts 105 (26.8%)*	seniority 10-19 years 107 (18.0%)*			aged 25-39 years 107 (24.4%)*
	construction 105 (26.8%)*	wholesale 102 (17.1%)*			
	avg	(25.6%)	(16.9%)	(15.1%)	(15.7%)

The groups with a high risk of low pay are strikingly similar across all five economies (the groups mentioned in the fully coloured-in cells occur in all five countries):

<u>Category</u>	<u>Share in national employment (%)</u>
• young workers	4 – 15
• the low educated	8 – 45
• the hotels and catering industry	1 – 6
• the retail industry	7 – 11
• agriculture	1 – 2
• the other services	3 – 8
• manual workers	5 – 9
• shop and services workers	7 – 17
• men with part-time jobs	1 – 6
• women with part-time jobs	8 – 15
• women with full-time jobs	18 – 38
• workers with a low seniority	19 – 42

Strikingly, all four European countries have at least one category with a very high incidence of low pay (a concentration ratio above 300, i.e. more than three times the national average), while the United States has none. This means that for certain groups, in spite of the lower overall incidence of low pay in Europe, the absolute chances of receiving a low wage (indicated between brackets) can even exceed those of the USA (see asterisks).

The high-paid categories, in contrast, are more dispersed. The countries have eight categories in common:

<u>Category</u>	<u>National employment shares (%)</u>
• managers	1 – 14
• professionals	2 – 17
• the high educated	21 – 36
• financial services	4 – 5
• utilities	1
• prime-age employees aged 40 to 54	34 – 41
• the educational sector	5 – 9
• full-time men	53 – 61

Often other categories join the above. For example, part-time men in the European countries are found importantly in both low and high pay, and are placed rather high up

the earnings ladder in France and Germany. Again, the United States has no categories with very high scores (>300), while France and Germany do. Nor does the USA even have high scores (250-300), while all European countries do. The role of personal characteristics in explaining extreme levels of pay seems to be greater for high pay than for low pay, and also greater for Europe compared to the United States. The American categories with high pay are numerous but they are mostly found at relatively low levels of concentration. Quite frequently, categories in Europe attain higher rates of high-pay incidence than the American equivalents do.

On both sides, that is low as well as high pay, these patterns appear to be rather stable over time.

## 2.5 Gender and working time

The position of American women with a full-time job in the distribution of earnings relatively favourable. Their concentration ratio is below European levels, esp. those of Germany and the Netherlands. Also, the distance to male full-time concentration levels is relatively small for these American women. In comparison to other European countries the position of women compared to men is better in France. In all countries people on part-time jobs are found in low-wage employment, women as well as men. However, at the same time men with part-time jobs in Europe are also relatively often high paid, particularly in France and Germany, as are French women with part-time jobs. In the USA this is not the case and hardly any part-time workers are found to be high paid. Sixty per cent of American part-time workers are low paid against 20 tot 40 per cent in Europe. Part-time employees make up 3.5 per cent of all high-paid employment in the United States while in Europe the proportion varies between 9 and 14 per cent. It is an interesting question for further research whether the strong concentration of American part-time employees at the low end of the pay distribution can help to explain the better position of American female full-timers.

## 2.6 Industry

The same four low-paying industries (hotels and catering, retailing, other services and agriculture) are prominent in all countries and comprise a substantial part of employment,

ranging from 14 to 23 per cent. The British share of employment in the American-type low-paying industries is as large as the American (Table 2.7). Other countries have less, but by their own standards of pay they have more except France. Interestingly, all low-paying industries in the United States and France pay particularly low wages, while in the other countries various other industries are also low paying but closer to the average.

*Table 2.7 Employment shares (%) segmented by three levels of pay, 1996 and concentration ratios of industries within brackets*

	<i>USA segmentation</i>				<i>National segmentation</i>			
	<i>outspoken#</i>		<i>all</i>		<i>outspoken#</i>		<i>all</i>	
<b><i>United States</i></b>								
<i>low</i>	22	(189)*	22	(189)*	22	(189)*	22	(189)*
<i>middle</i>	71	(113)**	23	(95)**	71	(113)**	23	(95)**
<i>high</i>	7	(159)**	55	(126)**	7	(159)**	55	(126)**
<b><i>France</i></b>								
<i>low</i>	16	(226)*	16	(226)*	16	(226)*	16	(226)*
<i>middle</i>	73	(112)**	16	(98)**	65	(89)**	64	(89)**
<i>high</i>	11	(99)**	68	(113)**	19	(181)**	21	(176)**
<b><i>Germany</i></b>								
<i>low</i>	14	(229)*	14	(229)*	25	(193)*	25	(193)*
<i>middle</i>	71	(113)**	10	(49)**	63	(104)**	28	(71)**
<i>high</i>	14	(90)**	75	(117)**	13	(182)**	46	(146)**
<b><i>Netherlands##</i></b>								
<i>low</i>	14	(224)*	14	(224)*	27	(187)*	28	(184)*
<i>middle</i>	77	(102)**	21	(71)**	53	(99)**	50	(99)**
<i>high</i>	9	(171)**	65	(121)**	20	(148)**	22	(146)**
<b><i>United Kingdom</i></b>								
<i>low</i>	23	(197)*	23	(197)*	22	(202)*	27	(186)*
<i>middle</i>	63	(108)**	10	(80)**	47	(78)**	43	(79)**
<i>high</i>	14	(158)**	67	(122)**	31	(174)**	31	(174)**

# concentration ratios for low pay or high pay above 130.

## Polarised industries (real estate/business services, and other services) were 50/50 divided between low and high pay.

\* concentration ratio for low pay; \*\* ibidem for high pay

The industry distribution of high pay, on the other hand, shows a less universal pattern than low pay. The high-paying sectors common to the five countries are utilities, education and financial services which taken together represent a considerably smaller share of employment than the four low-paying industries. In addition to these three industries, the USA counts six other high-paying industries in the table but most are close to the average, that is they have a concentration ratio not far above 100. The table underlines that the American industries paying particularly high wages are few: mining, utilities and public administration. They comprise only seven per cent of employment and their share is larger in other countries, ranging from nine to seventeen per cent. Also, they

are not necessarily high paying in all countries. In France and Germany they have concentration ratios at or below 100. Also if we compare all industries that are high paying in the USA (55 per cent), we still find higher employment shares elsewhere (65 to 75 per cent) and roughly comparable levels of concentration around 120. If instead of sticking to the American characterisation of industries by level of pay we apply the national segmentation to each country, we still find higher employment shares in the other countries, when limiting ourselves to very high levels of concentration. It is only when we compare the economies fully on the basis of their national concentration ratios that the United States appears to attain a higher share of high-paying industries (55 %) than the other countries (21 – 46 %). In both cases the high-paying industries in Europe are at a further distance from the average than the United States. The industries in the middle are slightly tilted towards high pay in the United States and towards low pay in Europe.

## 2.7 Conclusions

To summarise, this benchmarking study confirms the established picture of employment patterns relative to the earnings distribution but the study also adds important new insights. Focusing on hours worked the full economies could be compared and part-time employment could be given its place in the earnings distribution. It appears to more strongly concentrated on low pay than in Europe. Explicitly addressing the question what is happening on the high pay side, impressive growth of American female employment was found, which the European economies are clearly failing to match. There is no doubt that the American has a much higher incidence of low pay than the Continental countries, but there has been relatively limited growth in this segment. The groups at risk of low pay emerge as quasi universal across the countries and occupying very similar positions in the national pay structure once the different levels of inequality have been taken into account. Low pay is identified more closely with certain industrial sectors than is high pay. Some groups are even more strongly situated at the margin of low pay in Europe than in the United States. (Dutch youths, German and British workers in hotels and catering, and British manual workers and shop workers). High pay as a concept is more diffuse in relation to industry. High-paying industries in the USA may have a larger employment share and are not necessarily high paid; high-paying industries in Europe are fewer and

pay an average wage more distinct from the average than in the United States. Finally, the study shows that significant differences exist between the European countries, particularly the UK, although in some respects France and Germany also show strikingly close resemblance. The essential outcome is that, contrary to frequent assertions, the prime concern of European employment growth is not a lack of low-wage employment.

## **Chapter 3**

### **Individual Dynamics of Low and High Pay: Patterns and Determinants of Earnings Mobility**

#### **3.1 Introduction**

The previous sections of this report have concentrated on the extent and composition of low and high pay over time and between countries. This analysis was undertaken in terms of the working population as a whole, disaggregated in terms of the characteristics of workers and jobs. In the present section the focus moves to earnings at the individual level, with an emphasis on how individuals' pay changes over time. This is a dimension of central relevance to issues of social exclusion and policies towards alleviating poverty and promoting social integration. Where low pay is a temporary state, involving young workers or those returning to employment after a period of unemployment or voluntary withdrawal from the labour force, the welfare implications for the individual and the social consequences overall are clearly different, and arguably less severe, than when low pay is persistent. Allied to this is the issue of incidence; as long as low pay is a temporary state its incidence is likely to be widely distributed, with a relatively large proportion of the working population experiencing it at some stage in their careers, but for limited periods only. Where it is a more permanent phenomenon, the disadvantaged groups are more concentrated and their cumulated losses greater.

Mobility at the individual level is also relevant to economic efficiency. Initial job matches may be less than optimal, as individuals' attributes in employment are imperfectly known to new employers and possibly even to themselves. As work experience develops the individual's human capital, new matches become appropriate, either within the firm or involving a change of employer. Similarly, as market conditions and technology evolve, the mix of skills sought by firms among their employees will also evolve. The reallocation of the workforce across jobs in response to individuals' changing

attributes and firms' changing requirements is an essential mechanism in promoting economic efficiency.

A conventional wisdom maintains that the European economies are less mobile (more 'sclerotic') than the USA, that is, that rigidities within the wage and employment structures curtail rewards and blunt individual incentives. These rigidities are attributed, often quite loosely, to many sources: collective bargaining, wage regulation, pension and social support systems, employment protection, and others. These rigidities, expressed in part through lower earnings inequality, are seen as inhibiting mobility on the part of the individual and job expansion on the part of the employer. The European economies are compared unfavourably with the United States in these respects.

Our purpose in this chapter is to examine earnings mobility at the individual level using a series of national microdatasets. The chapter is in two parts. Section 3.1 aims to give a broad comparative overview of a number of aspects of earnings mobility, specifically comparing the four European economies - France, Germany, the Netherlands and the United Kingdom - with the United States. As well as providing an overall perspective on individual mobility, this overview places particular emphasis on the transitions that enable individuals to escape from low wage employment and move up the earnings distribution. This analysis does not confirm a simple stereotype of a United States/Europe divide, between a mobile American pattern and an immobile Europe. Moreover, only sometimes does it confirm an Anglo-Saxon / Continental split. In other respects the divergences between the European economies are more striking than the similarities among them on the one hand, and differences against the United States on the other.

The remainder of the chapter looks in greater detail at key aspects of mobility, starting from an in-depth analysis of national experience where this is particularly insightful. (i) The first aspect, analysed in Section 3.2, is earnings change for individual workers as they remain within jobs or move between them. The main focus in this analysis is the American experience, which can be put forward as the benchmark case. (ii) Much of the recent analysis of wage inequality and shifts in employment structures centres on the changing demand for skills, and the evidence, mainly from the USA, of the role of changing skill differentials in wage inequality. Section 3.3 therefore gives a comparative

perspective on the changing skill structure of employment and the pattern of skill differentials in earnings in the European economies. The shift to skills emerges as universal, although skill structures and the wage premia to skills are surprisingly diverse across the European economies. Job mobility emerges as an important influence on earnings growth for the individual, for the low-skilled as markedly as for the high-skilled.

(iii) The largest single source of employment growth across the advanced economies over recent decades has been through the increasing participation of women in the labour force, particularly in part-time work. In spite of this growth, lower female participation rates remain a major source of the American-European jobs gap. In Section 3.4 An analysis of this for the UK, where the rate of part-time employment for women is high, indicates that part-time work carries a substantial pay penalty, not only during the work spell itself but also in terms of future earnings trajectories. Given the growing frequency of women's part-time work and of transitions between full-time and part-time status, these implications are disturbing.

(iv) A disproportionate share both of job changes and of earnings mobility at the individual level occurs among young persons. The youth labour market in France, with its high levels of unemployment and extensive interventions, provides a key study on this aspect in Section 3.5. This highlights the importance of earnings mobility while young for progression out of low pay, and also offers some disquieting evidence of declining returns to education and experience among younger cohorts. Section 3.6 concludes.

### **3.2 A comparative overview of patterns of earnings mobility**

Where the earlier Chapter 2 examined how the stock of low and high paid workers differs between countries and changes over time, attention in this section is directed to the underlying flows of individuals (between two points in time) moving up and down the earnings distribution. This requires panel data that enable individuals to be followed over time. Given the relatively limited availability of this type of data for long periods, emphasis is placed on recent, more short term mobility i.e. movements over one, two and three year intervals during the 1990s. Where more extensive analysis has been possible it appears that, while the extent of job changing varies with the cycle, there is relatively little difference in patterns of mobility through the 1990s. The analysis therefore focuses on sub-periods within the 1990s or on changes between 1995 and 1996 as representative.

We first examine transitions between low-paid employment, higher paid employment and other labour market states before going on to our main topic, examining movements within the earnings distribution. We then consider the role that job-changing or job mobility plays in bringing about earnings changes.

Movements by individuals between different states (employment, unemployment, inactivity) are a normal characteristic of the functioning of labour markets. They arise from entries and exits due to normal demographic processes, changing labour supply decisions, the economic cycle, and the birth and death of firms, and feature in all economies. These transitions between states have important implications for the analysis of earnings mobility. Not all individuals employed at time  $t$  are still employed in the next period ( $t+1$ ), and similarly not all workers at time  $t+1$  were employed at time  $t$ . In analysing earnings mobility through comparison of earnings for two different periods it is important to bear in mind that earnings changes can be assessed only for those in employment in the reference periods used, and that those individuals entering from and exiting to non-employment (unemployment and inactivity) have to be excluded as they do not declare a wage in each of the periods examined. As a consequence the samples used for the analysis of earnings mobility represent only those in employment at each of the comparison dates, not the full working population.

*(a) What happens to the low paid from one year to the next?*

Before examining earnings mobility more closely, an overall picture of labour market transitions will help to focus attention on the situation of the low paid. The population covered here is aged between 20 and 60 in order to abstract from country differences in education systems and approaches to retirement. Table 3.1 shows quite high transition rates out of low-paid employment (here defined as being in one of the lowest three deciles of the earnings distribution). However in many cases the movement is often into unemployment or voluntary inactivity. Thus of those workers in the lowest three deciles of the earnings distribution in 1995, two thirds or fewer are still there a year later in each of the countries. About a fifth have moved up the earnings distribution and 10 per cent are unemployed. Therefore between 10 and 15 per cent of low-paid workers are not in employment one year later. The Netherlands is an exception since there are fewer transitions into unemployment and generally more movement up the earnings

distribution. The Netherlands and the UK stand out as having greater movements from low pay into inactivity (9% and 14%, respectively) and this may be related to the high proportions of low-paid, female part-time workers in these countries. For higher paid workers, 85 to 90 per cent remain in the top seven deciles, with only five per cent falling back into the lowest three deciles. Only five per cent move out of employment in the United States, France and Germany compared with eight per cent for the UK and the Netherlands.

*Table 3.1 Destinations of those in lowest 30% (highest 70%) of the earnings distribution in 1995 in following year*

<i>Situation in 1996</i>	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Lowest 30% of earnings</i>	64.8 (5.9)	66.8 (5.0)	65.3 (5.1)	61.0 (5.0)	60.9 (5.1)
<i>Upper 70% of earnings</i>	19.7 (87.6)	19.4 (89.5)	18.8 (88.7)	27.0 (85.0)	19.5 (84.5)
<i>Unemployed</i>		8.9	8.9	2.0	4.3
	} 14.5	(2.4)	(2.6)	(2.0)	(1.4)
<i>Inactive</i>	} (5.3)	4.2	5.6	9.0	14.4
		(2.2)	(2.5)	(6.0)	(7.6)
<i>Self-employed</i>	1.0 (1.1)	0.6 (0.7)	1.5 (0.9)	1.0 (2.0)	1.2 (1.4)

*Table 3.2 Destinations of the unemployed (inactive) in 1995 in following year*

<i>Situation in 1996</i>	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Lowest 30% of earnings</i>	13.7	18.1 (4.4)	19.5 (18.5)	9.0 (2.0)	13.4 (4.9)
<i>Upper 70% of earnings</i>	7.7	9.4 (1.8)	8.7 (4.1)	4.0 (1.0)	12.5 (5.0)
<i>Unemployed</i>		58.3 (4.6)	42.0 (4.4)	48.0 (6.0)	41.9 (3.6)
<i>Inactive</i>	} 75.4	12.5 (89.0)	26.5 (72.3)	39.0 (91.0)	26.3 (84.9)
<i>Self-employed</i>	2.9	1.7 (0.3)	3.4 (0.7)	0.0 (0.0)	5.9 (1.5)

Transitions for those already in employment are not too dissimilar across countries. However when looking at what happens to the unemployed and inactive a year later some interesting differences emerge (Table 3.2). Firstly, of those unemployed in 1995, around 70 per cent are still unemployed or have withdrawn from the labour force altogether a year later in France, Germany and the UK. The figure for the Netherlands however is 87 per cent, and for the USA it is not possible to distinguish inactivity from unemployment. Secondly, in the first group of countries, around 27 per cent of those unemployed in 1995

have moved back into employment by 1996. Interestingly in France and Germany, two thirds of those finding work are in low-paid jobs, compared to the UK where the split between high and low-paid jobs is more balanced. For the USA, a quarter of those not employed in 1994 have found work a year later, the majority moving into low-paying jobs. For the Netherlands, however, only 14% of the unemployed move back into employment, three quarters of them into low-paid employment. Almost all of those who are out of the labour force in 1995 are still so in 1996 in all countries (85 to 90%) except for Germany (72%) where more than 20 per cent move into employment (low paid in the main).

