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ABSTRACT

Data collated by the University of Sussex (England) Institute for Employment Studies were examined to identify trends and issues in higher education (HE) and the graduate labor market in the United Kingdom. The analysis focused on the following: higher education and the changing graduate labor market; the traditional pool of candidates for HE; admissions to degree courses; graduate output; student finances; graduates' movement into employment; and longer-term career patterns. The rate of participation in HE was discovered to have risen from 12% in the early 1980s to more than 30% in 1996-1997. In 1997, more than 150,000 graduates moved into employment, entering an ever-widening range of occupations and careers. Although many graduates reported difficulties moving into permanent jobs of the type and level they were seeking, one in three of the major recruiters contacted reported difficulties recruiting graduates in 1997. HE graduates were taking longer to settle into the labor market than previously and were in many cases moving into lower-level jobs than those initially obtained by their predecessors; however, they continued to advance to higher salaries and receive more training than nongraduates did. (Thirty-one tables/figures and the names/addresses of 14 sources of additional information are included. The bibliography contains 38 references.) (MN)

the Institute for Employment Studies

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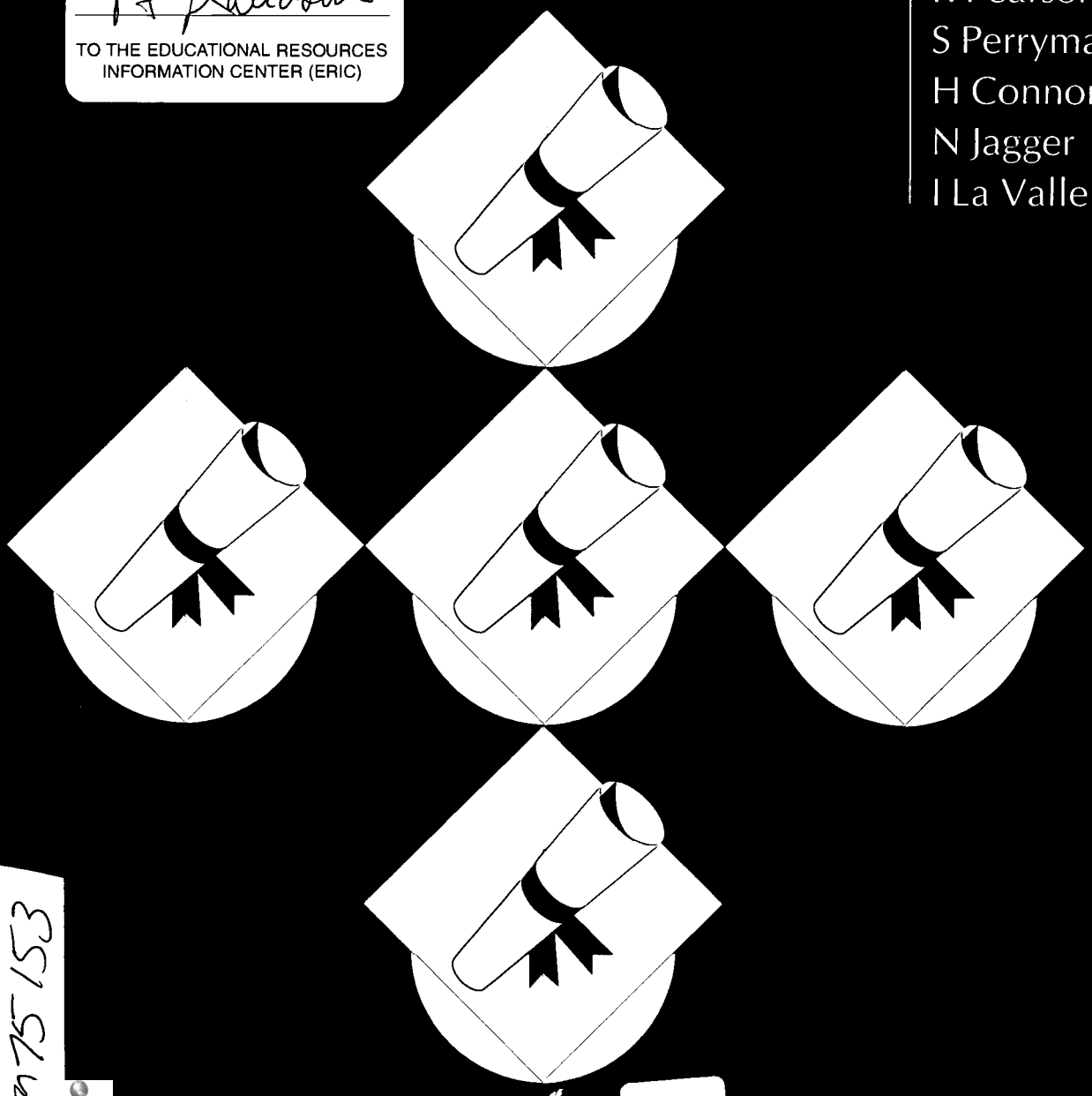

IES Report 340

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The Fragmenting Graduate Market

the **Institute**
for **Employment**
Studies

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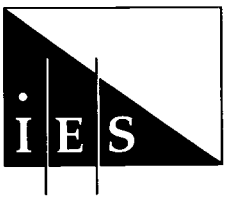

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The Institute for Employment Studies

The Institute for Employment Studies is an independent, apolitical, international centre of research and consultancy in human resource issues. It works closely with employers in the manufacturing, service and public sectors, government departments, agencies, professional and employee bodies, and foundations. Since it was established over 25 years ago the Institute has been a focus of knowledge and practical experience in employment and training policy, the operation of labour markets and human resource planning and development. IES is a not-for-profit organisation which has a multidisciplinary staff of over 50. IES expertise is available to all organisations through research, consultancy and publications.

IES aims to help bring about sustainable improvements in employment policy and human resource management. IES achieves this by increasing the understanding and improving the practice of key decision makers in policy bodies and employing organisations.

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This report is the product of a study supported by the IES Co-operative Research Programme, through which a group of IES Subscribers finance, and often participate in, applied research on employment issues. The members of the CRP are:

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1. Introduction

The Annual IES Graduate Review provides a regular, authoritative briefing for employers, graduate recruiters, researchers and policy makers on the latest trends and issues in higher education and the graduate labour market. The Review is funded through the Institute's Research Club, the Co-operative Research Programme. It draws on the latest research and data collated by IES and other bodies, as well as the Institute's ongoing programme of work with employers, graduates and higher education.

1.1 Context

In 1982, when the first Graduate Review was published, the key issues facing higher education were financial cutbacks, a cap on university admissions, and declining numbers graduating in engineering. By 1986 (Pearson, 1986):

> *'High achievers were in short supply, with vacancies remaining unfilled in many companies. At the same time higher education is in a state of turmoil and undergoing a period of forced change on a scale not seen before.'*

Expansion resumed in the late 1980s, the rate of growth soon far exceeding all expectations; by 1995 there were about 1.5 million students in higher education, twice as many as in the early 1980s. In 1995 the government again stopped the growth. The universities, now doubled in number, are once again in turmoil and experiencing a severe financial squeeze, and while employers' recruitment difficulties are reappearing, graduate unemployment and underemployment remain significant.

The *Dearing Inquiry* was set up by the government to review and to make recommendations as to the long term development of higher education. Its recommendations (Dearing R *et al.*, 1997), focus largely on the evolution of the existing higher education system. They do not offer a more radical blueprint of, for example, the merging of further and higher education into a unified post-18 system, or the introduction of two-year general degrees for all, with a minority moving on to a further two years in-depth study (the '2+2' degree). Among its 93 recommendations, the key ones of immediate relevance to the graduate labour market were those focusing on widening participation,

increasing the numbers taking sub-degree level qualifications, encouraging work experience for all students, improving funding, and a series of measures aimed at raising quality and standards. The most controversial related to charging students tuition fees.

In the event the government acted immediately, and controversially, ignoring Dearing's recommendation on student funding, and introduced means tested fees of £1,000 pa and abolished the means tested maintenance grant.[1] This change will end the anomaly whereby part-time students, including those on Open University courses, have always had to pay fees. The government has subsequently allocated a small sum to address some of the sector's funding problems, and announced its desire for there to be a further 500,000 students in further and higher education. The majority are, however, likely to be in further education.

So where are we now, and what are the prospects for the graduate labour market in the post-Dearing era? The following chapter highlights the key changes that have been taking place in higher education and the graduate labour market, and draws out their implications for employers and policy makers for the future. It is followed by six sections which focus on the key data in terms of :

- the potential pool of young entrants to higher education
- admissions to degree courses
- graduate output
- student finances
- graduates moving into employment
- longer term graduate careers.

The bibliography and key addresses appear at the end of this report.

The emphasis is on those graduating with first degrees and entering the labour market; subjects related to medicine, veterinary science, agriculture and education are largely excluded as most of these graduates move directly in to their respective professions or further related training.

[1] At the time of writing the government had not announced the final details and there may be changes following extensive lobbying.

2. Higher Education and the Changing Graduate Labour Market

2.1 An expanded higher education system

There are now nearly 200 universities and higher education institutions in the UK, with many universities also franchising further education colleges to provide sub-degree courses and, in some cases, part of their degree courses (Rawlinson, 1996). The participation rate in higher education is now over 30 per cent, up from 12 per cent in the early 1980s. Over 200,000 students graduate each year with first degrees, many staying on for further study; 50,000 qualify with postgraduate degrees annually; another 30,000 qualify with sub-degree qualifications, many of whom go on to study for first degrees. The overall numbers graduating match those of our major international competitors (Jagger, Morris, Pearson, 1996).

As the numbers have doubled, the student population has become more diverse with more women, mature entrants, and those from ethnic minorities. More students now enter with vocational qualifications or via access courses, and they study on an ever widening range of single subjects and multidisciplinary courses. Many study part time and on modular courses (Connor, Pearson, *et al.*, 1997). Finally, many are graduating with significant levels of debt: graduates now expect to have debts of about £4,000 when they graduate, more than twice the figure of five years ago. They appear, however, to be far less concerned about these debts than their contemporaries were four years ago (Barclays, 1997).

Subsequent sections focus on how the numbers going into employment have changed and their experiences widened, the value of a degree, and the likely impact of fees. They then focus on supply and demand trends and draw out the implications for employers and policy makers.

2.2 Larger numbers entering employment

The labour market for new graduates is influenced by the economic cycle, the changing economic and occupational structure of the economy, and the rising number of graduate job seekers. In 1997 over 150,000 graduates moved into employment,

entering an ever widening range of occupations and careers. Six months after graduation nearly one in three were, however, in temporary jobs and eight per cent were unemployed. While the number entering employment has grown dramatically, the proportions moving into employment, further study[1] or who were unemployed largely mirrored the proportions recorded in the late 1980s, when the numbers graduating were significantly lower. These figures show the ability of the labour market to absorb growing numbers of graduates but say little about the quality of the jobs entered.

Traditionally, the graduate labour market has focused on the needs of larger employers who have sought graduates for their specialist technical skills, or for their potential to enter management and professional training schemes. In 1989 the number of such vacancies, as reported by the Association of Graduate Recruiters (AGR),[2] totalled over 20,000, accounting for about one in three of those going into employment. In 1997 the major recruiters had 17,000 vacancies, a number that had grown significantly since the depths of the recession. However, as the numbers graduating have doubled over this period, this now represents a much smaller share (less than one in eight) of those graduates going into employment.[3]

Despite seeking only a minority of those graduating, and the difficulties many graduates have moving into permanent jobs of a type or level they seek, one in three of the major recruiters reported difficulties recruiting graduates in 1997. Recruitment difficulties have become almost inevitable in periods of sustained economic upturns, but their incidence was not as great as in the late 1980s when nearly 60 per cent were reporting such difficulties. The disciplines and occupations causing the most concern in 1997 were those relating to IT and electrical and electronic engineering, but not finance which had been a major problem area in the late 1980s; there was also continuing concern about the need for graduates to have better interpersonal, business awareness, and leadership skills (Perryman, La Valle, 1997).

Despite this resurgence of employers experiencing recruitment difficulties, the number of these companies sponsoring under-graduates has fallen from just under 40 per cent to under 30 per cent in the last three years, the decline being greatest in the non-

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1 One in five first degree graduates stayed on for further study in 1996.

2 The Association of Graduate Recruiters (AGR) has the majority of the major graduate recruiters among its membership, but excludes professions such as education.

3 Another, rather broader, but overlapping barometer of the graduate labour market are those vacancies advertised by the Universities' Central Services Unit (CSU); the numbers here are rather smaller than for the AGR members.

industrial sectors. Average starting salaries for new graduates among the major recruiters have also shown only limited response to shortages. Over the last decade they have largely tracked the rise in male earnings, rising slightly faster than this trend during the economic upturns, and lagging in times of recession. In 1997 the median starting salary for new graduates was forecast to be £15,500; this was within a range from £20,000 in the top decile and £13,790 in the lowest decile. Other graduates were taking jobs with starting salaries well outside these ranges; a few in the city earned well over £20,000 while many more moved into much lower level jobs paying £10,000 or less.

2.3 Changing labour market experiences for graduates

As businesses have decentralised so has graduate recruitment among the major recruiters. Many vacancies now appear throughout the year, further weakening the importance of the traditional recruitment round by employers, with graduate recruitment increasingly taking place alongside other forms of recruitment. At the same time, graduates are taking longer to settle in the labour market, with more entering jobs not specifically designated for graduates, often displacing less qualified candidates, or moving into temporary employment.

