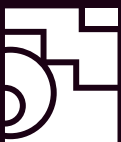




Changes in student choices and graduate employment



Universities UK



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This report has been prepared by the Higher Education Careers Service Unit (HECSU) on behalf of Universities UK.

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Executive summary

This report provides a comprehensive analysis of the way recession is impacting upon graduate outcomes. Data used in this report reflects the current level of applications to higher education (HE) for 2010 entry, but, due to data collection timing differences, the employment and training destinations of the graduating cohorts of 2005/06–2008/09. Data for the employment and training destinations of the 2008/09 graduating cohort became available in July 2010, making them relevant to this analysis.

There is evidence that the emergence and experience of the recession is having an impact upon student choice and take up of subjects. However, this impact is not universal across all subject disciplines. The level of applications to subjects may provide a more accurate reflection of met (and unmet) demand for HE than enrolments, because the former appears to be sensitive to changes in the employment market but the latter is regulated at institutional and/or policy level.

Knowledge of employment outcomes may be affecting subject choice, which suggests that information about the employment of graduates and graduate-level jobs is reaching applicants. However, whilst information is available, there is evidence that prospective students may not look for it. How to ensure that information is available and readily interpreted remains a challenge.

Whilst applications to most subject areas have increased, those for which there has been a decrease might be indicative of responses to economic conditions. For example, programmes related to the building and finance sectors, both of which have been adversely affected by the recession, have received fewer applications. There is a clear relationship between increases in participation in postgraduate study and periods of recession. There is evidence of this in the data for the 2008/09 cohort, where progression to full-time study and/or study and work combined is now at 26 per cent.

Students and graduates face difficulties in predicting their future employment prospects three or four years hence on the basis of historical graduate employment data; this is exacerbated in the case of longer courses. The reporting of data on employment outcomes is at a broad subject level and what is required is access to more finely-grained subject outcomes.

The use of occupational classification systems, such as SOCHE, as defined by Elias P and Purcell K (2004), provides data for longitudinal analysis of shifts in the proportion of graduates entering graduate and non-graduate job roles. The evidence suggests that the proportion of graduates entering non-graduate jobs is stable. However, there are concerns that the availability of non-graduate jobs may diminish, particularly in the public sector.

The numbers of graduates entering particular occupations is collected but not widely reported. Recruitment to some occupations appears to be particularly sensitive to changes in the economy, in general, and the recession, in particular, whilst others appear to be far less so. For example, the number of graduates obtaining jobs as computer analysts and programmers fell from 1,125 in 2005/06 to 590 in 2008/09, whilst the number of graduates entering employment as education or learning support workers rose from 615 to 1,280 during the same period; but the numbers entering employment as midwives, sports coaches and librarians have remained relatively stable. Appendix A has details of a wide range of occupations entered by graduates between 2005/06 and 2008/09.

The risk of unemployment is not borne equally by graduates of all subject disciplines. For example, graduates of arts and humanities subjects are at a significantly higher risk of becoming unemployed than those of medicine and subjects allied to medicine. Broad subject categories mask major differences in the likelihood of unemployment. For example, within STEM subjects (science, technology, engineering and mathematics), graduates in software engineering are nearly twice as likely to be unemployed six months after graduation as graduates in chemistry.

There is as yet no evidence of increases in students studying close to home or requiring flexible part-time modes of study in response to the economic conditions. However, there is evidence that living at home whilst studying affects opportunities for extra-curricular activities and social networking which may, in turn, affect post-graduation prospects.

It is well known that participation in HE is not uniform across the UK in terms of where students originate from, and low participation in HE is associated with areas of relative economic disadvantage. Whilst there has been some overall increase in students from such areas participating in HE between 2005/06 and 2007/08 (the last year for which data is available), participation in some subjects (medicine, dentistry, mathematics, building, business finance, history, philosophy and languages) has remained below 10 per cent throughout this period.

Introduction

Context

Evidence of employment outcomes, thus far available, suggests the level of graduate unemployment is rising and that sectors affected by the recession, in general, are also affecting the rate of graduate employment; hence graduate employment (and unemployment) is related to that which is happening in the economy as a whole. However, graduate employment does not mirror general employment patterns exactly. The unemployment rate for the population as a whole to May 2010 was recorded at 7.8 per cent and the employment rate was 72.3 per cent (Office for National Statistics, 2010). In contrast, the Destinations of Leavers from Higher Education (DLHE) first release in respect of 2008/09 qualifiers indicates that the unemployment rate is 10 per cent (two percentage points higher than the same time last year) and the employment rate is 59 per cent (three percentage points lower than the same time last year). This suggests graduates are being adversely affected. However, many graduates continue their studies, and the DLHE reveals that 18 per cent of the 2008/09 qualifiers did this, and a further eight per cent combined work and study. These trajectories complicate absolute comparison with the population as a whole. Further, if the rate of graduate employment is considered three and a half years following graduation, an unemployment rate of two per cent and an employment rate of 83 per cent can be observed. This suggests that if a slightly longer-term view is taken, graduates actually fare better in the labour market than the population as a whole.

The evidence is set in the context of a range of key documents concerning the recent recession and immediate post-recessionary period.

Wilson R et al's (2008) *Working Futures 2007–17* projects that, in the medium to long term (5–10 years ahead), it will remain difficult to provide a robust picture of developments in employment and skills patterns. However, over the longer term, the key drivers of employment are expected to reassert themselves:

'In particular, technological change, including its implications for economic, social and political structures, is expected to continue to fuel globalisation and world economic growth. Together with a number of key domestic drivers, including demography and government policy, will have significant implications for the demand for and supply of skills over the coming decade.'

(University of Warwick, 2009: 5)

Predictions of the rise in both the working-age population and the workforce suggest that for the majority of people unemployment will be a transient experience. As such, the economy is assumed to undertake a reasonably fast recovery from cyclical recession, and to settle down in the medium term to patterns of modest growth (long-term growth rates at just below 2.5 per cent per year) and moderate inflation. This is in line with the long-term forecasts in *Working Futures 2004–14* (Wilson R et al 2006).

Structural labour market changes are forecast to be dominated by a polarisation of demand for skills. Long-term employment growth is predicted to be concentrated in the highest and lowest skilled workforce groups, while medium-skilled labour employability will continue to decrease. Fast growth is indicated for managerial and professional occupations as well as in the protective service, culture and media, and caring, personal and health sectors. Declines are expected in medium-skilled occupations (mostly administrative and clerical), as a consequence of the continuing decline in public sector employment, and the stabilisation of employment at the lower levels.

Over the longer term to 2017, employment is projected to rise and the rate of employment growth is expected to be just under 0.5 per cent per year, which will generate almost two million additional jobs over the decade. However, it is likely that particular sectors will be affected differently in the short term and may emerge from the recession more slowly, for example, banking, finance and construction.