***(b) To what extent is earnings mobility upwards?***

Earnings mobility is examined using movements in an individual's position in the earnings distribution from one year to the next. Thus the analysis in the remainder of this section is restricted to persons in employment in both 1995 and 1996. Table 3.3 contains details of movements between deciles of the earnings distribution for each country. The earnings distribution for all workers is used to establish the level of decile earnings in each year, and thus the earnings of those in work and present in the panel sample in both years are only a subset of those present in the earnings distribution. A number of points relating to the use of decile transition matrices as a method for analysing earnings mobility are worth mentioning. Firstly, as an individual's decile position is used as the reference, we are concerned here with relative earnings mobility (changes in absolute earnings levels are considered below in section 3.A) and therefore moving down need not mean a reduction in real hourly earnings. Secondly, having chosen decile earnings levels as cut-offs, a movement between deciles may involve only a small change in earnings, as for example when someone on the 59th percentile wage moves up to the 60th percentile in the following year. Thirdly, mobility based on movements between deciles will be less prevalent where the earnings distribution is more unequal, as the earnings increase required to move between percentiles is greater. Finally, due to measurement error and rounding by respondents in the surveys, there may be spurious rather than real mobility into the adjacent deciles.

It is clear from the tables that, measured in this way, patterns of earnings mobility are similar across countries in three respects. First, around 40 to 50 per cent remain in the

Table 3.3 Earnings Decile movements – United States 1994-95

Earnings Decile 1994	Position in 1995			
	Next decile down	Same decile	Next decile up	Higher decile
<b>United States</b>				
Lowest	-	57.6	19.0	23.4
Second	16.9	41.8	21.4	19.9
Third	8.7	48.9	19.6	17.3
Fourth	15.6	45.9	15.9	15.3
Fifth	14.8	46.5	16.0	14.3
Sixth	16.5	45.8	16.0	11.3
Seventh	17.8	47.9	15.2	8.7
Eighth	18.3	48.4	15.5	5.9
Ninth	16.4	57.6	15.7	-
Highest	14.6	74.7	-	-
<b>France 1995-6</b>				
Lowest	-	59.8	22.5	17.7
Second	15.9	49.4	20.8	13.9
Third	17.0	41.0	22.7	14.2
Fourth	13.4	43.7	21.0	14.2
Fifth	13.6	45.4	21.4	11.0
Sixth	14.8	46.1	21.4	8.8
Seventh	14.9	47.5	21.3	6.9
Eighth	15.3	49.8	21.0	4.2
Ninth	16.8	59.6	15.7	-
Highest	16.7	75.5	-	-
<b>Germany</b>				
Lowest	-	59.0	24.9	16.1
Second	6.7	51.0	26.7	15.6
Third	6.6	41.5	28.8	22.4
Fourth	9.9	38.2	28.1	19.7
Fifth	13	36.8	27.4	15.7
Sixth	12.3	33.3	27.6	13.3
Seventh	17.7	39.3	24.6	10.5
Eighth	20.5	36.6	23.0	5.1
Ninth	16.5	54.4	23.0	-
Highest	11.7	78.8	-	-
<b>Netherlands 1995-6</b>				
Lowest	-	36		25
Second	4	55	20	21
Third	14	49	23	14
Fourth	15	38	25	17
Fifth	18	39	24	14
Sixth	21	39	21	9
Seventh	21	40	18	9
Eighth	19	43	21	5
Ninth	19	50	20	-
Highest	12	81	-	-
<b>United Kingdom 1995-6</b>				
Lowest	-	49.8	24.1	26.1
Second	17.6	43.0	23.8	15.6
Third	17.2	41.1	20.5	13.6
Fourth	15.6	41.2	18.1	16.5
Fifth	13.7	37.5	23.8	13.1
Sixth	17.1	40.0	22.0	11.0
Seventh	12.8	40.0	22.7	10.4
Eighth	15.7	44.8	25.0	4.4
Ninth	17.1	54.6	16.8	-
Highest	13.5	75.1	-	-

same earnings decile between the two years, although there is rather more movement in Germany, the Netherlands and the UK compared to France and the USA. Secondly, the proportion moving upwards declines with higher initial decile positions, suggesting that the probability of upward movement is higher for those in the lower half of the earnings distribution. Thirdly, between 10 and 20 per cent move down a decile between the two years and the figures are very similar for the different countries. Overall, no movement between deciles is the most common case across the earnings distribution. Where there is movement across deciles, it is more frequently upward than downward. The Netherlands stands out among the countries as having more movement away from the initial decile position. However, on the basis of Shorrocks' index of mobility<sup>3</sup> the countries are ranked as follows: there is a higher degree of mobility in the Germany, the Netherlands and the UK ( $M=0.59$ ) compared to the USA and France ( $M=0.54$ ).

One of the main issues addressed in this project is the role and consequences of job changing. Separations can be voluntary – in order to achieve better earnings and working conditions – or involuntary – as a result of downsizing or dismissal. In the former case, earnings are expected to be higher but in the case of an involuntary separation they may subsequently be lower. The rate of job mobility declines with age but the rate of decline is different among countries. The majority of job changers within any given country are under 30 (see Subsection (d) below), and the role of earnings and job mobility for young persons is examined later in Section 3.5. For the moment, the relationship between earnings mobility and job-changing is described for the working population as a whole.

### *(c) Do job-changers leave low-paying jobs?*

Voluntary separations occur in the main when workers feel that the pay and conditions of their current job are inferior to what they can obtain elsewhere. Involuntary separations due to lay-offs often affect the lower paid as was mentioned above. Thus it is expected that job-changers will more often, though not exclusively, be leaving jobs in the lower half of the earnings distribution. Table 3.4 presents the previous earnings of job-changers. In all countries most job-changers leave jobs in the lower half of the earnings distribution - around 60 per cent have earnings below the median of the overall distribution of hourly earnings. However, in the USA and the UK more than a third are low paid (with previous earnings of less than two-thirds of the median) compared to a fifth or less in the three

continental European countries where two thirds and three quarters leave jobs in the middle of the distribution (67% to 160% of median earnings). The proportions changing job with earnings greater than 160 per cent of the median are similar (around 12%) in all countries except the Netherlands (4%). Thus the main conclusion drawn here is that job-changing is far more concentrated among the low paid in the USA and the UK compared to France, Germany and the Netherlands where it is more prevalent among those in the middle of the earnings distribution. This reinforces the conclusion of the benchmarking section of the report, that the main difference between the countries is that the centre of the distribution is fatter in continental Europe compared to the USA and the UK where the tails of the earnings distribution weigh more heavily.

*Table 3.4 Previous earnings of those changing employer in last 12 months (1995-96)*

	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Less than two thirds of median earnings</i>	39.7	21.1	14.4	20.1	36.9
<i>Between two thirds and 1.6 times median earnings</i>	48.1	68.1	72.4	76.1	49.7
<i>Greater than 1.6 times median earnings</i>	12.2	10.3	13.0	3.8	13.4
<i>Total</i>	100	100	100	100	100

*Table 3.5 Current earnings of those changing employer in last 12 months 1995-96*

	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Less than two thirds of median earnings</i>	34.8	19.4	10.9	33.6	32.8
<i>Between two thirds and 1.6 times median earnings</i>	51.6	66.9	80.2	58.5	55.5
<i>Greater than 1.6 times median earnings</i>	13.6	13.7	7.9	7.9	12.7
<i>Total</i>	100	100	100	100	100

***(d) Do job-changers enter higher-paying jobs?***

The earnings distribution of the destinations of job-changers is a slightly distorted mirror image of the distribution of previous earnings for the France and the United States (see Table 3.5). All countries have fewer job changers who are low paid with their new employer except for the Netherlands. In Germany and France the majority end up in jobs in the middle of the earnings distribution while in the USA, UK and the Netherlands, a third of job changers find themselves in the lower tail of the earnings distribution. However, there is a divergence between Germany and the Netherlands on the one hand

and the USA, UK and France on the other, in the upper tail (greater than 160% of the median). The latter three countries have higher proportions of higher-paying jobs. When compared to the distribution of earnings of those leaving jobs, it is likely that job changes overall tend to reduce earnings inequality from below except in the Netherlands.

### *(e) Conclusions*

This review provides little support for the view that earnings mobility in the United States is systematically greater than in the European economies. The first summary finding from this analysis is that overall mobility, including as summarised by the Shorrocks index, is greater in the European economies (with the exception of France). A number of similarities across countries emerge in terms of movements of the low and higher paid from one year to the next. There is significant movement out of low pay and up the earnings distribution in general. However, there are workers whose relative position in the earnings distribution declines, as well as a non-negligible proportion moving from low pay into non-employment. Yet divergences arise in terms of movements between jobs. In the USA, the UK and the Netherlands, a third of workers who change employers move into low-paying jobs, whereas in France and Germany the majority remain in the jobs with pay in the middle of the earnings distribution. The relationship between job mobility and earnings changes is examined more closely in the next section. Other divergent findings relate to cross-country differences in the composition of the labour force and employment by skill group, sex and age, which feature in the subsequent parts of this chapter.

### **3.3 The consequences of changing jobs for earnings mobility**

One important way in which earnings mobility can occur is through changing employer. Earnings can rise or fall as a consequence of changing employer depending on the nature of the job separation. Individuals initially often accept a job that requires fewer skills than they possess or pays lower wages than their education warrants, and seek to redress this discrepancy by finding a more suitable position with another employer. However, when the job change is involuntary where firms lay off workers, the next job accepted by the individuals concerned may be less well paid. The research by Peter Gottschalk presents

an in-depth analysis of the impact of job-changing on individual earnings growth for the United States.

The study uses panel data for the period 1986-93. Three types of worker are distinguished in this analysis of earnings growth:

- workers remaining with the same employer,
- workers moving from one employer to another without an intervening break, and
- workers moving with an intervening period of non-employment (unemployment or being out of the labour force).

The reference group is workers staying with the same employer who presumably feel that remaining is the most beneficial option open to them and any earnings growth will arise from internal promotion, length of service-based pay policies or collective agreements in which seniority premia are set. However, there is no guarantee that earnings will increase on an annual basis either in real or nominal terms. In fact the study reveals a high degree of heterogeneity in real wage growth in the United States.

#### *(a) Within-job wage variation*

In the period in question, the *average* annual growth rate of real hourly earnings (the growth of nominal earnings less the rate of consumer price inflation) of workers who remained with same employer for more than a year was 2.1 per cent for males and 3.2 per cent for females. However, the *median* rate of growth of earnings for workers remaining with the same employer was negative, indicating that more than half of all such workers experienced real wage reductions. This is partly due to the frequency at which wages are negotiated but also due to product and labour market influences. For example, workers with higher levels of education, or more than one year's seniority, or who were white or non-Hispanic, all had a greater probability of positive real wage growth. In addition, the probability of positive real-wage growth is higher in the 1990s.

#### *(b) Between-job wage changes*

Workers who changed employer and moved directly from one job to another on average experienced positive real-wage increases. For male workers, the average annual increases were twice the size (4.0%) of those obtained by non-movers, suggesting that job changing

is a consequence of searching for a better worker-job match. For female workers, the rate of real-wage increase (3.7%) is similar to that for “stayers”. The median growth rate in each case is positive, although around 48 per cent of workers changing job experience a reduction in real earnings.

One of the most interesting findings is that workers changing jobs but experiencing a spell of non-employment in between jobs undergo reductions in real earnings on average of 2.5 per cent for males and 2.9 per cent for females. These figures are reinforced by the observation that more than 55 per cent of workers in this group experience real-earnings reductions. Such reductions are more common among those workers who have short tenures in past jobs and those who change from full-time to part-time work.

These findings reveal the importance of analysing individual wage changes rather than the change in the average earnings of a group of workers. There is a great deal of movement within a group and the overall average disguises the heterogeneity that exists in earnings changes from one year to the next. These results for the United States have to be seen in a context in which earnings inequality increased but average earnings growth was slow and often negative in real terms. That around half of all workers experience real-wage reductions on a year-on-year basis – whether they stayed with the same employer or changed jobs – is a striking finding.

### *(c) Real wage variations in Europe*

Movements in relative positions in the earnings distribution were examined in the earlier part of the report in terms of deciles. However, in view of the finding of widespread real wage reductions in the United States it is interesting to know whether such heterogeneity in wage growth is also found in Europe. Figures for France for real hourly earnings (net of social security contributions) are presented in Table 3.6. A number of individuals report large increases in hourly earnings generally associated with large reductions in hours of work. Since the mean is artificially inflated by extreme values, the more reliable median real-wage growth figure is presented along with the proportion experiencing a reduction in real wages from one year to the next. While the median figures always show positive real wage growth, the ranking by job situation is the same as that in the United States. Those individuals experiencing job-to-job changes with no intervening spell of non-employment have the highest real wage increases. Those remaining with the same

employer experience very weak growth and those changing employer with an intervening spell of unemployment or inactivity have even less. However, quite strikingly, the proportions experiencing real wage reductions are quite comparable to those in the USA. In a country like France, where collective agreements cover almost all workers, it is very striking that some 48 per cent of workers with the same employer experience real-wage reductions. While some of this may be due to changes in social security contribution rates and other deductions from pay, and some may be spurious due to mis-reporting and other forms of measurement error, the figure is still significant.

*Table 3.6 Real wage growth in France 1990-97 (percentages)*

	<i>Median</i>	<i>Proportion with negative real wage growth</i>
<b>Males</b>		
<i>Same employer</i>	0.35	48.3
<i>Job to job</i>	2.8	43.9
<i>Intervening non-employment</i>	0.03	49.9
<b>Females</b>		
<i>Same employer</i>	0.6	46.9
<i>Job to job</i>	2.3	44.9
<i>Intervening non-employment</i>	0.2	49.1

*Table 3.7 Real earnings growth in Germany, 1995-96 (percentages)*

	<i>Median</i>	<i>Percentage experiencing a reduction</i>
<i>All workers</i>	4.7	35.1
<i>Same employer</i>	-	34.5
<i>Job to job</i>	-	44.1
<i>Intervening non-employment</i>	-	18.0*

\* Figure based on a very small sample size

*Table 3.8 Real earnings growth in the United Kingdom (percentages)*

	<i>Average increase (median)</i>	<i>Percentage experiencing a reduction</i>
<b>1991-92</b>		
<i>All workers</i>	5.15 (2.2)	40.8
<i>Same employer</i>	4.6	41.3
<i>Change of employer</i>	6.4	35.7
<b>1995-96</b>		
<i>All workers</i>	2.4 (1.7)	42.0
<i>Same employer</i>	2.5	41.5
<i>Change of employer</i>	0.8	44.0

For Germany, the median rate of real-wage growth was 4.7 per cent in 1995-96 (see Table 3.7). However, in common with the United States and France, over a third of all workers experienced real-wage reductions between the two years. The figure is higher (44%) for those changing employer between the two years. In the United Kingdom, a

similar picture emerges (see Table 3.8). In 1991-92, while on the average increase in real hourly earnings was 5.2 per cent, over 40 per cent of workers experienced a decrease. In 1995-96, the figures were 2.5 per cent for the average increase while 42 per cent experienced a reduction in their real hourly earnings. There is a key role played by cyclical variations in that workers who change employer do better than those who do not in 1991-92, and the opposite occurs in 1995-96. In addition, in the Netherlands, there is evidence that around 70 per cent of workers experienced reductions in real net hourly earnings in the period 1992-5 and around 35 per cent in 1995-8.

