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Report

The employment of UK graduates: comparisons with Europe and Japan

**A report to the HEFCE by the Centre for
Higher Education Research and
Information, Open University**



The employment of UK graduates: comparisons with Europe and Japan

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Foreword

This report has been prepared for the Higher Education Funding Council for England using data collected as part of a study commissioned by the European Commission through its Targeted Socio-Economic Research Programme. The study was completed in November 2000 and the international project report has been submitted to the Commission. Other reports and articles based on the results of the project will be published during 2001 and beyond.

The European study was led by Ulrich Teichler of the Centre for Research on Higher Education and Work at the University of Kassel in Germany, and was undertaken by research teams in Austria, the Czech Republic, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Spain, Sweden and the United Kingdom. The authors of this report wish to record their debt to their European and Japanese colleagues and also to Zsuzsa Blaskó and Deana Parker at the Centre for Higher Education Research and Information for putting the finishing touches to this report.

John Brennan
UK Project Director

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1 Introduction

1.1 This report is based upon the results of a major international study of graduate employment. The study, *Higher Education and Graduate Employment in Europe*, was funded by the European Commission as part of its programme of Targeted Socio-Economic Research. The study was carried out collaboratively by research groups in 11 European countries (Austria, the Czech Republic, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom) and in Japan. It was co-ordinated by the Centre for Research on Higher Education and Work at the University of Kassel in Germany. The UK part of the study was undertaken by the Centre for Higher Education Research and Information at the Open University.

1.2 The study comprised a survey of graduates from the 12 countries. The graduates were selected from the 1994/5 graduating cohort and were contacted by means of a mailed questionnaire in the autumn of 1998. Overall 36,600 questionnaires were returned, including 4,340 questionnaires from UK graduates, which represented response rates of 35% and 27% respectively. The samples were selected to be representative of the various national higher education (HE) populations of students enrolled on 'first degree' or equivalent programmes.

Key sampling variables were field of study and type of institution. The UK sample was drawn from 27 institutions. An enhanced sample was taken in Scotland at the request of the Scottish Higher Education Funding Council in order to permit separate analysis of the experiences of graduates in that country. Similarly, a sample of Open University graduates was selected to assist the university in its own monitoring and evaluation.

1.3 The extensive questionnaire comprised 10 sections as follows:

- A Educational background before entry to higher education
- B Higher education courses
- C Job search and employment history
- D Current work
- E Skills and their use
- F Relationship between higher education and work
- G Job satisfaction and values
- H Additional education and training
- I Socio-biographic data
- J 'Looking back' on the degree finished in 1995

A copy of the UK questionnaire is appended to this report (Appendix II).

1.4 This has been a complex project. Not only have 12 countries and 12 different research teams been involved but the data collected have gone well beyond the topics usually covered by national surveys of this kind. For example, they included questions about the higher education experience and about attitudes, values and competencies in relation both to employment and to other areas of life. Extensive and complex data checking and cleaning processes have been time-consuming. On the

positive side, the fact that the various national research teams were already highly experienced in studies of this kind has meant that the project has been able to build upon the results of previous work rather than merely to replicate them. Moreover, this is the first large-scale European study of graduate employment to be undertaken using a common cross-national research methodology.

1.5 This report presents an initial analysis of the data in terms of the characteristics of UK graduates in comparison with those of their European and Japanese counterparts. All data used in the report have been weighted to correct for any biases resulting from sample characteristics and differential response rates between fields of study and types of institution. The national samples, thus weighted, aim to be representative of the national graduating populations in 1995. Percentages refer to all respondents except where stated. The figures throughout the report present data on UK graduates in comparison with Europe and Japan and, on some occasions, with selected European countries. Full data for all countries are contained in the tables in Appendix I. These tables also provide the reference to the question in the survey questionnaire (Appendix II) where appropriate.

1.6 The report is structured as follows:

- the UK graduate profile
- labour market activity (including job search)
- characteristics of current work
- skills and competencies
- appropriateness of work to level and type of qualifications
- further study and training
- higher education in retrospect.

Country codes used in figures and tables are as follows:

UK = United Kingdom	AT = Austria	SE = Sweden
IT = Italy	DE = Germany	NO = Norway
ES = Spain	NL = The Netherlands	CZ = Czech Republic
FR = France	FI = Finland	J = Japan

The Europe data covers all countries except Japan.

At this stage in the study, only straightforward descriptive analyses of country differences are presented, augmented in some cases by reference to variations according to field of study and gender. Further analyses will be undertaken over the coming months by all of the participating research teams. These will both explore relationships between key educational and employment variables, and investigate further the differences between individual countries. A report on the data was submitted to the European Commission in November 2000. Other publications based on the results of the project will emerge during 2001 and beyond.

2 The UK graduate profile

2.1 UK graduates tended to:

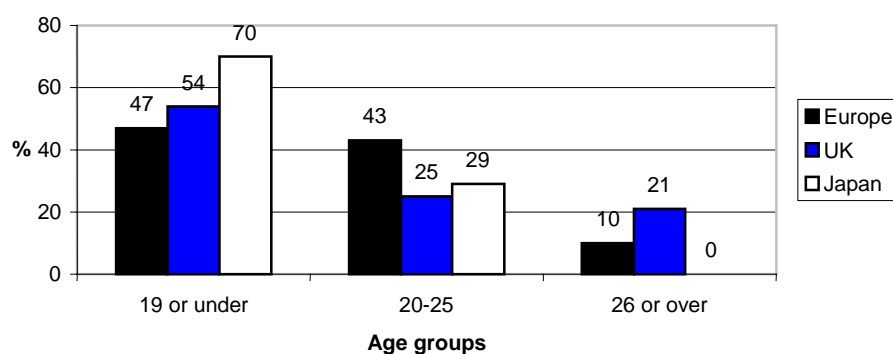
- be younger than the European average
- have had shorter periods of study in higher education
- be more likely to have studied humanities subjects
- be broadly similar in terms of gender balance.

2.2 Age of students at entry to higher education

The UK students tended to be both younger and older than the European average. They had a significantly higher proportion in the 19 or under age group (54% compared with a European average of 47%), and a higher proportion in the 26 and over age group (21% compared with 10%). The proportion in the intermediate age group (20-25) was just over half that of the European average (25% compared with 43%). There was, however, considerable variation across Europe, and in Japan 70% of higher education entrants were 19 or under and there were no students over the age of 25. However, only the UK and the Scandinavian countries (Finland, Sweden and Norway) had significant proportions entering higher education over the age of 25.

Figure 1 shows the proportions for different age groups for Europe, the UK and Japan. The details for other countries can be found in Table A1 in Appendix I.

Figure 1: Age of students on entry



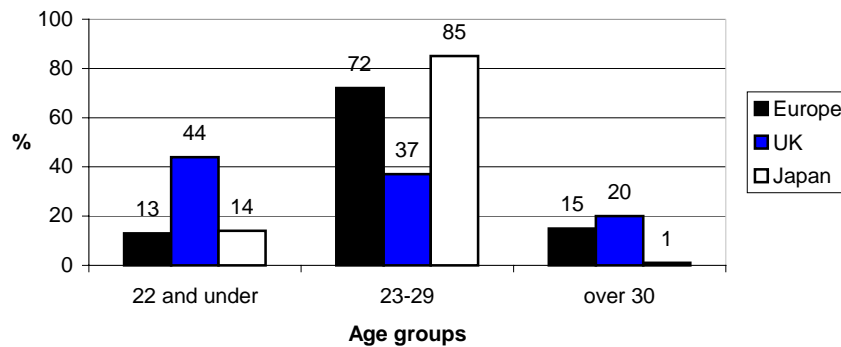
2.3 Age of graduates on graduating

Reflecting both the shorter length of courses in the UK and the earlier age of enrolment, UK graduates tended to be younger than the average in Europe although, along with the Scandinavian countries, there was a significant sub-group of 'mature' graduates. Forty-four per cent of UK graduates were 22 and under when they left higher education compared with a European average of 13%. The figures were as low as 0.3% in Italy, 1% in Austria and 2% in Germany. Only France with 35% came anywhere near the UK figure for graduates in this age group. In Japan, the young

average age on entry to higher education was not matched by a similar young age on graduation.

Figure 2 shows the ages on graduation for UK, European and Japanese students. Table A2 in the appendix provides the figures for the other countries in the study.

Figure 2: Age at graduation

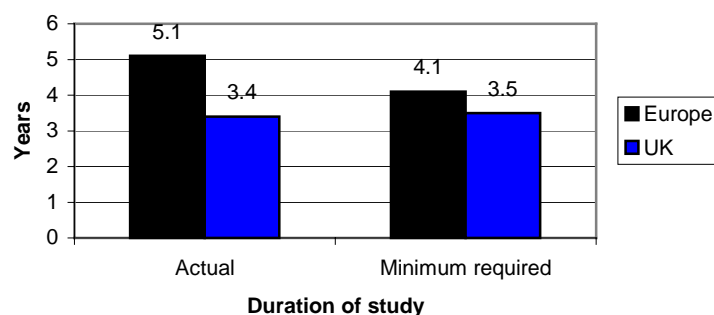


2.4 Duration of study

UK graduates had the shortest average study periods (3.4 years) against a European average of 5.1 years. In all other countries (excluding Sweden and the Czech Republic – for which relevant data were not available) there was a difference between the actual duration of study and the minimum required duration. The difference between the two figures was over a year on average in Europe, nearly three years in Italy and over two in Austria.

Figure 3 shows the average actual and minimum required periods of study for students in the UK and the European average. The apparently strange phenomenon of the actual duration of study being less than the minimum required study in the UK is explicable in terms of a small number of students transferring into the later years of degree programmes from Higher National Diploma courses.