Employment is likely to reduce in:

- primary and utilities sector (agriculture, mining, quarrying, electricity, gas and water)
- manufacturing
- construction

But employment is likely to increase in:

- distribution and transport (by over half a million jobs)
- business and other services (by over one million jobs)
- non-marketed services (by around half a million jobs)

The long-term prognosis for employment by occupation to 2017 is broadly similar to that for 2004–14 (whilst possibly over-estimated in sectors where the impact of the recessionary 'slow down' is more marked) and there is expected to be less change than in the two previous decades. Thus, occupational groups that are expected to show increases are higher-level occupations, such as:

- managers and senior officials
- professional occupations
- associate professional and technical occupations
- personal service, sales and customer services

Expected to decline during the period to 2017 are administrative, clerical and secretarial occupations (although there will still be over three million employees in such occupations), skilled trades occupations, and machine and transport operatives.

However, short-term predictions for the manufacturing sector may not be quite so bleak. In a survey by Ipsos Mori (2010), companies report more optimism with 29 per cent expecting the business climate to improve in the next 12 months. Whilst apparently contradictory, this does reveal the 'localised' nature of employment trends, and the particular ways that sectors change and are able to respond to specific economic conditions.

In its report, *Ambition 2020: world class skills and jobs for the UK*, The UK Commission for Employment and Skills (UKCES) advocates the need to ‘focus not only on how to survive the recession, but on how we will thrive in the years ahead’ (UKCES 2009: 4), and identifies skills development as vital in the higher-level occupations. The report also identifies that a key difficulty in the operation of the UK labour market is a weak demand (not weak supply) for highly skilled labour. Five key priorities are identified:

- the creation of a clear and integrated strategy for economic transformation and renewal (strong alignment of national industrial skills and economic development policies)
- the support of economic development in cities and local communities (de-centralisation of decision-making through effective partnerships)
- the development of more strategic, agile and demand-led skills and employment provision
- the transformation of individual aspiration and skills into a world-class workforce
- the building of employer ambition and capacity to be world class

Many recent governmental and non-governmental reports (eg Department for Universities, Innovation and Skills, 2008; Universities UK and the Confederation of British Industries, 2009;) emphasise the strategic importance of high skills development in relation to economic prosperity alongside the development of graduate employability; these arguments are well rehearsed.

STEM subjects continue to attract policy-led support and, as can be seen in this report, progression into employment is typically as good as or better than for other subject disciplines.

In *Graduate employability: what do employers think and want?*, the Council for Industry and Higher Education (CIHE) identifies the need for graduates to have cross-cultural capacities in order to compete in the global economy (Archer W and Davison J, 2008). Cross-cultural skills are not simply linguistic but include the capacity to understand and deal with markets beyond the UK. In particular, this 2008 survey of employers echoes earlier reports by demonstrating:

- 86 per cent of employers consider good communication skills to be important, yet many employers feel that graduates cannot express themselves efficiently
- ‘soft skills’ such as team working are also vital and even more important than most ‘hard skills’ although numeracy and literacy skills are considered essential by 70 per cent of employers
- 65 per cent of international employers indicate that having overseas professional work experience makes graduates more employable

In *Skills for jobs*, UKCES’s response to the government’s *New industry new jobs* describes a hierarchy of skills development priorities. It identifies occupational areas that could be mapped on to SOCHE, a graduate/non-graduate employment classification or directly to the supply of graduate/high level skills (UKCES, 2010).

The occupational areas are classed as:

- red – high priority skills requiring immediate action
- pink – high priority skills which are important rather than critical to the economy and/or distinct sectors, and deficits are smaller in scale and require a shorter lead time to rectify than those rated red
- amber – medium priority skills requiring moderate scale and/or time frames for action, and the degree of certainty for the impact may be less critical

The red occupational areas are:

- corporate managers with a range of specific management skills in a number of key sectors including retail, business services, computer science, media and digital, financial and professional services, health and social care, education, public administration, and hospitality. High leadership and management skills are needed
- specific and significant management and professional skills in the computing and software sectors
- science and technology professionals (specialist biologists, chemists, physicists, mathematicians and statisticians) in pharmaceutical and medical technology industries and key parts of advanced and traditional manufacturing
- teaching and research professionals across the education sector – essential to support the supply of key recruits for the priority sectors. A requirement of close HE-employer co-operation is essential for this in evolving curricula effectively to meet employer needs
- health and social care associate professionals and technical roles in a number of medical specialisms in nursing and therapy
- associate professional and technical roles in a broad range of sectors, and especially in the manufacturing and process sectors including gas and oil, electricity, chemicals, pharmaceuticals, automotive, engineering and broadcasting; the need for technicians is especially prominent in STEM sectors
- care assistants and consumer service roles

The pink priority areas are:

- procurement, commissioning and financial managers in the private and public sectors that may not generate economic growth, but have the potential to reduce public sector debt through securing better value for money and effective delivery of public services
- managers with the skills to develop innovative processes in the medical and healthcare markets, and prevent further job loss in parts of the manufacturing sector
- risk managers in the financial services with the ethics and influencing skills to avoid a further financial crisis
- managers in data security management able to exploit intellectual property
- food technologists in the manufacturing and processing industries to safeguard the quality and quantity of food supplies
- urban planners
- science and engineering professionals with additional specialist expertise in low carbon energy generation

The amber occupations are:

- engineers for large-scale construction projects in the engineering and construction sectors (although contingent upon public and private sector demand and currently affected by the recession, there is a skills shortage that needs to be addressed to meet future demand)
- investment advisers in the financial services sector
- associate professional and technical jobs across a broad range of occupations: chefs, graphic designers, paraprofessional roles in financial services, advice workers, counsellors and community development workers
- change managers with particular emphasis on people management and staff engagement skills, especially in sectors affected by the recession or public spending cuts
- sports coaches, particularly in relation to the 2012 Olympic Games and also in response to the needs of an ageing population
- low-skilled occupations that continue to provide significant employment in retail, hospitality and the care sectors

In *Recession Britain* (Vaitilingam R 2009), lessons are identified from previous recessions. Specifically, the report identifies the impact of recession on jobs, individuals' lives, businesses and global economic structures. In brief:

'The recession has increased uncertainty in economic markets, hampering the rate of hiring and investment decisions; the longer the firms wait, the more economic activity will slow down. Public spending cuts will become inevitable. The full impact of the recession may not be felt until several quarters after the recession officially begins. This has not been the 'middle class' recession that people have predicted. It is the lowest skilled workers whose employment levels have suffered. Following the recessionary period in the early 1990s there were severe long-term problems for those who had lost their jobs.'