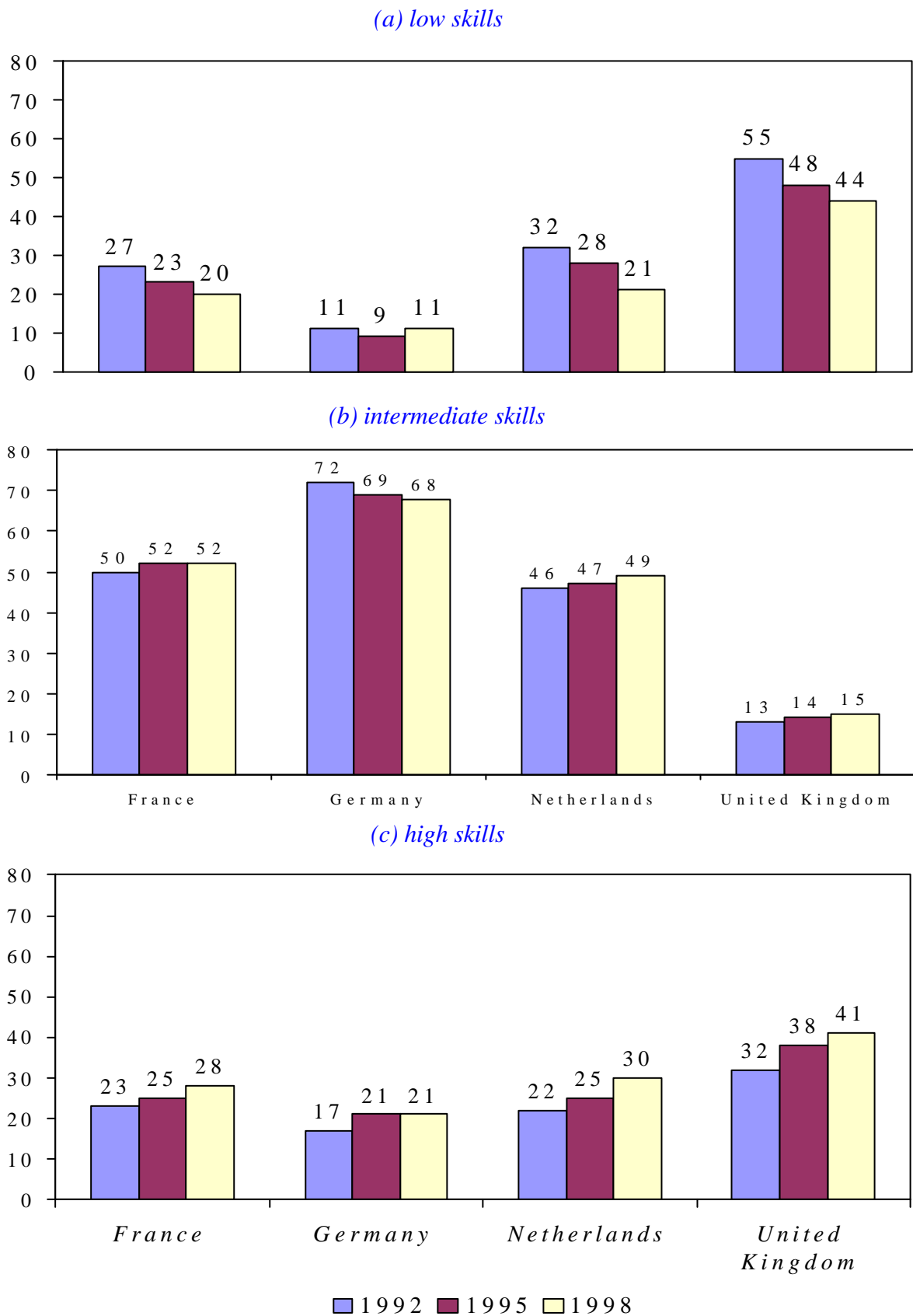
Thus, in Europe as well as in the United States, there is considerable heterogeneity in annual wage changes. It is difficult to uphold the hypothesis that downward real wage rigidity is a key feature of European labour markets. On the contrary, in view of the substantial proportions of workers concerned, European labour markets would appear to exhibit as much downward wage flexibility as the American market.

### **3.4 The skill-wage gap**

The benchmarking analysis of low-wage and high-wage employment reported above indicated that shortfalls in low-wage and high-wage jobs in the European economies contributed approximately equally to the jobs deficit relative to the United States. In each of the countries studied the level of education features prominently in the allocation of workers into these two groups. Workers with low levels of education have a risk of low pay at least 50 per cent greater than for the workforce as a whole, while highly educated workers are similarly concentrated in high-wage employment.

Nekkers and De Grip use national micro-data to provide a more detailed analysis of the changing skill-structure of employment in the 1990s, and the associated changes in earnings patterns. As in the benchmarking section above, they differentiate three skill levels on the basis of the individual's highest level of educational attainment: low-skilled (ISCED 0-2); medium-skilled (ISCED 3); and high-skilled (ISCED 5-7; 6-7 only for the Netherlands; ISCED category 4 is typically not used).

Graph 3.1 Employment shares (%) by educational level



*(a) Skill structures in the four European economies*

Their analysis for the four European economies confirms the broad picture of significant cross-country differences in the skills structure of the workforce noted in the benchmarking section (which uses different data-sets and a full-time equivalent basis) – see Graph 3.1. Nekkers and De Grip report workers with intermediate levels of skill as the largest group by a substantial margin in Germany, France and the Netherlands in line with the results from the benchmarking analysis (which further shows intermediate skills as the modal group in the USA, see Table 62). However, Nekkers and De Grip find the concentration at the intermediate level to be particularly marked in Germany, at around 70 per cent of the workforce, against some 50 per cent in both France and the Netherlands, where the benchmarking reports a significantly higher proportion of intermediate skills in France, 68 per cent, similar to the German level. Nekkers and De Grip's national data also confirm the strikingly different position in the UK, their estimate of the low-skilled as the dominant category, with 44 per cent of the workforce in 1998, being virtually identical to the figure from the benchmarking. This preponderance of low-skilled workers in the UK workforce contrasts with a low-skill proportion of only around 10 per cent in Germany, and 20 per cent in France and the Netherlands. On the other hand the UK workforce has much the largest proportion of workers classified as highly skilled, 41 per cent, against around 30 per cent in France and the Netherlands and only 20 per cent in Germany. (The benchmarking indicates that the high-skill proportion in the USA is significantly higher than in any of the European economies.) The skill structure of the workforce thus emerges as a further area where the UK economy is sharply differentiated, its polarization between high and low skills contrasting with the three Continental European economies where the distribution of the workforce by level of education has its main concentration at the intermediate level.

In all four countries the shift towards skills over the 1990s is clear. In France, the Netherlands and the UK this shift has taken the form of a sharp decline in the proportion of low-skill workers, from around 30 to 20 per cent in France and the Netherlands, and from 55 to 44 per cent in the UK. The counterpart increases have been mainly in the share of the high-skill group, particularly in France and the UK, although the intermediate level has also shown some increase. The changes in skill structure have been less marked in Germany, where the (extremely low) share of the low-skilled has remained constant,

while the proportion of high-skilled has risen by three to four per cent at the expense of intermediate skills.

*(b) Skill structures and earnings*

Unsurprisingly, low, intermediate and high-skilled workers tend to be concentrated in the lower, medium and upper deciles of the earnings distribution respectively, although the correlation is by no means exact. In all four countries 40 to 55 per cent of the low-skilled are in the bottom three deciles of the wage distribution, and the same proportion of intermediate-skilled workers in the middle deciles. The high-skilled have the most marked concentration within the earnings distribution, with 50 to 65 per cent placed in the top three deciles in each country. The concentration of the low-skilled in the bottom deciles has tended to increase over the 1990s, confirming the deterioration in the labour market position of low-skill workers even when they remain in employment. This is consistent with the fall in demand for low-skilled workers occurring at an even faster rate than the fall in their supply. Other evidence indicates that it may also reflect selection; as educational levels in general rise, the remaining low-skill workers (minimum education only) are likely to be of lower ability than the previously larger group. The concentration of the high-skilled in the upper earnings deciles, on the other hand, has shown no clear tendency to increase (even, in the case of France, tending to decline). This is consistent with the increase in the supply of skilled workers, pointed out above, essentially keeping pace with the growth in demand for their services.

The rising level of skills within the workforce poses a problem for the analysis of changes in the earnings distribution. As Nekkers and De Grip point out, if the skill level at, say, the 9th decile point rises, and with it the wage, while skill and the wage at the median remain unchanged, then an increase in the  $D9/D5$  ratio will be observed. This can lead to the implication of increased upper-distribution inequality, although the substantive change that has taken place is merely a return to the increased skill of the 9th decile worker. The same effect is likely to operate at the lower end of the distribution, with rising educational attainment among the low-skilled. They therefore approach the issue of the role of skill in the earnings distribution by focusing on skill-wage ratios, i.e. wage relativities between the different skill categories, on the assumption that the level of skill within each category remains more or less stable. They find the wage return to high skill

as against intermediate skill (high/medium skill wage ratio,  $w_h/w_m$ ) to be greatest in France, with a premium of 50 per cent or more, closely followed by the UK, and then Germany at around 40 per cent, while in the Netherlands the pay of the high-skilled is only 20 per cent higher than for the intermediate-skilled (see Table 3.9). In the case of the UK the high-skill premium has been rising over the 1990s, while in Germany it shows no clear trend, and in France and the Netherlands it has been declining. The wage premium to high skill is greatest in non-commercial services (education, health, public administration). Since these are largely provided within the public sector, this indicates the role of the public sector in employing and rewarding the highly educated. Only in Germany, and to some extent the Netherlands, do workers with intermediate levels of skill have a significant pay advantage relative to the low-skilled ( $w_m/w_l$ ). In France and the UK the average return is only 11 to 15 per cent, against 42 per cent for intermediate-skill workers in German manufacturing. These skill relativities have remained fairly constant, although the relative wage position of the low-skilled in Germany and the UK appears to have deteriorated significantly in the later 1990s. Overall, the inequality in earnings associated with differing wage returns to skill remains substantial in France and the UK, and least in the Netherlands.

*Table 3.9 Skill-wage ratios: the Netherlands, Germany, France and the UK, 1992, 1995 and 1998*

	1992		1995		1998	
	$w_m/w_l$	$w_h/w_m$	$w_m/w_l$	$w_h/w_m$	$w_m/w_l$	$w_h/w_m$
<b>France</b>	1.06	1.62	1.16	1.55	1.11	<b>1.50</b>
<b>Germany</b>	1.18	1.46	1.18	1.34	1.36*	1.40*
<b>Netherlands</b>	1.18	1.25	1.16	1.27	1.22	1.20
<b>United Kingdom</b>	1.26	1.42	1.20	1.44	1.15	1.47

\* 1997

Differences in wage growth over the 1990s have in general been less marked across skill groups than across sectors. Among the more striking developments in the earlier years of the 1990s are the strong earnings growth for all skill groups in commercial services in France and the relatively weak growth of earnings in manufacturing in the Netherlands, while over the second half of the period agricultural workers at all skill levels in Germany have experienced declining nominal earnings.

**(c) Skills and job mobility**

Nekkers and De Grip provide a parallel analysis to that of Gottschalk in the previous section by examining relative wage changes for job movers and stayers, differentiated by skill level; movers are further differentiated depending on whether the move keeps them within their previous sector, broadly defined as agriculture, industry, commercial or non-commercial services, or involves inter-sector mobility (see Table 3.10). For the low-skilled mobility between sectors has most commonly been associated with the largest wage gains; even within-sector mobility brings greater returns than no job change. This is consistent with only low levels of job-specific skill being accumulated on the job, and therefore lost with inter-sectoral job movement.

*Table 3.10 Wage changes by mobility category, France, Germany, Netherlands and UK, 1992-95 and 1995-98 (%)*

	1992-1995			1995-1998		
	$Wl_l$	$Wm_m$	$Wh_h$	$Wl_l$	$Wm_m$	$Wh_h$
<b>France</b>						
<i>not mobile</i>	12.9	18.2	6.2	3.9	5.7	5.9
<i>mobile within sectors</i>	4.7	27.8	10.5	4.5	9.3	9.2
<i>mobile between sectors</i>	5.2	6.3	23.8	5.5	3.5	6.7
<i>total</i>	11.2	16.5	10.4	4.2	5.8	6.2
<b>Germany</b>						
<i>not mobile</i>	8.1	7.2	6.2	5	3.3	2.5
<i>mobile within sectors</i>	9	7.6	9.1	5.4	2.3	3.5
<i>mobile between sectors</i>	6	6.1	8.8	10.4	4.7	8.2
<i>total</i>	8.1	7.2	7.2	5.5	3.1	3.3
<b>Netherlands</b>						
<i>not mobile</i>	6.1	2.6	4.4	6	8.9	5.7
<i>mobile within sectors</i>	13.6	9.9	0.5	4.7	6.8	7.7
<i>mobile between sectors</i>	21.1	3.3	0.2	9.7	6.5	11.6
<i>total</i>	8.6	3.5	3.4	6.1	8.5	6.1
<b>United Kingdom</b>						
<i>not mobile</i>	5	3.6	3	4.1	4.4	3.5
<i>mobile within sector</i>	7.5	-4.8	3.2	5.6	6.9	5.9
<i>mobile between sectors</i>	7.2	8	0.1	6.3	3.9	3
<i>total</i>	5.8	2.4	2.6	4.6	5.1	3.8

For those with low-skills finding a better job in another sector is the most rewarding strategy. For those with intermediate-level skills, on the other hand, wage increases tend to be largest when there has been job mobility within the sector. This is consistent with the concept of skills at the intermediate level being sector-specific skills, transferable between firms but less so between sectors. The most clear-cut returns to job mobility are for high skill workers; high-skill workers who change jobs are consistently more highly

rewarded than stayers, with those who move across sectors achieving the greatest wage gains. These findings give strong evidence not only that there is a substantial volume of mobility at the individual level in the European economies but that it responds to wage incentives and opportunities. Collective bargaining and other institutional features of wage-setting in Europe provides a framework in which individual opportunities for advancement through job mobility are extensively available and accepted.

#### ***(d) Conclusion***

The overall picture is thus one of a shift to higher skill levels within the workforce in each country. The supply particularly of high-skilled workers in the European economies seems to have grown at least in line with the rising demand for skills, such that the wage differential for skills has tended to decline over the 1990s. The demand for low-skilled workers, on the other hand, has fallen more rapidly than their supply, which is reflected in a deterioration in their relative wage position. The wage structure, and the wage returns to skills, are by no means static. The use of micro-data reveals that, within these overall changes, much greater change has been taking place at the individual level. Job mobility, within and between sectors, at all skill levels, is an important influence on earnings growth for the individual worker, no less for the low skilled than for other groups.

### **3.5 Gender, part-time work and earnings mobility**

One of the main findings of the benchmarking study is that a significant part of the transatlantic employment gap arises from the differential rates of employment among women. Across the four European economies women make only around 70 per cent of the contribution to the overall employment/population ratio made by their American counterparts. This deficiency is strongly marked in full-time work (especially in the Netherlands) and is offset to a modest degree by a higher contribution from women working part-time (under 35 hours per week), particularly in the Netherlands and the UK, and to some extent Germany (Table 3.11).

The jobs gap between Europe and the United States in full-time work amongst women is evident across the earnings distribution while the advantage of the European economies in part-time jobs for women is concentrated at the medium pay level – Table 3.12. A

striking asymmetry arises in part-time opportunities at the extremes of the earnings distribution. While the chances that women will be in high-paid part-time employment are uniformly low across all the countries studied, the likelihood that they will be in low-paid part-time employment is significantly higher in the United States and even more so in the UK, than it is in France, Germany or the Netherlands.

*Table 3.11 Contribution of women to the employment/population ratio (FTE) 1996 (percentage points)*

	<i>All women</i>	<i>Full-time work</i>	<i>Part-time work</i>
<b>United States</b>	36	31	5
<b>France</b>	26	21	5
<b>Germany</b>	25	18	7
<b>Netherlands</b>	20	11	9
<b>United Kingdom</b>	30	21	9

*Table 3.12 Contribution of women to employment/population ratio (FTE) by pay levels 1996 (percentage points)*

	<i>Low pay</i>		<i>Medium pay</i>		<i>High pay</i>	
	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Part-time</i>
<b>United States</b>	8	3	17	2	6	1
<b>France</b>	2	1	16	3	2	1
<b>Germany</b>	3	2	14	4	1	1
<b>Netherlands</b>	2	2	8	6	1	1
<b>United Kingdom</b>	6	4	12	4	4	1

*Table 3.13 Concentration ratios for low and high pay for women in full-time and part-time employment 1996*

	<i>Low pay</i>		<i>High pay</i>	
	<i>Full-time</i>	<i>Part-time</i>	<i>Full-time</i>	<i>Part-time</i>
<b>United States</b>	106	221	76	39
<b>France</b>	113	217	69	110
<b>Germany</b>	167	246	33	72
<b>Netherlands</b>	160	162	38	44
<b>United Kingdom</b>	118	188	82	53

Women in full-time work everywhere have a greater risk of low pay and a low presence in high pay, as shown by the concentration ratios in Table 3.13. The risk of poor pay outcomes for women in full-time work are conspicuously high in Germany and the Netherlands. Even the somewhat brighter jobs picture for European women in part-time work has at best muted support in terms of pay. The concentration of part-time women in low pay is less marked in the Netherlands and the UK than in the USA, but more marked in Germany. All the European economies have a higher concentration of high-paid part-

time jobs for women than the United States, although the incidence of these is tiny on both sides of the Atlantic.