Figure 3: Average duration of study



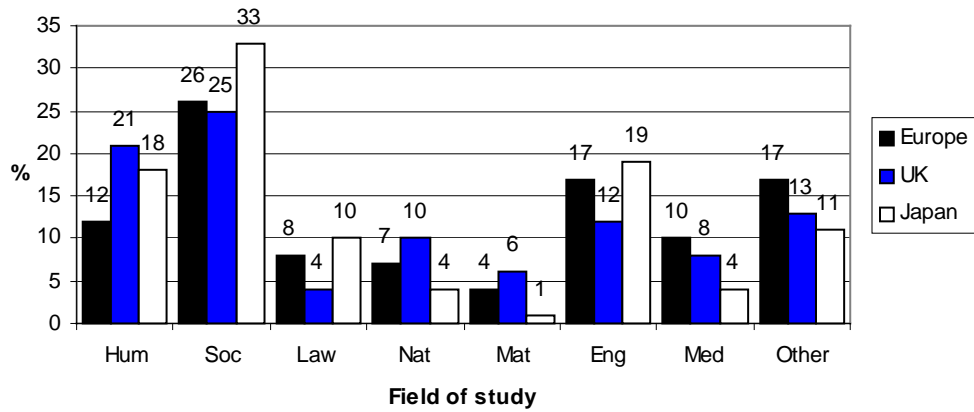
In Europe, duration of study also varies according to field of study. For example, the actual duration of study for social sciences was an average of 5 years whereas for law it was 5.8 years. But such averages mask large country variations. The overall period of actual study for medical sciences was 5.2 years but was as high as 8.5 years in Austria and 9.6 years in France.

2.5 Field of study

The graduates in the study were grouped into eight fields of study. Largest in Europe and the UK was the social sciences (including business) with 26%, and mathematics was the smallest with 4%. Other distinctive features of the UK subject distribution was the high proportion studying humanities subjects (21% compared with a European average of 12%), and somewhat lower proportions studying law (4% against 8%) and engineering (12% against 17%). Overall the subject differences between countries are not startling, and Japan appears to be remarkably close to the European average. The UK had the second highest proportion studying the natural sciences (10%) although the figure in France was as high as 17%. The UK also had the second highest proportion (6%) and France the highest (9%) studying mathematics.

Figure 4 compares the field of study distributions for the UK, European average and Japan. Table A3 in the appendix provides the data for other countries.

Figure 4: Field of study of graduates in the sample



It is important to remember these differences in subject mix in different countries when reading the later sections of this report. The data have been weighted to be nationally representative, which means that national differences in employment outcomes will partly reflect national differences in subject mix.

3 Labour market activity (including job search)

3.1 UK graduates were more likely than their European counterparts:

- to be employed three years after graduation
- to be on permanent (rather than temporary) employment contracts
- to have full-time (rather than part-time) employment contracts
- to spend less time in job search activities
- to obtain their jobs by applying for advertised vacancies
- to make more use of their higher education institution's careers office
- to start their job search prior to graduation.

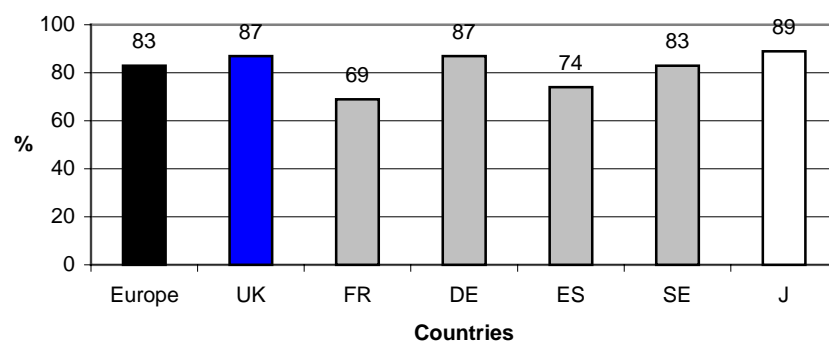
3.2 Current employment situation

Eighty-three per cent of UK graduates were employed and a further 4% were self-employed three years after graduation. Three per cent were unemployed. The comparable figures for Europe as a whole were 77%, 6% and 3%; and for Japan were 87%, 2% and 4%. Spain had the highest unemployment at 10%, Italy had a high proportion (18%) self-employed, and France had 14% enrolled in advanced academic study. The UK figures are broadly comparable to those reported by similar recent studies (such as DfEE et al, 1999; Belfield et al, 1997) and, indeed, by studies reporting in the late 1980s and early 1990s (Brennan and McGeevor, 1988; Brennan et al, 1993).

The low unemployment rate was true of all subject fields, in the UK and in Europe generally. Unsurprisingly, there were subject differences in the likelihood of still being in advanced academic study: 16% of natural scientists (15% in the UK) compared with 5% overall. Women were somewhat less likely to be employed or self-employed (79% compared with 88% of men); 6% of them were engaged in child-rearing. (These figures are for all countries in the sample.)

Figure 5 compares the employment rates of graduates from a selection of countries. The detailed figures are presented in Table A4 in the appendix.

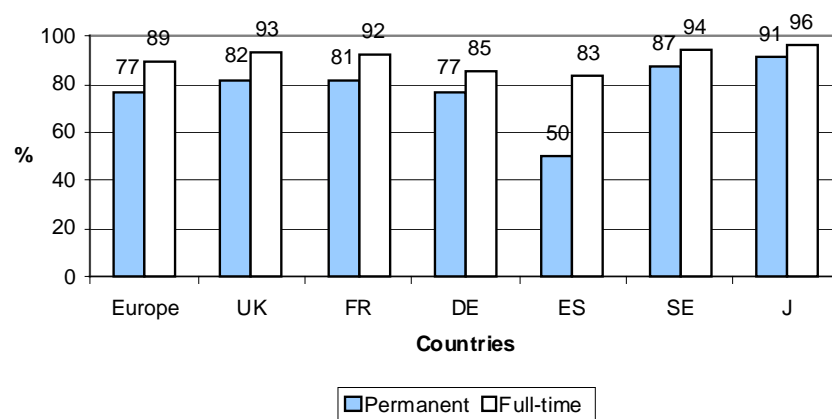
Figure 5: Employed and self-employed graduates 3 years after graduation (%)



UK graduates were slightly more likely than European graduates on average to have permanent contracts and full-time contracts. Although the UK was close to the European average, this disguised some quite large differences between individual countries. Temporary employment contracts were particularly common in Spain (50%) and Finland (35%) and part-time work was quite common in Italy (19%), Spain (17%) and the Netherlands (16%). There were also some quite large subject variations for European graduates: 37% of graduates in medical sciences, 34% of graduates in the natural sciences and 30% of humanities graduates were on temporary contracts. The comparable figures for UK graduates were 26% in medical sciences, 23% in natural sciences and 20% in the humanities. Part-time employment was also higher in these subject fields: medical sciences 19% (UK 11%), natural sciences 12% (but UK only 4%), humanities 19% (UK 10%).

Figure 6 shows the proportions of graduates on permanent and full-time employment contracts in selected countries. The full data are provided in Tables A5 and A6 in the appendix.

Figure 6: Graduates with permanent and full-time contracts 3 years after graduation (% of graduates in employment or self-employment)

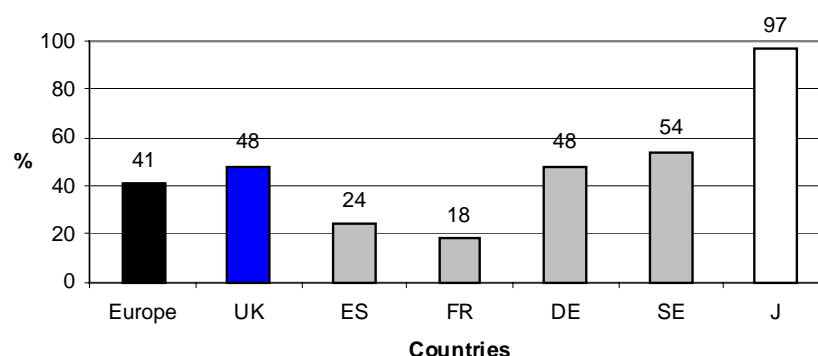


3.3 Job search

Timing of initial job search

Around 50% of UK graduates had started looking for a job prior to graduating. This was higher than the 41% average for European graduates but much less than the 97% recorded for Japan. However, the European average conceals considerable differences between countries. Figure 7 shows the proportions of graduates who began their job search *prior* to graduation. Table A7 in the appendix shows the full data for the timing of job search.

Figure 7: Graduates who began their job search activities prior to graduation (% of graduates who had sought employment)



Methods for finding first job after graduation

The most popular methods of job search used by UK graduates were 'applying for an advertised vacancy' (68%), 'contacting employers without knowing about a vacancy' (40%) and 'using the careers office' of their university or college (37%). The last figure was higher than for other European countries (17%) where public employment agencies played a rather bigger role (39% compared with the UK's 26%). Personal connections and contacts were important for 27% of UK graduates, compared with 32% of the European sample. Table A8 in the appendix shows the detailed figures for all countries in the study. Below are the five most popular methods used by UK and European graduates (Table 1).

Table 1: Most important methods of job search (multiple responses)

UK	Europe
1 Applied for advertised vacancy (68%)	1 Applied for advertised vacancy (71%)
2 Contacted employers without knowing about a vacancy (40%)	2 Contacted employers without knowing about a vacancy (57%)
3 Used the HEI careers office (37%)	3 Contacted a public employment agency (39%)
4/5 Used personal connections (27%); Contacted a commercial employment agency (27%)	4 Used personal connections (32%)
	5 Used contacts established while working during the course of study (21%)

Most important method for getting first job

The most important method for actually getting a first job after graduation showed a rather different pattern. Applying for advertised vacancies was most important overall in Europe (31%) and in the UK (40%). Other significant factors for UK graduates were: 'contacting employers without knowing about a vacancy' (12% compared with 20% in Europe overall); 'using personal contacts and connections' (12% compared with 14% in Europe overall, but note the popularity of this method in Italy (31%), Spain (28%), France (19%) and the Czech Republic (20%), and 'contacting a commercial job agency' (11% compared with only 2% for public employment agencies and 6% for university/college careers services). Table A9 in the appendix

shows the overall figures, while Table 2 below lists the five most important methods used by UK and European graduates.