For the majority of graduates, the period of job hunting now starts in earnest after the final exams, and career planning is still a relatively low priority while studying. Only one in seven has a job offer by the start of their final term. Two-thirds expect to move into employment on completion of their course, most of whom expect to be in 'career jobs'. A minority intend to take up temporary employment while considering longer-term options (Purcell and Pitcher, 1996). Many also take temporary work initially, for financial reasons or to gain work experience (Connor and Pollard 1996). There is concern that the rising levels of student debt, as detailed in Chapter 6, is leading students to take any job to pay off their debts, neglecting or taking longer over long-term job search and career aspirations. Temporary work now appears to be an established feature of the early careers of graduates. However, most of those in temporary jobs move into permanent jobs, or a period of further study followed by permanent work. Five years after graduation the variation in career paths had reduced, and higher levels of career stability were being experienced. A very high proportion were in employment (86 per cent), the majority (70 per cent) with the same employer as two years previously. (Connor, Pollard, La Valle, Millmore, 1997a). This trend to longer job search reflects the experiences in the United States (Court, 1994) and many continental European countries such as Italy and the Netherlands (Connor, *et al.*, 1997b).

With graduate supply expanding faster than the traditional job market, there is increased interest in the problem of graduate

under-employment, or 'over-education', that is the extent to which graduates are being employed in jobs where a degree qualification is not a requirement and where they may be occupied also by people with lower qualifications.

There are many areas where graduates are now recruited to fill what were traditionally school leaver roles such as Executive Officer grade in the Civil Service, and professions like accountancy and the law which have became virtually graduate entry only. While the technical job requirements may have changed only a little, there is much greater need for problem solving and interpersonal skills, and these are recognised as being more likely to be found among the graduate population. There is also evidence that employers have been increasing the educational requirements of jobs simply because more graduates are applying, while other recruiters have increased the educational threshold because they perceive that standards at traditional levels have fallen (Robinson, Macorda, 1997). Finally, many graduates are applying for lower level jobs because these are all that are available. Given the often subjective nature of what constitutes an appropriate qualification, it is hard to quantify these changes. However, one recent study showed that 22 per cent of graduates were, two to three years after graduation, in occupations classified at a fairly low level, *ie* not associated with a degree, such as clerical, secretarial, craft, or sales work. Less than half of the respondents in this survey said that their degree was an entry requirement to their job, while ten per cent were in jobs whose previous occupant was a non-graduate. When asked to assess the extent of underemployment they felt, 26 per cent felt very underemployed and a further 33 per cent felt slightly underemployed. (Connor and Pollard, 1996).

Two years later, in a follow up of these same graduates in 1997, it was clear that there had been a shift upwards in their job level. In particular a much a higher proportion were now in high level managerial or administrative posts. There was also a reduction in the extent of underemployment: only 12 per cent now felt very underemployed. Engineering graduates experienced the least underemployment, and physical science and arts and humanities the most, (Connor, *et al.*, 1997a). There are also differences between sectors of employment; for example, many in financial services are trapped in low level jobs, while in the steel industry there is evidence that while graduates have entered lower level jobs they have been able to upgrade them. There is also evidence that graduates entering supervisory level jobs in manufacturing can also upgrade the job and transform working patterns, thereby improving competitiveness (Mason, 1997).

2.4 The value of a degree

While graduates have been moving into a broader range, and in many cases lower level of employment, the economic benefits to

the individual of a first degree have remained positive. Graduate earnings are on average higher, and their unemployment rates lower than for non-graduates. Graduates also receive more training than non-graduates. Recent studies also show that the economic returns to first degrees are higher than those for sub-degrees, but that the rates of return to degree study have been falling (see *eg* Dearing, 1997). These studies are, however, based on past experiences when the numbers graduating were significantly lower, and economic conditions different. Such studies do not, however, distinguish between the advantages due to their intrinsic abilities, the possession of the qualification and their ability to displace the less qualified during recruitment, and the value added gained through higher education. Thus while there is a clear economic advantage to the individual in having a degree, the social returns to society from investment in higher education are lower. These are expected to fall as the supply expands relative to opportunities (see below, and Dearing, 1997). Finally, these are averages and the figures conceal a growing fragmentation in the market with the successful graduates achieving high earnings and good careers; others, however, enter and stay in much lower level jobs yielding low pay and limited job satisfaction.

2.5 The likely impact of fees

With the introduction of fees for students still nearly a year away, it is not possible to be definitive about their impact. It will also be difficult to isolate the effect from that due to the abolition of the maintenance grant. The impact is likely to depend as much, if not more, on students' perceptions as on a rigorous assessment of costs and benefits. While students are becoming more rigorous in asking questions about higher education and the outcomes of study, many are not well informed as to the real costs and benefits of higher education. Labour market information and long-term outcomes do not feature greatly in students' choices (Pearson, 1997). Nevertheless, they do believe that they stand a better chance in the job market with a degree rather than without, and accept the cost of study as a fact of life (Meikle, 1997).

Overall the introduction of fees, when combined with the abolition of the maintenance grant, is likely to have several effects:

1. Some reduction in overall participation, especially in the short term, in part due to the 'headline' effects. For example there has been a late surge in applications for entry in 1997 as students have pulled back from taking 'gap' years, or otherwise pulled forward plans for entry in 1998 to 1997. Applications and entries are likely to fall in 1998 for this reason alone, while the greater publicity being given to the cost of higher education will encourage some students, especially the less financially advantaged, to make alternative

choices.[1] While any longer term decline in entry to higher education would have social consequences, there is no clear evidence that a reduction in graduate supply (as long as it is not a major reduction) will disadvantage the economy in terms of magnifying the extent of employers' graduate recruitment difficulties.

2. Of more significance, is any reduction in the relative inflow to longer first degree course and postgraduate courses such as those in engineering, teaching and medicine. Such reductions could be offset by offering scholarships and sponsorship programmes which cover the cost of fees in the relevant disciplines.

3. More students opting for shorter, sub-degree courses as recommended by the Dearing Inquiry, although there is little evidence of employer demand for students from such courses.

4. More students living at home, which will dilute the university experience, while others will choose universities in areas of lower living costs. Both these factors will reinforce social segregation between the rich and the poor (Connor, Pearson *et al.*, 1996a) and limit subsequent mobility in the labour market.

5. Unless recruitment difficulties become more widespread employers are unlikely to increase their levels of sponsorship. They may however, offer signing on fees, or offer to pay off debts to attract graduates in areas of recruitment difficulty.

6. Students should become more demanding consumers, expecting higher quality teaching and giving attention to subsequent outcomes; this should be a stimulus for universities to improve the quality of teaching and university life, and giving more attention to the outcomes after a degree.

7. Potentially lower drop-out rates and more satisfied students and graduates, as they make more informed choices, receive a better education and achieve more appropriate outcomes.

2.6 Future graduate numbers

Despite the aspiration for longer-term growth, the current cap on intakes will mean little change in the numbers graduating with first degrees in the period to 2000. IES and DfEE projections suggest that there may be unmet demand that could have increased student numbers by 25 per cent or more by 2003 if the cap had been lifted, and all other factors, including the funding regime had remained equal (Connor, Pearson, *et al.*, 1996, and Dearing 1997).

The government has said it will lift the cap on student numbers and seek to have 500,000 more students by 2002, but this number encompasses both further and higher education. Longer term

[1] Early application levels for 1998 were down by 16 per cent.

growth in the numbers graduating is likely to remain modest if the government's wish to increase the participation rate to 35 per cent (up from the present 32.5 per cent) is met, as this implies an increase of only about 15,000 or so graduates. This growth in output will not take place until the early years of the next century at the earliest, and may be constrained by the introduction of fees and abolition of maintenance grants for students as noted above.

While the numbers graduating will show little growth in the short term, they will have diverse characteristics when compared with those graduating at the start of the decade.

- Women will form the majority of those graduating; although they will still be clustered in subjects such as the humanities, social sciences and biological sciences, with relatively few in engineering and the physical sciences.
- There will be more mature graduates.
- More will come from ethnic minorities, although with significant variation between the different ethnic minorities. Many will be clustered in a limited number of mainly 'new' universities.
- More will be studying at their local university and living at home. These are likely to be less mobile and more limited in their job search, building a local labour market for graduates.
- More will graduate with work experience, either having worked prior to their course, or during their course or vacations to fund their study. It is, however, unlikely that employers will increase their provision of work placements sufficiently to meet the Dearing recommendation that all undergraduates should have work experience.
- More will be taking postgraduate qualifications in the belief that this will boost their job prospects.

The government's aspiration to further widen participation will, however, be difficult to achieve in the absence of further growth in the overall numbers. Indeed there is concern that the changes to student funding will reduce the existing levels of diversity.

The role and offerings of the universities will continue to become more diverse, with more multidisciplinary and modular degree programmes, part-time study, continuing professional development and lifelong learning. Many will offer periods of overseas study or work experience. More attention will be given to the quality and skills of those graduating, incorporating 'core' or 'personal transferable' skills within the curriculum, although there is not always a common understanding of what is meant by such, and how they should be interpreted, taught and assessed. Indeed, in some respects they are being asked to undertake remedial work, building skills and attributes such as basic literacy and numeracy that should have been developed in

earlier stages of the education system. Further education will increasingly be the provider of sub-degree programmes, although there is little evidence to suggest that there will be a growth in the number of job vacancies for those with such qualifications. Many universities will increase their links with local communities and further education, while the University for Industry will encourage greater linkages between the worlds of work and higher education. As such, a first degree involving three years full-time study in a single subject will only account for a small part what higher education offers.

2.7 The future demand for graduates

Looking ahead, the numbers employed in 'graduate level' occupations is expected to continue to grow, up by 20 per cent in the decade to 2000, and thereafter, a trend mirrored in countries such as Australia, Germany, Japan and the US (Jagger N *et al.*, 1996). The precise level and pattern of growth will depend on the level, speed and pattern of economic, technological and business change. Influences will include growth in sectors such as financial services, communications and the media, medicine and education, which have higher proportions of higher-level, high value added, 'graduate type' jobs. The broad occupational groups showing the most growth are likely to be 'knowledge workers', *ie* managers, professionals (ranging from teachers and doctors, to specialists in marketing, media and communications) some areas of science and engineering, as well as associate professionals such as technicians.

The degree subject will be important for only a minority of job vacancies, *eg* in scientific and engineering roles, and in most of these cases the need will be for a broad based understanding of principles with over-specialisation normally to be avoided. In a rapidly changing world, employers increasingly recognise that they will have to help staff upgrade and develop their skills to meet changing needs. To succeed in most jobs and careers, individuals will need good 'key' skills and relevant personal attributes, such as the ability to work with others, use IT, to communicate, the ability to learn, solve problems, and the flexibility to cope with change. These skills are also increasingly needed in technical roles. In engineering for example, while disciplinary knowledge is important, this is now rarely enough and employers are also looking for practical experience, the ability to relate to clients and colleagues, and to operate flexibly to survive in a highly competitive and changing commercial environment (Dench *et al.*, 1997). There is, however, some concern as to how these key or 'transferable' skills are defined and assessed, with many employers having idiosyncratic and organisation-specific listings.

Some employers are considering whether their focus on graduates is appropriate for the jobs and careers they can offer,

and are looking to increase the proportions recruited through their 'A' level stream. However, there is little evidence of significant employer demand for those with sub-degree qualifications, nor that it will grow as long as there is a supply of first degree graduates. Many openings will be created by the graduates themselves applying in the wider labour market, displacing less-qualified applicants and going into jobs previously held by non-graduates. In some cases they will be able to add further value to the job, upgrading the job and role. Much will depend on the personal attributes of the graduates and the flexibility of their employers. Self-employment will be an avenue followed by a minority of graduates.

While the number of vacancies directed to new graduates by the major recruiters will remain significant, particularly for entry to professional, scientific and management training schemes, they will be only a small minority of the total number of job openings for graduates. They will, however, continue to dominate the debate about the nature of employment opportunities, and give rise to a distorted view of what has become an increasingly diverse labour market for graduates.

2.8 In conclusion

The recent growth and diversification in the numbers graduating, and the limited number of 'traditional' graduate jobs, will lead to increasing difficulties for recruiters, universities and new graduates alike, as they seek to meet and to respond to each others' needs in the increasingly large, fragmented and diverse market place.

To develop effective recruitment and employment strategies, employers will need to be clearer about the roles they are seeking to fill, the attributes they are seeking, the types of recruits they need, and where they may be found. Working with a subset of universities and departments offering relevant courses, and providing work experience to help graduates develop their skills, can act as a mutually beneficial job screening process. Care needs to be taken not to restrict the recruitment pool and disadvantage graduates in other universities. Developing existing staff and linking recruitment strategies to changes in the wider labour market will also be important.

Graduates will need to develop better core skills and realistic job and career expectations, and develop and invest more in longer-term job search strategies. Better careers information and advice at all stages of the education system, and indeed into working life, will be increasingly important if this complex market is to function effectively.

Universities are not equal in terms of their funding, staffing, intakes and value added for students. They will need to develop distinctive and increasingly differentiated roles with respect to

subjects covered, levels of teaching, research, and their local and international aspirations. The growth and diversification of higher education will lead to an acceleration in the development of rankings, as would-be funders, students and employers target their applications, funding and activities more. It would, however, be wrong if such targeting led to a simplified first and second tier of institutions, and failed to recognise that diversity exists within universities between departmental roles and achievements.