The paper by Connolly and Gregory reviews the record on female employment across the five countries, with a particular focus on part-time work and relative earnings. It then examines in more detail part-time work by women in Britain, and its implications for earnings mobility.

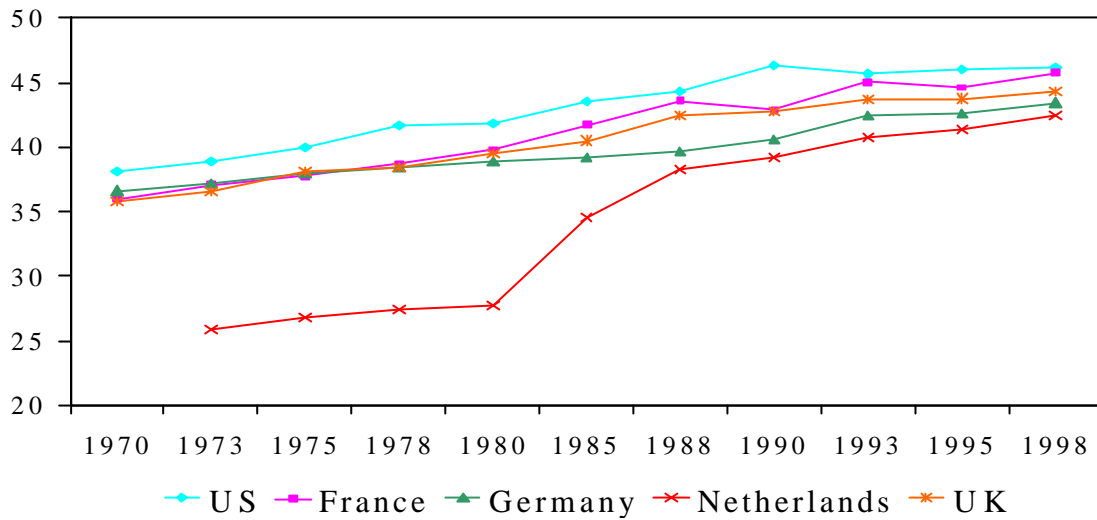
*(a) Women's employment in the five economies*

Women's employment has experienced sustained growth over the past 25 years in all five economies. In the United States employment of men has also been rising, albeit at a slower rate than for women and at a slightly falling employment-to-population ratio, while across the four European economies it has been relatively static, rising significantly only in the Netherlands and post-unification Germany, and tending to decline in France and to some extent the UK. As a consequence women are making up an increasing proportion of the workforce in both Europe and the United States. This proportion is remarkably similar across the five countries, at close to 45 per cent, and only marginally lower in the European economies than in the United States (Graph 3.2).

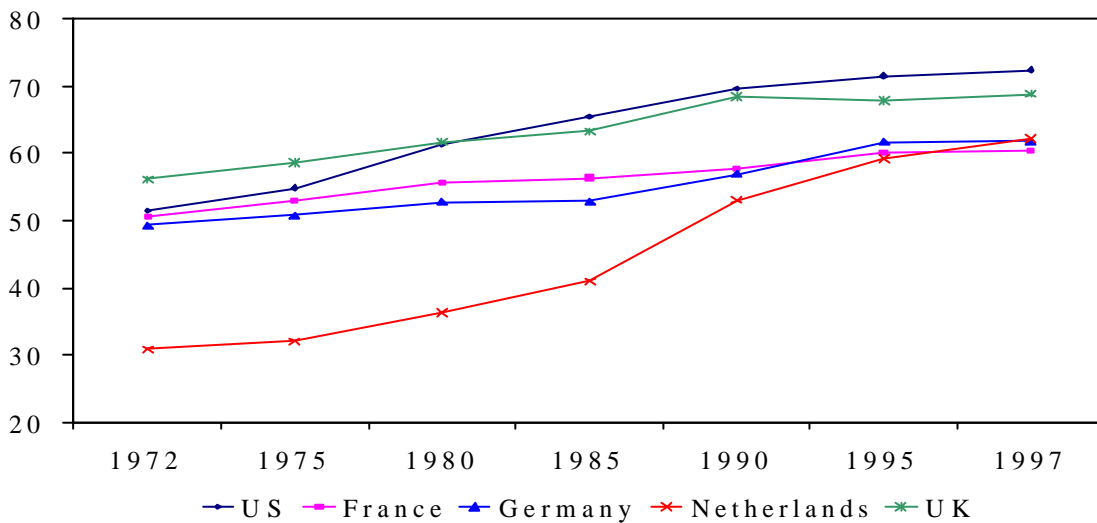
This growing proportion of women in the labour force reflects the sustained rise in female participation, now over 60 per cent in each of the four European economies and 72 per cent in the United States (where male participation is also higher) (Graph 3.3).

The main source of this increased female participation is the 25-34 age group, where each decade has seen a further 'filling-in' of the traditional dip in participation during the peak years for family formation and child-rearing. Graph 3.4 illustrates this for the UK, but the pattern is similar in the other countries. The rise in female participation is particularly dramatic in the case of the Netherlands, where employment of women in this age-group has risen from under 25 per cent in the early 1970s to over 70 per cent now. Women in the United States are more likely to be in employment at all ages, with the gap particularly striking in the older age groups; not only are women in the USA more likely to work, they are also likely to have a longer working life.

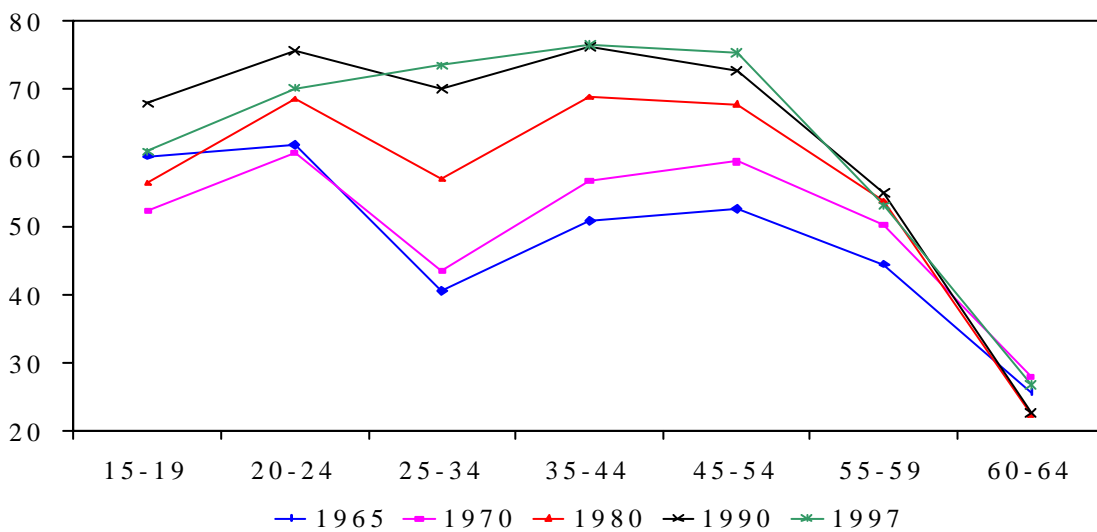
Graph 3.2 Female employment as percentage of total employment (head count)



Graph 3.3 Female participation rates (%)



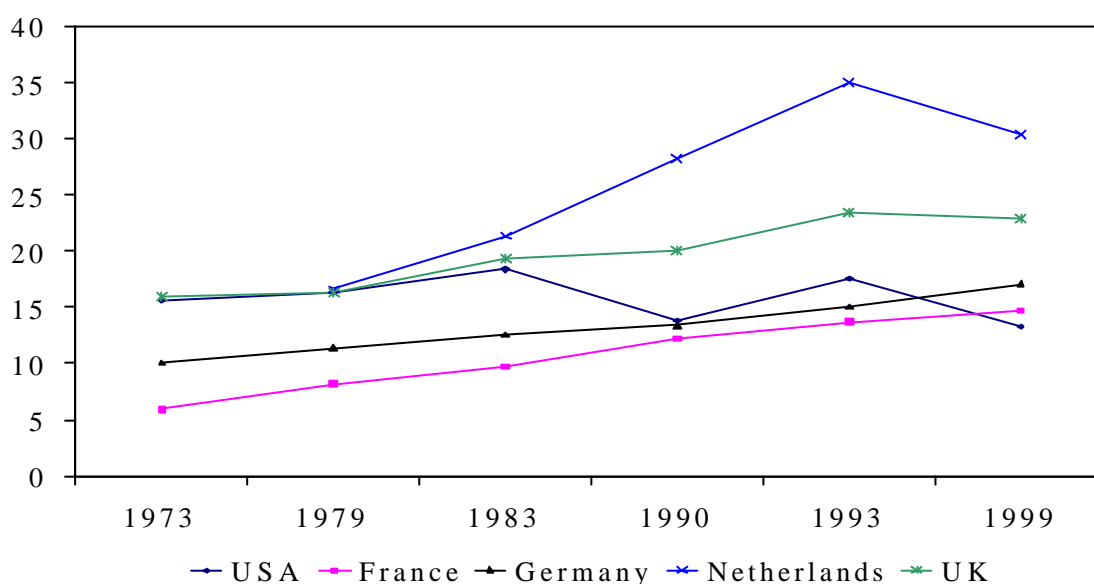
Graph 3.4 Employment rates of women by age group, UK



*(b) Part-time work*

A further, overlapping dimension of employment growth has been in part-time work. This has applied to both men and women, and in each of the economies. As shown in Graph 3.5, in France part-time work has risen from 6 to 16 per cent of total employment since the early 1970s, while in the Netherlands 36 per cent of workers now work part-time. The position of the United States is again an intermediate one.

*Graph 3.5 Part-time as % of total employment (men + women)*



Although part-time work by men has been growing significantly, it continues to be a predominantly female activity, with 80 to 90 per cent of part-time workers in most countries being women. The Netherlands is a notable exception to this, with one-third of part-time work undertaken by men (mainly youths).

The preponderance of women in part-time work reflects its role in her life-cycle. The growth in opportunities for part-time work has allowed more women to combine labour market work and earnings with responsibilities for childcare, and as a consequence contributing to the rising participation of women in the 25-44 age group. Changes in fertility patterns, delayed family formation and smaller family sizes are other important contributory factors. This life-cycle pattern is clearly illustrated in figures for the UK in Table 3.14.

This role, however, varies across the European economies; while part-time work predominates in Germany, the Netherlands and the UK, full-time work remains more

common in France (Table 3.15). The main difference, however is with the USA, where women's part-time work is polarised between young people, still in education, and older, pre-retirement, age-groups. There is thus a clear transatlantic difference in the role that part-time work plays for in women's life-cycle.

*Table 3.14 Role of part-time work for women by age group, United Kingdom, 1995*

<i>Age</i>	<i>% Part-time</i>	<i>Age</i>	<i>% Part-time</i>
<20	47.3	35–<40	47.8
20–<25	73.7	40–<45	47.4
25–30	70.8	45–<50	48.0
30–<35	56.5	50–<60	43.5

*Table 3.15 Employment rates of mothers with a child aged 10 or under, 1993 (%)*

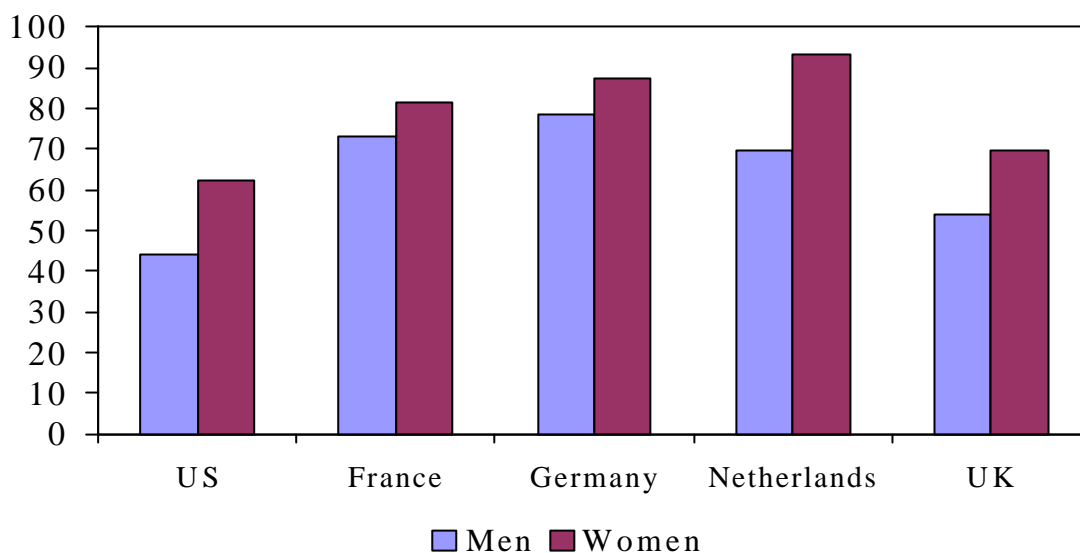
	<i>Full-time</i>	<i>Part-time</i>
<i>France</i>	40	20
<i>Germany</i>	18	30
<i>Netherlands</i>	7	40
<i>United Kingdom</i>	18	34
<i>European Union</i>	36.4	18.6

Source: EC Childcare Network 1996

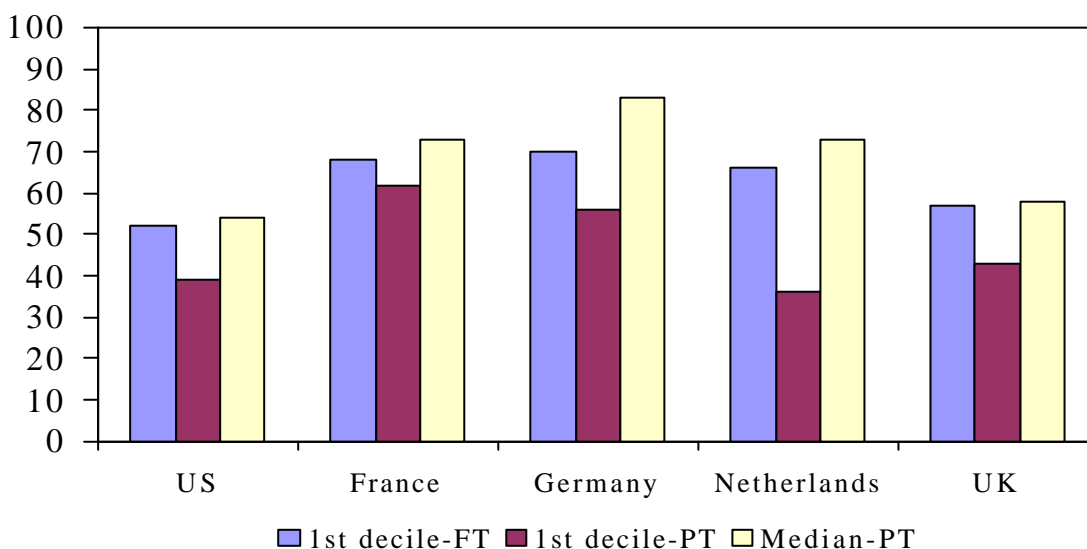
### *(c) Pay gaps*

Despite women's growing presence in employment, a significant gender pay gap persists; women still earn on average only about 75 per cent of the hourly wage of men. While the gender pay gap has been tending to narrow for women in full-time work, the gap between full- and part-time work is widening, notably in the United States, the Netherlands and the UK. Further, the part-time pay gap is now emerging as an important phenomenon, involving men as well as women. As Graph 3.6 shows, not only do part-time workers receive hourly pay rates below those for full-time workers, but in each country the disparity is greater for men than for women. The role of low pay among part-time jobs is further illustrated in Graph 3.7 where we see that the median rate of pay for part-time workers is only marginally higher than the bottom decile rate for full-time employees.

Graph 3.6 Median hourly earnings of part-time workers as % of full-time earnings, by gender, 1995



Graph 3.7 Bottom Decile as Percentage of Median Full-time Hourly Earnings



#### (d) Women in part-time work in Britain

Britain clearly presents one of the most interesting instances of part-time work for women, with the highest incidence (after the Netherlands), rapid growth, and a substantial pay gap. Connolly and Gregory give a more detailed analysis of the career paths and earnings status of women in Britain involved in part-time work. They concentrate on women aged 22 and over, to leave aside issues of students and the youth labour market and focus on part-time work in the adult woman's life-cycle. They use microdata for

Britain from the New Earnings Survey Panel Data-set (NESPD) a panel of women in employment between 1975 and 2000 containing employment records for a total of 193,500 women, of whom around 57,000 are present in any year.

The first insight to emerge from the microdata is the pervasive role of part-time work in the adult working life of the contemporary British woman. Of the women in the survey who have been in employment for 5 years or more, 30 per cent have always worked full-time, 22 per cent have only ever worked part-time, while 49 per cent have worked in both capacities. So a working life comprising both full-time and part-time work is the modal pattern. Moreover, as Table 3.16 shows, the average time spent in employment by all three categories, including completed and uncompleted spells, is closely similar. For those who have worked on both a full-time and a part-time basis, the average distribution of working years between the two states is again approximately equal (although the distributions at the individual level covers all combinations, with no ‘typical’ pattern.)