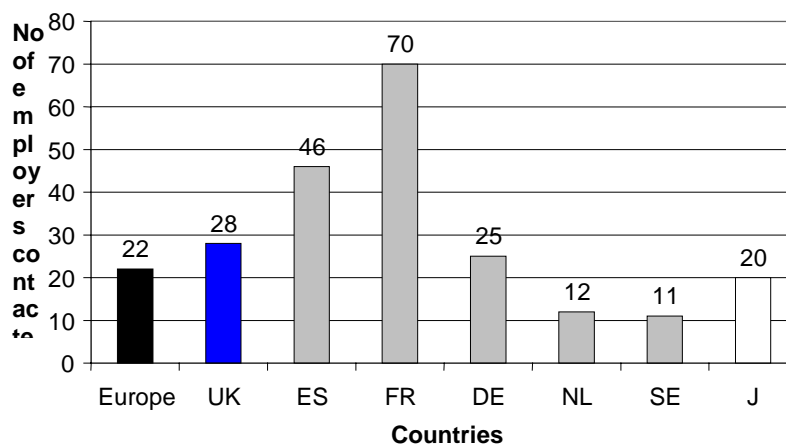
Table 2: Most important method of obtaining a first job (multiple responses)

UK	Europe
1 Applied for advertised vacancy (40%)	1 Applied for advertised vacancy (31%)
2 Used personal connections (12%)	2 Contacted employers without knowing about a vacancy (20%)
3 Contacted employers without knowing about a vacancy (12%)	3 Used personal connections (14%)
4 Contacted a commercial employment agency (11%)	4 Contacts established while working during the course of study (8%)
5 Contacts established while working during the course of study (7%)	5/6 Approached by an employer (6%); Other (6%)

Number of employers contacted before getting first job

UK graduates contacted rather more employers before getting a first job than other European graduates – a mean of 28 compared with 22 in Europe as a whole. French and Spanish graduates appeared to contact the largest numbers of employers – 70 and 46 respectively. Figure 8 shows the average numbers for different countries.

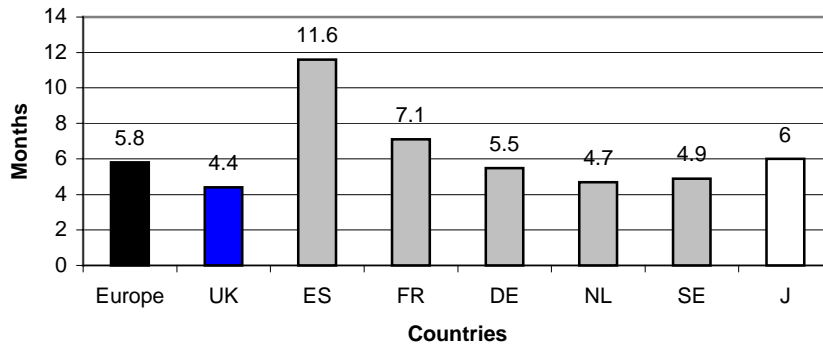
Figure 8: Number of employers contacted before first job



Duration of job search

The job search period was a little shorter for UK graduates (4.4 months compared with 5.8 months for the European average). The job search period was particularly long in Spain (11.6 months), Italy (8.9 months) and France (7.1). Figure 9 shows the duration for different countries.

Figure 9: Duration of search for first job after graduation



In the UK there were subject differences in the duration of the search for a first job, ranging from a high of 7 months for law graduates and a low of 2.9 months for graduates of medical sciences. Although the timescales differed, similar extremes were evident for European graduates (7.4 months for law and 4.4 months for medical sciences).

Most important factor in graduates being offered a job

We asked graduates what they thought had been the most important factors in the eyes of their employers when recruiting them to their first job. For UK graduates, personality factors were easily the most important (81% rating them important or very important) followed by field of study (54%), recommendation/references (45%), main subject/field of specialisation (45%), work experience during study (41%), computer skills (40%) and exam results (39%). Compared with graduates from other European countries, recommendations and work experience appear to have been more important and field of study less important. However, there were large differences between individual countries on many of these factors. These are set out in Table A10 in the appendix.

Table 3 ranks the criteria perceived by UK and European graduates to be most important in getting a first job after graduation.

*Table 3: UK and European graduates' perceptions of the importance of recruitment criteria
(multiple responses)*

UK	Europe
1 Personality	1 Personality
2 Field of study	2 Field of study
3 Recommendations from third persons	3 Main subject/specialisation
4 Main subject/specialisation	4/5 Computer skills;
5 Work experience during study period	Work experience during study period
6 Computer skills	6 Recommendations from third persons
7 Exam results	7 Exam results
8 Work experience prior to study period	8 Foreign language proficiency
9 Reputation of HE institution	9 Work experience prior to study period
10 Experience abroad	10 Reputation of HE institution
11 Foreign language proficiency	11 Experience abroad

4 Characteristics of current work

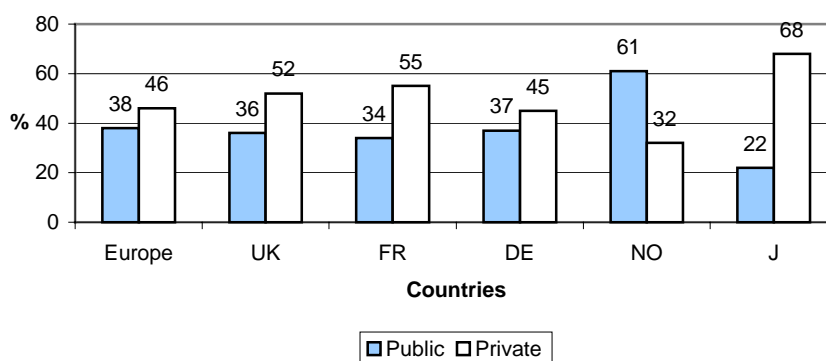
4.1 UK graduates:

- were more likely to be employed in the private sector than other European graduates (Italy, Spain and France were the only other countries with over 50% of graduates employed in the private sector)
- had average rates of public sector employment
- were not likely to be self-employed (less than the European average, with Italy and Germany with the highest proportions self-employed)
- worked a similar number of hours per week to other European graduates, although slightly fewer than Japanese graduates
- followed the average European profile of employment in large organisations with branches (47% employed in this kind of organisation)
- were more likely than either European or Japanese graduates to work in large organisations (63% employed in organisations with over 1000 employees)
- had similar average earnings to those of European graduates (but considerably lower than graduates in Germany, Norway and Austria).

4.2 Type of employer

The balance between public and private sector (and non-profit organisations and self-employment) differs across Europe. More UK graduates were in private sector employment (52%) than the European average (46%), and slightly fewer in non-profit organisations (6% compared with 7%) and in self-employment (4% compared with 7%). Public sector employment was close to the European average (36% UK and 38% in Europe). Figure 10 shows the public/private split in graduate employment for selected European countries.

Figure 10: Graduate employment in the public and private sectors (% of those in employment)



The sector breakdown for all countries is in the appendix, Table A11.

4.2 Hours worked per week

There appears not to be much difference between countries in Europe in the number of hours worked per week. The European average was 44 hours. However, Japanese graduates worked an average of 50 hours per week.

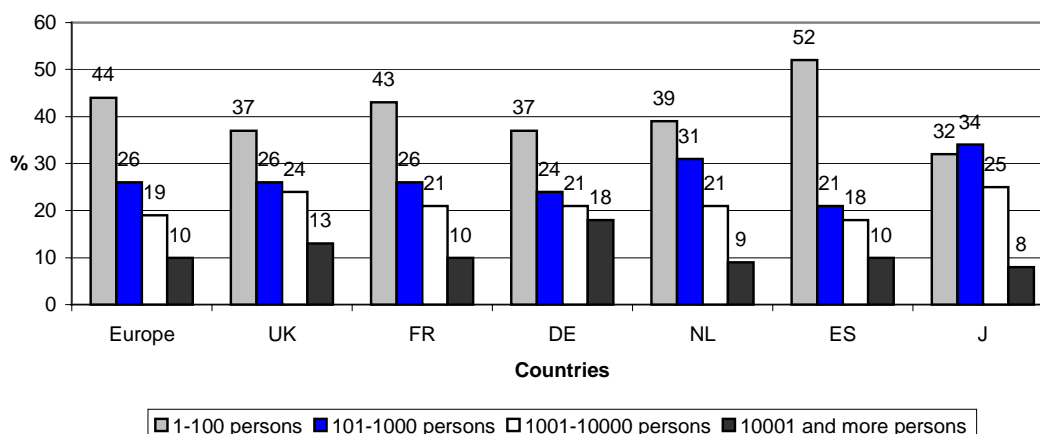
4.3 Structure of employing organisations

Sixty-three per cent of UK graduates worked in large organisations with branch structures – 47% in branches and 16% at head office. These figures are fairly close to the European average although a higher proportion (22%) of European graduates were likely to work at head office. Table A12 in the appendix provides the figures.

4.4 Size of employer

UK graduates were more likely to work for large companies than either European or Japanese graduates: 37% of UK graduates worked for organisations employing 1,000 or more people; the European average was 29% and the Japanese figure was 33%. Only Germany had a slightly larger proportion working for big organisations (39%). Figure 11 shows the distribution of graduates to organisations of different size for selected countries. The full data are provided in the appendix, Table A13.

Figure 11: Size of employer (% of those in employment)



4.5 Income

UK graduates working full-time earned slightly above the European median (approximately £18,500 and £17,800 per annum respectively). The European median for men was £19,100 and for women was £16,500 per annum. German and Norwegian graduates were the high earners with £24,400 and £21,800 per annum respectively. Italian and Spanish graduates were the two EU countries where graduates earned significantly less than the European median. Figure 12 shows the distribution for selected countries.