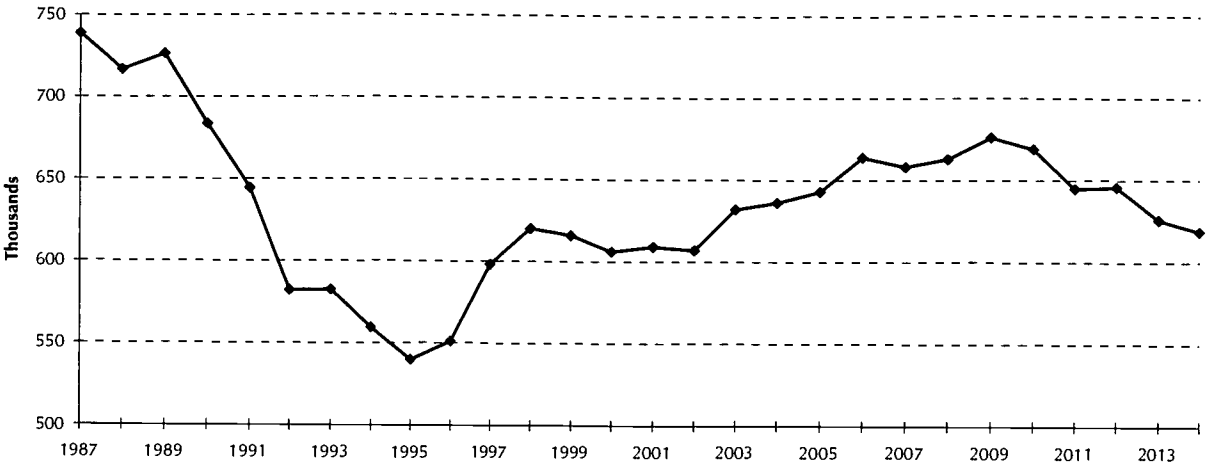
The graduate labour market has evolved through a period of rapid structural change and is now more fragmented and diverse. The characteristics of those graduating are increasingly diverse, in terms of personal factors, aspirations and their educational experience. The 'typical' graduate of the past (*ie* 21 years old, white, male with a good degree in a recognisable subject from a well known university) accounts for only a small minority, less than one in four, of those graduating. At the same time, the core demand from the main recruiters for new graduates will account for only a small minority, perhaps as few as one in eight, of the jobs being filled by graduates.

While the numbers graduating will not grow in the short term, they will for the foreseeable future remain in excess of the demand as set by the traditional graduate labour market. A degree will increasingly be a 'positional good' in the labour market, conferring advantages to degree holders in accessing jobs. The relative economic advantage is likely to fall as the supply has grown and graduate unemployment and under-employment will remain an issue. New graduates will be integrated more into the wider labour market. The traditional graduate labour market, which is the focus of much current attention, will be an increasingly small part of the interface between higher education and employment.

3. The Traditional Pool of Candidates for Higher Education

The government has indicated that it will lift the current cap on admissions to higher education. This chapter looks at the pool of young candidates who may be available to enter higher education in the coming years. It shows that there will be a small recovery in the numbers of young people due to demographic changes; this follows from the significant downturn experienced in the last decade. At the same time there is a rise in 'A' level achievements, one of the key drivers of entry to higher education, although there is a decline in the numbers taking 'A' levels in physics. The UK participation rates in education are also shown in an international context.

Figure 3.1: Estimated number of 18 year olds, 1987 to 2014



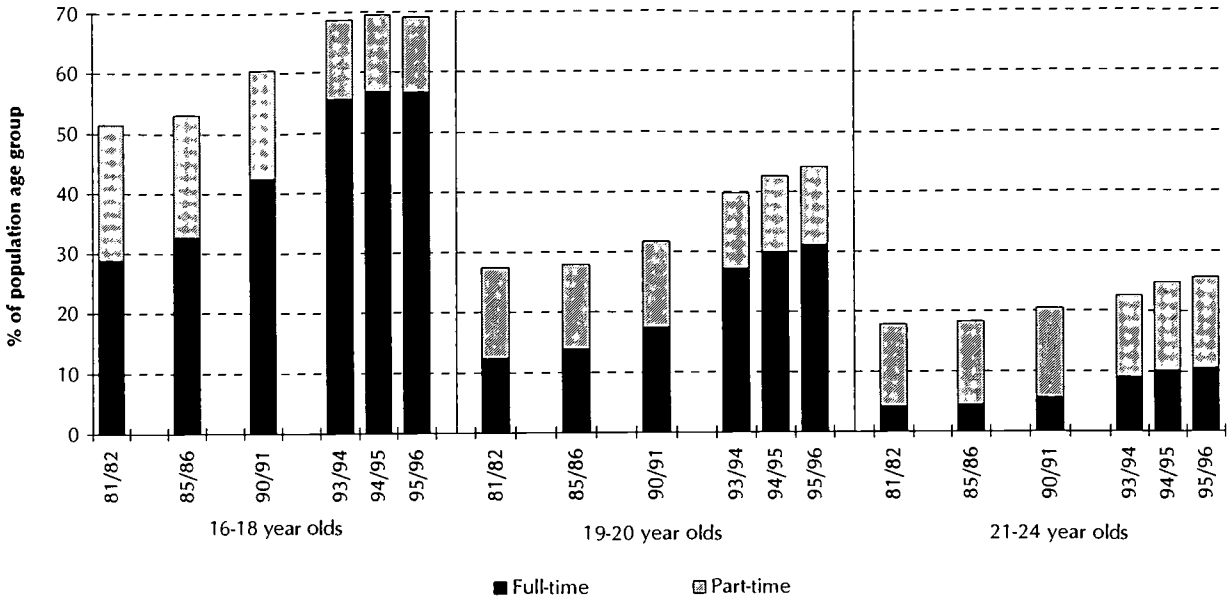
Sources: principal projection, projected populations at mid-year by age last birthday.
ONS (1994) National Population Projections - 1994 based
OPCS (various years) Key population and vital statistics: local and health authorities.

The future supply of new graduates depends to a large extent on the numbers of potential young entrants, *ie* those aged 18, who provide the majority, but not all, of the entrants to higher education (see Chapter 4).

- Following the 35 per cent downturn in the number of 18 year olds over the last decade, the number is predicted to grow between 1995 and 1998.
- At the millennium the number of 18 year olds is expected to level out, at around 600,000 pa, followed by some growth over the years 2002 to 2006.
- The increase in the number of 18 year olds over the next decade is not, however, as great as the 35 per cent downturn experienced in the decade to the mid 1990s.

There is a further dimension to participation in higher education, namely, attaining the required entry qualifications, this is considered next.

Figure 3.2: Post-compulsory education rates of participation

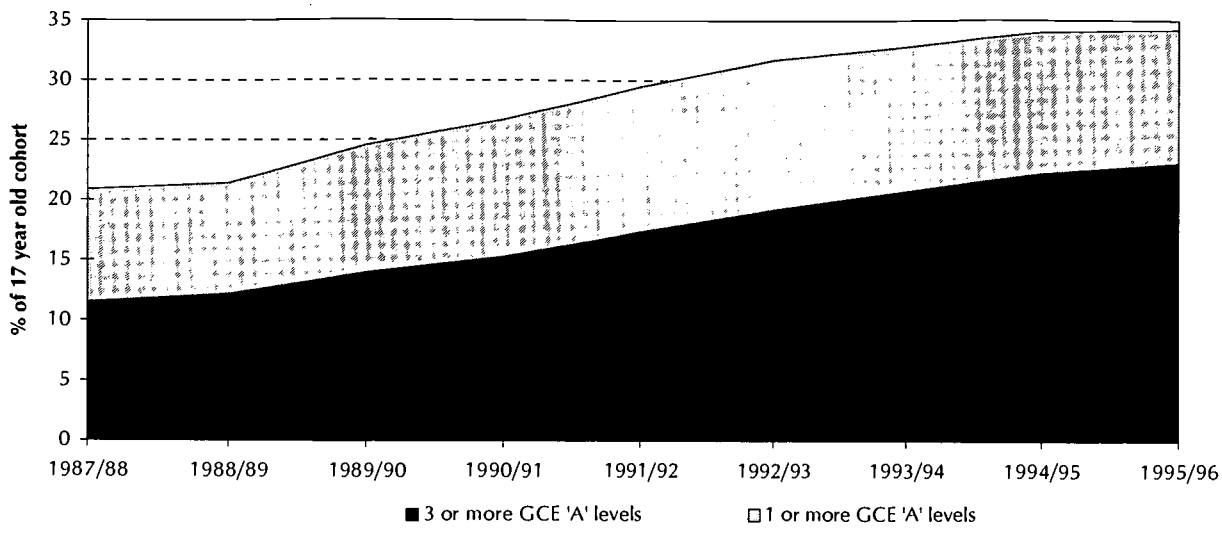


Source: IES/DfEE (1997) Figure 21(20)

Increasing participation rates in education at all levels is seen to be important for the individual and for society as a whole.

- The proportion of young people taking part in some form of education after their 16th birthday has risen since the early 1980s. The proportions have increased within each age group.
- There has, however, been little growth since 1993/94 in the proportion of those aged 16 to 18 engaged in post-compulsory education.
- In 1995/96 nearly seventy per cent of all 16 to 18 year olds were involved in some kind of full- or part-time education.
- Among the under 21s, *ie* those most likely to be commencing university courses, the main growth in participation has been among those studying full time.
- In 1981 just twelve per cent of 19 and 20 year olds were in full-time education. By 1995/96 nearly one-third of the age group were attending a full-time course.

Figure 3.3: 'A' level achievement of 17 year olds

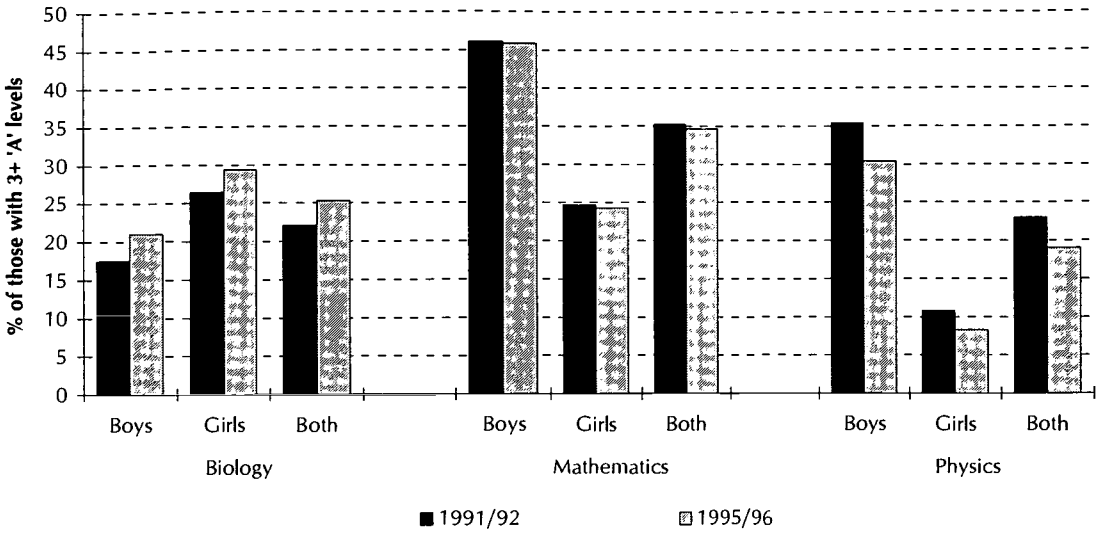


Source: IES/DfEE (1997b) Figure 12

The main cohort of entrants to higher education are those with 'A' levels.

- In 1995/96 over one-third of all 17 year olds gained at least one 'A' level. Twenty-two per cent of this age group had passed three or more 'A' levels.
- The proportion of 17 year olds obtaining 'A' level qualifications has risen steadily since 1987/88. This is true for those students gaining one or more 'A' levels and those gaining three or more 'A' levels.
- Between 1987 and 1996 the numbers obtaining one or more 'A' levels increased by 27 per cent.
- An even larger increase was seen in the numbers obtaining three or more 'A' levels, up by 56 per cent since 1987/88.
- This trend is expected to continue and, as the population of 18 year olds rises in the next few years, this means that there is likely to be further growth in the number of potential entrants qualified with 'A' levels.

Figure 3.4: 17 year olds with key science subjects as part of three or more 'A' levels

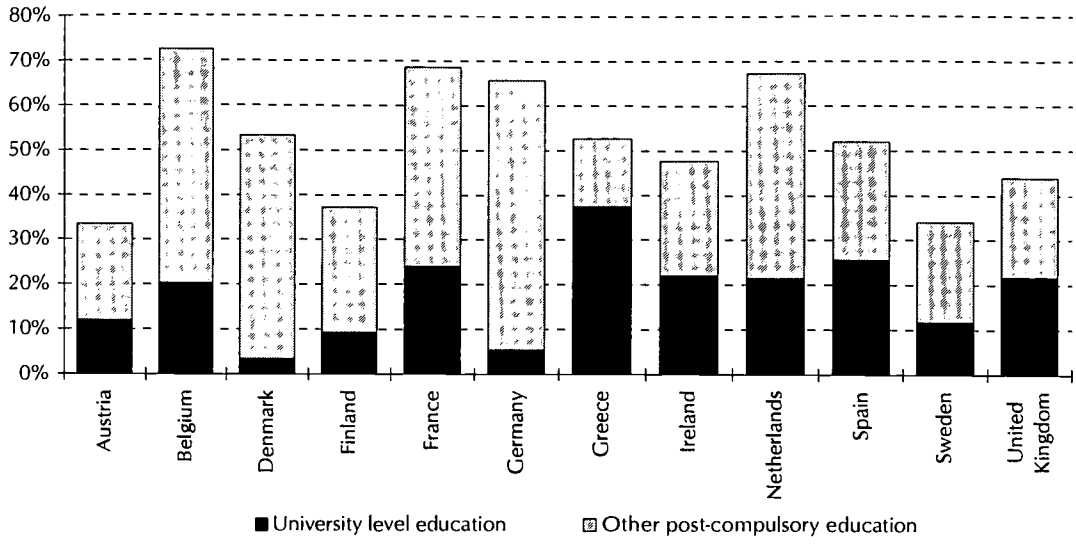


Source: IES/DfEE (1997b); DE (1993)

There has been a great deal of concern that the numbers studying science subjects in schools, and subsequently in higher education is inadequate for a competitive economy.