*Table 3.16 Average time spent in full-time and part-time work: women aged 22 and over with at least five years in employment*

	<i>Years</i>		<i>Years</i>
<i>Full-time only</i>	10.3	<i>Mixed:</i>	11.3
<i>Part-time only</i>	9.9	<i>Full-time years</i>	5.3
		<i>Part-time years</i>	6.0

As women’s part-time work has increased over the past 25 years, so has the raw pay gap between full- and part-time work. The differential in hourly earnings, which was negligible in the mid-1970s, is now around 14 per cent (Table 3.17).

*Table 3.17 Raw Pay Gap in Hourly Earnings, Women in Full-time and Part-time Work*

	<i>Average gap (%)</i>		<i>Average gap (%)</i>
<i>1975-79</i>	-2.8	<i>1990-95</i>	-13.7
<i>1980-84</i>	-8.0	<i>1995-99</i>	-14.1
<i>1985-90</i>	-12.2		

The raw pay gap of course reflects all differences in characteristics between the individuals working in the two categories. Women whose market wages are potentially lower, due for example to limited work experience or lower educational attainment, may be expected to choose part-time work more frequently, although the degree of overlap through the ‘mixed’ category above indicates this can at most be part of the explanation.

Using fixed effects estimation to control for all time-invariant individual attributes, Connolly and Gregory find an average wage penalty to part-time status of 6.6 per cent (Table 3.18). This is identified for the *same* individuals who have moved between full- and part-time status within the observation period.

*Table 3.18 Fixed effects estimation of earnings of women in full-time and part-time employment, 1975-2000*

*Dependent variable: ln of hourly earnings*

<i>Variable</i>	<i>Coefficient</i>	<i>Standard error</i>
<i>Part-time status</i>	-0.066	.002
<i>Part-time years</i>	0.018	.000
<i>Part-time years squared</i>	-0.00002	.000
<i>Full-time years</i>	0.043	.000
<i>Full-time years squared</i>	-0.00098	.000
<i>Age</i>	0.030	.000
<i>Age squared</i>	-0.00035	.000
	$R^2 = 0.299$	

Also included: year dummies, part-time\*time interaction

While a pay penalty for current part-work may be regarded as a compensating differential, the striking feature of the regression results from a dynamic perspective is the differential return to part-time as against full-time work. Each year of part-time employment adds 1.8 per cent to earnings while a year of full-time employment adds 4.3 per cent. Having worked part-time is significantly, and permanently, less valuable for a women's future earnings than a corresponding spell in full-time work. As part-time work becomes an increasing part of a woman's life-cycle this lower return will continue to accentuate the pay gap.

#### *(e) Earnings mobility for women working part-time*

Connolly and Gregory also look directly at year-on-year earnings changes for women in full-time and part-time employment. The transitions for 1995-96 by decile groups within the female earnings distribution are summarised in Table 3.19. The differing distributions of full- and part-time women across low and high pay has already been documented above, where the high concentration ratios for part-timers in low pay in particular was emphasised. The first insight added by the table is that women changing from full-time to part-time work are not a random sample of women previously working full-time, but are significantly skewed towards lower earners. The women who move from full-time to part-time employment are between two and three times more likely to come from the

lowest deciles, and just over half as likely to come from the top deciles, as are those who continue in full-time work. In terms of their exit positions in the earnings distribution, those moving to part-time work have earnings more closely resembling those of part-time than those of other full-time workers. Conversely, women switching from part-time to full-time work are likely to come from higher earnings deciles among part-timers than those who remain in part-time work. Thus individual transitions both out of full-time into part-time work and in reverse are correlated with relative earnings, tending towards earnings polarisation in the two categories.

*Table 3.19 Earnings transitions 1995-96, women in full-time and part-time work (%)*

<i>1995 decile position</i>	<i>group distribution 1996 decile position</i>			
	<i>in 1995</i>	<i>1 - 3</i>	<i>4 - 7</i>	<i>8 - 10</i>
<i>(a) Full-time in both years</i>				
1 – 3	13.9	75.2	23.5	1.2
4 – 7	46.3	4.6	84.9	10.5
8 – 10	39.9	0.6	6.8	92.6
<i>(b) Full-time to part-time transition</i>				
1 – 3	34.4	63.8	29.8	6.4
4 – 7	43.3	15.8	64.3	19.9
8 – 10	22.4	5.2	12.6	82.3
<i>(c) Part-time in both years</i>				
1 – 3	41.4	85.2	13.1	1.6
4 – 7	33.5	13.8	80.2	6.0
8 – 10	25.1	3.0	8.1	88.9
<i>(d) Part-time to full-time transition</i>				
1 – 3	34.7	71.4	26.1	2.5
4 – 7	38.3	27.6	64.9	7.4
8 – 10	27.0	7.1	26.9	66.0

Women with low full-time earnings tend to improve their ranking in the earnings distribution when they go part-time, while high earners clearly lose, and those in the middle range are both more likely to move up and to move down the earnings distribution. Similarly, among women moving from part-time to full-time employment, those who were low earners in part-time employment tend to gain relative to those who remain either part-time or full-time, while those who were high earners when part-time do less well than both full-time and part-time stayers. Transitions between full-time and part-time work tend to promote earnings progression for the low paid, but retard progression for higher earners.

Table 3.20 Earnings Transitions 1995-96, Women in Full-time and Part-time Work, with and without Change of Job (%)

1995 decile position	no job change				with job change			
	1995	1996 decile position			1995	1996 decile position		
		1 - 3	4 - 7	8 - 10		1 - 3	4 - 7	8 - 10
<i>(a) Full-time in both years</i>								
1 - 3	15.1	78.2	20.8	1.0	16.1	53.7	43.1	3.2
4 - 7	47.7	4.2	86.6	9.2	44.1	8.3	70.2	21.6
8 - 10	37.2	0.5	6.6	92.9	39.8	1.3	9.1	89.6
No of persons	21111				2710			
<i>(b) Full-time to part-time</i>								
1 - 3	34.0	63.5	30.9	5.6	35.8	65.4	25.2	9.5
4 - 7	43.7	9.7	68.9	21.4	41.4	42.2	44.2	13.6
8 - 10	22.2	3.4	11.7	84.9	22.8	12.3	16.0	71.6
No of persons	1463				355			
<i>(c) Part-time to part-time</i>								
1 - 3	40.2	86.3	12.3	1.4	53.7	77.4	19.6	3.0
4 - 7	33.8	12.3	81.9	5.8	30.3	31.1	60.4	8.4
8 - 10	26.0	2.8	7.6	89.6	16.0	6.7	17.2	76.1
No of persons	15656				1491			
<i>(d) Part-time to full-time</i>								
1 - 3	30.7	74.9	22.9	2.1	48.0	64.1	32.7	3.2
4 - 7	40.4	27.7	65.3	7.0	31.4	27.5	63.3	9.2
8 - 10	28.9	6.8	26.0	67.2	20.6	8.6	31.2	60.2
No of persons	1520				452			

More tentative results emerge when employment status is set in the context of job changing (Table 3.20). The further subdivision makes the numbers smaller, while the question asked 'Was the employee in her present job with the current employer a year ago?' is open to ambiguous interpretations in the case of promotion or transfer between full-time and part-time work. Among women continuing in full-time work, job-changers come from similar positions in the earnings distribution to stayers, and, as noted in other contexts elsewhere in the report, job changers from all but the top deciles are substantially more likely to move up the earnings distribution than stayers. Women moving from full-time to part-time work similarly come from the same parts of the distribution as stayers, but those from middle and upper earnings positions are substantial losers when the move to part-time work also involves a job change. Job-changers among part-timers, both those remaining part-time and those moving into full-time work, are heavily drawn from the lower earnings groups. In each case the job-changers from the lower deciles tend to achieve more earnings progression than the stayers.

### *(f) Conclusions*

Part-time work is an important mechanism through which women can combine labour market participation with family responsibilities. The opportunity to move between full-time and part-time work as domestic circumstances evolve is an important form of labour market mobility for women. But part-time employment typically carries a pay penalty, both while it is the current status and, more significantly, over the future career path, through the lower earnings return to time spent in part-time work. So this mobility between types of employment comes at a serious price for the individual. In the aggregate, as more women spend more time in part-time work over the life-span this adverse status of part-time work threatens increasing polarisation of earnings.

### **3.6 The earnings mobility of young workers**

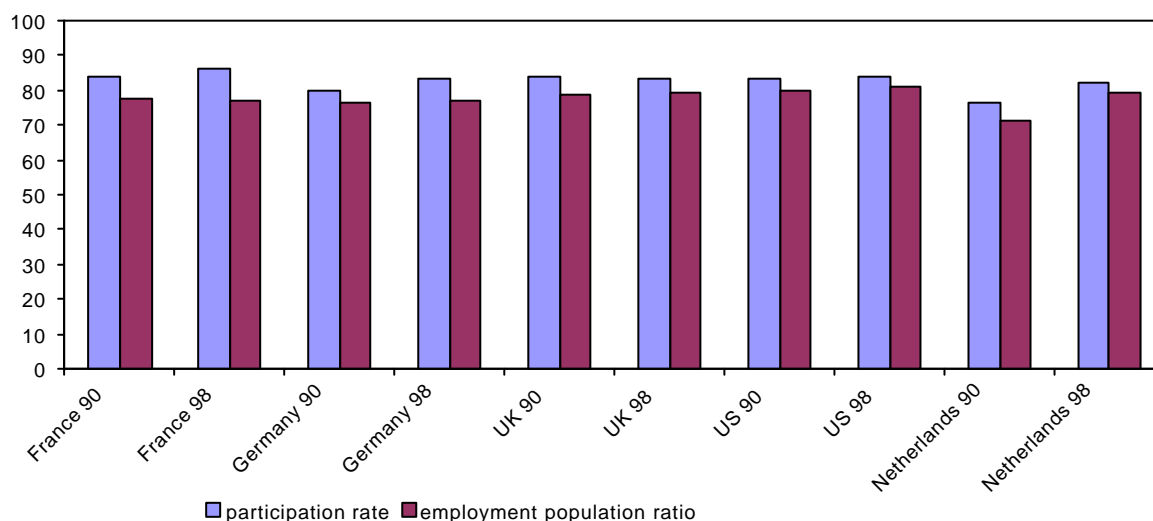
Young workers constitute a group of particular interest to policy-makers. By definition they have little or no professional experience and find themselves at the interface of the education system and the world of work. In the benchmarking section, youths emerged in all countries as having one of the highest concentration ratios of low pay. This is not unexpected since the labour market for young persons is characterised by low wages relative to adults, as well as high relative rates of unemployment. However, young persons do get older and must therefore leave the so-called youth labour market at some point.

In terms of mobility, earnings profiles – measuring the way in which earnings change with experience or age – are typically upward sloping, and so on average young persons' earnings rise as they get older. How this occurs is an important question. Either a young person is paid a relatively low wage in a particular job at the beginning of his or her professional life due to lack of experience, and the wage increases in this job with age. Or there are 'entry' jobs for young people starting work for the first time which enable the acquisition of experience, and permit the person to apply subsequently for better paid jobs requiring professional experience. These observations point to the need to examine the kind of jobs young persons occupy, how long they stay in them, and the extent to which earnings growth occurs within a firm or as a result of changing employer.

*(a) Mobility and young workers – some international comparisons*

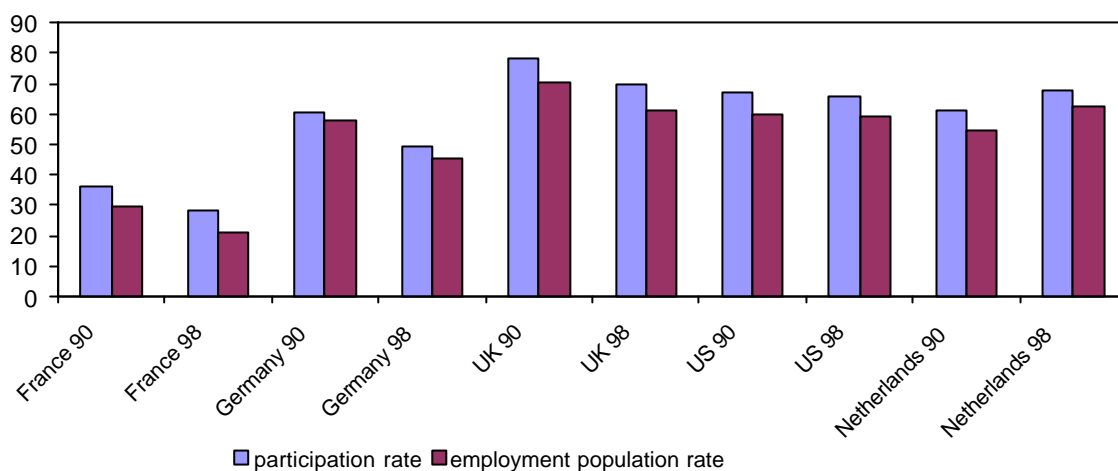
A glance at recent labour market trends reveals three stylised facts concerning the age structure of the working population in the countries considered here. Firstly, participation rates for prime-age adults (25 to 54 years old) are very similar across countries – ranging from 82 to 86 per cent in 1998 (Graph 3.8). These have changed little during the 1990s except for the Netherlands where there has been a surge of female employment. Employment-to-population ratios vary from 76 per cent in France to 81 per cent in the United States in 1998, and are lower than in 1990 except for the Netherlands. Thus the main differences between the countries lie in the tails of the age distribution of the working population. A second stylised fact is that labour force participation (and as a consequence employment) rates of over 54-year olds are much lower in continental Europe than the USA and the UK. In the former participation rates are well below 50 per cent and are greater than 60 per cent in the latter (Graph 3.9).

*Graph 3.8 Participation rates 25 to 54 year olds*

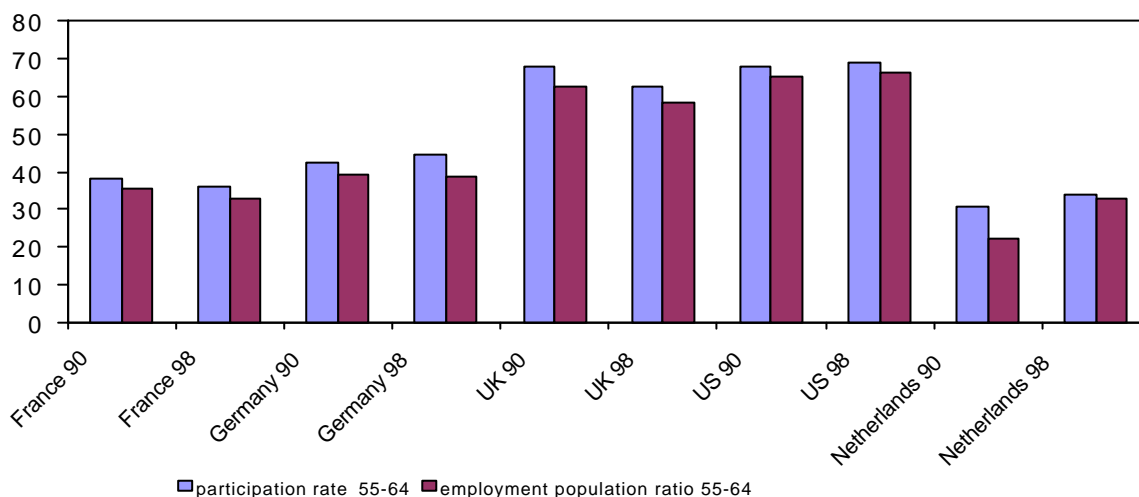


Thirdly, there are striking differences between the countries for the younger age group where in 1998, participation rates varied from 28 per cent in France to 70 per cent in the UK (Graph 3.10). The United States and the Netherlands also have high rates. In all countries except the Netherlands the rate has fallen since 1990. Naturally, some of these differences reflect the nature of the education system and the way in which further education is financed. In all countries there has been a trend increase in young persons

Graph 3.9 Participation and employment rates of 55 to 64 year olds



Graph 3.10 Employment and participation rates 15 to 24 year olds (%)



staying on longer in full-time education and there are cyclical effects resulting in increased In order to abstract from country particularities in terms of the age at which young persons typically finish full-time education and the relative importance of active labour market policies such as employer-provided training and special youth employment measures, individuals under the age of 30 are considered to be young persons. In addition, combining education and work is more prevalent in countries such as the USA and the UK. A first impression of mobility patterns can be gained from looking at movements between low-paid and high-paid employment, self-employment and non-employment in a given year. Table 3.21 shows transitions between different labour market states for the under 30 age group. While it is clear that young persons do move out of the lower deciles of the earnings distribution into higher deciles, it is also striking that between 15 and 20 per cent of low-paid young persons move into non-employment

(unemployment or out of the labour force and possibly into education). This tendency is observed in both Europe and the United States. Higher paid young persons are far less likely to move into non-employment (between 6 and 9%).