Men earned more than women in all countries. The difference was as much as £6,600 in Sweden and £5,300 in Germany. Figure 13 shows the distribution for selected countries.

Figure 12: Annual gross median income (£ thousand)

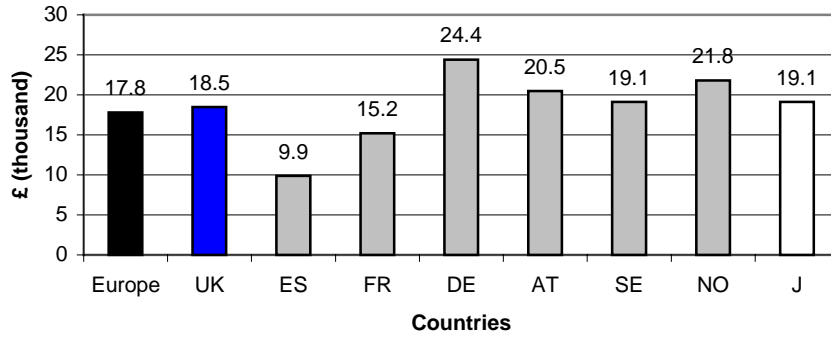
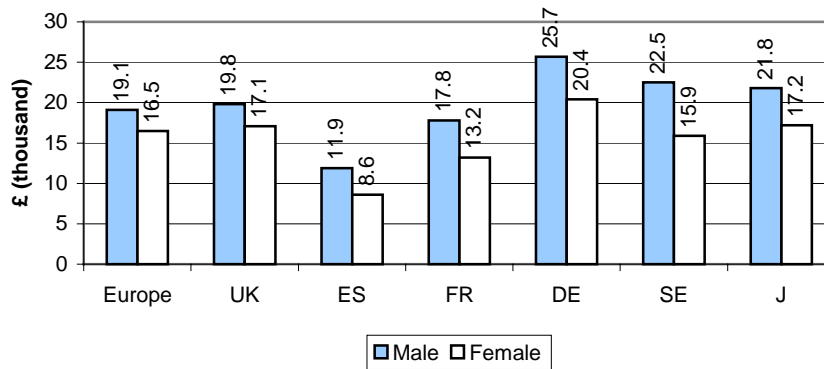


Figure 13: Annual gross median income by gender (£ thousand)



5 Skills and competencies

5.1 UK graduates:

- rated 'learning abilities', 'working independently' and 'written communication skills' as the competencies most strongly possessed at the time of graduation
- compared with European graduates, had greater perceived strengths in computer skills, planning and organising, documenting ideas and information, working under pressure
- compared with European graduates, perceived themselves as weaker in 'foreign language skills' and 'getting personally involved'
- regarded 'working under pressure', 'oral communication skills' and 'accuracy/attention to detail' as the competencies most required in their current employment
- perceived a closer match between the competencies most required and the competencies possessed than did either European or Japanese graduates
- nevertheless, like both European and Japanese graduates, perceived a gap between the competencies required at work and the competencies they possessed
- saw the largest competency gaps to lie in 'negotiating' and 'taking responsibility'
- regarded their degrees as a less useful preparation for their current employment than did their European counterparts.

5.2 The graduates were asked to rate a list of 36 competencies according to the extent to which they possessed them on graduation, and the extent to which they were required in their current work. Table 4 lists the 10 most highly rated *possessed* competencies by UK, European and Japanese graduates.

Table 4: 'Top 10' competencies possessed at the time of graduation

UK	Europe	Japan
1 Learning abilities	1 Learning abilities	1 Loyalty, integrity
2 Working independently	2 Power of concentration	2 Power of concentration
3 Written communication skills	3 Working independently	3 Adaptability
4 Working in a team	4 Written communication skills	4 Getting personally involved
5 Working under pressure	5 Loyalty, integrity	5 Learning abilities
6 Accuracy, attention to detail	6 Field-specific theoretical knowledge	6 Field-specific theoretical knowledge
7 Power of concentration	7 Getting personally involved	7 Fitness for work
8 Oral communication skills	8 Critical thinking	8 Initiative
9 Problem-solving ability	9 Adaptability	9 Tolerance
10/11/12 Initiative; Adaptability; Tolerance	10 Tolerance	10 Working in a team

There are some interesting differences between the lists. The following are the competencies which UK graduates believed they possessed to a greater extent than their European counterparts (a 10% or more difference in those rating them highly):

- computer skills
- planning, co-ordinating and organising
- documenting ideas and information
- working under pressure
- initiative
- oral communication skills
- accuracy, attention to detail
- leadership.

There were only two areas where UK graduates rated their competencies substantially lower than their European counterparts (a 10% difference in those rating them highly). These were 'foreign language proficiency' and 'getting personally involved'. In absolute terms, the competencies rated highly by the lowest proportions of UK graduates were 'foreign language proficiency', 'economic reasoning', 'negotiating', 'manual skills', 'understanding complex social, organisational and technical systems'.

Calculating an overall competency measure (the average of the proportions of graduates rating individual competencies highly) produced a score of 54% for the UK, 51% for the European average and 38% for Japan. Whether the large differences in these self-ratings between European and Japanese graduates reflect greater competencies or greater egos of the former is impossible to judge from these data alone.

Table A14 in the appendix provides details of all the competencies which the UK graduates believed they possessed at the time of graduation, and compares their ratings with those of graduates from other countries.

- 5.3 Turning to the competencies which graduates perceived they needed in their current work, rather different lists emerge. Table 5 lists the 10 most highly rated *required* competencies by UK, European and Japanese graduates.

Table 5: 'Top 10' competencies required in current employment

UK	Europe	Japan
1 Working under pressure	1/2 Problem solving ability;	1 Problem solving ability
2 Oral communication skills	Working independently	2 Fitness for work
3 Accuracy, attention to detail	3 Oral communication skills	3/4/5 Oral communication skills;
4 Working in a team	4 Working under pressure	Accuracy, attention to detail;
5 Time management	5 Taking responsibility and decisions	Adaptability
6 Adaptability	6 Working in a team	6/7 Working in a team;
7 Initiative	7 Assertiveness, decisiveness and persistence	Working under pressure
8 Working independently	8/9/10 Adaptability;	8/9 Power of concentration;
9 Taking responsibility and decisions	Initiative;	Time management
10 Planning, co-ordinating and organising	Accuracy, attention to detail	10 Initiative

It is interesting to note that the top-rated required competence in Europe and Japan, 'problem solving', does not even figure in the UK list.

There were three competencies which the UK graduates perceived to be required in their current work to a much greater extent than their European counterparts (a 10% or more difference in those rating them highly): 'applying rules and regulations', 'accuracy, attention to detail' and 'leadership'. Lower levels of competency requirement than those of their European counterparts were 'language proficiency' and 'economic reasoning'.

Table A15 in the appendix provides details of all the competencies required of UK graduates in their current work and compares their ratings with those of graduates in other countries.

- 5.4 Comparing the perceptions of individual graduates about *required* and *possessed* competencies, a picture of the relationship between supplied and demanded competencies in the graduate labour market emerges. A *competency gap* is when a graduate faces higher competence requirements than he or she possesses, and a *competency surplus* is when an existing competence of a graduate is not required by the employer to its maximum extent. A *balance* is when requirements are matched by possessed competencies. Charts C1, C2 and C3 in the appendix provide the differentiation between *large* and *small* gaps, and *large* and *small* surpluses for Europe, UK and Japan. The following describes the percentage of graduates facing any competency gaps or surpluses.

Table 6 lists the 10 largest competency gaps for UK, European and Japanese graduates. Many of the top 10 required competencies (Table 5) also appear in this list. Although there are significant overlaps between the UK and the European gap list, there are some differences. There are two abilities which are part of the UK list

but not of the European list. The proportion of UK graduates who felt that their ‘assertiveness, decisiveness and persistence’ did not reach the required level was 10% higher than the European average. In the case of ‘applying rules’, this difference was 7%. At the same time, the proportion of European graduates who experienced competency gaps in ‘problem solving skills’ was 10% higher than that of their UK counterparts, while the difference regarding ‘economic reasoning’ was 5%. Although they are not on the top 10 list of competency gaps, some further skills show a noteworthy Europe-UK difference. The size of the UK gap exceeded that of the European gap by 8-9% in the cases of ‘loyalty and integrity’, ‘physical and mental fitness for work’ and ‘power of concentration’. However, the gaps in ‘foreign language competencies’ and ‘creativity’ were smaller in the UK graduate labour market by 12% and 8% respectively.

The Japanese list of most frequent competency gaps contains two skills which do not appear on the other two lists, and the Japanese gaps tend to be much greater than either the UK or the European ones. The size of the six largest gaps in the Japanese list was 70% or greater, while none of the gaps in the UK and Europe reached this size.

Table 6: The 10 most common competency gaps

UK	Europe	Japan
1 Negotiating	1 Planning, co-ordinating and organising	1/2 Problem-solving ability; Negotiating
2 Taking responsibilities, decisions	2 Negotiating	3/4 Economic reasoning; Accuracy, attention to detail
3/4/5 Planning, co-ordinating and organising; Assertiveness, decisiveness, persistence; Time management	3 Taking responsibilities, decisions	5/6 Computer skills; Planning, co-ordinating and organising
6 Applying rules	4/5 Computer skills; Time management	7/8 Time management; Documenting ideas and information
7/8 Computer skills; Leadership	6 Problem solving	9 Working under pressure
9 Oral communication skills	7/8 Leadership; Working under pressure	10 Oral communication skills
10 Working under pressure	9 Oral communication skills	
	10 Economic reasoning	

The proportion of cases when a graduate competency was not utilised in employment 3-4 years after graduation was far smaller than the proportion of competency shortages. Even ‘foreign language competency’, although the most frequent form of competency surplus in Europe and in Japan, and one of the most frequent ones in the UK, showed a surplus only in about one-third of the cases. Although there are some minor differences between the UK and the European lists of frequent competency surpluses, there is only one competency, that shows a noticeable difference. This is ‘creativity’, which was reported to be possessed to a greater extent than required 8% more frequently in the UK than in Europe.