The experience of unemployment can damage people's chances of retaining a job once they find one. Unemployment is most pronounced in the 18–24-year-old age group, and is accelerating at a fast rate; the situation may be worsened by the increased supply of graduates and lower returns on a degree for some graduates. Young men from advantaged backgrounds, who did well at school but who were unemployed for a year or more in the 1980s recession, were much less likely to be high earners and own a home in 1991.

Productivity tends to fall in the early stages of a recession but picks up again as weaker firms close. In the early 1990s, the dispersion of productivity across all firms fell because the lower tail of the poorly performing firms was reduced in size. Workers may be shed because information technology and aggressive management practices are allowing firms to cut them and introduce new practices to keep output high. Performance differences between firms tend to increase significantly in recessions. Since growth will not come by competing on cost, it is essential that firms move up the 'value chain', offering even more valuable products and services. Firms that have innovated at some point in the past are better able to flourish in a recession, perhaps because of better management practices.

The acquisition of high-level skills (and participation in HE) is again emphasised but not just as a means to 'sit out' unemployment brought about by the recession. Vaitilingam continues:

'The ineffectiveness of training interventions for the long-term unemployed and the high value of full-time education in the labour market suggest the importance of keeping young people in education rather than trying to 're-skill' them once they have become unemployed.'

(Vaitilingam R 2009: 21)

Vaitilingam suggests that a higher proportion of small businesses are expected to expand in the coming years than did following the recession in the early 1990s. Fast-growing new industries are especially resilient, and over two-thirds of small and medium sized enterprises (SMEs) are expected to expand in the next three years.

In a recent survey of 500 SMEs in the East Midlands, it was found that businesses that recruit graduates have a very positive view of the return on the investment in them (CFE 2010). However, many were unclear about the nature of graduate-level qualifications. For example, 29 per cent of respondents thought A-levels were equivalent to a degree, and as few as 59 per cent recognised a foundation degree as a degree. It was suggested that this was due, in part, to the plethora of organisations providing information on graduate skills. Of those that had not recruited graduates, substantial numbers (39 per cent) felt that graduate skills were not required. CFE conclude that the real issue for graduates is raising employers' demand for their skills.

This resonates with UKCES's urging of employers to raise their demand for high-level skills, innovation, research and production of high-quality goods. These, UKCES says, are likely to stimulate demand for skills and aid economic recovery: 'The more that a post-recession recovery strategy is built around higher skills, the more likely it is to raise employer demand' (UKCES 2009:138).

Changes in student choices and graduate employment

Anecdotal evidence from previous recessions suggests the impact of recession upon graduate employment tends to result in reductions in 'graduate-level' jobs and increases in the number of graduates taking up 'non-graduate' jobs. Predictions of future economy skills needs suggest the UK is likely to be adversely affected by the recession in the short term but may nonetheless provide robust benchmarks for future policy-making (eg Wilson R et al 2008).

Predictions such as this, and the notable lack of robust evidence relating to previous recessions in the 1980s and 1990s led to the conclusion that, in the short term, it would be productive to:

- consider whether there is evidence of a change in the nature of graduate occupations pre- and post- recession¹
- consider whether there are any indicators of regional or sector differences in graduate employment outcomes
- consider whether type of course (eg first degree or postgraduate award) has any bearing on changes in employment outcomes

Research aims

The aim is to consider the consequences of the recession for graduate employment and to make projections for graduate employment over the next five years.

Research questions

There are four research questions.

- What is the evidence for a change in the type and/or quantity of graduate employment outcomes as a consequence of the current economic recession?
- Are current changes in graduate employment related to longer-term demand for skills?
- Does the recession appear to be influencing student demand and student choice within the curriculum?
- How is demand likely to be affected over the next five years?

Objectives

Specifically this will involve looking to see if there is evidence of:

1. increased demand for 'safe employment' (such as teaching or nursing)
2. increases in self-employment
3. increases in graduate unemployment
4. changes to study and working patterns
5. student debt and the effect on student choice
6. changes to the level of student demand (eg level and mode of study, subject choice and qualifications on entry)
7. changes to subject choice (eg more choosing vocational programmes)
8. changes in the availability of placement opportunities
9. increases in the likelihood of studying locally
10. take up of opportunities for term-time working
11. increases in the level of progression to post-graduate programmes
12. increased demand for 'flexible' provision (eg increases in part-time study and intercalations)

Methodology

The research had five stages.

1. Desk-based research of the DLHE² data for the years 2008/09, 2007/08 and 2006/07 and the DLHE second longitudinal data (November 2008) in order to investigate recent changes in graduate outcomes and progression, and whether these are experienced differently in the UK regions and within industrial sectors.
2. Analyse the DLHE data in relation to longer-term demand for skills as articulated in government-funded reports such as *Working Futures 2007–17* (Wilson R et al 2008). This includes considering the advantages and disadvantages of using DLHE data as an indicator for graduate employment over the next 5–10 years.
3. Review Jensen J et al's (in press) findings on provision of work placements in HE in relation to previous research on work placements in HE curricula.
4. Report and comment on recent evidence from the *Futuretrack* longitudinal study. *Futuretrack* is a five-year, four-stage, longitudinal, cohort tracking study funded by the Higher Education Career Services Unit (HECSU) and undertaken by the Institute for Employment Research at the University of Warwick. It illustrates the relationship between students' debt expectations, experiences of working whilst studying, and career choices.
5. Review Student Record data from the Higher Education Statistics Agency (HESA) for selected years to analyse and comment upon changes in students' demand for and choice of courses.

Evidence

The analysis of data provides evidence of trends and changes across a four-year period, the academic years 2005/06–2008/09.

The UK recession began in the second quarter of 2008 and the last period of contraction in GDP (gross domestic product) was the final quarter of 2009. It had been clear for some time before this, however, that the economy was in difficulty, and the employment market for graduates was beginning to tighten. The US mortgage crisis began in 2007 and it rapidly became clear that the exposure of international banking to bad debts would have a profound effect on the world economy. In the UK, the run on Northern Rock began in September 2007 and was one of the first tangible manifestations of the coming downturn. It was around this time that confidence in the graduate market appeared to begin to fall significantly.

Given this timeframe, the first destination data for graduates from 2007/08, which was collected in early 2009, measures the effect of a downturn which had been apparent for over a year and a recession which had been ongoing for two quarters and was to last for the rest of 2009. First destination data for graduates from 2008/09, which was collected in early 2010, provides detail of the ongoing effects of the post-recessionary period on the prospects of new graduates, but evidence from previous recessions suggests the graduate employment market is likely to be affected for a number of years to come.