*Table 3.21 Destinations workers under 30 in lowest 30 per cent (highest 70%) of the earnings distribution in 1995 in following year*

<i>Situation in 1996</i>	<i>United States</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>Lowest 30%</i>	62.2 (8.7)	49.5 (7.3)	68.3 (8.6)	-	54.3 (5.5)
<i>Upper 70%</i>	19.5 (84.6)	29.6 (83.3)	13.5 (82.7)	-	23.6 (77.7)
<i>Unemployed</i>	} 17.5 (5.6)	13.3 (6.2)	8.0 (2.6)	-	3.9 (1.5)
<i>Inactive</i>		7.0 (2.8)	8.7 (4.6)	-	17.1 (14.0)
<i>Self-employed</i>	1.0 (1.1)	0.7 (0.5)	1.5 (1.5)	-	1.0 (1.3)

'-' indicates no reliable data available.

*Table 3.22 Percentage of each age group changing employer in between 1995 and 1996*

<i>Age group</i>	<i>France</i>	<i>Germany</i>	<i>Netherlands</i>	<i>United Kingdom</i>
<i>16-19</i>	28.7	4.9	21.9	15.1
<i>20-24</i>	25.8	12.9	15.0	21.5
<i>25-29</i>	12.9	11.3	5.9	17.8
<i>30-34</i>	7.2	10.3	5.3	10.4
<i>35-39</i>	5.6	10.4	5.4	11.6
<i>40-49</i>	4.0	4.3	2.3	8.0
<i>50-59</i>	2.2	3.6	1.7	6.9
<i>60-64</i>	2.9	0.4	5.3	4.8
<i>Overall</i>	6.9	7.7	5.4	12.0

Table 3.22 shows that the highest rates are of job mobility are found for individuals aged under 25 - ranging from 25 per cent in France to 15 per cent in the Netherlands. Younger persons have a greater tendency to change employer and this rate declines quite rapidly in most countries although it is still above 10 per cent for the 30-39 age group in both the UK and Germany. Thus it is clear that part of the phenomenon of escaping from low pay for younger persons is through changing employer, and not simply moving up an internal wage hierarchy.

### *(b) Earnings and job mobility among young persons in France*

The French youth labour market presents a very interesting case study in the context of earnings mobility. One of the major developments in the 1980s and 1990s was the rise in youth unemployment. This was associated with a decline not only in the employment rate of young persons but also in their rate of labour market participation. Increasing numbers

stayed on to take the baccalaureat and undertake further education. At the same time, there have been a number of special measures introduced aimed at enabling young persons to obtain employer-provided training, and at providing incentives for firms to employ young workers. Furthermore, there is evidence that the labour market for young persons has served as a 'buffer' to absorb the successive shocks that have affected the French labour market – the anti-inflation policy implemented in 1983, the 'franc fort' exchange rate policy of the late 1980s, the objective of remaining inside the European Monetary system in the early 1990s and the restrictive policy measures used in the attainment of the Maastricht criteria thereafter. The consequence of the period of slow growth and austerity that dominated much of the 1990s, has meant that the transition from full-time education to stable employment is no longer automatic and often involves a series of temporary jobs or training placements accompanied by periods of unemployment. This part of the report – based on research by Stephen Bazen – is concerned with what happens once young persons get a foothold in the regular labour market.

*(c) Earnings mobility of young persons in France in the 1990s*

As pointed out earlier, young persons typically begin working life in low-paying jobs – over half are found in the lowest three deciles of the earnings distribution. This is clearly a transitory phenomenon since, of those who remain in employment, less than half are still there one year later and after two years, less than 40 per cent are still there. For the over-30s group as a whole, around 20 per cent are found in the lowest three deciles earnings distribution. Furthermore, out of young persons in the lowest three deciles, those in the lowest decile have the highest probability of upward movement other things being equal. Using a logit model, it is estimated that the probability of escape is an increasing function of educational attainment, and is generally higher for males and those living in the Paris area. A striking finding is that the probability of escaping from low pay no longer increases after the first ten years in the labour market. This suggests that individuals who do not move out of low-paying jobs while they are young may get trapped.

It was pointed out above that young persons have high rates of job mobility – more than 25 per cent for under 25s and more than 12 per cent for 25 to 29 year olds. Such job

changing is on average associated with movements up the earnings distribution after having taken into account education, experience and other characteristics. Interestingly job-changing also increases the probability of escaping low pay for older workers even though they tend not to change employer to the same extent. Thus on the basis of the French experience, the upward slope of the age earnings profile is determined in part by within job earnings mobility and also by earnings growth resulting from between job mobility. It would appear that certain jobs serve as “stepping stones” for young persons entering the labour market.

*(d) Cohort effects and the return to education and experience*

In view of the fact that more young persons stay on at school, the population in work aged under 30 in the middle and late 1990s has a higher average level of education and fewer years of experience on average than the same age group in the 1980s. Furthermore, the tendency of firms to retain more experienced workers and hire fewer young persons will have depressed the labour market for young persons entering the labour market during the 1990s. This has given rise to lower rates of return to education and experience.

*Table 3.23 Rates of return\* to different education levels and experience in France*

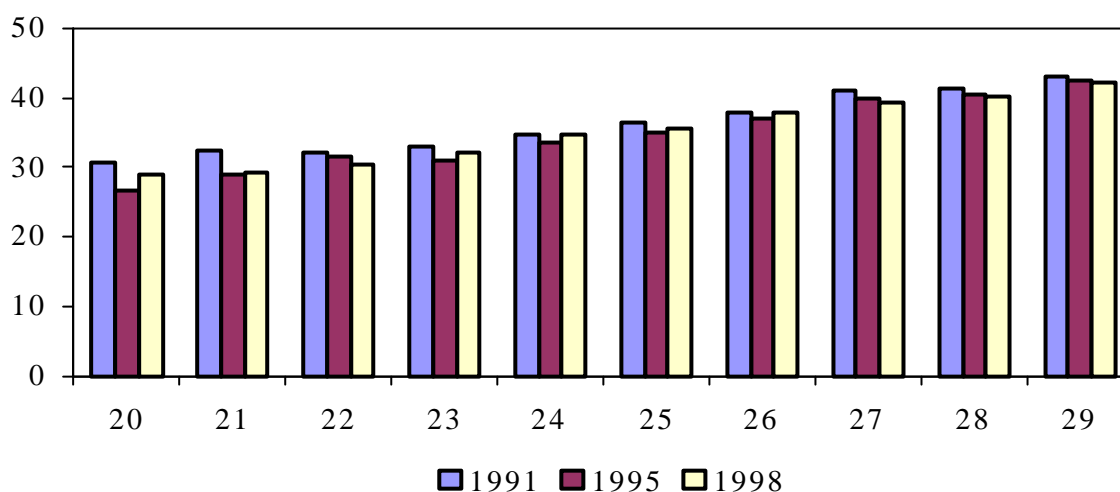
	1990	1998
<i>BAC</i>	0.336 (0.163)	0.203 (0.101)
<i>Deug (second year university diploma) or equivalent</i>	0.691 (0.264)	0.432 (0.191)
<i>Licence (full degree) or higher</i>	1.293 (0.364)	0.941 (0.353)
<i>Return to experience after two years</i>	0.063	0.052
<i>Return to experience after five years</i>	0.045	0.037

\* return compared to someone with no qualifications. The figure in parentheses represents the marginal return to the diploma in question.

Table 3.23 shows that for young persons under the age of 30, the return to staying on to take the baccalaureat has fallen between 1990 and 1998 from 33 per cent to 20 per cent more than someone with no qualifications, and from 16 per cent to 10 per cent compared to the basic secondary education certificate (taken at the age of 16). Overall and marginal rates of return have also diminished at higher educational levels. Furthermore, the return to an additional year’s experience has fallen for young persons, say, with five years experience from 4.5 per cent to 3.7 per cent over the same period. Young persons entering the labour market in France during the 1990s have fared less well in relative

terms than those who started out in the 1980s. There is also evidence that the real wages of younger workers entering the labour market in the late 1990s are lower than those who entered in the early 1990s at a given age and in particular for less skilled workers. While real earnings increase as the cohort grows older, they are lower on average than previous cohorts at each age (see Graph 3.11).

*Graph 3.11 Average real hourly youth earnings by age, France 1991-98 (Francs of 1991)*



#### *(e) Changes in the composition of young persons' employment*

The composition of employment and patterns of job mobility have also changed in the last fifteen years. There has been a noticeable decline in the proportion of young persons aged 20 to 29 in unskilled manual occupations between 1985 and 1995 and an increase in the proportion occupying middle management and intermediate professional positions. The proportions are very similar in the two years for occupations such as clerical (32 per cent), skilled manual (more than 20 per cent), and shop workers (around 12%). However when it comes to the 30 to 39 age group, the occupational composition of employment is almost identical in the two years except for a few less unskilled manual and a few more shop workers in 1995. This suggests that the routes into certain types of occupations have changed. The increase in the numbers with higher education is reflected in a greater proportion already in middle management and professional positions at an earlier age in 1995. For the 30 to 39 age group, the proportion is roughly the same in 1995 as it was in 1985. Occupations such as shop assistants appear to serve as a stepping stone in both years, but working when young in a manual occupation is no longer necessary, apparently, in order to accede to a technical, professional or supervisory position in 1995.

These differences in the passage of young persons into more highly skilled jobs are reflected to a certain extent in patterns of job mobility. The proportion of 25 to 30 year olds with less than twelve months tenure is twice as high (33%) in 1995 compared to 1985, and it is one and half times more (19%) for 31 to 35 year olds. In 1985 less than half of 25 to 30 year olds had been with the same employer for less than four years compared to more than two thirds in 1995. These figures suggest that those labour market entrants in the 1990s without higher level diplomas have a more unstable early labour market experience.

### *(f) Conclusions*

The youth labour market is a key issue in the analysis of earnings and job mobility. The mechanisms by which young workers find their place in the regular labour market and how their situation evolves thereafter have important implications for policy-makers. Evidence has been presented here showing that while they often begin working life in low-paying jobs, young persons move up the earnings hierarchy within the firm as well as through changing employer. Certain occupations – such as working as shop assistant – often act as stepping stones, others are more permanent. Evidence from France suggests that the labour market position of young persons has deteriorated in the 1990s in two respects. Not only have rates of return to education and experience declined, but also it would appear that cohorts entering the labour market in the 1990s have on average lower real earnings than preceding cohorts. This being said, there is also evidence that young persons have more direct access to higher level occupations at an earlier age than in the 1980s.

## **3.7 Conclusions**

This chapter has examined earnings mobility at the individual level across the four selected European economies, and between them and the United States. The analysis was set in the context of the American-European jobs gap.

Our findings do not give systematic support to the view of rigid labour markets in the European economies inhibiting job growth. In terms of the overall level of earnings

mobility each of the European economies, with the exception of France, shows greater earnings mobility than the United States; and France is level with the USA. In terms of one of the key indicators, the proportion escaping from low-paid employment in any one year, the mobility record is found to be very similar across the five economies. Divergent findings, however, emerge for transitions from low pay to non-employment in the UK, which has the high rate, while the United States is very similar to France and Germany. The highest degree of upward earnings mobility from the bottom deciles occurs in France and Germany, with the United States again in a middle ranking, as it is in terms of stability in the top deciles. In terms of mobility by those returning from unemployment, upwards earnings progression is less frequent in the United States than in any of the European economies with the exception of the Netherlands, and substantially less frequent than in the UK.

In all countries a highly significant minority (25 to 45%) of workers experience reductions in real hourly earnings in a given year. Given that overall average real earnings have been rising in Europe and have been fairly stable in the United States, this finding indicates that comparing group averages over time does not give the full picture. Furthermore, it suggests that there is a high degree of wage flexibility in Europe, including in a downwards direction. Contrary to what is often claimed, the European economies are not characterised by real wage rigidity while American wages are flexible. Rather at the individual level wages everywhere show a substantial degree of downwards as well as upwards flexibility.

A key role is found for job mobility. Job-changing is generally found to result in increased earnings in both real and relative terms. While most job-changing occurs among individuals in the middle of the earnings distribution in France and Germany, in the USA and the UK it mainly concerns workers in the upper and lower tails. However, job-changing with an intervening period of non-employment is found to involve real earnings reductions for large proportions of workers in the United States, France and the UK. These downward movements in earnings point to another form of wage flexibility common to the USA and certain European countries, rather than to a United States/Europe divide.

The growth of part-time work by women in the European economies is moving them closer to American participation rates, although a substantial employment gap remains. But in the European economies part-time work is at its peak in the childcare years, while in the United States it peaks, for adults, among older women. In both countries a substantial pay penalty attaches to part-time status. This is of greater social significance in the European economies, where a substantial segment of life-cycle employment comes after the main part-time years. The evidence is that a spell of part-time employment not only carries a current wage penalty but bears a significant future earnings penalty over the remaining years after the return to full-time work. Mobility between full-time and part-time work comes at a high price, which does not characterise the United States.

Young persons feature naturally in the processes of earnings and job mobility. For most individuals low-paid employment is a transitory situation since earnings grow with experience either with the same employer or by leaving low-paying, stepping-stone jobs and moving into better paid employment. In all countries there has been a tendency to staying longer in full-time education, however in France this has been exaggerated by the depressed state of labour market in the 1990s. Not only has the rate of return to education declined, but also successive cohorts have lower real earnings than the preceding ones at a given age.

Overall, therefore, the stereotype of wage and employment rigidity in the European economies relative to the flexible American economy, is not sustained. The issue of the jobs gap, however, remains. One clear area is the labour market role of women, particularly in higher paid jobs. Another is the participation rate of men, particularly older men, who disproportionately withdraw from work in Europe.

## **Chapter 4**

### **Issues of Literacy and Job Quality**

#### **4.1 Literacy, pay and employment**

The level of skills and the return to them are one of the most important factors cited to explain both the growing wage inequality in the United States and the difference in inequality between the USA and Europe, and, through this, the transatlantic employment gap. It is argued that the relative wage of the unskilled in Europe has not fallen sufficiently to stimulate relative demand in the labour market for this category of skills. However, several authors have already raised important doubts on the validity of this argument. For the present project Mühlau and Horgan have systematically analysed the issue using information available from the International Adult Literacy Survey (IALS).

The skills argument is usually based on educational attainment, measured by credentials in the form of official certificates and diplomas, or by years of formal schooling. This may be less of a problem for analysing changes over time within a single country but is notoriously difficult to apply across countries, as no two systems of education are the same. The great advantage of the IALS data is that it provides a uniform measure of (cognitive) skills across countries based on scores on identical literacy tests. The survey was jointly organised by Statistics Canada and the OECD for a range of countries and was given to respondents in 1994<sup>4</sup>. . Three types of intensive paper-and-pencil tests were used: prose, documentation and quantitative literacy. The three outcomes are highly correlated and the authors have used the average. The respondents were also interviewed about the skills needed for their jobs and these job characteristics have been used to extend the analysis to labour demand .

The research was performed for the dataset as a whole, distinguishing between five Anglo-Saxon countries (representing flexible labour markets) on the one hand and five

Continental countries (as examples of regulated labour markets) on the other<sup>5</sup>. The purpose of the approach was to see whether labour market outcomes by skills depend on the differences in labour market institutions or, alternatively, on the supply and demand of different levels of skills. The former view, expressed by Krugman, asserts a trade-off between higher relative wages for the low skilled and lower employment. According to the supply-and-demand view, however, higher wages for the low skilled reflect a better labour market position and go together with a favourable employment situation. As the argument hinges on skills, their calibration by means of literacy levels rather than educational attainment may affect the debate substantially.

Figure 4.1 Average literacy scores by educational level

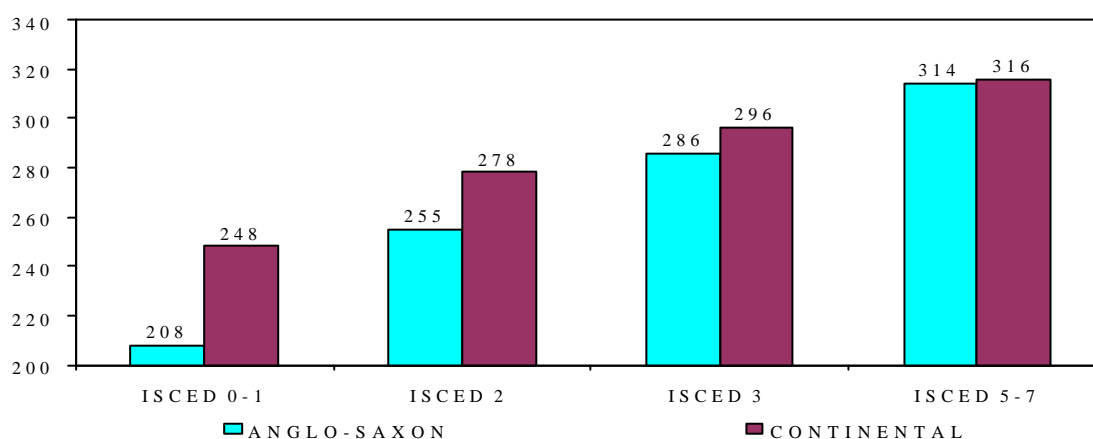


Figure 4.1 shows the difference between the internationally standardised educational credentials (ISCED) and the literacy scores. Particularly striking is that the lower educational credentials in the Continental countries are associated with much higher levels of literacy than in the Anglo-Saxon world. For people with less than secondary education (ISCED 0-1) the average literacy score across the Anglo-Saxon countries is 208, which compares to 248 on the Continent. Similarly, the literacy of people with lower secondary education (ISCED 2) is much better in Continental countries. For upper secondary and tertiary education, on the other hand, no systematic differences occur. The

<sup>4</sup> The later extension of the IALS, for 1998, to a few more countries could not be used as no microdata have yet been made available.