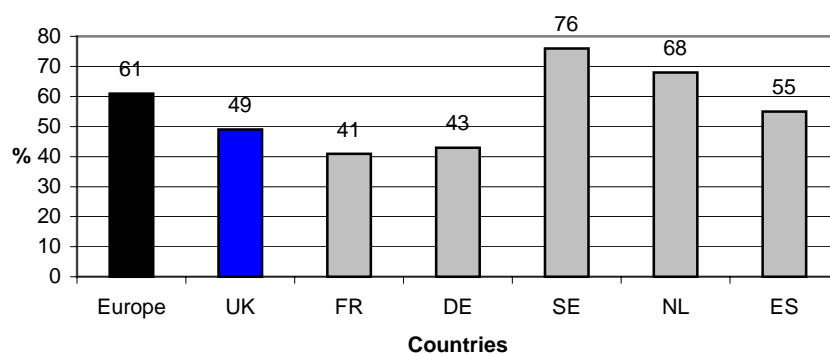
Table 7: The 10 most common competency surpluses

UK	Europe	Japan
1/2 Foreign language proficiency; Field specific theoretical knowledge	1 Foreign language proficiency 2 Field specific theoretical knowledge	1 Foreign language proficiency 2 Field specific theoretical knowledge
3 Broad general knowledge	3/4 Broad general knowledge; Learning abilities	3 Manual skills 4/5 Cross-disciplinary thinking; Field specific empirical knowledge
4/5/6 Creativity; Learning abilities; Field specific empirical knowledge	5 Manual skills 6 Field specific empirical knowledge	6 Getting personally involved
7 Manual skills	7 Critical thinking	7 Critical thinking
8/9 Analytical competencies; Critical thinking	8 Power of concentration 9/10 Written communication skills; Cross-disciplinary thinking	8 Loyalty, integrity 9 Assertiveness, decisiveness, persistence 10/11 Leadership; Creativity
10 Cross-disciplinary thinking		

In all of this, and as charts C1, C2 and C3 in the appendix make clear, gaps and surpluses in graduate competencies, though frequent, were not large. Thus, although 63% of UK graduates perceived a gap between their required and possessed competencies in terms of 'negotiating skills', this was only a large gap for 12% of the graduates. There is a similar pattern for all the other competencies.

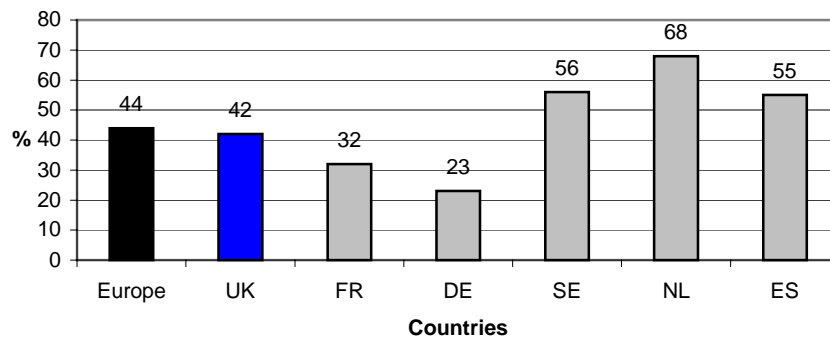
5.5 Graduates were also asked how useful they considered their degree studies to have been in preparing them for their current work tasks. As Figure 14 indicates, UK graduates reported lower than average utility than the average of European countries. The looser linkage between field of study and subsequent employment in the UK labour market should be borne in mind in interpreting this result.

Figure 14: Usefulness of degree courses as preparation for current employment (% of those in employment rating courses as useful 'to a high or very high extent')



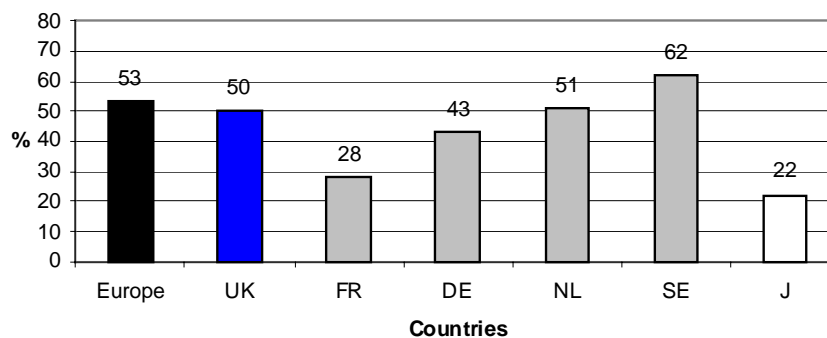
Preparation for employment is not of course the only function of higher education. Graduates were also asked about the usefulness of their studies as preparation for tasks in other spheres of life. Here the UK figures are close to the European average. Figure 15 shows the data for selected countries.

Figure 15: Usefulness of degree courses as preparation for tasks in other spheres of life (% of graduates rating courses as useful to 'a high or very high extent')



Asked whether they used the knowledge and skills acquired in their degrees to a great extent in their current work, UK graduates were slightly less likely to reply positively. The percentages agreeing with the statement were 50% for the UK and 53% for the European average but were as low as 22% in Japan. Figure 16 provides the figures for selected countries.

Figure 16: Use of degree knowledge and skills in current job (% of those in employment rating usefulness 'to a high or very high extent')



In interpreting the above set of figures, the different traditions of higher education in different countries should be borne in mind. A more professional focus in higher education study and a closer match between field of study and subsequent employment is the established pattern in much of continental Europe. UK graduates have always been more likely to enter fields of employment remote from their higher education studies. Less direct utility of the higher education courses is a predictable consequence for such graduates.

6 The appropriateness of work to level and type of qualifications

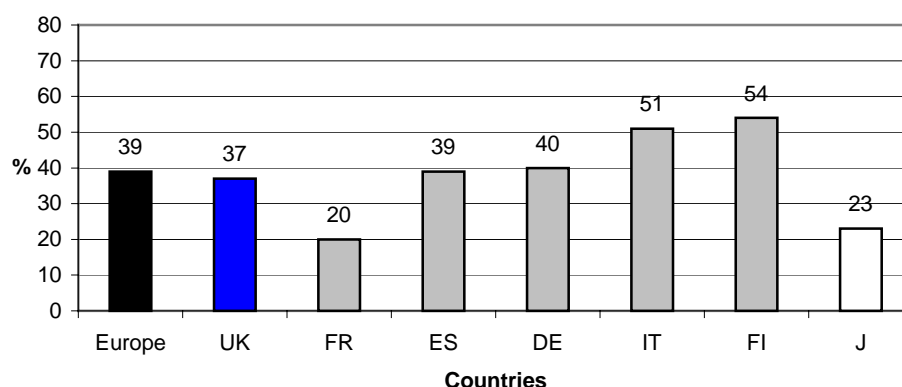
6.1 In the UK:

- half the graduates were making a lot of use of their degree skills/knowledge in their current job
- nearly four out of ten felt that their field of study was the best or only one possible for people who wanted to work in that type of job
- one in five graduates felt over-qualified for the work that they were doing
- two-thirds felt that their current work was very appropriate to their level of education
- the reasons given for being in jobs unrelated to their degree were mainly positive
- 75% had achieved or exceeded their job expectations.

6.2 The relationship of degree course to job

Thirty-seven per cent of the UK graduates said that their field of study was by far the best or the only one possible for people wishing to do their job. (See Table A16 in the appendix.) This was slightly below the overall figure of 39% for European graduates. (See Figure 17 below.)

Figure 17: Graduates for whom their field of study was the best or only possible one for their current job (% of those in employment)



Answers depended upon subject studied. In the UK it varied from 79% in the case of medical sciences to 19% for the social sciences.

Many graduates reported that other fields of study would have been just as good a preparation – 35% in the UK and 40% in Europe. But very few European graduates thought that field of study did not matter. UK and Japanese graduates were more likely to think this.

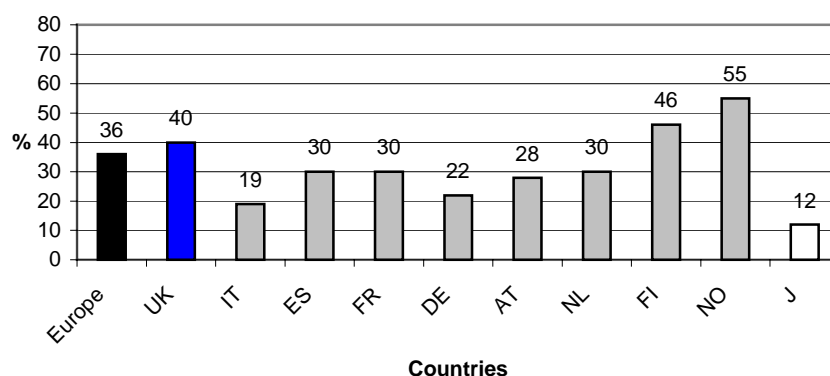
6.3 The appropriateness of current work to level of education

Eighteen per cent of the UK graduates felt that a lower level of higher education, or none at all, was the most appropriate for somebody in their type of work. (See Table A17 in the appendix.) The average figure for all European graduates was slightly lower. But 40% of UK graduates thought their current work was completely appropriate to their level of education – 36% in Europe as a whole.

Again there was wide variation, with Scandinavian graduates most likely to be in appropriate work, and Italy, Germany and Japan at the other end of the continuum (see Figure 18 below).