1. Demand for 'safe' employment

Under such economic conditions, are graduates likely to opt for 'safe' employment? For this analysis it is necessary to make some assumptions about what might be considered 'safe' employment. Anecdotal evidence suggests that typically public sector occupations, such as nurses, doctors and teachers, are thought less likely to be affected by recession. They are less directly responsive to the markets for goods and services and are, generally, funded by central government. Such occupations may be considered (by applicants to HE) as 'safe' in times of economic turbulence because of an assumption that society will always require such roles to be fulfilled, in some measure, and, therefore, the likelihood of unemployment is reduced.

It might also be assumed that a 'safe' choice of subject is one where it is required for a particular employment outcome, in other words, a 'vocational' subject. However, as a consequence (or a cause) of the graduate labour market in the UK, 'non-vocational' subjects also lead to successful employment outcomes. Indeed, approximately half of all graduate jobs are available to graduates of any discipline (whether vocational or non-vocational), suggesting employers are seeking 'graduate-ness' as often as specific skills or knowledge. Further, non-vocational subjects can be construed as vocational in particular contexts. For example, history is generally considered to be non-vocational, but would be vocational in light of an intention to become a teacher of history. Thus, many subjects are neither 'vocational' nor 'non-vocational' but instead fall into a category that is termed 'can be vocational' (Purcell K et al 2008).

The demand for 'safe' employment may be inferred from students' subject choices and take up of HE programmes, and students' consideration of employment outcomes or absorption into the labour market.

Subject choice and demand

HESA Student Record data for 2007/08 shows there have been small increases in the number of students enrolled to study medicine and dentistry, biological sciences, physical sciences, mathematical sciences, engineering, business and administration, social studies and creative arts between 2005/06 and 2007/08; and falls in subjects allied to medicine, computer science and law. The increase in numbers within the STEM subjects is attributable, in part, to changes in policy aimed to stimulate the take up of these subjects (eg Sainsbury 2007).

However, when the broad subject categories are examined in detail, for example, when the numbers entering initial teacher training, within education, are considered, there has actually been a reduction in the numbers taking up teacher training from 3.9 per cent to 3.7 per cent during the period. Also, whilst there has been a 0.7 percentage point growth in medicine and dentistry, there has been a 0.9 per cent percentage point fall in subjects allied to medicine. There appears to be, therefore, little evidence of students choosing 'safe' options of, for example, teaching and nursing, when statistics at institutional (enrolment) level are considered.

Perhaps a more apt way of exploring this would be to ask how many students are actively choosing particular subjects. However, choice of subject is not simply a consequence of the exercise of free will. The *Futuretrack* study reveals that HE applicants' choice of subject is influenced by a range of educational and socio-economic factors, including the availability of places within courses, institutions and regions. Choice of subject (and course) is inherently bound up within notions of ultimate employment outcome.

Purcell K et al (2008) concludes that the most popular reasons for choosing to study a particular course were interest in the course and employment or career-related reasons. The report finds that younger applicants were more likely to choose subjects they are good at or enjoy, and they were less likely than older applicants to give instrumental, employment-related reasons for choosing their course. Applicants from higher social classes are also more likely to choose subjects they enjoy or are good at, whilst those from lower social classes were more likely to give employment-related reasons. This reflects the correlation between the age at which applicants applied to enter HE and their socio-economic background. Older applicants generally have clearer reasons for choosing their course.

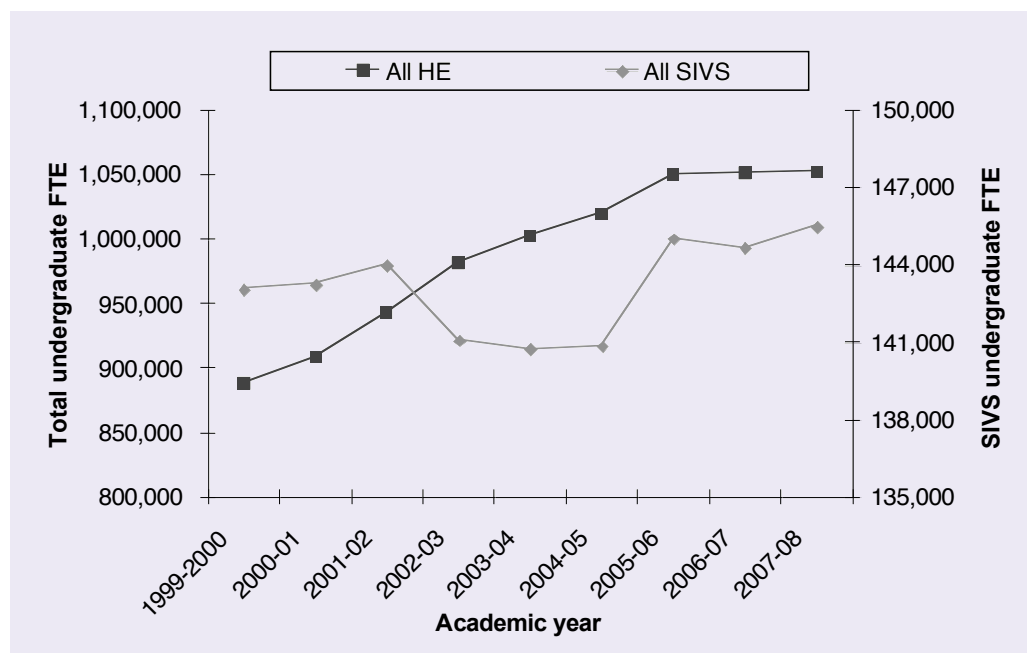
These authors also found that the most significant factor in predicting whether an applicant's choice of subject or course was achieved is, unsurprisingly, Universities and Colleges Admissions Service (UCAS) tariff points. Further, as the availability of places is influenced by local (institutional) and national policy, and funding decisions, applicants are not fully able to control the outcome of their choice of subject/course.

With increasing numbers of HE applications, the competition for available places has intensified and applicants' demand for particular subjects may increasingly outstrip supply, leaving them with less real choice. Nonetheless, the pattern of applications to subjects provides a more accurate reflection of student 'choice' and whether there is actually more (met or unmet) demand for 'safe employment' than student enrolments in Figure 1.1 alone.

However, an important caveat is that in having the opportunity to make multiple applications, applicants may choose subjects in which they have relatively little interest or which are being used to ‘back-up’ an anticipated failure in another subject. For example, applying for chemistry when the first choice is medicine. It is outside the scope of this project to investigate motivations underlying applicant behaviour.