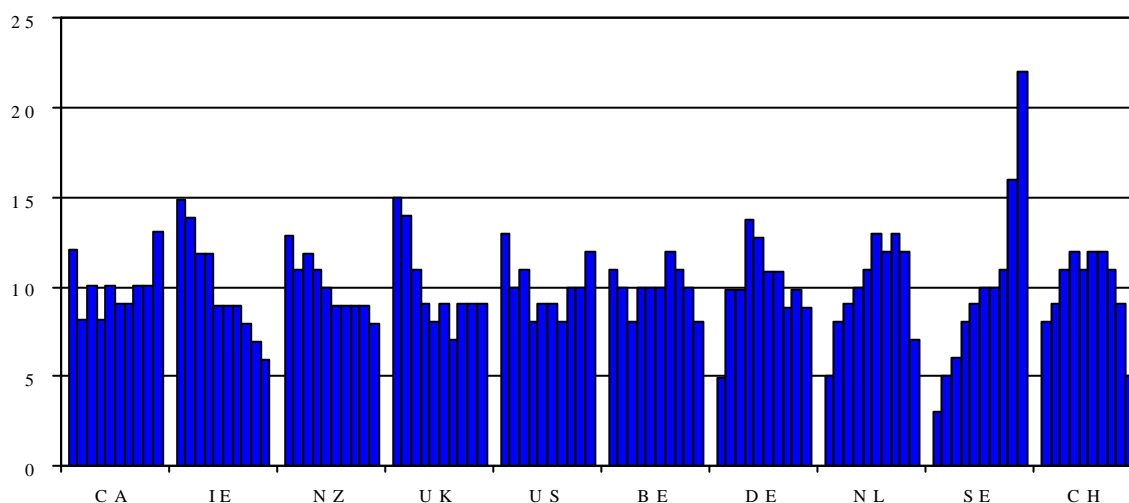
<sup>5</sup> Canada, the USA, New Zealand, Ireland and the UK on the one hand and Belgium (the Dutch-speaking Flanders part only), Germany, the Netherlands, Sweden and Switzerland on the other. Unfortunately, out of the set of five countries covered in this report France is missing as no data are available.

unconditional use of educational credentials seems to invite biased results regarding the effects of cognitive skills on labour market outcomes, particularly at the lower end<sup>6</sup>.

#### *(a) Skills, pay and employment*

In the research, each person was assigned a literacy decile based on the distribution of the pooled data for all ten countries, i.e. for each country the proportion in each of the deciles of the pooled distribution was calculated. Figure 4.2 presents this internationally standardised distribution for each of the countries. On this measure we find high proportions of low-skilled persons for the Anglo-Saxon countries, particularly the UK and Ireland, and low shares for the Continent. At the other extreme, Canada and the US also have high shares of the best educated, while Sweden beats all with 22 per cent of its population in the highest IALS decile. The average level of literacy in Anglo-Saxon countries (271) lags significantly behind that of Continental countries (286).

*Figure 4.2 National skills distributions of population aged 16-65, international literacy deciles*



First, it was investigated how skills, on this measure, relate to pay. A particular focus was the pay gap between the median and the lower quintiles of the literacy distribution. The gaps were estimated with the help of a wage regression estimated separately for the ten countries, controlling for gender, age and language<sup>7</sup>, and annual hours as yearly earnings

<sup>6</sup> In their paper, the authors extensively deal with the effects of immigrants on literacy scores, but we leave this out here as it appears to make little difference to the final outcomes.

<sup>7</sup> If a person's first language was different from that of the test.

were reported. Dummies indicate whether the respondent belongs to the first or second, or fourth and fifth literacy quintile of the population so that the regression coefficients estimate the earning differences between workers relative to workers belonging to the third quintile:

$$(2) \ln Earnings_{ij} = b_1 LitQuin1_{ij} + b_2 LitQuin2_{ij} + b_3 LitQuin4,5_{ij} + BX_{ij} + u_{ij}$$

The first-quintile impact (coefficient  $b_1$ ) appears to be significantly larger for the Anglo-Saxon countries (-.211) compared to the Continent (-.106) (see Table 4.1). This is consistent with both the trade-off and the supply-and-demand hypothesis.

The next step in testing the trade-off hypothesis was to examine employment chances in relation to the levels of literacy, again focusing on the gap between the median and the lowest quintile and also controlling for other personal characteristics. Logistic regressions on employment chances were estimated separately for the ten countries, with  $L_{ij}$  being the logged odds of being employed:

$$(4) L_{ij} = b_1 LitQuin1_{ij} + b_2 LitQuin2_{ij} + b_3 LitQuin4,5_{ij} + BX_{ij} + u_{ij}$$

Surprisingly, relative employment chances at lower literacy levels are better in the Continental countries ( $b_1 = -.753$  against  $-1.145$ ) (see Table 4.1).

*Table 4.1 Estimated coefficients of first-to-third literacy quintile to wages and employment*

	CA	IE	NZ	UK	US	A.-S.	BE	DE	NL	SE	CH	Cont.
earnings	-.181	-.313	-.131	-.141	-.291	-.211	-.076	-.079	-.139	-.092	-.144	-.106
employment	-1.123	-.980	-1.279	-1.135	-1.208	-1.145	-.926	-.794	-.711	-.934	-.399	-.753

To test whether this finding is robust other measures of employment difference were also used, including the employment-rate ratio for Q1 to Q3. This appears to make a substantial difference to the position of the USA and Germany although the Anglo-Saxon/Continental divide remains<sup>8</sup> and there is no indication that higher wages are indeed traded off against lower employment. Figure 4.3 plots the delogged regression coefficients of the wage regression against the employment-rate ratios (excluding immigrants). It is obvious that the relationship between the relative wages and the relative employment chances of low-skilled workers is not negative (as predicted by the trade-off hypothesis). Across all countries, the relationship is slightly positive (which is consistent

<sup>8</sup> But it is now only significant for the population excluding immigrants.

with the supply-and-demand hypothesis). Within the country groups, however, the relationship is slightly negative. This may indicate that there is a trade-off between wage position and employment chances but that this trade-off is dominated by other factors giving rise to the differences between the country groups. The relative supply of low-skilled workers is the first difference that comes to mind.

Figure 4.3 Relative wages and employment rates first-quintile

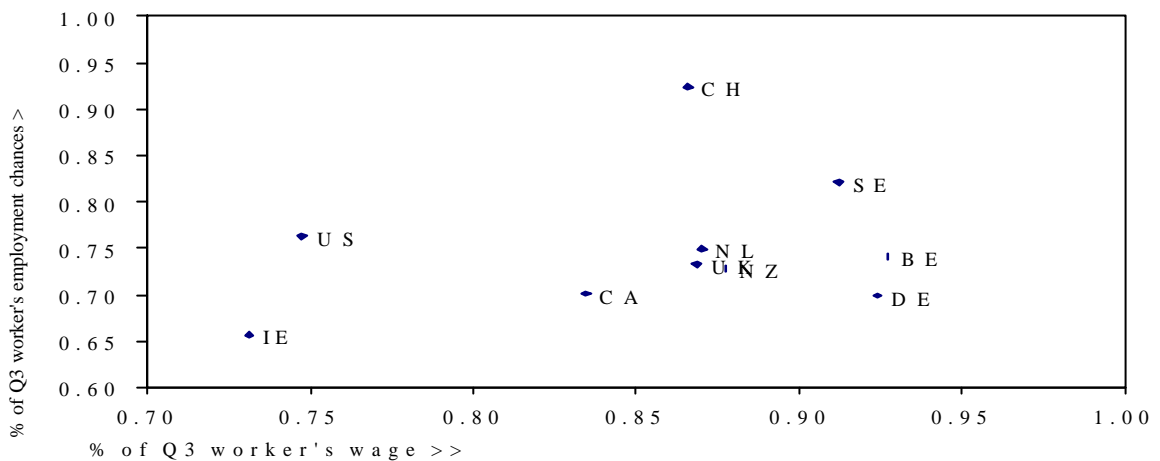
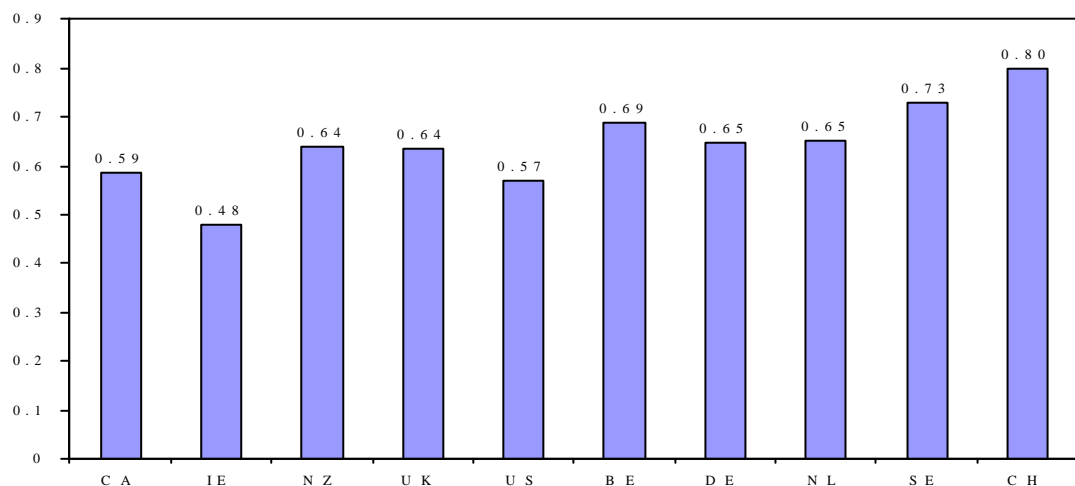


Figure 4.4 Composite 'expected wage' index



Finally, a composite index of the relative disadvantage of low-skilled workers was computed: the ratio of the 'expected wage' of quintile-1 workers to quintile-3 workers. This is not the wage a workers would expect to receive when employed but the average wage weighted by the chance of finding employment (see Figure 4.4). The low skilled fare best in Switzerland where quintile-1 workers 'expect' to receive 80 percent of the 'expected' wages of quintile-3 workers. Sweden follows and Belgium ranks third,

followed by Germany and the Netherlands. New Zealand and United Kingdom are Anglo-Saxon countries at the same level as the Netherlands and Germany. The situation is worse in Canada, the USA and Ireland. Overall, in the five Continental-European countries people with poor cognitive skills do relatively well while they do relatively poorly in Anglo-Saxon countries. The Continental average of the expected-wage ratios is significantly higher. We may hence conclude that the overall relative position of workers with low skills is better in Continental countries than in the Anglo-Saxon countries, a finding that supports the supply-and-demand hypothesis.

### *Job requirements and the demand for skills*

The IALS also contains data on the reading and writing requirements of the jobs people occupy. The authors used this to examine whether there are differences in the skill requirements of jobs between countries and whether these correspond to the above skill endowments of the countries. On the basis of self-reported variables they constructed a 24-point scale, distinguishing four levels of requirements ranging from no requirements at level 1 (0 points) via low (1-4) and medium (5-14) to high requirements at level 4 (15-24), to enable international comparison.

*Figure 4.5 National distributions of job requirements*

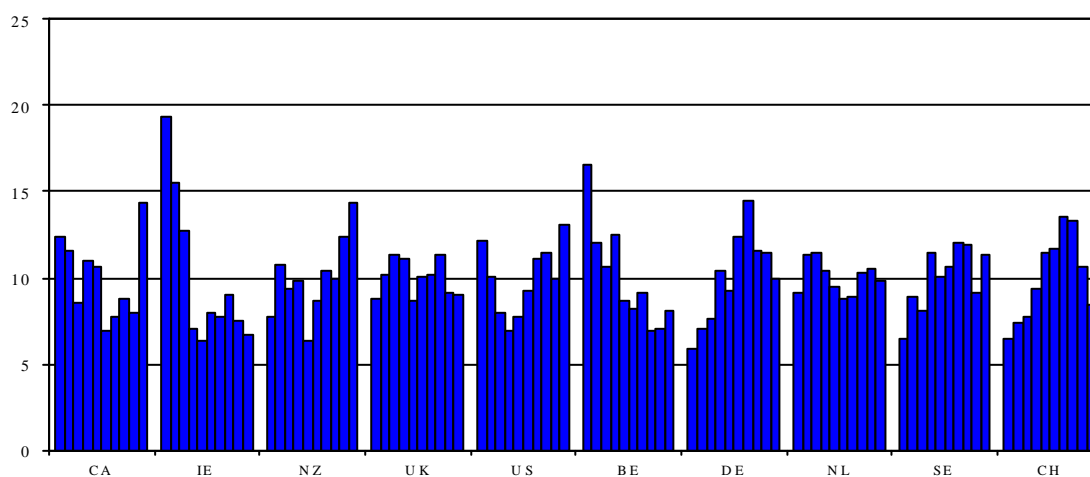


Figure 4.5 presents the distribution of jobs by skill requirements<sup>9</sup> across the deciles in the same way as Figure 4.3 did for persons. It is clear that the proportion of low-requirement

<sup>9</sup> Accounting for hours worked

jobs is much higher in the Anglo-Saxon countries than on the Continent, with the exception of Belgium. However, the proportion of high-level jobs is also considerably larger in Canada, the US and New Zealand. Consequently, the average job requirement of the Continental countries (12.4) exceeds the Anglo-Saxon average (11.7) by only a small margin. Germany has the highest average level, while Ireland occupies the lowest position.

Employees with low cognitive skills appear to be strongly concentrated in low-requirement jobs. For example, 25 per cent of the jobs in the first requirement-decile across all countries are occupied by workers from the first literacy-decile, and 41 per cent from the first literacy-quintile. However, workers with low literacy also find employment in jobs that demand more reading and writing proficiency from their holders. In order to get a more balanced picture of the demand for low-skilled workers, a demand index for workers belonging to literacy decile  $d$  in country  $j$  was constructed, adapting the approach of Katz and Murphy (1992):

$$D_{dj} = \sum_i^{10} S_{ij} E_{id,pooled}$$

where  $i$  refers to the job requirement decile (pooled data),  $S_{ij}$  is the share of  $i$ -decile jobs in the total employment in country  $j$  (in time equivalents), and  $E_{id,pooled}$  is the share of decile  $d$  workers in the employment of job-requirement decile  $i$  in the pooled data. The main differences from the index suggested by Katz and Murphy are, first, the calculation for ten decile groups rather than three skill group (high, medium, low) and, second, the calculation on the basis of the skill composition of the job-requirement deciles for the pooled sample instead of the skill composition of occupation-industry cells for a reference category. It is estimated that Ireland with 18.1 percent has the highest share of jobs suited for low-skilled (first-quintile) workers, followed by Belgium and Canada (see Table 4.2). Relatively low proportions of such jobs are found for New Zealand, Sweden, Switzerland and Germany. The average share of jobs for the low skilled is 14.7 percent in the Anglo-Saxon countries and 13.2 percent in the Continental-European countries.

From a demand-and-supply perspective, the ratio of people with a given level of skill to the number of jobs requiring this level of skill is more important as a determinant of the relative labour market position of a skill group than the number or share of suitable jobs.

A net-supply index for the skill groups is constructed by dividing the number of people belonging to a literacy decile by the number of jobs available to them is given by:

$$S_{dj} / D_{dj} = F_{dj} P_{dj} / D_{dj}$$

(where  $F_{dj}$  is the share of people of country  $j$  who belong to literacy decile  $d$  and  $P_{dj}$  is the employment ratio of decile  $d$  workers in country  $j$ ). This was calculated for the population aged 16-65 (excluding students).

*Table 4.2 Demand and supply of low-skilled workers*

	CA	IE	NZ	UK	US	A-S	BE	DE	NL	SE	CH	Cont.
<i>Jobs for low-skilled workers</i>	14.6	18.1	12.9	13.8	14.0	14.7	16.5	11.6	14.0	12.1	11.9	13.2
<i>Net supply index</i>	2.24	3.25	2.59	3.18	2.57	2.77	2.21	2.01	1.54	1.01	2.40	1.83

Table 4.2 reports these ratios for the lowest literacy quintile. Although Ireland has by far the largest number of jobs for people with low cognitive skills, it also has the highest, that is most disadvantageous, ratio of low-skilled workers to jobs (3.25); it is closely followed by the United Kingdom. Switzerland is the Continental country with the highest ratio while Canada in turn is the Anglo-Saxon country with the lowest ratio. The Netherlands and Sweden have the lowest ratios. Although Anglo-Saxon countries have higher shares of jobs which are suited for workers with low cognitive skills, the demand for the low skilled relative to their supply is significantly smaller in Anglo-Saxon than in Continental countries.