In terms of subject studied, one in three UK humanities graduates felt 'over-qualified', but only 6% of graduates in the medical sciences.

Figure 18: Graduates who felt their level of education was completely appropriate to current employment (% of those in employment)



In the UK 88% of graduates in the medical sciences felt they were at an appropriate level, but only 54% of humanities graduates.

6.4 Reasons for taking up unrelated work

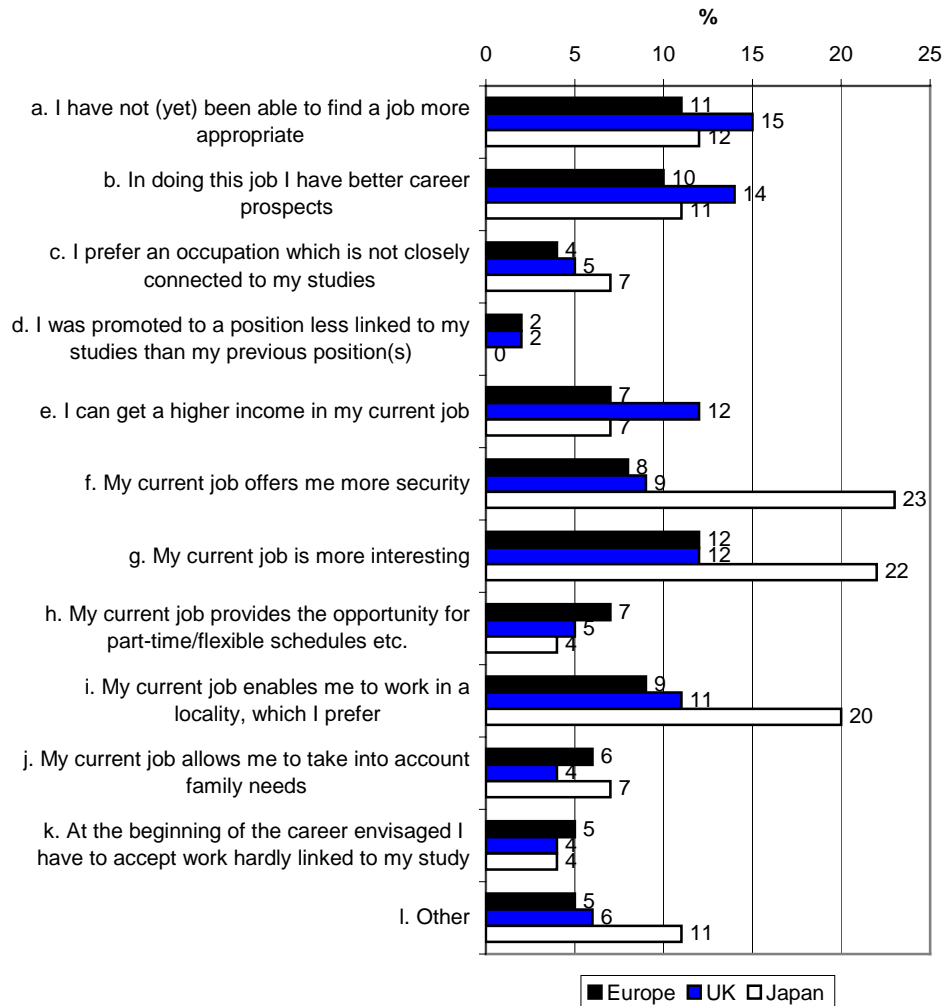
UK graduates took up jobs unrelated to their degrees for a number of reasons (see Table A18 in appendix). They were often positive reasons concerning career prospects, interest and pay. Only one in eight said it was because they could not find a more appropriate job.

The UK was very similar to other European countries. However, Japanese graduates were more likely to mention job security, the interest of the job and its locality (see Figure 19).

Reasons varied by subject studied in a fairly complex way. In the UK, law and humanities graduates were most likely to say that it was because they could not find a more appropriate job (39% and 36% respectively). Natural sciences and engineering graduates were more likely to have switched because their job offered better career prospects (41% and 42% respectively). Social scientists and engineers were more

likely to say that it was because the job was interesting (36% and 38% respectively). Lawyers also often gave locality as the reason (39%).

Figure 19: Reasons for taking up unrelated work (multiple response) (% of graduates in employment who viewed their jobs as inappropriate)

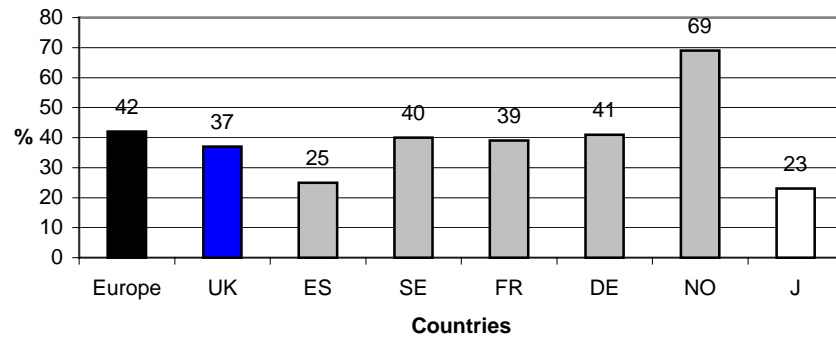


6.5 Have expectations been met?

Thirty-seven per cent of the UK graduates felt that their work situation was better than their expectations when entering higher education. (See Table A19 in appendix.) A further 39% thought that it was as expected, leaving 17% who thought it worse and 8% much worse.

Subject studied appeared to have relatively little effect. In the UK the relevant figures for those whose work exceeded original expectations only ranged from 40% for maths to 30% for humanities.

Figure 20: Extent to which employment expectations have been exceeded (% of those in employment)



7 Further study and training

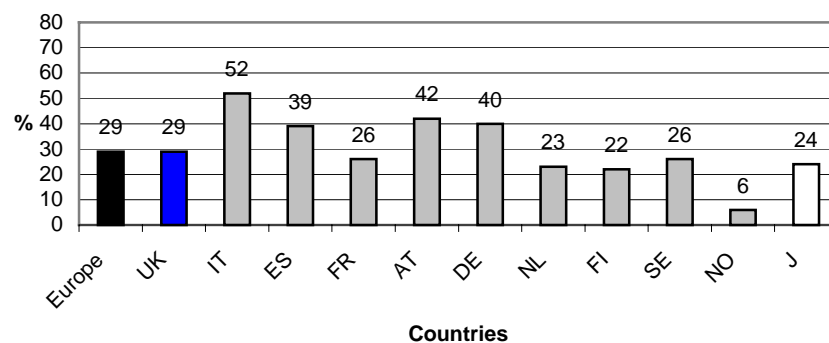
7.1 UK graduates were:

- close to the European average (30%) in their likelihood of taking further education or training leading to a professional qualification
- rather more likely than their European counterparts to have taken short courses or other training (and much more likely than Japanese graduates)
- more likely to have taken shorter courses of training (10 hours or less) than their European counterparts, who were more likely to have taken longer courses (over 50 hours)
- like their European counterparts, likely to have taken such courses outside of higher education
- more likely than their European and Japanese counterparts to have received employer support for their further education and training
- more likely than European and Japanese graduates to have undertaken further education or training in management/leadership competencies, business administration, communication skills and customer relations
- less likely than European and Japanese graduates to have undertaken further education or training in order to acquire new scholarly knowledge in their disciplines (although this is nevertheless the most common focus of such training), or to acquire foreign languages.

7.2 Professional study

Twenty-nine per cent of UK graduates had undertaken further education or training leading to a professional qualification since graduation. This is the same as the European average. This average, however, conceals considerable differences between countries, with the percentage ranging from 6% in Norway to 52% in Italy.

Figure 21: Further education/training leading to a professional qualification undertaken since graduation (%)

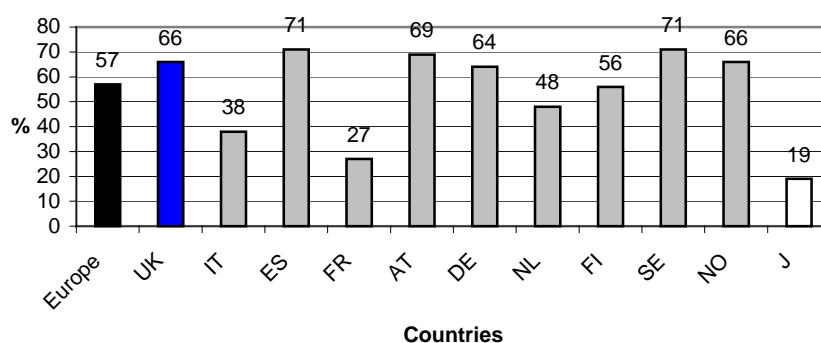


The rest of the information in this section concerns short courses and training undertaken by the graduates.

7.3 Shorter courses or other training since graduation

Sixty-six per cent of UK graduates had undertaken additional short courses or other training since graduation. This is above the European average of 57%. The European average conceals wide variations between different countries, with a low of 27% in France and a high of 71% in Sweden.

Figure 22: Shorter courses or other training since graduation (%)



7.4 Number and duration of courses undertaken

Of the 2,079 graduates who had undertaken additional short courses or other training in the UK, 42% did one course and 30% did two courses. These are above the European averages of 36% and 26% respectively. Twenty-eight per cent of UK graduates did three courses, which is below the European average of 37%. UK graduates tended to favour shorter courses for this kind of training, with 31% of graduates taking courses of 1 to 10 hours in length for their first additional course compared with a European average of 15%. This puts the UK at the top of the range for this type of training; the next European country is Germany with 18%. Only 20% of UK graduates took a course of 51 or more hours, compared with a European average of 39%. The UK is at the foot of the range here, the next European country being Norway with 29%. Figure 23 shows the number of courses taken and Figure 24 shows the duration of the first course taken. Table A20 in the appendix gives the full data.