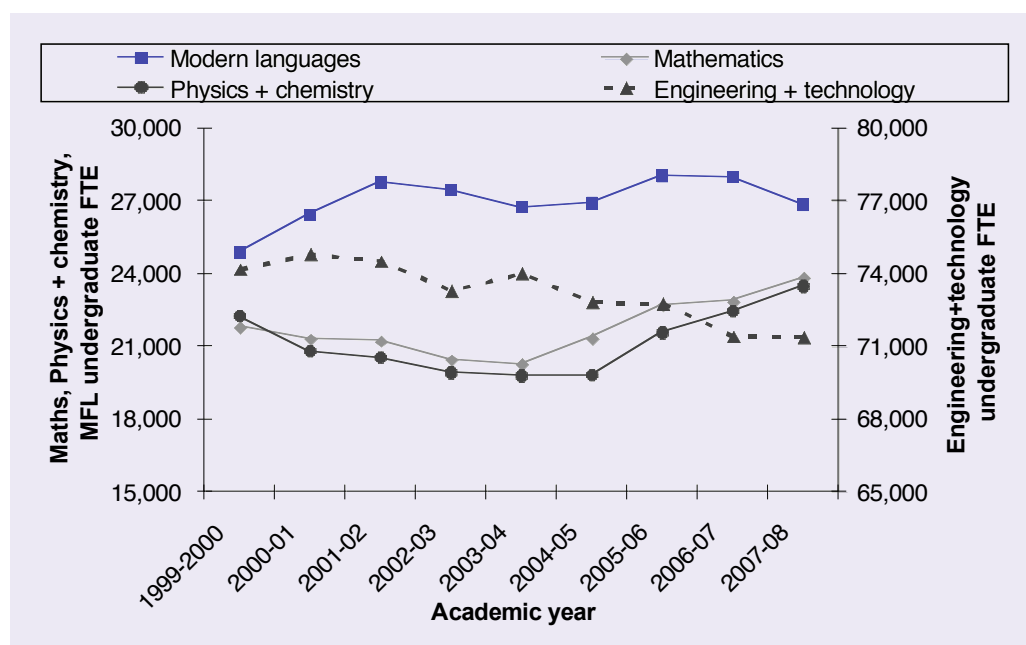
The strategically important and vulnerable (SIV) subjects are chemistry, engineering, mathematics, physics and some area studies, quantitative social science and modern foreign languages (HEFCE, 2010a). They are considered so in relation to the anticipated demands of the economy rather than the exercise of student choice. Nonetheless, applications to SIV subjects might indicate students’ intention to progress into economically valued (or ‘safe’) occupations. Enrolment to chemistry, physics and mathematics has risen by nearly seven per cent recently, which represents a greater rate of increase than across all subjects (Figure 1.1) and to a level beyond that at the beginning of the decade, although increases are not uniform amongst SIV subjects (Figure 1.2).

Figure 1.1: Numbers of full-time equivalent (FTE) undergraduate students, 1999/2000–2007/08



Source: HEFCE 2010a

Figure 1.2: Numbers of FTE undergraduate students by individual SIVs, 1999/2000–2007/08



Source: HEFCE 2010a

However, the Higher Education Funding Council for England (HEFCE) notes future employer demand, even in SIV disciplines, is difficult to predict:

‘Employer demand... is defined as the labour and skills required by employers, including business, academia, government and other sectors. Demand can be identified from employer surveys, labour market forecasts, or quantitative indicators such as salary or earnings data. Demand can be expressed in terms of a predicted shortage at some point in the future or an immediate and unfulfilled demand. It can be identified at national or regional levels, and framed in terms of sectors or occupations, rather than subjects in HE; demand may relate to specific courses and levels of study, or to skills attributable to one aspect of these. The link between an identified employer need and a subject or course within HE is rarely straightforward.’

(HEFCE, 2010a: 22)

Recruitment shortages are not always a reflection of inadequate supply of particular subjects but may instead reflect employers’ increasing demands for specific skills and attributes (WM Enterprises 2010). If matching supply and demand is difficult at the macro level, it is likely to be yet more difficult at the individual level as noted by HEFCE:

‘Given the current level of competition for admission to universities and colleges, and for graduate jobs, it is more than ever important that clear signals are provided about the subjects, skills and attributes employers particularly value, and that will position graduates most effectively in the labour market.’

(HEFCE, 2010a: 9)

Recent work by Oakleigh Consulting and Staffordshire University (in press) aimed to identify the information needs of prospective students (and their advisers). It identifies employment outcomes as key information that students need at the application stage. The work also found that, despite there being a great deal of information available, prospective students did not always look for it.

Statistics provided by UCAS confirm that there has been a steady rise in applications to HE in recent years, most notably a rise of nearly 23 per cent between 2009 and 2010 by the first deadline for applications (January) as Table 1.1 shows. Rises in applications are not uniform across the UK (see Table 1.1) and the increase is most pronounced amongst those in the 25 years and over age group. It has been reported by UCAS that the increase in applications for 2010 entry amongst more mature applicants could be attributed to a desire to retrain and offset current or future economic difficulties (UCAS, 2010). Increases are also attributed to high levels of re-applications from those who did not or were not able to take up HE in 2009.

Table 1.1: Applicants by age and UK country of permanent residence

		Country of residence					Total
		England	Wales	Scotland	Northern Ireland		
20 years and under	2010	330,373	16,293	28,967	15,193	390,826	
	2009	286,239	14,998	24,172	13,708	339,117	
	% change	+15.4%	+8.6%	+19.8%	+10.8%	+15.2%	
21 to 24 years	2010	42,005	2,135	4,446	1,906	50,492	
	2009	28,861	1,598	2,815	1,312	34,586	
	% change	+45.5%	+33.6%	+57.9%	+45.3%	+46.0%	
25 years and over	2010	49,070	2,377	5,350	1,336	58,133	
	2009	30,006	1,732	2,562	919	35,219	
	% change	+63.5%	+37.2%	+108.8%	+45.4%	+65.1%	
Total	2010	421,448	20,805	38,763	18,435	499,451	
	2009	345,106	18,328	29,549	15,939	408,922	
	% change	+22.1%	+13.5%	+31.2%	+15.7%	+22.1%	

Source: UCAS statistical services

When the subject choices made by applicants are considered, there is some evidence of increases in applications for vocational subjects. Table 1.2 shows increases of 40 per cent or more over the previous year (for courses attracting 1,000+ applications). Here, applicants appear to be making course selections with an explicit occupational focus, for example, nursing, social work and medical technology. Increases in applications to (vocational) foundation degrees and other courses are particularly high.

It should be noted that whilst the increase in applications to nursing is considerable, it may be in response to plans to phase out the nursing diploma in 2011. Similarly, increases in applications to social work may also be influenced by central and local government recruitment strategies.