### **Conclusion**

Taken together, the main findings are that the economic situation of the low skilled is better in the five Continental countries than in the five Anglo-Saxon countries. The trade-off hypothesis found no support in these data since the employment chances of low-skilled workers are not worse in countries with supposedly more rigid and regulated labour markets. By contrast, the supply-and-demand hypothesis is broadly consistent with the data: the supply and the net-supply of workers with poor cognitive skills is positively related to the relative wages and relative employment chances of low skilled workers. However, the support for the supply-and-demand view is limited by the fact that neither the measure of the overall position nor the measure of net-supply of low-skilled workers was able to explain the variance of the situation of the low skilled within the two country groups.

## 4.2 Job quality, job satisfaction and pay

A further significant dimension in recent debates on employment has been the issue of job quality. As discussed above, the area of strongest job growth within the EU has typically been part-time employment, particularly for women. Again as documented above, these jobs tend to be characterized by lower rates of pay than are available to comparable workers in full-time jobs, accompanied by poorer conditions across a range of employment benefits, such as holiday and pension entitlements, and maternity rights. While the EU is working to equalize benefits, disparities remain. This issue, and its inter-relationship with low-wage employment, has been vividly posed by Freeman (1998): “Low-Wage Employment: Is More or Less Better?”, and, for the United States by Burtless (1990) as ‘A Future of Lousy Jobs?’

Yet, in spite of the inferior benefits, there is substantial evidence that only a small minority of the workers holding part-time jobs would prefer full-time work, or are working part-time only because they could not find a full-time job. According to the OECD(1999, Tables 1.13, 1.14) only 26% of women working part-time would prefer a full-time job, ranging from 7% in the Netherlands to 42% in Italy, while only 18% of women working full-time would prefer part-time work, ranging from 2% in Portugal to 36% in Belgium. For men the proportion of part-timers preferring full-time work is higher, 59% on average, but the proportion of full-timers preferring part-time work is also lower, 9% on average. The share of involuntary part-time status among those in part-time work averages 22% for men and 18% for women. This suggests that, from the job-holder’s perspective, the quality of the job does not reside only in the level of pay and other rewards involved. Other attractions, notably the opportunity to combine labour market participation and earnings with household work, or continuing education, may be of great importance. On an alternative perspective, using part-time work may not be too bad a way of getting low-paid work done in society, arguably better than by the full-time working poor.

But this in turn poses the question of whether child-rearing responsibilities or the acquisition of advanced educational qualifications should be penalized in the labour

market in this way, and whether job satisfaction is truly measured when the job chosen is merely the least unsatisfactory of a set of poor alternatives.

Measuring the quality of a job is clearly not a trivial matter. Jobs differ in many characteristics in addition to working time, pay and non-pay rewards. On a dynamic perspective these extend to job security and opportunities for advancement. Working conditions and intrinsic job characteristics such as job content, work intensity, and the relationship with co-workers and managers are all relevant to well-being in work, with the risk of injury or ill-health, physical or mental, only the most extreme instance. In the face of this diversity of attributes many argue that it is impossible to construct a single metric of job quality which would allow jobs to be ranked and compared. This skepticism is reinforced by the evidence of diversity of preferences among workers. As an example, caring for the elderly disabled has formally many of the attributes of a 'lousy job' yet elder care is willingly chosen by many, who derive high levels of job satisfaction and take pride in it as a vocation.

As a first step in conceptualizing the issues involved in assessing job quality and its implications for low-wage employment Rannia Leontaridi and Peter Sloane focus on job satisfaction, as reported by job-holders themselves through household surveys, and the factors which appear to contribute to this.

*(a) Analysing reported job satisfaction*

The main part of their analysis draws on the British Household Panel Survey (BHPS). Each year this asks a series of questions about the job satisfaction experienced by individuals in employment. The principal question is: "All things considered, how satisfied or dissatisfied are you with your present job?" with respondents asked to rate their level of satisfaction on a scale from 1, completely dissatisfied, to 7, completely satisfied. Seven individual facets of job satisfaction are also distinguished: total pay, hours worked, promotion prospects, job security, the work itself, the degree of initiative involved, and relations with the boss, with the 1 – 7 scale again used. Over 7,000 workers, men and women, report annually over the seven year period 1991-7 used in the study.

The first inference drawn by Sloane and Leontardini from their analysis is that job satisfaction is only weakly related to pay. For men, the individual's own level of pay makes a small contribution to his overall job satisfaction, while for women there is no effect at all. On the other hand, the comparison wage, measured as the average for the gender/age/industry group, has a negative effect for women, but only marginally so for men. When the sample is split between the low-paid (those earning less than two-thirds of median earnings) and higher-paid workers it is notable that the average level of job satisfaction is higher in the low-paid group. The role of pay as a significant determinant of job satisfaction emerges as confined to higher-paid men. Similarly, the comparison wage impacts on job satisfaction for higher-paid men and women, but not for the low-paid. The conclusion drawn by Sloane and Leontardini is that many influences other than pay are relevant to job satisfaction, and that there is a gender divide in this.

*Table 4.8 Characteristics of employees by type and gender (proportions in %)*

	<i>Career</i>		<i>Non career</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
Hourly wage: lowest quintile	9.2	20.3	16.7	41.8
Hourly wage: second quintile	15.4	20.5	23.1	25.1
Hourly wage: third quintile	19.2	22.0	21.6	16.7
Hourly wage: fourth quintile	25.5	20.2	19.6	10.1
Hourly wage: highest quintile	30.7	17.1	19.0	6.4
<i>average satisfaction levels</i>				
Hourly wage: lowest quintile	5.4	5.8	4.8	5.6
Hourly wage: second quintile	5.2	5.7	4.72	5.6
Hourly wage: third quintile	5.2	5.6	4.9	5.4
Hourly wage: fourth quintile	5.3	5.5	5.0	5.3
Hourly wage: highest quintile	5.4	5.5	5.1	5.5

The main differentiating factor for job satisfaction identified by Sloane and Leontardini is the opportunity for promotion open to the individual. Promotion prospects in the job are identified on the basis of two criteria: a positive response to the survey question "Does your current employment situation offer prospects of promotion?" and "Does your salary increase on an incremental pay scale?" 67% of responses are classified as job situations offering promotion prospects; 42% of these offer promotion prospects on both criteria, 32% on the basis of cited promotion prospects without incremental scales, and 26% on the basis of incremental scales only.. It is notable in their data that non-career women are heavily concentrated in low pay while the pay position of career women is broadly similar to that of non-career men. Moreover, the reported levels of job satisfaction

among career and non-career women are broadly similar to those of career men; non-career men are the groups among whom overall job satisfaction is typically low.

In an ordered probit explaining the overall level of job satisfaction, promotion prospects are well determined for both men and women, particularly for men. This influence is stronger and better determined than the wage, the comparison wage and hours of work. You mean that these coefficients change most when promotion prospects are introduced? (note the change in union coverage!)

Probing further into the facets contributing to overall job satisfaction for low-paid and higher-paid workers Sloane and Leontaridi find that for both groups each of the seven facets of job satisfaction identified is highly significant. However, satisfaction with the level of pay is more important as a source of overall job satisfaction to the low-paid, while satisfaction with promotion prospects, job security and the job itself make more significant contributions for other workers. Satisfaction with hours of work is rated equally by the two groups as a contributor to overall job satisfaction.

The main pointer from the analysis by Sloane and Leontardini is that the assessment of job quality from the perspective of the individual should not focus excessively on the current wage but should adopt a broader perspective with opportunities for progression in a key role. In this respect their conclusion begins to join up with other approaches to the quality of working life. These include approaches which emphasise the role of training in enhancing employability and promoting job retention. Other aspects include the definition and promotion of 'good' jobs. Starting from health and safety issues, these broaden from accident prevention to ergonomic considerations and psychological stress. They also encompass employment rights, and rights to representation and participation, and to training and progression.

The finding by Sloane and Leontardini of the importance of career prospects dovetails with the research agenda currently being pursued by the Low Wage Employment Network (LoWER) in regard to the professionalisation of low-wage services. It appears to indicate that there would be demand among those working in low-wage services for the job-upgrading and personal development implied in such professionalisation.

*(b) Comparisons between the UK and the other European countries*

The European Community Household Panel Surveys enable us to make some comparisons among European Countries in relation to the determinants of job satisfaction and hence job quality. Satisfaction with work is ranked according to six categories, which for the purpose of this exercise have been collapsed to 0-3 ranks.<sup>10</sup> Unfortunately, the ECHP does not contain any questions on promotion prospects, though the provision by the employer of child care facilities, employee health benefits and employer training, may well suggest the presence of a well determined internal labour market and get us close to it. As shown in Table 4.9, the provision in particular, of training by the employer has a significant effect in raising job satisfaction in each of the four countries.

There are both similarities and differences across countries in these results. As regards the hourly wage, this has a positive effect on job satisfaction in both Germany and France, but a negative effect in the Netherlands, while this variable is insignificant in the UK equation. The predicted wage is insignificant in every case. Thus, these results support the view put forward earlier that pay is not always a dominant factor in determining the worker's perception of job quality. This should be qualified, however, by noting that this is true controlling for the adequacy of household finances and a good financial situation in general, which are both highly significant.

The finding of a higher level of job satisfaction among women relative to men is not replicated outside the UK and indeed is marginally significant and negatively signed for the Netherlands. Workers in the public sector in France have significantly higher job satisfaction than those in the private sector, but this is not found elsewhere. Having a permanent contract only matters in Germany and to a lesser extent in the Netherlands. This seems consistent with the earlier finding in the benchmarking study that non- than in the UK – whilst, in addition, non-permanency is more positively related to high pay in the latter country<sup>11</sup> What is perhaps most striking is the very strong results for self-reported over-qualification in each of the four countries. That is, if workers are badly matched in

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<sup>10</sup> The authors are grateful to Juan Prieto Rodriguez of the University of Oviedo for carrying out these regressions on their behalf.

<sup>11</sup> Cf. *Benchmarking Low-wage and High-wage Employment*, Table 70.

the sense that they cannot obtain a job commensurate with their qualification this has a large depressing effect on their reported levels of job satisfaction. The percentage of workers reporting themselves as over-qualified is, however, surprisingly high – 58% in the UK, 36% in the Netherlands, 62% in Germany and 52% in France.

It should be noted that other studies (e.g. Clark and Oswald (1996), Bender and Sloane (1998) and Sloane and Williams (2000)) have found stronger effects of earnings on job satisfaction using different data sets. As for the U.S., Donahue and Heywood (2000) found as in those British studies that job satisfaction increases in actual earnings and decreases in predicted earnings, so that the greater the gap between actual and predicted earnings, the greater the job satisfaction. Yet there are some important differences in the determinants of job satisfaction in the United States and Britain. Thus in the United States women do not report greater satisfaction, *ceteris paribus*, than men. Explaining these cross country differences remains an important issue for future research.

Table 4.9 Overall job satisfaction using EHPS – All Workers, 1997 Ordered Probit

	<i>United Kingdom</i>	<i>Netherlands</i>	<i>Germany</i>	<i>France</i>
Constant	0.579	1.064***	0.147	0.621*
1995	-0.163**	-0.152***	-0.235***	-0.104**
1996	0.054	-0.159***	-0.369***	-0.115**
Gender (Female = 1)	0.183*	-0.076*	0.077	-0.034
University Education	-0.217	-0.288***	-0.079	-0.125
High School Education	-0.123	-0.061	-0.024	-0.069
Married	-0.102	0.091**	0.006	0.004
No. of Dependent Children	0.132***	-0.014	-0.022	0.009
Domestic Hours (children)	-0.000	0.001	0.001	-0.001
Domestic Hours (Other)	0.579	-0.004	-0.001	-0.001
Previous Unemployment	0.005	-0.009*	-0.034**	-0.045**
Potential Experience	-0.015	-0.35***	-0.021**	-0.008*
Pot. Exp. Squared	0.001***	0.001***	0.001**	0.000
Tenure	-0.072***	0.001	-0.015	-0.010
Tenure Squared	0.004*	-0.000	0.001	0.000
Hours Worked	0.003	0.001	0.001	0.004**
Log of Hourly Wage	-0.020	-0.016**	0.089**	0.034*
Predicted Wage	-0.216	0.151	0.192	0.101
Overtime Hours	0.004	0.001	-0.002	0.008
Employer Childcare	-0.110	-0.025	0.048	0.029
Employer Health Benefits	0.192***	0.033	0.053*	0.016
Employer Training	0.266***	0.071**	0.246***	0.099**
H'hold Finances Adequate	0.299***	0.134***	0.237***	0.198***
Good Financial Situation	0.202	0.082***	0.102***	0.207***
Good Health	0.309*	0.781***	0.583***	0.437***
Public Sector	-0.024	0.011	0.043	0.235**
Supervisory Job	-0.008	0.093*	0.242***	0.317***
Part-time	0.295***	0.087**	0.021	0.055
Manager	0.492***	0.073	0.267***	0.224**
Professional	0.373***	0.020	0.321***	0.311***
Associate Professional	0.298***	0.010	0.159***	0.216***
Clerk	0.093	-0.083	0.052	0.023
Service Employee	0.135*	0.037	0.137**	0.036
Skilled	0.259	-0.051	0.101	-0.008
Industrial Sector	0.430**	0.055	-0.021	0.077
Service Sector	0.030	-0.041	-0.014	-0.080**
Size < 20	0.287***	0.052	0.067	0.076*
Size 20 < 100	0.171**	0.083*	-0.025	0.033
Over-qualified	-0.325***	-0.130***	-0.246***	-0.301
Foreign Language	-0.205	0.033	-0.031	0.063
Permanent Contract	0.116	0.086*	0.165***	0.002
Other Family Income	0.000	0.000	0.000	-0.000
Inverse Ratio	-0.054	0.057	-0.022	0.000
Mu 1	1.205	1.269	1.076	1.208
Mu 2	2.617	3.142	2.810	3.250
No. of Observations	3493	13499	12052	13296
Log Likelihood	-4460.267	15184.99	14495.23	15154.62

\*\*\* Significant at the 0.01 level; \*\* Significant at the 0.05 level; \* Significant at the 0.10 level

## List of Underlying Reports

All benchmarking results are reported in:

Wiemer Salverda (Amsterdam Institute for Advanced Labour Studies AIAS, University of Amsterdam), Brian Nolan, Bertrand Maître (both Economic and Social Research Institute ESRI, Dublin) and Peter Mühlau (Technical University Eindhoven), *Benchmarking Low-Wage and High-Wage Employment in Europe and the United States, A study of New European Datasets and National Data for France, Germany, the Netherlands, the United Kingdom and the United States*, May 2001. This report will be made available via the website of the European Commission's DG Employment and Social Affairs.

The following research is available in a working-paper format through the website of the LoWER network ([www.uva.nl/aias/lower](http://www.uva.nl/aias/lower)):

Peter Gottschalk (Boston College), *Wage Mobility within and between Jobs*

Geralt Nekkens and Andries de Grip (University of Maastricht), *Skills, Wage Dispersion and Wage Mobility in the 1990s: The case of the Netherlands, Germany and France*

Stephen Bazen (Université Montesquieu, Bordeaux), *Youth and Earnings Mobility: the Case of France in a comparative Framework*

Rannia Leontaridi (University of Stirling) and Peter Sloane (University of Aberdeen), *Measuring the Quality of Jobs: Promotion Prospects, Low Pay and Job Satisfaction*

Sara Connolly (University of East Anglia) and Mary Gregory (University of Oxford), *Changing Status: Women's Part-time Work and Wages in the United Kingdom*

Peter Mühlau (Technical University Eindhoven) and Justine Horgan (University of Groningen), *Cognitive Skills, Job Requirements and Labour Market and Wage Position - Evidence from the International Adult Literacy Survey*

The following paper summarised the results for a seminar organised by the DG ESA on 8 June 2001 in Brussels and is equally available through the network's website:

Wiemer Salverda, Stephen Bazen and Mary Gregory, *The European-American Jobs Gap, Low-Wage and High-Wage Employment, Earnings Mobility and Job Quality*

## Literature

(for more references see the working papers)

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Freeman, R.B. (1998), 'Low-Wage Employment: Is More or Less Better?', in Lucifora, C. and Salverda, W. (eds.), *Policies for Low Wage Employment and Social Exclusion*, Franco Agnelli for the European Low Wage Employment Network (LoWER), Milano.

Katz, L.F. and K.M. Murphy (1992): "Changes in Relative Wages, 1963-87: Supply and Demand Factors", *Quarterly Journal of Economics* 107: 35-78