- In the five years to 1995/96 the numbers gaining three or more 'A' levels grew by 22 per cent.
- However, the overall numbers gaining 'A' levels in physics fell by 17 per cent over this period. Boys are still far more likely to study physics than girls; less than ten per cent of girls with 'A' levels had passes in physics in 1995/96.
- The overall numbers gaining 'A' levels in Maths, seen as fundamental to many science based careers, fell slightly over the four years to 1996. There is little difference between the sexes qualifying in maths.
- In contrast, the overall numbers gaining 'A' levels in Biology grew by 16 per cent in the four years to 1996. Girls are still far more likely than boys to study biology.

Figure 3.5: Participation in post-compulsory education by 19 year olds, European comparisons



Source: IES/OECD Education at a Glance, Figure P3

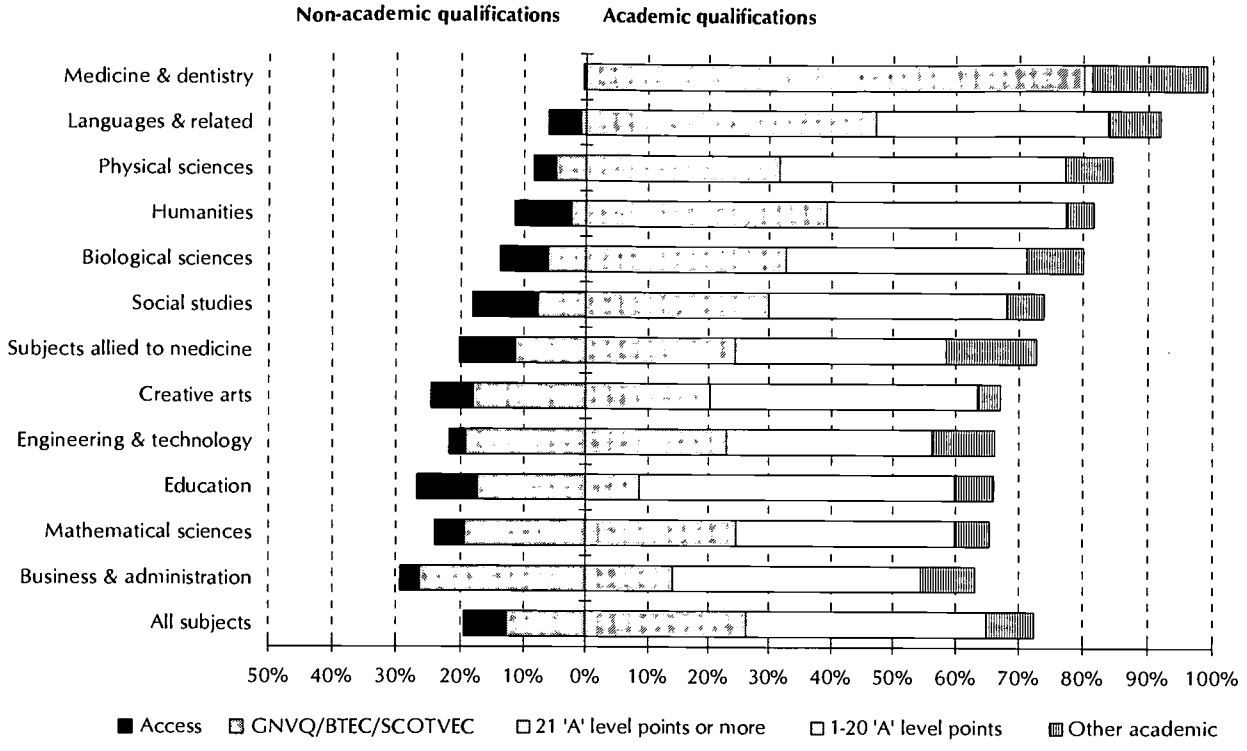
Due to great variation in national systems of education, it is difficult to make precise comparisons across European countries about the numbers in different levels of education. We focus here on the participation of 19 year olds, the typical age of entry to higher education.

- By European standards, the United Kingdom has fewer 19 years olds in post-compulsory education than in most European countries. Only Finland, Austria and Sweden have lower participation rates at this age.
- However, the proportion of 19 year olds in university level education is comparable to, or better than, the majority of European states, Greece and Spain having the highest university participation rates.
- Of more importance than participation rates are the numbers who actually graduate; this is considered in Chapter 5.

4. Admissions to Degree Courses

The characteristics of would-be students, their gender, age and previous qualifications, are important influences on the pattern of admissions and indeed on subsequent employment patterns. The availability of places and degree of competition for places is also a major consideration in the most popular subjects. This chapter highlights how the representation of those who entered higher education with vocational qualifications, of ethnic minorities, older students and women, varies greatly across the subject groupings, as does the level of competition for places as measured by 'A' level scores. It also shows how the proportions studying in their home region has been rising in recent years.

Figure 4.1: Academic/non-academic entry qualification, 1996 (home entrants to degree courses)



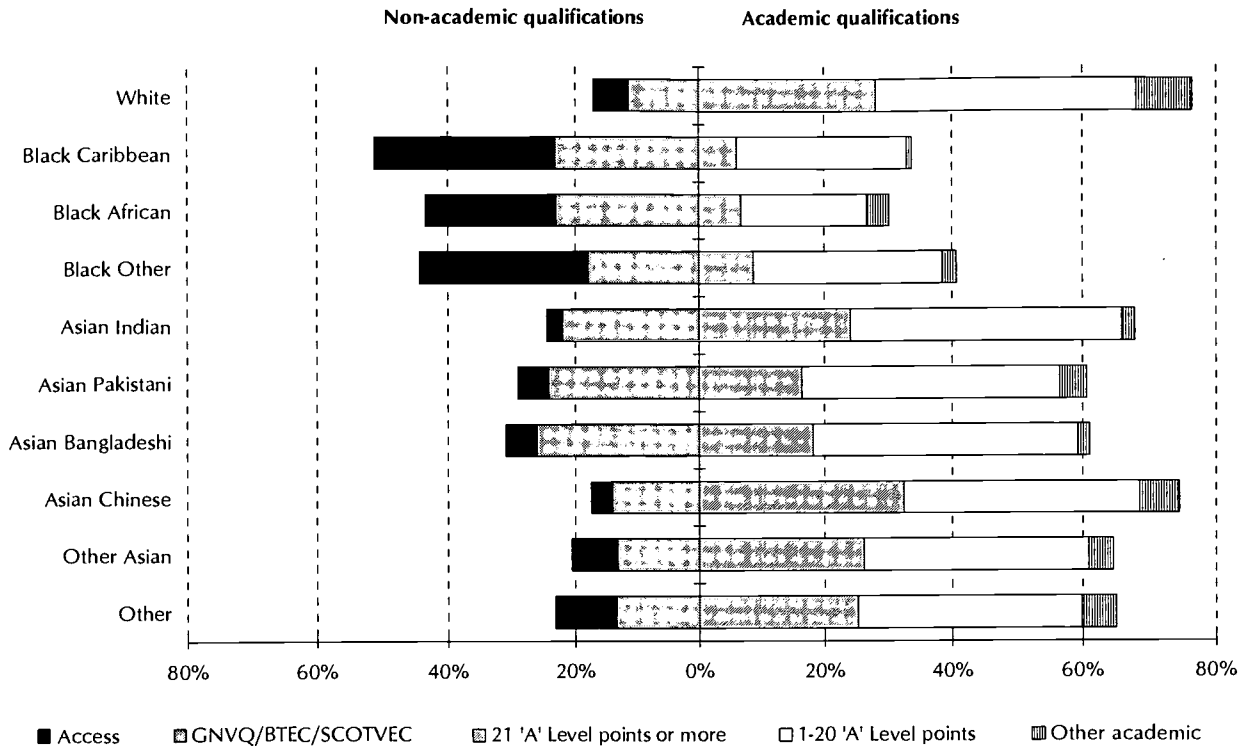
Note: In Scotland the majority of students take 'highers' rather than 'A' levels; these are classified as 'other academic' in the figure above

Source: IES/UCAS (1997a) Figure F2.1

The level of qualifications needed for entry varies greatly between subjects, as do the proportions entering with non-traditional qualifications, *eg* BTEC qualifications, or via access courses.

- Virtually all entrants in medicine and dentistry had academic entry qualifications, as did languages and related subjects.
- The highest proportions with non-academic qualifications were found in business and administration, engineering and technology, mathematical sciences, and subjects allied to medicine.
- Access courses were most significant in the case of those entering education, biological sciences, humanities, and social sciences.
- The degree of competition for places is illustrated by the entry standard as measured by 'A' level scores. Thus 80 per cent of medicine and dentistry students had obtained 21 or more points, (*eg* two B and one C grades). Other subjects requiring the highest 'A' level scores were languages and the humanities.
- In contrast, less than ten per cent of education students had high 'A' level scores.

Figure 4.2: Entry qualifications by ethnic origin, 1996 (home entrants to degree courses) where ethnic origin is known

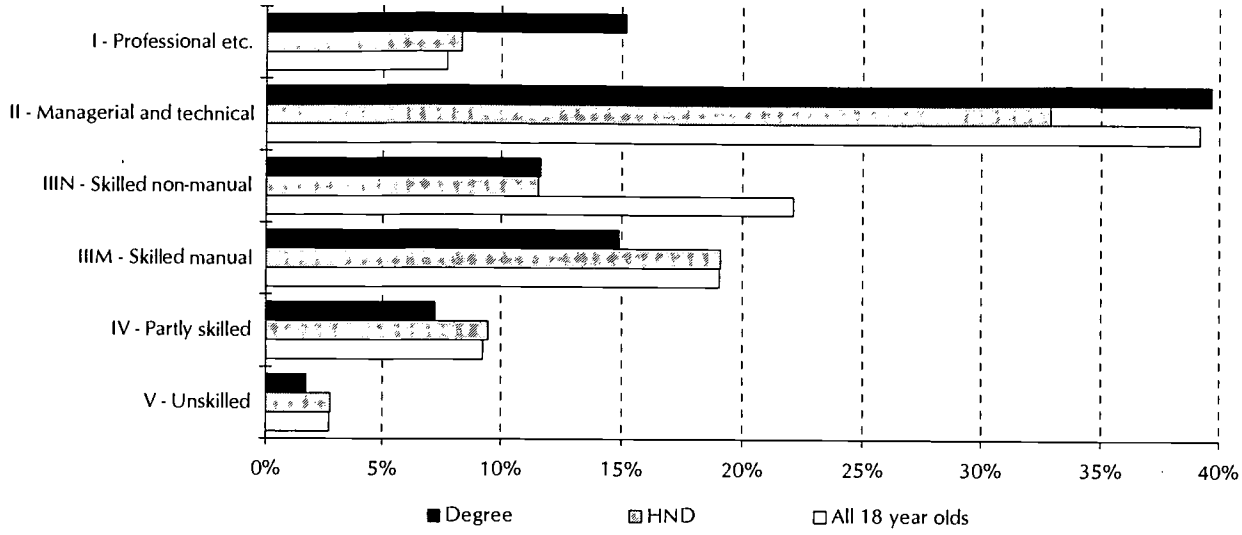


Source: IES/UCAS (1997a) Figure F6.1

There are significant variations between the entry qualifications of those from different ethnic groups.

- White students are the most likely to enter degree courses with traditional 'A' level qualifications, along with those of Asian Chinese origin.
- Black students are more likely to take Access courses for entry to degree courses and are the least likely to have 'A' levels; they also have the lowest proportion obtaining the highest 'A' level grades.
- The highest proportions with high 'A' level grades are found among the Asian Chinese and the white entrants, and those with other Asian (but not Indian subcontinent) backgrounds.
- Ethnic minorities tend to be clustered in a small number of 'new' universities.

Figure 4.3: Social class of degree and HND entrants, 1996



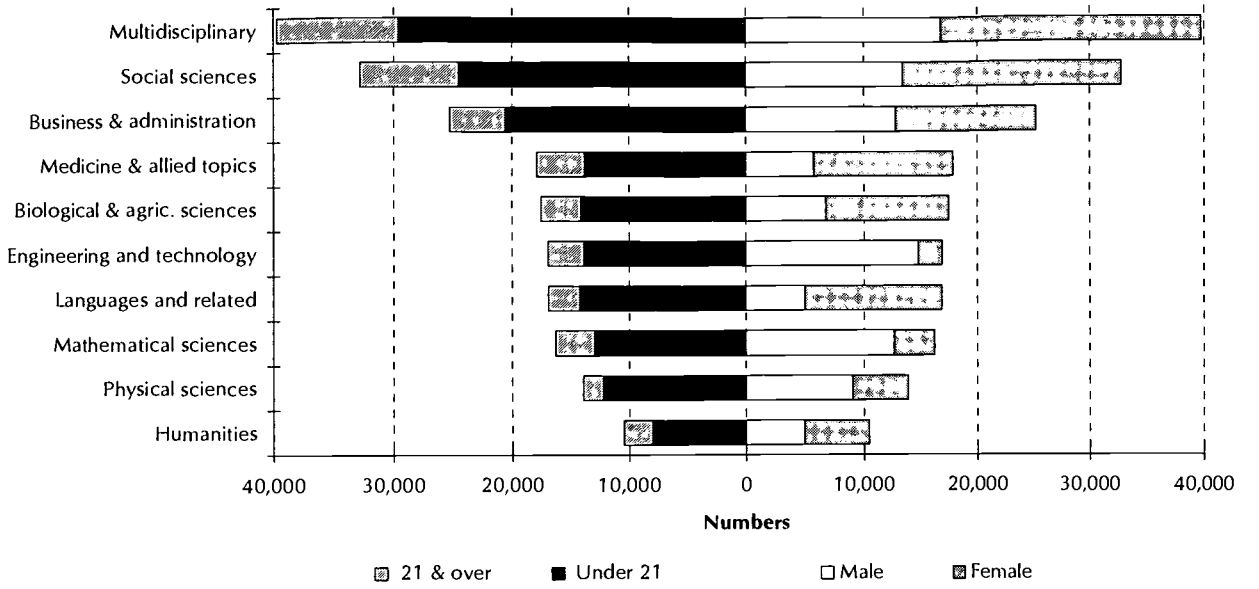
Note: All 18 year olds. Based on the SARs and using Eurostat population projections to generate age specific boost factors to account for Census undercounting.