Whilst applications to most subject areas have increased, those for which there have been a decrease might also be indicative of responses to economic conditions. Programmes related to the building and finance sectors, both of which have been adversely affected by the recession, have received fewer applications. Applications to planning courses declined by 17 per cent and there were reduced numbers of applications to finance of 5.7 per cent. Reductions in applications to non-vocational subjects include history and philosophical studies at -12 per cent, classics at -1.5 per cent and some languages, although absolute numbers are relatively small (less than 1,000) and not included in Table 1.2.

Table 1.2: The number of choices by 15 January 2010 by JACS 2 subject line and course type (degree, foundation degree and other) showing subjects with a percentage increase of at least 40 per cent

Joint Academic Coding System (JACS 2) Subject Line	Degree 2010	Percent change	Found. degree 2010	Percent change	Other 2010	Percent change
Subject choices increasing						
B7 – Nursing	94,644	+73.7%	4,999	+47.7%	63,994	+55.6%
W2 – Design studies	82,521	+102.3%	4,687	+122.1%	500	
N2 – Management studies	57,580	+13.7%	1,189	+91.5%	1,791	+17.1%
NN – Business and administration studies combinations	53,003	+11.6%	1,214	+52.3%	823	+31.9%
L5 – Social work	52,238	+41.3%	1,375	+56.4%	13,810	+110.6%
W4 – Drama	45,831	+14.8%	2,525	+40.9%	1,006	+46.6%
Y Social studies, business and law in combination with arts and humanities subjects	45,404	+14.5%	1,609	+46.0%	118	
Y Science and engineering with arts, humanities and languages	35,930	+20.8%	4,505	+54.7%	292	
N8 – Hospitality, leisure, tourism and transport	33,455	+27.9%	3,320	+56.9%	1,490	+6.0%
B9 – Others in subjects allied to medicine	32,716	+24.3%	551	+78.3%	3,003	+77.3%
W6 – Cinematics and photography	32,331	+47.5%	3,609	+136.3%	349	
W1 – Fine art	22,186	+129.3%	588	+126.2%	126	
Y Combinations of medicine, biology and agricultural sciences	15,610	+21.0%	901	+96.7%	47	
WW – Creative arts and design combinations	13,380	+40.2%	1,397	+39.0%	173	
B8 – Medical technology	11,252	+46.9%	69			
C3 – Zoology	9,103	+43.3%	122		20	
D3 – Animal science	4,986	+26.0%	2,404	+54.2%	328	
L0 – Social studies: any area of study	3,905	+59.8%			2	
D4 – Agriculture	3,250	+35.2%	1,443	+53.2%	232	
Subject choices decreasing						
N3 – Finance	5,191	-5.7%	12		26	
Q8 – Classical studies	4,938	-1.5%				
M2 – Law by topic	3,895	-2.9%	129		23	
K4 – Planning (urban, rural and regional)	2,478	-17.0%	27		43	
Grand total (see note below)	2,269,723	+19.7%	60,368	+51.0%	96,749	+55.0%

Source: UCAS statistical services

Note to Table 1.2: 'Other' includes HND, HNC, certificates of HE, diplomas of HE (including those in social work, midwifery and nursing) and some postgraduate courses in social work. Grand total refers to the total number (and percentage change) of applicants in 2010 and is not a sum of the selected subjects listed.

Table 1.3 shows the choices by subject at the same date, one year earlier. Generally the percentage increase is much lower than between 2009–10, and those subjects selected for inclusion here are those with an increase of 20 per cent or more and attracting over 1,000 applications. Here, a different range of subject choices appears to be increasing, but again those that are included include vocational programmes such as journalism, aerospace engineering and biological sciences. There appears to be an emergence of a desire to avoid building (-7.6 per cent), planning (-18.7 per cent), finance (-3.7 per cent) and languages. It is interesting to note the percentage change in applications to subjects at foundation degree where there are some particularly dramatic increases, for example, drama (up 56 per cent), sports science (up by 23 per cent) and business studies (up by 28 per cent).

Table 1.3: The number of choices by 15 January 2009 by JACS 2 subject line and course type (degree, foundation degree and other) showing subjects with a percentage increase of at least 20 per cent

Joint Academic Coding System (JACS 2) Subject Line	Degree 2009	Percent change	Found. degree 2009	Percent change	Other 2009	Percent change
Subject choices increasing						
N1 – Business studies	43,970	5.7%	985	27.9%	859	-2.3%
C6 – Sports science	41,278	5.2%	2,106	23.0%	588	-15.4%
W4 – Drama	39,936	8.1%	1,792	55.6%	686	1.3%
H3 – Mechanical engineering	25,993	19.5%	607	35.2%	114	
Y – Science and engineering combinations with social studies, business and law	22,813	-1.4%	727	26.9%	169	
W6 – Cinematics and photography	21,922	12.6%	1,527	26.1%	258	
P5 – Journalism	12,923	24.0%	269		37	
H4 – Aerospace engineering	9,831	20.0%	553	17.4%	33	
G5 – Information systems	9,625	8.4%	623	52.0%	298	
WW – Creative arts and design combinations	9,544	13.4%	1,005	48.4%	106	
C9 – Others in biological sciences	3,338	39.8%	36		12	
T7 – American studies	2,535	22.1%			5	
W8 – Imaginative writing	2,445	21.2%	14		9	
L0 – Social studies: any area of study	2,444	22.1%				
L4 – Social policy	2,410	7.7%	742	83.7%	118	
D4 – Agriculture	2,404	7.2%	942	30.3%	175	
T2 – Japanese studies	1,261	29.2%				
Y – Engineering, technology and building studies combinations	1,234	37.1%				

Table 1.3 Continued

Joint Academic Coding System (JACS 2) Subject Line	Degree 2009	Percent change	Found. degree 2009	Percent change	Other 2009	Percent change
Subject choices decreasing						
G4 – Computer science	39,747	8.6%	1,467	-4.6%	1,048	-4.3%
F1 – Chemistry	18,331	-1.0%	24		17	
Y – Combinations of social studies, business and law with languages	12,816	-5.7%				
K2 – Building	12,030	-7.6%	353			
NN – Business and administration combinations	47,483	10.9%	797	-11.5%		
N3 – Finance	5,507	-3.7%	17		22	
B4 – Nutrition	4,924	-5.9%			19	
F7 – Science of aquatic and terrestrial environments	4,801	-4.5%	94		20	
B6 – Aural and oral sciences	4,743	-10.2%				
PP – Mass communication and documentation combinations	3,893	-16.9%	49		13	
K4 – Planning (urban, rural and regional)	2,985	-18.7%	15		26	
Q1 – Linguistics	2,072	-14.8%	1			
T9 – Others in non-European languages and related	1,564	-47.7%				
J9 – Others in technology	5,569	17.4%	589	-2.2%	180	
Grand total (see notes below)	1,896,213	7.0%	39,976	17.6%	62,422	9.0%

Notes to Table 1.3: Foundation year courses are accounted for as a degree. 'Other' includes HND, HNC, certificates of HE, diplomas of HE (including those in social work, midwifery and nursing) and some postgraduate courses in social work. Grand total refers to the total number (and percentage change) of applicants in 2009 and is not a sum of the selected subjects listed.