Figure 23: Number of courses taken by graduates (% of those taking short courses or other training)

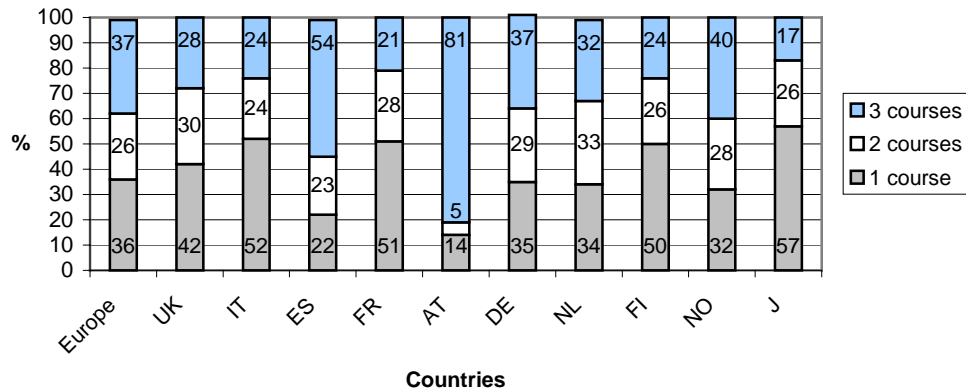
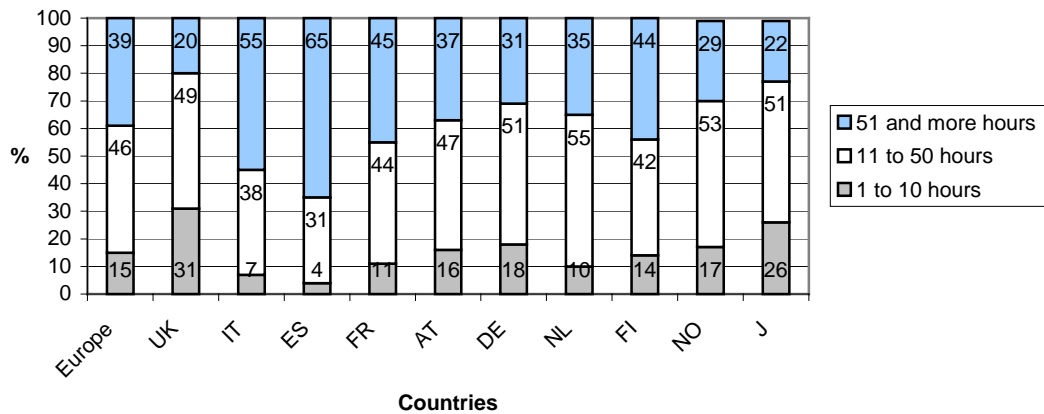


Figure 24: Duration of first course taken (% of those taking short courses/training)



7.5 Institution providing the training courses

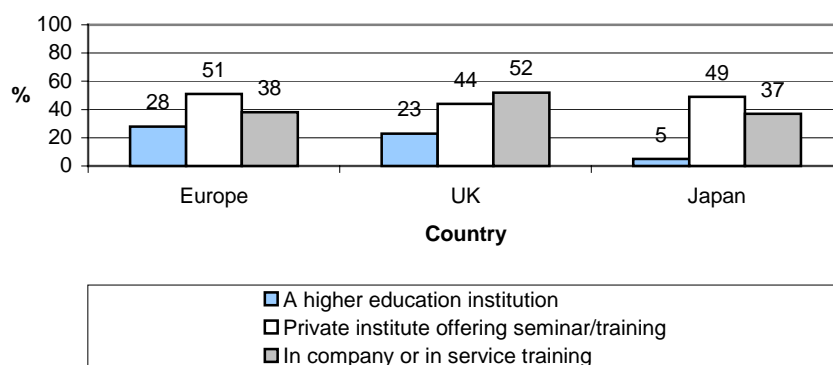
In the UK, 23% of graduates attended courses provided by a higher education institution. This compares with a European average of 28%. Finnish and Norwegian graduates were more likely to attend a course at a higher education institution, with 49% and 38% respectively doing so. Czech (18%) and Japanese (5%) graduates were least likely to do so.

Forty-four per cent of UK graduates attended private institutes for such training. The European average was 51%. Only France had a lower percentage (36%) attending private institutes. The countries with the highest percentages attending private institutes were Austria and the Czech Republic, with 60% each doing so.

The largest proportion of UK graduates were engaged in in-company or in-service training. Some 52% of UK graduates received this kind of training, topping the range of the other countries. The European average for graduates receiving this kind of training was 38%, with only 16% doing so in Italy.

The percentage of UK graduates receiving this kind of short training by distance education was small (3%) and similar to the European average (4%). The proportions engaged in this kind of training were small in all countries, except Japan where 22% of graduates were involved. Figure 25 shows the different training providers for UK, European and Japanese graduates. Appendix Table A21 gives the full data for all countries.

Figure 25: Providers of further education and training (multiple responses) (% of those undertaking courses/training)



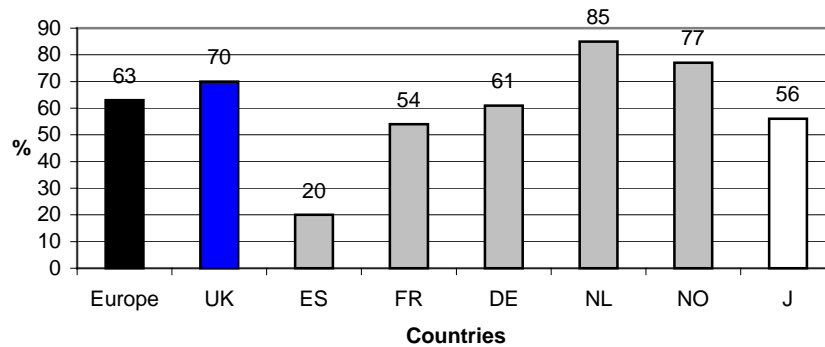
7.6 Sources of funding for education/training course participation

The most common source of funding for UK graduates for this type of course was their employer: 70% of UK graduates received funding from this source. The next most common source of funding was the graduates themselves at 15%. Public funding only accounted for 5% of the study undertaken by these graduates. (Note that graduates may receive funding from multiple sources.)

The proportion receiving employer funding was somewhat above the European average of 63%. The proportion of graduates funding their own training was below the European average of 25%. The percentage of graduates receiving training through public funding was slightly lower than the European average of 9%.

Another interesting feature of funding arrangements in Europe was the big range in funding by employers. The country with the least funding for training from employers was Spain, with only 20% of graduates receiving employer funding. At the opposite end of the scale was the Netherlands with 85%. Public funding was, however, popular in both Italy and Spain with 27% and 28% of graduates receiving funding from this source – in contrast with Germany, the Netherlands and the Czech Republic where 4% of graduates received funding from this source. Figure 26 shows the proportions of graduates receiving employer funding. Table A22 in the appendix provides information on all funding sources.

Figure 26: Short courses funded by employers (% of graduates taking short courses/training)



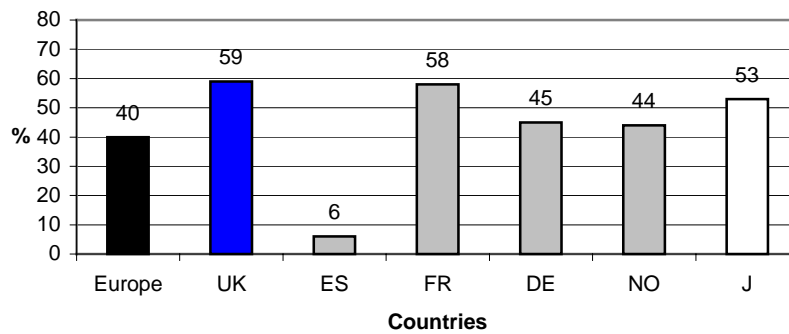
7.7 Timing of training

The most common time for graduates to undertake this training in the UK was during paid working hours; 59% of them did this. This perhaps ties in with the large proportion of training provided and financed by employers in the UK. The European average for this timing of training was 40%, but with only 6% of Spanish graduates receiving training within working hours. This ties in with the relatively low provision of in-company training as described above.

A relatively common pattern in some countries was training which took place partly in the graduate's own time. This was common in countries such as Austria, Norway and the Czech Republic where 40% or more followed this pattern. This pattern was less common in the UK (17%). The European average was 28%.

In the UK, 18% of graduates undertook training in their own time, which was close to the European average of 21%. Italy and Spain appeared to have a much stronger tradition of graduates studying in their own time, with 34% and 37% respectively so engaged. Figure 27 shows the proportion of training undertaken completely during working time. Appendix Table A23 shows the full data for the timing of training.

Figure 27: Training undertaken during working time (% of graduates undertaking training)



7.8 Topics of education/training courses

In terms of the focus of further study, the UK was close to the European average in some areas but differed significantly in others.

UK graduates were more likely to study topics concerned with management and leadership, business administration, communication skills and customer relations. They were less likely to be studying to acquire new scholarly knowledge in their discipline or a foreign language. This difference of emphasis of training in the UK may well reflect the higher levels of employer support/provision for it. Despite these differences between countries, 49% of UK graduates who took courses did so in order to acquire new scholarly knowledge in their discipline. Table 8 shows the distribution of training courses by topic for UK, European and Japanese graduates. In the appendix, Table A24 shows the distribution for all countries.