Source: IES/UCAS (1997a) Figure H2.1 and H2.2

Students from the higher socioeconomic groups still dominate entry to higher education.

- Those entering first degree courses are more likely to be from a professional background than either those entering HND courses or the 18 year old population generally.
- The proportions entering first degree courses from each social class have only changed slowly over the last decade.
- Higher proportions of students from social classes skilled manual, partly skilled and unskilled choose HND courses over first degree programmes.
- A lower proportion of students enter higher education at first degree and HND level from skilled non-manual backgrounds than would be expected, given the social class distribution of 18 year olds.
- Four out of ten medicine and dentistry entrants came from a professional background, compared to ten to 20 per cent in most other fields of study.

Figure 4.4: Admissions by subject, age and gender, 1996 (home first degree, full-time students)



Source: IES/UCAS 1997a Figures B2.1 and D4.1

The traditional gender differences are still evident in terms of subjects studied; mature entrants also tend to cluster in certain subjects.

- Women now account for 52 per cent of entrants to first degree courses.
- Women entrants are a significant majority in certain subjects, *eg* those in medicine and allied subjects (68 per cent), biological sciences (62 per cent) and languages (71 per cent). Women are still in small minorities in engineering, technology and mathematical sciences.
- With the widening of access to HE for non-traditional students, 22 per cent of entrants are now 'mature' (*ie* aged over 21) with 13 per cent of entrants aged 25 or over.
- There are equal numbers of men and women among the young entrants; among those aged 21 to 29 there were more men than women, while women were the largest proportion of those over the age of 30.
- Subjects such as multi-disciplinary courses, the social sciences and humanities attract particularly high proportions of mature entrants; relatively few enter the physical sciences.

Figure 4.5: Those entering a university in their home area, 1994 to 1996 (per cent)

Region	1994	1995	1996
North	41.4	43.7	46.3
Yorkshire & Humberside	40.5	44.5	46.3
East Midlands	28.4	28.8	30.3
East Anglia	15.9	16.4	17.8
South East	61.6	58.3	59.1
South West	29.8	32.4	33.3
West Midlands	32.8	34.8	36.3
North West	42.1	44.9	46.5
Wales	48.0	48.7	52.2
Scotland	91.2	91.3	92.0
Northern Ireland	58.7	59.9	55.6

Source: IES/UCAS 1996a and 1997a Figure E1.1

Students are increasingly likely to choose a university in their home region, the main exception are those students from Northern Ireland and the South East.

- This is in part due to the changing profile of students entering higher education (*eg* more mature students who are less mobile) while the rising cost of study and living away from home is another factor.
- There has been a small fall in the proportion staying to study in the South East. This is thought to be because this is the region with highest relative costs.
- The vast majority of Scottish students go to a Scottish university.
- The location of study is an influence on patterns of job search, as shown in Figure 7.5.

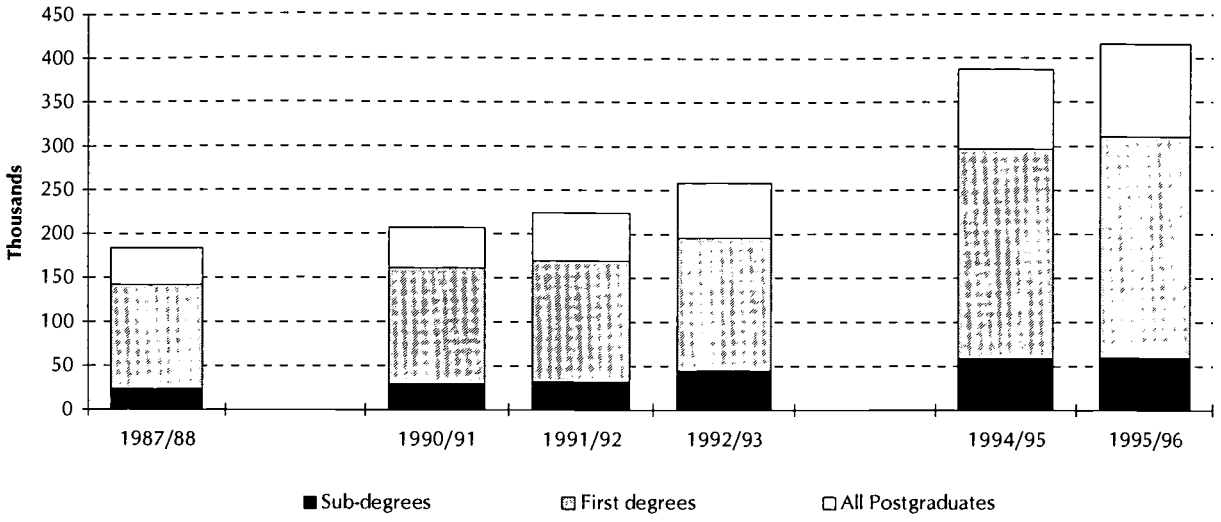
5. Graduate Output

The numbers graduating are an important indicator of the potential flow of highly qualified candidates available to enter the labour market.

While many jobs are open to candidates with the right personal characteristics and regardless of degree subjects, the number graduating in subjects such as the sciences and engineering are of important for certain employers.

This chapter shows how the numbers graduating have grown in the last decade, along with the current output in different subject groupings and with sub-degree, first degree and postgraduate qualifications. It shows the proportions on sandwich courses, and sponsorship by employers. The UK graduate output is shown to be high in an international context.

Figure 5.1: Numbers graduating 1987/88 to 1995/96



Source: HESA (1997a) Figure 8; HESA (1996a) Figure 8; HESA (1995) Figure 20

The last decade has a been a period of unprecedented expansion in higher education.

- The numbers graduating at all levels have doubled since the mid 1980s. The main growth has been in the numbers graduating with first degrees and postgraduate degrees.
- Over 300,000 students graduated with higher education qualifications in 1996. The majority of these were first degree graduates.
- The numbers graduating in the UK match those of our international competitors, as shown in Figure 5.5.

Figure 5.2: Graduates by subject,* 1995/96

	First degrees	Other undergraduate	Postgraduates
Subjects allied to medicine	9,795	5,498	776
Biological sciences	13,312	829	1,055
Mathematics and physical sciences	17,193	1,056	2,070
Computer science	8,682	2,532	1,657
Engineering and technology	21,689	3,251	3,632
Social, economic and political studies	20,252	2,889	4,011
Business and administrative studies	26,187	7,335	5,408
Languages	15,928	462	1,407
Humanities	10,072	85	971
Creative arts and design	16,446	2,845	1,965
Education	13,829	574	18,245
Combined	26,296	1,658	475
Other subjects	26,945	3,622	7,354
Total (N):	*226,626*	*32,636*	*49,026*

*Qualifications obtained by full-time UK students

Source: IES/HESA (1997a) Figure 14a

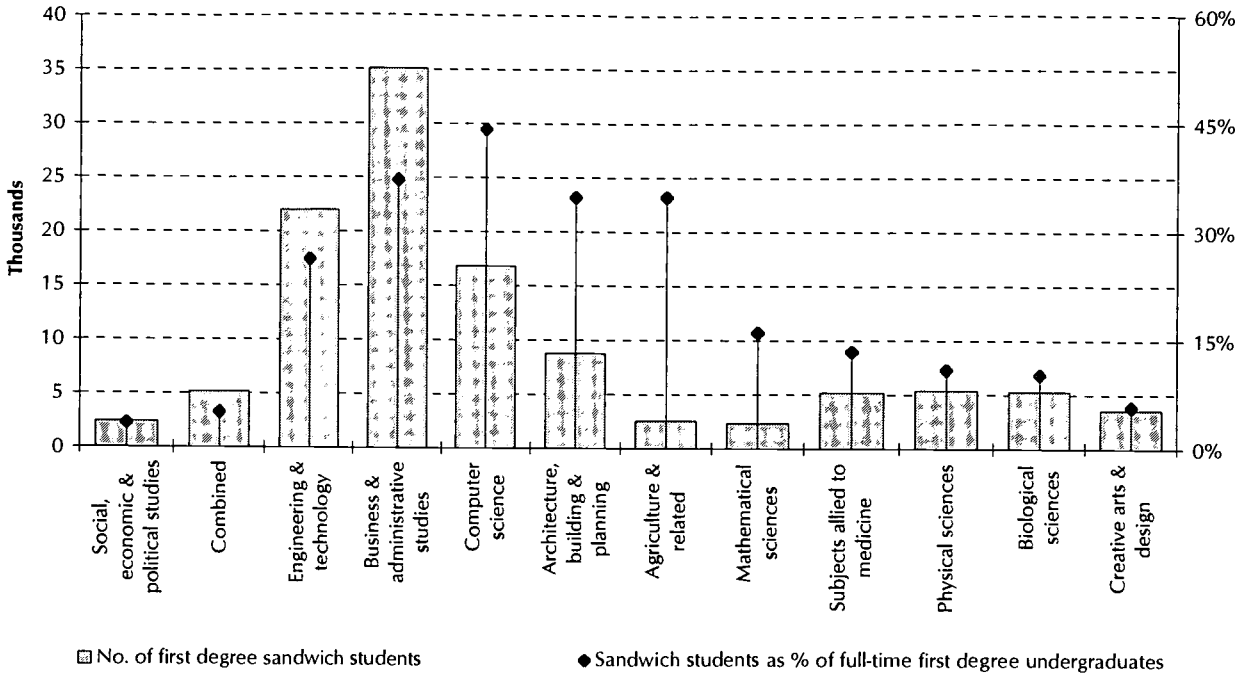
Those graduating with first degrees dominate the output of higher education.

- The largest subject groups at first degree level were business and administration, engineering and technology; social, economic and political studies.
- The same subjects account for a large proportion of post-graduate degrees.

Degree class

- Separate data show that over eighty per cent of graduates receive a second class degree, with more upper seconds awarded than lower seconds.
- More men achieve either the highest or lowest grades when compared to women who have a higher proportion obtaining second class degrees. This pattern is, in part, a reflection of the subject differences between men and women.
- The proportions of first class and upper second degrees are very similar to those in 1994/1995.

Figure 5.3: Sandwich course students by subject, 1995/96

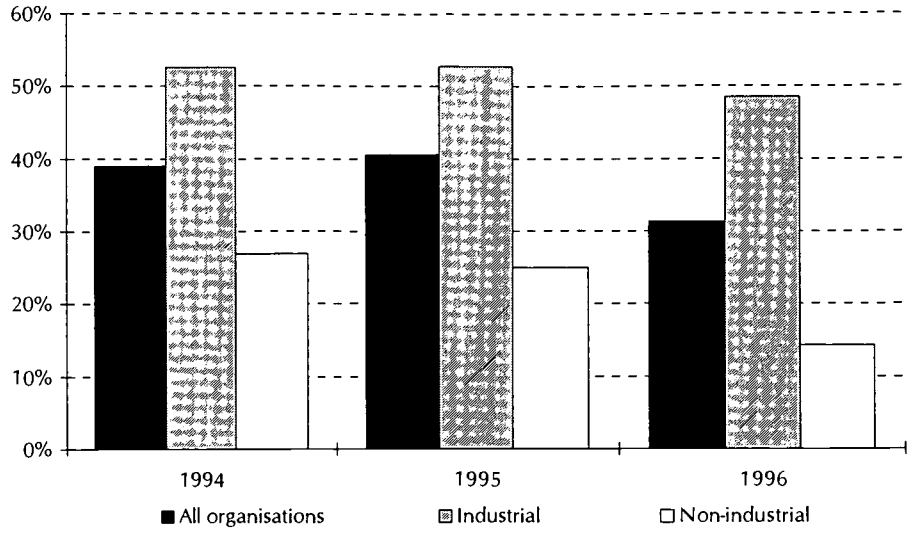


Source: IES/HESA (1997a) Figures 2a and 7

One of the Dearing Inquiry's main recommendations was the need to ensure that all graduates undertake some form of work experience.

- Approximately 14 per cent of full-time first degree students are on sandwich courses.
- The highest proportions of sandwich students are to be found in catering (57 per cent), computer science (44 per cent), building (51 per cent), engineering and technology (26 per cent) and business management (44 per cent).
- Within the major engineering disciplines, the proportion of first degree students whose course includes an element of work experience varies widely, from a high of 44 per cent in production engineering to a low of 23 per cent in electronic engineering.
- Many more students have work experience either prior to their entry to their course, as is the case with most mature entrants, or because they work during term time or vacations to supplement their incomes (see Figure 6.1).

Figure 5.4: Major recruiters[1] sponsoring graduate recruits in their final year



Source: IES/AGR (1997)

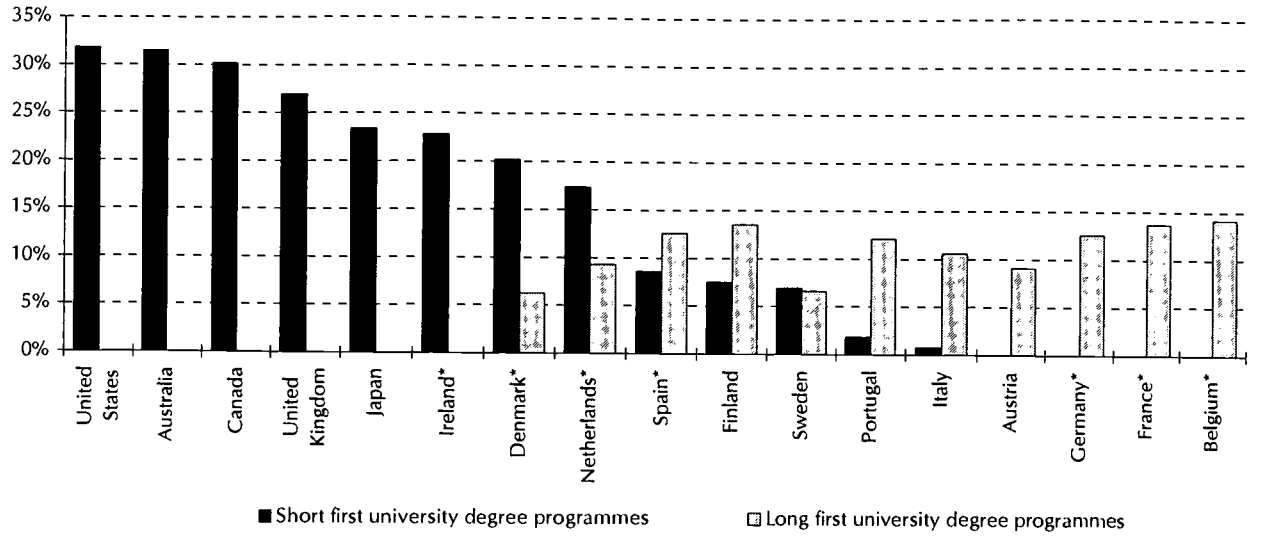
Many of those on industrial placements have a sponsorship arrangement with an employer.