What is clear in comparison of Tables 1.2 and 1.3 is that the year-on-year subject choices may be highly sensitive to external factors, such as an awareness of recession as well as broader policy initiatives such as the availability of foundation degree programmes or specific vocational training such as nursing, and it may be that the full effects of applicants' responses to the recession may not be manifest until choices for 2011 entry are made.

An analysis of enrolment patterns by subject reveals that there has been considerable variation across subject areas in the last five years³:

- computer science has declined by more than a quarter
- mathematics has increased by more than 20 per cent
- subjects allied to medicine are now declining after a peak in 2005/06
- physical sciences, engineering and technology all show strong growth in the most recent year (over 5.5 per cent and 5.4 per cent respectively, compared to total growth for all subjects of 4.7 per cent) as do creative arts and design
- education shows a very large increase over the period (52.6 per cent) but this figure should be treated with caution because of changed definitions

The reasons for these variations are complex at the individual level and include, for example, the effects of actions taken by students, their advisers, teachers, employers and parents often several years prior to making an application to HE. It is beyond the scope of this research to consider the impact that the recession may be having on choice of Level 3 subjects (A-level or equivalent qualifications), which in turn affect the HE courses applied for; nonetheless, there may be merit in continuing to observe patterns of applicant behaviour over time.

Applicant behaviour is a good indicator of student intention, although the actions of institutions (and funding bodies) in recruiting and selecting students may ultimately have more impact on trends in student numbers. There has been relatively little actual change recently and students may not be exercising choice so much as being chosen by institutions. This appears likely to be exacerbated by the recession as more people apply to HE as a way of combating the effects of a tightening employment market: applications rise and competition for places intensifies.

Graduate employment

Data on the first destinations of HE qualifiers are collected by institutions on behalf of HESA in the January following graduation. The DLHE survey provides a robust description of outcomes at six months after graduation, but has been criticised for not providing a longer-term view of labour market progression, in particular. There is very little longitudinal research evidence of graduate careers and labour market participation other than the *Seven Years On* study (Elias P and Purcell K, 2004a). This is based on the experiences of a sample of graduates who completed HE in 1995. In order to remedy the lack of data, HESA, on behalf of the statutory customers, commissioned the *Longitudinal DLHE* survey that has now been conducted twice (in 2006 and 2008) and seeks to provide information on a sample of graduate career trajectories at around three and a half years after graduation.

The data collected via the DLHE surveys are currently categorised via the SOCHE classification system (Elias P and Purcell K, 2004b). In a detailed analysis of employment change since 1980, Elias and Purcell identified five distinct occupational categories, on the basis of the qualifications required to get these jobs, the skills used in them and the proportions of those holding them who had a degree, at different points in time over the last 25 years. They then classified every occupation listed in the UK *Labour Force Survey* into one of these in order to be able to measure change in 'graduate' employment. Table 1.4 illustrates this occupational classification (SOCHE).

The SOCHE classification is acknowledged to have certain limitations as the labour market has evolved since it was first proposed and, as a result, the classification system is under review. It should, therefore, not be considered as an absolutely accurate measurement of the exact proportion of students in graduate-level jobs. Another criticism is that this framework does not adequately capture self-employment, although this (like part-time working) could be considered a mode of employment rather than an outcome and, in any event, these data are captured in the DLHE collections.

Nonetheless, the SOCHE classification system provides value as a guide to broader themes within graduate employment. It can be used to observe the relative ratios of graduates in different types of graduate jobs and changes in the relative proportion of graduate/non-graduate employment within each cohort. A proposal to replace SOCHE within the DLHE data collection is likely to include two self-report questions about whether a degree is necessary to obtain employment and whether employers' focus is on a degree as an indicator of level of achievement or the subject content (or both). This foreshadows further explanation of the relationship between HE and employment.

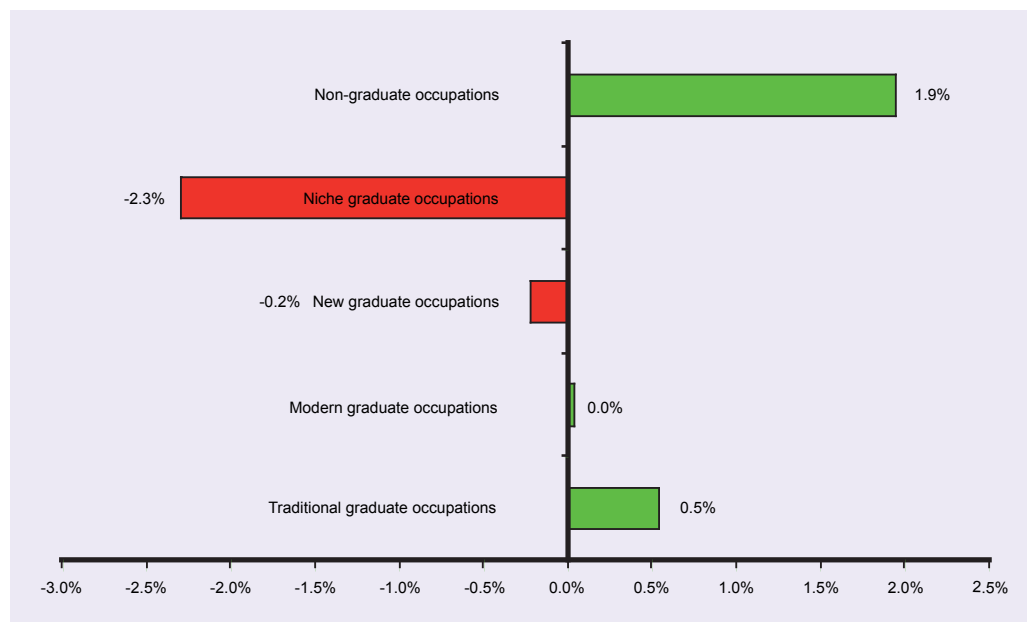
Table 1.4: SOCHE categories of graduate employment

Type of job	Context	Example occupations
Traditional graduate occupations	The established professions, for which, historically, the normal route has been via an undergraduate degree programme.	Solicitors, medical practitioners, HE and secondary education teachers, biological scientists and biochemists.
Modern graduate occupations	The newer professions, particularly in management, IT and creative vocational areas, which graduates have been entering since educational expansion in the 1960s.	Directors, chief executives, software professionals, primary school teachers, authors, writers and journalists.
New graduate occupations	Areas of employment, many in new or expanding occupations, where the route into the professional area has recently changed such that it is now via an undergraduate degree programme.	Marketing and sales managers, physiotherapists, occupational therapists, management accountants, welfare, probation officers, and countryside and park rangers.
Niche graduate occupations	Occupations where the majority of incumbents are not graduates, but within which there are stable or growing specialist niches which require higher education skills and knowledge.	Leisure and sports managers, hotel and accommodation managers, nurses, midwives and retail managers.
Non-graduate occupations	Graduates are also found in jobs that are likely to constitute under-utilisation of their higher education skills and knowledge.	Sales assistants, filing and record clerks, routine laboratory testers, and debt, rent and cash collectors.