*Table 8: Topics of education/training courses (multiple responses)
(% of graduates undertaking courses/training)*

	Country		
	Europe	UK	Japan
a. New scholarly knowledge in your discipline	62	49	45
b. Cross disciplinary scholarly knowledge of various fields	28	26	21
c. Methodological competencies	36	39	47
d. Manual skills	14	20	16
e. Foreign language proficiency	18	4	16
f. Computer skills	39	43	29
g. Social/political or philosophical topics	12	15	11
h. Competencies in business administration	16	21	12
i. Management/leadership competencies	23	36	17
j. Legal topics	19	20	12
k. Human ecology/environmental matters	7	7	8
l. Oral or written communication and presentation skills	28	41	26
m. Relationships with customers/clients	20	38	17
n. Other	7	7	5
Count (n)	18560	2148	619

8 Higher education in retrospect

8.1 UK graduates:

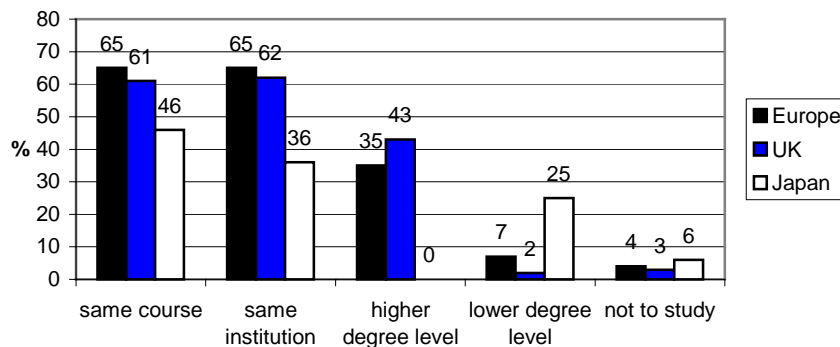
- were more likely to wish they had taken a higher level of degree (43%) than a lower one (2%)
- were similar to other European graduates in believing they would choose the same course and institution again – slightly under two-thirds would so choose
- rated their higher education courses much higher on virtually all dimensions, compared with the evaluations of other European graduates
- rated the utility of their studies more for the development of personality and long-term career prospects than for finding a satisfactory job after graduation.

8.2 Choice of courses and institutions

Around two-thirds of European graduates, irrespective of country, would have chosen to study the same course again and to attend the same higher education institution. (The figures for Japanese graduates were much lower.) However, many would have preferred to have taken a higher level of study – 43% in the UK against a European average of 35%. On the other hand, only 2% of UK graduates (7% in Europe on average) would have chosen a lower level of study, although 25% would have done so in Japan. Only 3% of UK graduates (4% in Europe) would not have chosen to study at all.

Figure 28 shows the retrospective study preferences of UK, European and Japanese graduates. The figures for all countries in the project are contained in appendix Table A25.

Figure 28: Retrospective study decisions of graduates



8.3 Teaching and learning

UK graduates were very positive about the modes of teaching and learning employed on their degree courses. Graduates were asked to what extent certain features were emphasised on their degree course. UK graduates reported higher emphasis than the European average for 10 of the 12 features. Although there was much variation

between other countries, no other graduates were as positive as the UK graduates. Table 9 shows the figures for UK, European and Japanese graduates.

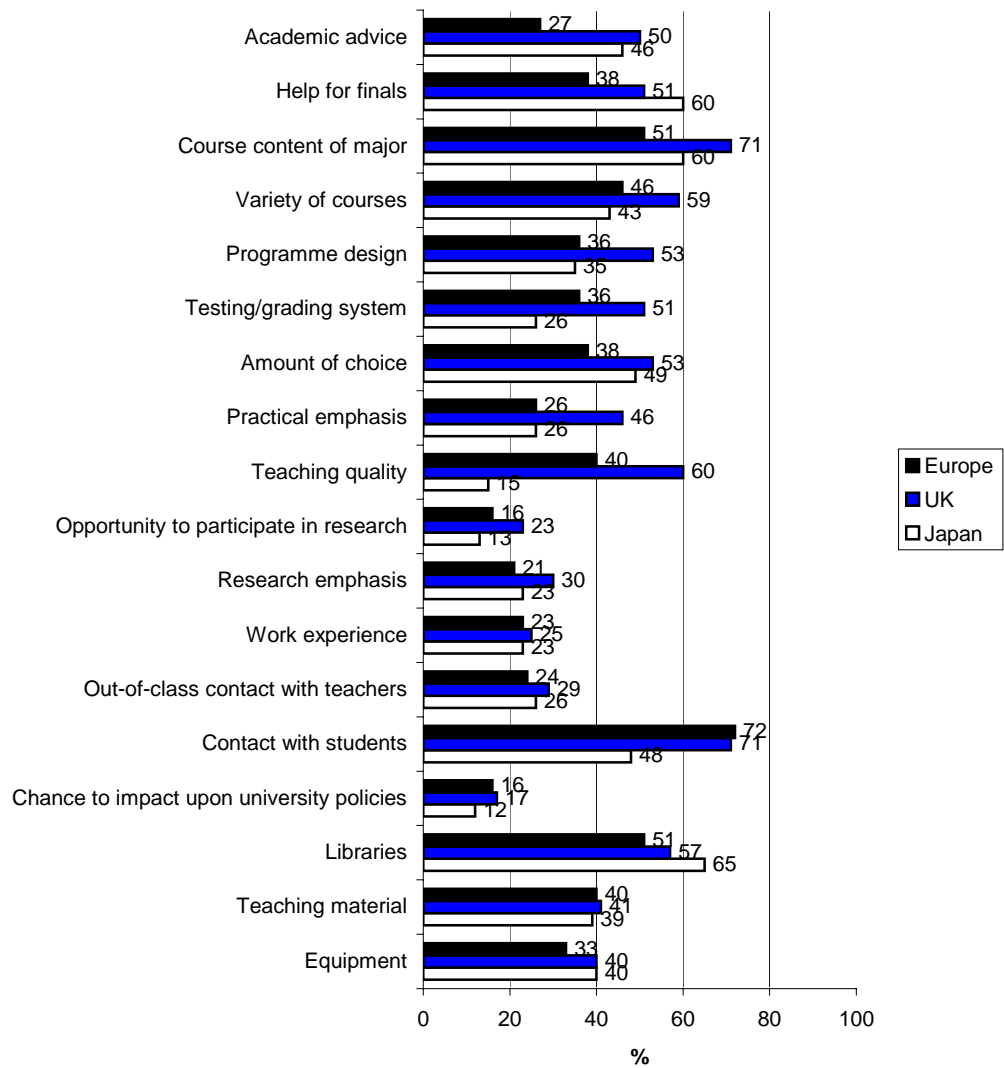
Table 9: Modes of teaching emphasised on degree course (% 'to a high or very high extent')

	Europe	UK	Japan
a. Facts and instrumental knowledge	50	68	50
b. Theories, concepts or paradigms	76	72	71
c. Attitudes and socio-communicate skills	28	40	23
d. Independent learning	59	68	33
e. Regular class attendance	42	63	61
f. Teacher as main information source	35	32	22
g. Freedom to choose options and specialisations	40	53	58
h. Project and problem-based learning	27	53	36
i. Direct acquisition of work experience	19	23	8
j. Out-of-class communication between students and staff	16	27	17
k. Writing a thesis	57	76	66
l. Detailed regular assessment of academic progress	26	49	33
Count (n)	33059	3418	3407

8.4 Rating of higher education courses

A similarly positive picture of UK higher education compared with other European countries emerged when we asked the graduates to rate their higher education courses on 18 aspects. UK courses were rated higher on pretty well every aspect, often with over 20% more graduates than the European average rating them 'good or very good'. Averaging the differences across the 18 aspects of provision, UK graduates were 11% more likely to rate their courses 'good or very good'. Figure 29 shows the quite dramatic differences between UK, other European and Japanese graduates in their rating of their degree courses.

Figure 29: How graduates rated their higher education courses (% of graduates rating course as 'good or very good')

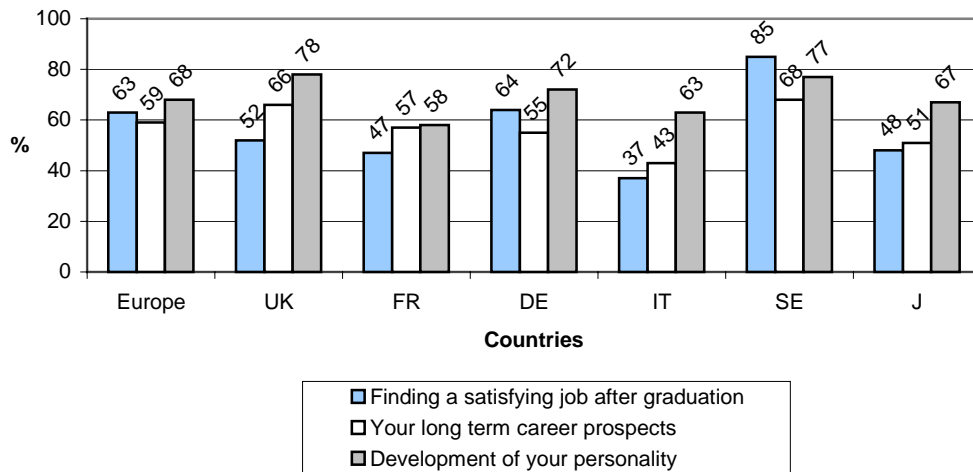


8.5 Utility of higher education

Compared with higher education courses in other European countries, UK courses were viewed by their recent graduates as being of high quality. What of their views about the utility of their higher education study? If utility is measured by ‘finding a satisfying job after finishing your studies’, UK courses were rated by these graduates below the European average – the Scandinavian countries came out best in this respect. If utility is measured in terms of ‘your long-term career prospects’, UK courses did much better – 7% above the European average and second only to Sweden and Norway. Finally, UK higher education traditions of ‘developing the personality’ appear to remain strong – UK graduates were 10% more likely than European graduates on average to rate this aspect highly, along with Dutch graduates.

Figure 30 shows the utility of studies for selected countries and Table A26 in the appendix provides figures for all the countries in the project.

Figure 30: Graduates’ views of the utility of their higher education (%of graduates rating utility of studies ‘to a high extent’)



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