Among the major gradate recruiters:

- organisations in the industrial sector were more likely to be sponsoring students than those in the non-industrial sector. Where sponsorship took place in the service sector, the number of students on each scheme was generally larger.
- in sponsoring organisations, sponsored students accounted for around one-fifth of new graduate recruits.
- compared to 1994, the proportion of organisations with sponsorship arrangements has decreased overall from 38 per cent to 31 per cent in 1996, despite the growth in employers experiencing recruitment difficulties.
- the decline in sponsorship is particularly marked in the non-industrial sector.

[1] *ie*, members of the Association of Graduate Recruiters (AGR).

Figure 5.5: Graduate[1] output, international comparisons 1994



*1993 data

Source: IES/OECD Education at a Glance, Figure R12.1

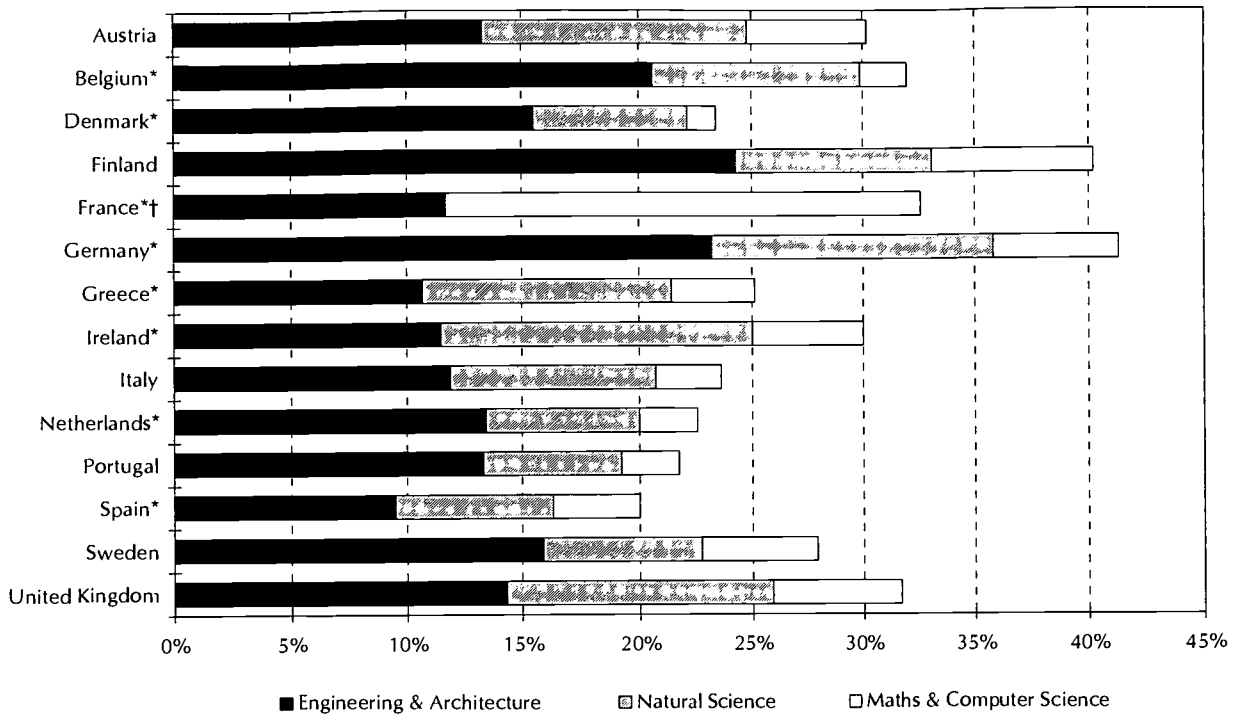
There are significant differences in the national systems of higher education, with many countries having longer degree programmes than the typical three to four years in the UK and Ireland.[2]

- In the majority of European countries, graduates study on degree programmes lasting five years or more.
- The UK output of graduates is among the highest in Europe, and exceeds that in Japan.
- The UK output does, however, lag slightly behind that in north America and Australia.

[1] Ratio of tertiary level graduates to population at the typical age of graduation.

[2] Short first degree programmes are typically four years long, or less.

Figure 5.6: University graduations in key science and technology subjects, European comparisons 1994 (as a share of all graduations)



* 1993 Data
† Maths & Computer Science include Natural Science

Source: IES/OECD Education at a Glance, Figure R14

The proportion and numbers graduating in science and technology subjects are of particular importance to manufacturing and high technology sectors.

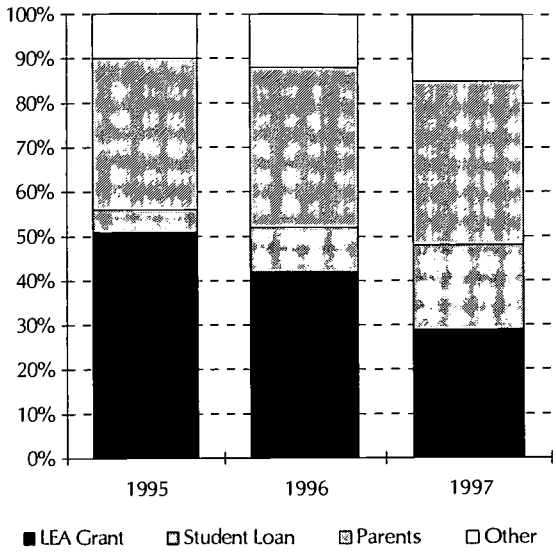
- In the UK a lower proportion of those graduating have qualifications in engineering and architecture than do in Finland, Germany and Belgium.
- The percentage of natural science graduates within the total population graduating varies from approximately six to 13 per cent between European countries. Around 12 per cent of UK graduates have read these subjects.
- The proportion of graduates in Maths and Computer Sciences in the UK is quite high by European standards.

6. Student Finances

Following on from the Dearing Inquiry, the government's plans that students starting degree courses in 1998 should pay a contribution towards their tuition fees, while the maintenance grant will be abolished, have provoked controversy (Chapter 2).

This chapter presents data about student income, student debt, salary expectations and subsequent salaries. They show rising levels of term-time working and debt among students, with decreasing proportions reaching the loan repayment threshold in their first year of work.

Figure 6.1: Sources of student income

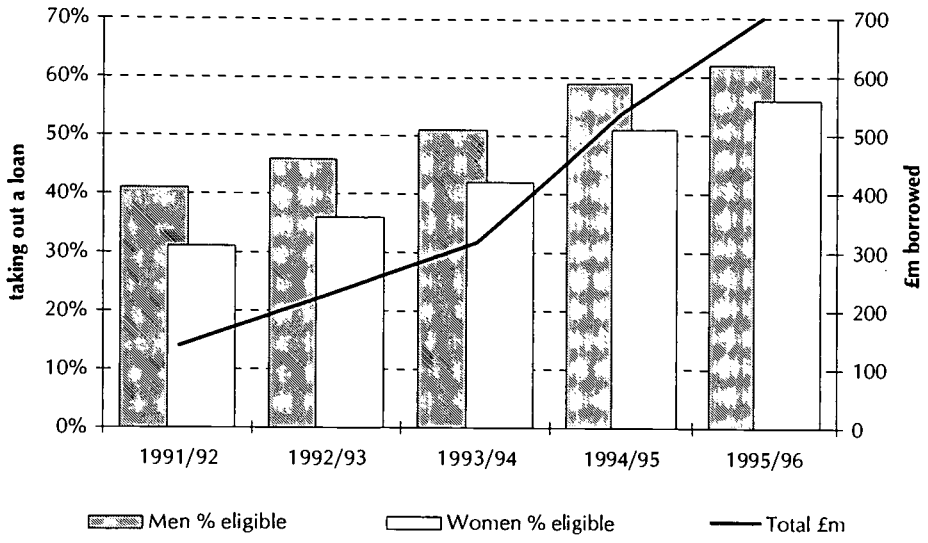


Source: IES/Barclays Student Survey, 1997

Data on student income is of increasing interest given the introduction of student fees and the abolition of the maintenance grant.

- In 1995 the local education authority means-tested grant accounted for around half of student income. By 1997 the LEA grants, which had fallen in value, then accounted for less than one-third of students' income. They will be abolished for students starting in 1998.
- The proportion of student income from loans has increased over the past three years, up from around five per cent to approximately 20 per cent of income.
- Student income is increasingly being topped up with money from other sources. About 30 per cent of students worked during term time, on average, around 12.8 hours per week. Additionally, 81 per cent reported working during the summer vacations.
- Parental contribution as a proportion of income has remained stable.
- The growth in student borrowing can also be seen in Figure 6.2 which also displays the gender differences in student loan take up.

Figure 6.2: Take up of student loans and total borrowing



Source: IES/HESA (1997c) Figure 19. Includes some estimated and provisional data

- The proportion of eligible students taking up Student Loan Company loans has increased from around one-third to one-half between 1991/92 and 1995/96.
- Men have consistently taken out loans more readily than women, although the difference has narrowed over time. This may in part be due to a difference in men and women's expectations of their future earnings, with women expecting to earn less once in employment, as noted in Figure 6.3.
- The overall amount borrowed has risen from under £100m to £700m in the last five years.

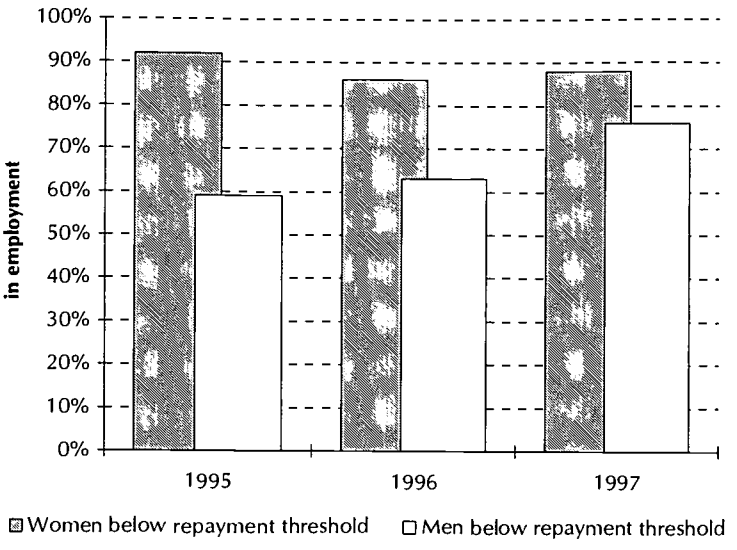
Figure 6.3: Student Salary Expectations and New Graduates Earnings

	Expectations: 1997 students £	Reality: 1996 graduates £	Difference %
Men	14,295	13,660	-4
Women	13,418	11,749	-12
Maths & science subjects	14,107	11,560	-18
Arts subjects	13,369	11,016	-11
Vocational and applied	14,348	13,609	-5
Social sciences	13,776	11,440	-17
Multi-disciplinary	13,285	13,263	0
All students	13,843	12,697	-8

Source: IES/Barclays Student Survey, May 1997; Barclays Graduate Survey, February 1997

- In 1997, graduates expected to earn on average £13,843. That was below the median salary being offered by the major recruiters (Figure 7.6), who account for only a minority of the jobs in the market. It was, however, above that which graduates achieved in 1996, even when allowance is made for the three per cent increase in graduate starting salaries over this period.
- Men expected their earnings to be around £14,295 a year. This was some 12 per cent higher than the expectations of women. This may be attributable to the types of job women expect to accept, or a more realistic assessment of the market, *eg* a higher incidence of part-time, unpaid, or temporary work.
- Students from maths and science, and social science courses over-estimated their future earnings the most.
- The highest salaries were expected by students from Imperial College, Oxford and Cambridge, and among students aiming for careers in Investment Banking, Management Consultancy and Actuarial work.
- Students with their sights set upon careers in education, the media and the voluntary sector had lower salary expectations.

Figure 6.4: New graduates'[1] salaries and the Student Loan Company repayment threshold



Source: IES/LFS Spring quarters

Students' choices about higher education and how much they should borrow will be influenced by their expectations of future earnings. One measure that may become significant is the proportion who, in their first year of earning, meet or exceed the student loan repayment threshold which is set each year at 85 per cent of national average earnings.

- The proportion of male new graduates whose salary is below the repayment threshold has increased from just under 60 per cent in 1995 to approximately three-quarters in 1997.
- Substantially fewer women reach the repayment threshold. Between 1995 and 1997 the percentage reaching the threshold varied but never exceeded 15 per cent.
- This data is only partial in that it only covers new graduates in employment. Those in further study, unemployed, *etc.* will not be repaying their loans. Students may also have other creditors who need repaying.
- An increasing proportion of those who should be entering their first year of loan repayment are being granted a deferment; in 1995, two-thirds were not obliged to begin repayments on grounds of no or low income. Seventeen per cent of students graduating in 1991 had not begun repayment by March 1996. (Student Loans Company, Annual Reports).

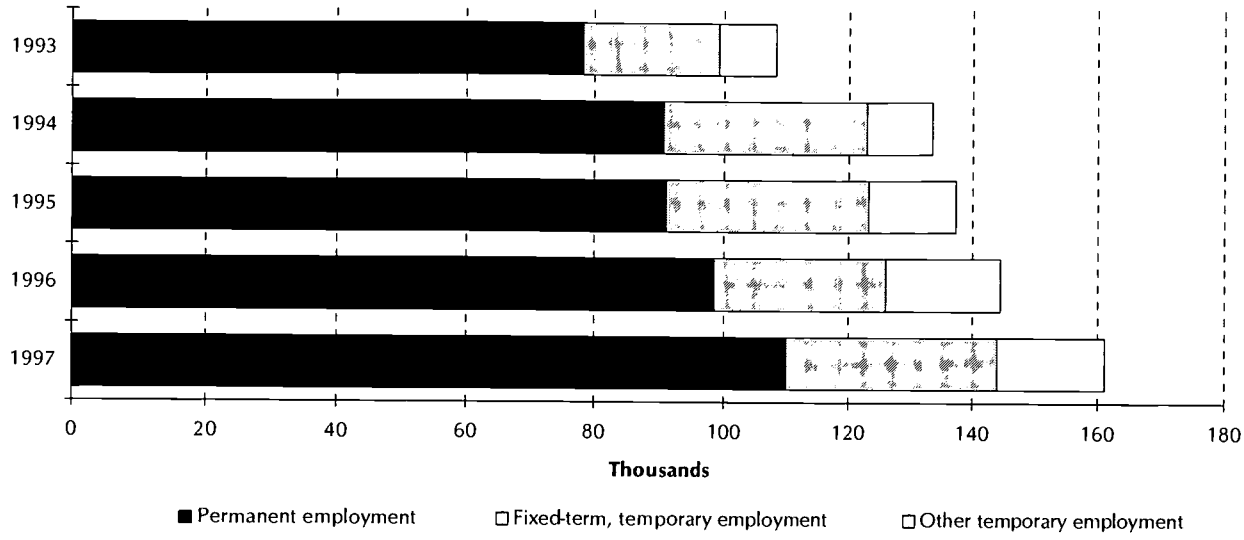
[1] 'New graduates' in the LFS: A definition was proposed by ONS for new graduates: those who were full-time students one year ago, who are no longer in full-time education, and whose highest qualification is a degree or higher degree. The data to create this definition is only collected in the Spring quarter of the LFS, and therefore measures new graduates' economic activity approximately nine months after graduation. All figures using this definition are for Great Britain only.

7. Moving Into Employment

While a significant minority of first degree graduates stay on for further study, the flow of new graduates into employment is a key indicator of the match between higher education and the labour market. In recent years the time taken for graduates to settle into employment and careers has, however, been lengthening (Chapter 2.3).

This chapter shows how the numbers entering employment have been increasing in recent years, although the proportion entering temporary work has risen and the level of the jobs entered has declined. It also shows the proportions going to various destinations, how these vary according to subject studied, and the extent to which graduates move to jobs in their home region. The final section shows how initial salaries among the major recruiters while rising, largely track the average earnings index, and how the unemployment rate has been falling in recent years.

Figure 7.1: Graduates entering employment, 1993 to 1997



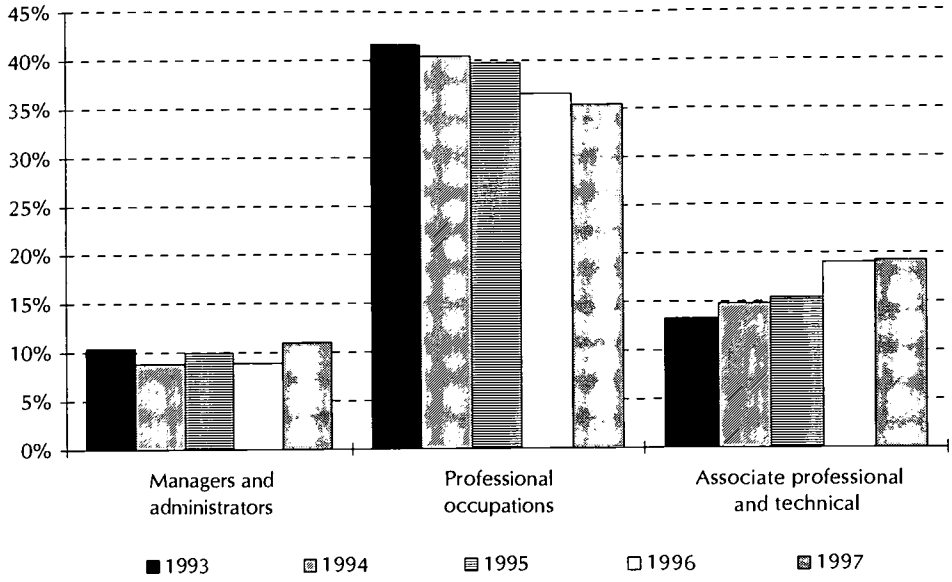
Source: IES/LFS Spring quarters, 1993-1997

As the numbers graduating have increased so have the numbers entering employment.[1]

- Over the last five years the number of new graduates (*ie* those who had graduated in the previous year) moving into employment has increased dramatically, up by 50 per cent.
- The majority, and a rising number, obtained permanent employment.
- However, the proportion in temporary employment of all types increased, from 28 per cent of new graduate employees in 1993, to 32 per cent in 1997.

[1] The traditional trend analyses from the 'First Destination Statistics' are no longer available, due to classification changes.

Figure 7.2: New graduates' occupations, 1993 to 1997

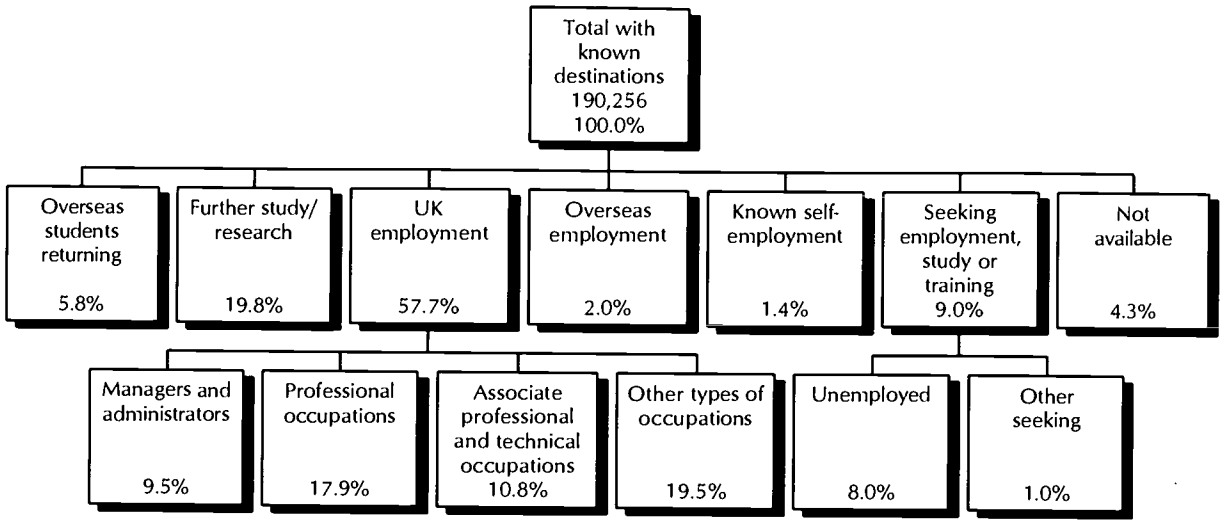


Source: IES/LFS Spring Quarters, 1993-97

While the numbers entering employment have grown in recent years, their initial occupational profile has changed.

- The proportion of new graduates in managerial level employment approximately nine months after graduation has remained at around ten per cent.
- The proportion in professional occupations has declined.
- Increasing proportions of new graduates have found associate professional and technical appointments approximately nine months after graduation.

Figure 7.3: First destinations of first degree graduates, 1996



Source: IES/HESA (1996b) Figures 1a, 4d, 4e, 4f

The first destinations of graduates reflect both economic conditions and the numbers graduating. In 1996:

- according to HESA data, over half of those graduating with first degrees, and whose destination were known, were in UK employment six months after graduation
- a further three per cent were in overseas employment or self employment
- the main occupational groups entered were professional, managerial, and associate professional and technical
- approximately eight per cent were unemployed
- one-fifth went on to further study or research.

These proportions are not dissimilar to those in the late 1980s when the economy was also buoyant but the numbers graduating were much smaller.

Figure 7.4: First destinations of home first degree graduates, by subject group, 1996

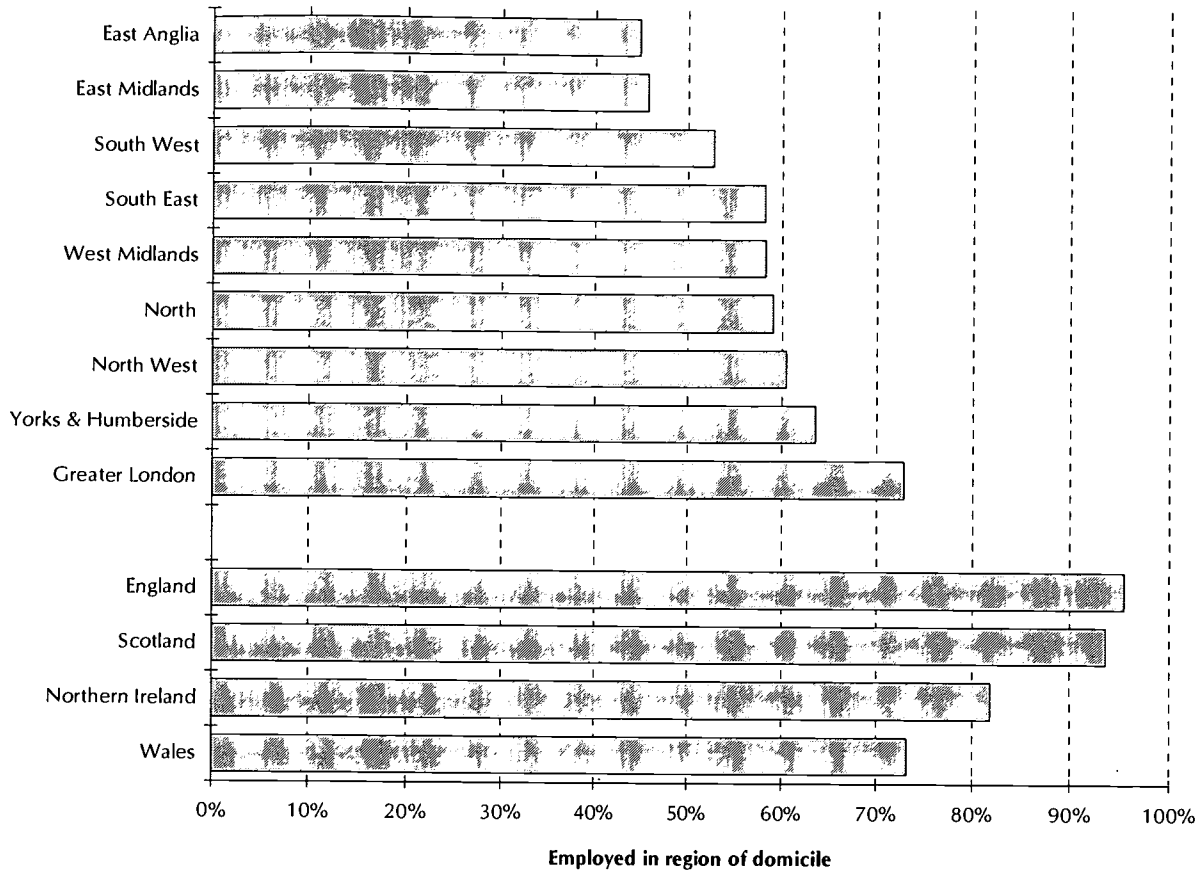
	Full-time UK employment	Other Employment	Further study/ research	Unemployed
Subjects allied to medicine	74.9	6.7	10.3	4.7
Biological sciences	45.9	8.1	29.6	9.0
Mathematics and physical sciences	44.2	9.8	31.5	8.5
Computer science	75.9	4.6	8.5	7.7
Engineering and technology	68.7	3.7	14.3	8.7
Social, economic and political studies	54.8	9.1	19.0	9.4
Business and administrative studies	71.7	5.6	7.5	8.6
Languages	50.3	7.8	27.4	7.4
Humanities	45.1	8.7	30.1	8.3
Creative arts and design	45.8	16.3	17.4	11.8
Education	76.6	10.9	3.2	5.7
Combined	50.4	7.8	24.2	9.7
All subjects	*58.1*	*7.5*	*20.0*	*8.2*

Source: IES/HESA (1997b) Figure 2f

The first destinations data reveal some marked differences by field of study.

- Computer science and business studies, along with medicine and dentistry, subjects allied to medicine, and education all have in excess of 70 per cent of their graduates in full-time work six months after graduation.
- Nearly one-third of those graduating in maths, and physical and biological sciences, undertake further study, as do one-third of humanities graduates.
- Unemployment rates show only limited differences between subjects. The range is seven to nine per cent, with lows in education and subjects allied to medicine, and a high of nearly 12 per cent in creative arts and design.
- The data also show that the better a graduate's degree class, the less likely they are to be unemployed.
- Among those going on to further study or research, four out of ten obtaining a first began a higher degree by research (generally a PhD), while only 13 per cent of those with an upper second did so.
- Women are more likely than men to take employment in the UK, whatever level of qualification has been obtained.
- More than 60 per cent of sub-degree graduates in engineering, business studies, computer science and physical sciences stay on for further study.

Figure 7.5: Graduates in employment working in the region they resided in before entering HE, 1996



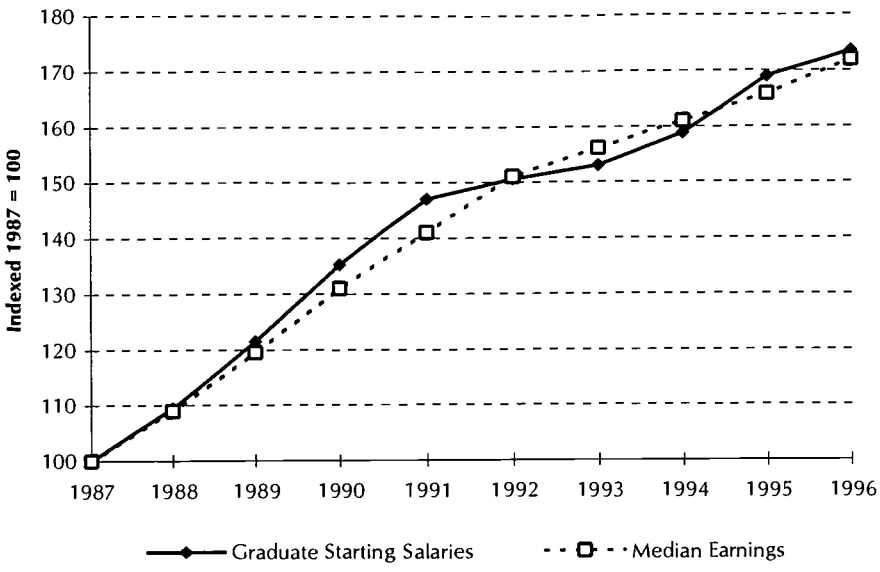
Note: Includes only those for whom both region of domicile and region of employment is known.

Source: IES/HESA (1997b) Figure 6

The place where graduates obtain employment is closely linked to home region.

- Welsh and Northern Irish graduates are more geographically mobile than their English and Scottish counterparts.
- More than 70 per cent of London graduates return to work in their home area, compared to less than half of East Anglian and West Midlands students. This pattern is partly a reflection of the availability of jobs. However, many employers in the regions said that they no longer sought recruits from Greater London as they were particularly unwilling to relocate. Such evidence is a sign of the growing regionalisiation of the labour market.

Figure 7.6: Starting salaries for new graduates with major recruiters,[1] compared to non-manual median earnings, 1987 to 1996



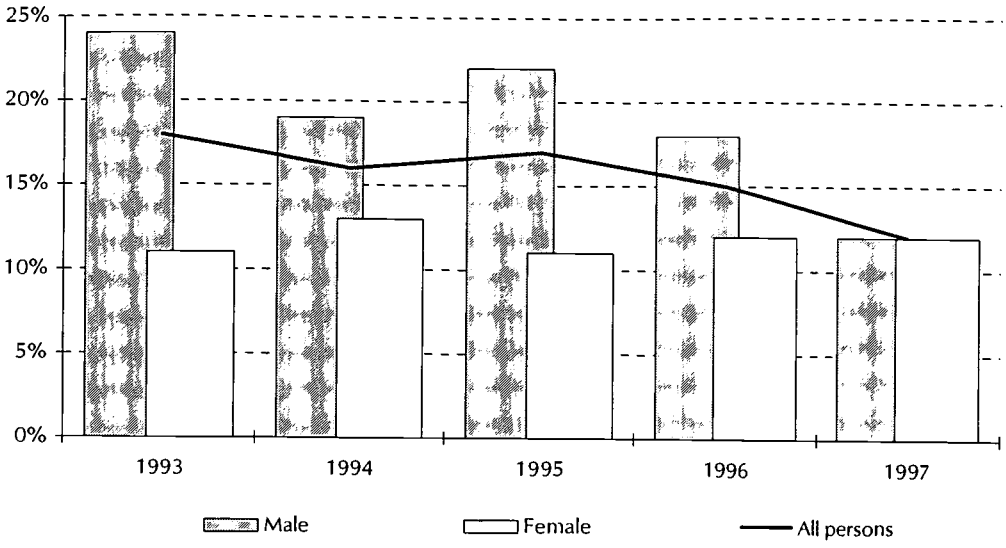
Source: IES/AGR 1996

Time series data on graduate starting salaries offered by the major recruiters have been available for more than a decade.

- Changes to median starting salaries for graduates entering the main recruiting companies have followed changes to average earnings over the last decade, rising slightly faster in boom times and slightly slower in times of recession.
- Median starting salaries for new graduates are expected to rise by 3.3 per cent to £15,500 this year.
- There is, however, a very wide range of salaries on offer. The difference between the highest paying and lowest paying ten per cent of organisations is £6,210 pa, greater than in 1996.
- Ten per cent of organisations are offering starting salaries in excess of £20,000, with a minority paying over £20,000 pa.
- One-quarter of organisations are offering starting salaries of under £13,800.
- Many graduates also enter jobs where the salaries are £10,000 or lower.

[1] *ie*, members of the Association of Graduate Recruiters (AGR).

Figure 7.7: Unemployment among new graduates, 1993 to 1997, ILO definition



Source: IES/LFS Spring quarters 1993-1997 GB

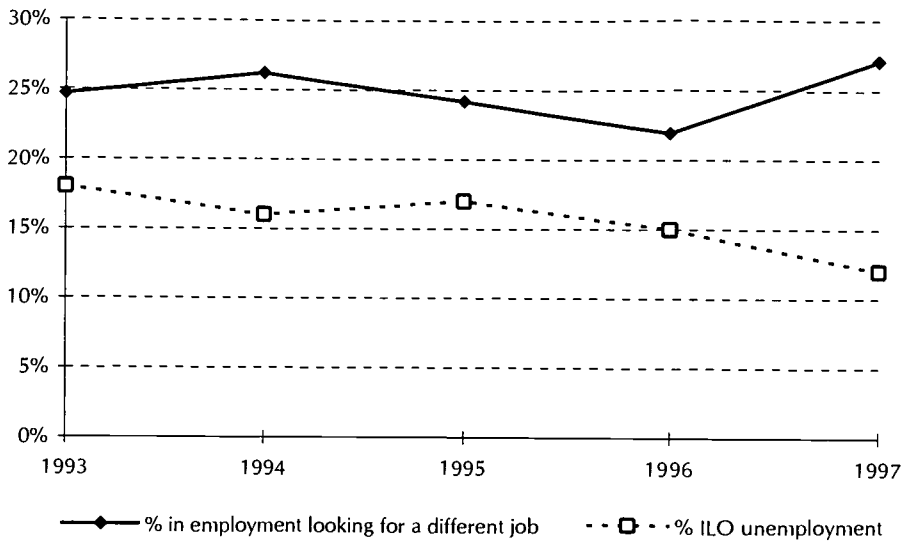
- Graduate unemployment[1] has shown a general downward trend in the past five years, mirroring the decline in overall unemployment as the economy has expanded.
- For the first time, male and female graduate unemployment has equalised. In the past, men were much more likely to be unemployed.

[1] This measure of unemployment developed by the International Labour Organisation relates to the proportions available for and seeking work, as a percentage of the economically active. It differs from the First Destination Figures (Figure 7.3, 7.4) by excluding those who go on to further study. For this reason the ILO unemployment figure appears higher. The ILO figure also measures unemployment nine, rather than six, months after graduation.

8. Longer-Term Career Patterns

As graduates are taking longer to settle into the labour market (see Chapter 2.3) it is important to look at the employment experiences beyond the first few months after graduation. This chapter shows how, as time passes, more move into employment, progress their salaries, and receive more training than non-graduates.

Figure 8.1: Unemployment and job search among new graduates, 1993 to 1997

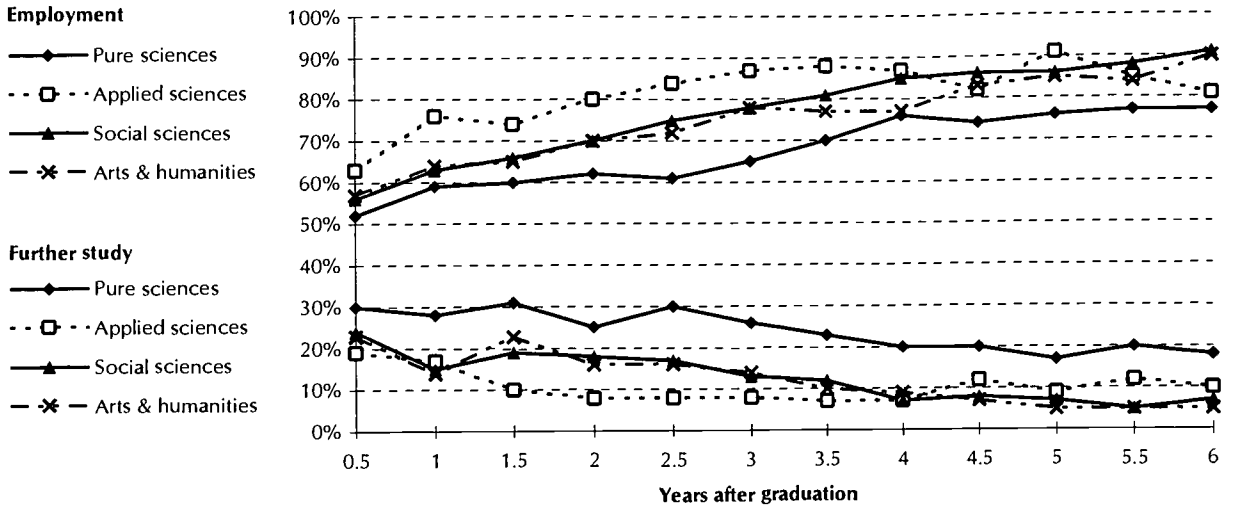


Source: IES/LFS Spring quarters, 1993-1997

As noted in Figure 7.7 unemployment among new graduates has shown a general downward trend over the past five years, mirroring the decline in overall unemployment.

- While the unemployment rate has fallen, the percentage of new graduates in employment seeking a different or additional job has recently risen from 21 to 27 per cent.
- This also mirrors the rise in the proportion moving into temporary employment (Figure 7.1).
- The sudden jump in the proportion seeking alternative employment, at a time when unemployment has also fallen, may be because of the introduction of the Job Seeker's Allowance. Its increased emphasis on helping people to find work means that new graduates have become less selective about their first job, taking whatever is available, while seeking more desirable long-term employment.

Figure 8.2: Changes in economic activity over the first six years, by broad subject group



Source: Connor et al. (1997a)

A recent longitudinal study of those graduating in the early 1990s shows that in the years after graduation, increasing proportions of graduates are to be found in employment and decreasing proportions in further study. There are significant subject differences, although the direction of change is similar for each subject.

- For the first four years, graduates with degrees in applied sciences had a higher rate of employment than graduates from other fields.
- Graduates from pure sciences had the lowest levels of employment, but are consistently more likely to take part in further study. Immediately after graduating, around one-third of pure science graduates were in further study, a figure comparable with that reported via the first destination surveys (Figure 7.3). Six years later, just under one-fifth are in still in some form of study.
- A full six years after graduating, around ten per cent of all graduates give their major activity as further study.

Figure 8.3: Salary progression

	£	% increase in earnings
1995 Graduate recruits		
Median starting salary	14,240	
Median salaries in 1996	16,083	13
1993 Graduate recruits		
Median starting salary	13,004	
Median salaries in 1996	20,000	54

Source: IES/AGR 1996

There are no regular data sources that track graduates' longer term earnings profiles.

- Among those joining the major recruiters in 1995 and who remained with the same organisation (all AGR members), the average salary of graduates had increased by 13 per cent in one year.
- After three years, when most recruits would have completed their initial training, salaries had risen by over 50 per cent.
- Data focusing on separate cohorts of graduates six years after graduation show wide differences between those in the broad subject groups. The earnings of those in engineering and the social sciences were, on average, the highest followed by the sciences and then the humanities. There were also differences within these broad subject groupings (Belfield *et al.*, 1997).

Analyses of the longer-term earnings of graduates show they have, on average, been higher than those for non-graduates (Chapter 2.4).

Figure 8.4: Graduates receiving job-related education or training (per cent)

	New graduates			All other graduates			Non-graduates		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Received job related education or training in the last four weeks	26	31	28	22	26	24	13	15	14
Received job related education or training in the last thirteen weeks	45	51	48	41	47	43	23	27	25

Source: LFS Spring 1997

New graduates are not only advantaged in their occupations (see Chapter 2.4) but they also receive more work-related training and education.

- Nearly half of new graduate employees had received work-related education and training in the previous three months. This compares to just one-quarter of non-graduates.
- New graduates were twice as likely as non-graduate employees to have received education and training in the previous month. This may be due to their 'newness', and induction training.
- While other graduates are slightly less likely to have received education and training in the previous month, they are much more likely to have done so than non-graduates. This in part reflects their higher occupational profile, but reinforces their advantage in the labour market.
- The data also show a gender difference, with women and graduates consistently reporting having received more training.

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IES Annual Graduate Review 1997–1998: the Fragmenting Graduate Market

R Pearson, S Perryman, H Connor, N Jagger, I La Valle

Since 1984 the IES Annual Graduate Review has provided the latest information on trends in higher education and the graduate labour market. It includes key facts, figures and commentary on the main changes influencing the HE experience, the changing characteristics of the student population, and graduates' experiences in a more diverse labour market. This year special attention is given to the implications of the Dearing Inquiry for graduate employment and graduate recruiters; in particular, issues of student demand for HE and student funding, and the patterns of subsequent employment, underemployment and unemployment.

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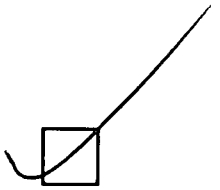

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