Source: Purcell K and Elias P (2004a)

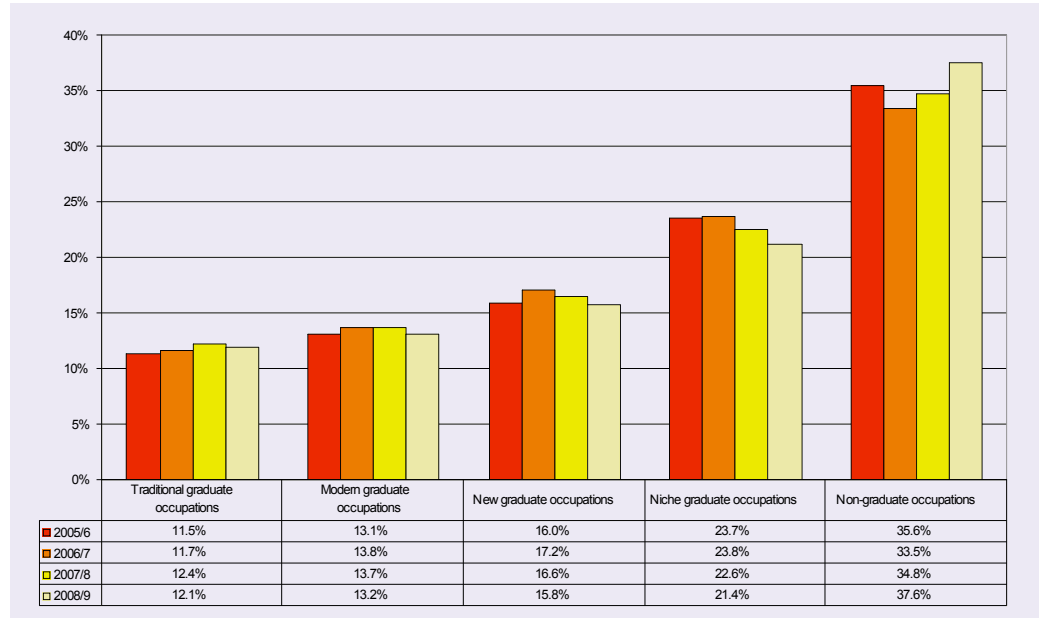
The proportion of graduates entering jobs in each of the SOCHE categories is of particular interest, as a rise in entry to non-graduate jobs is perceived to be a failure of the labour market to absorb graduates. The increased take up by graduates of non-graduate jobs in times of economic constraint is also thought to have a 'knock-on' effect on employment amongst non-graduates; in other words, graduates capture jobs that would have been taken up by those without degrees. In practice, however, this has not yet been the case between 2005/06 and 2008/09, as Figures 1.3 and 1.4 demonstrate, and the proportion of graduates entering non-graduate jobs appears relatively stable at the beginning of the current post-recessionary period.

Figure 1.3: Change in type of job entered by SOCHE classification, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

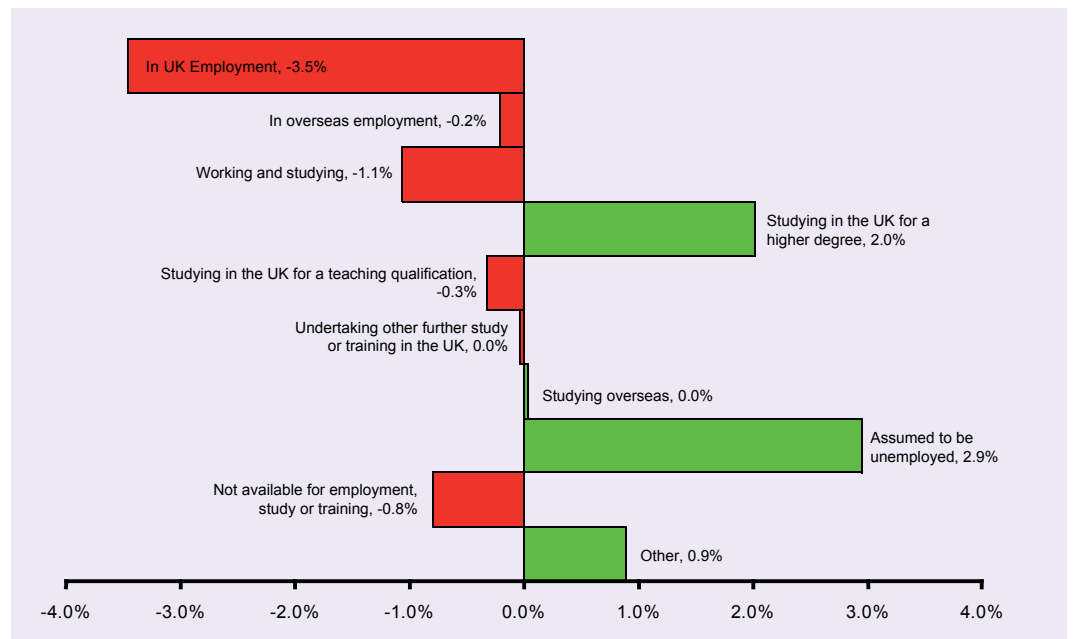
Figure 1.4: Proportions of entrants to SOCHE job categories, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

Graduate outcomes at six months after graduation include progression to outcomes other than employment. Figure 1.4 provides data of the numbers and proportions of graduates, and how these have changed between 2005/06 and 2008/09.

Figure 1.5: Percentage change in graduate first destination outcomes, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

In Figure 1.5 the number of graduates with a first destination of UK employment has fallen, but those undertaking further study or training and studying for a higher degree have increased; continuing study leading to a teaching qualification has fallen; and unemployment has risen. The proportion of those whose first destination is in employment overseas and combining working with studying has also fallen during this period.

The progression of graduates into employment in the UK is not uniform by subject. The figures in Appendix B show in detail entry into employment at six months following graduation (includes all traditional, modern, new, niche and non-graduate categories) and show that employment rates are highly differentiated by subject.

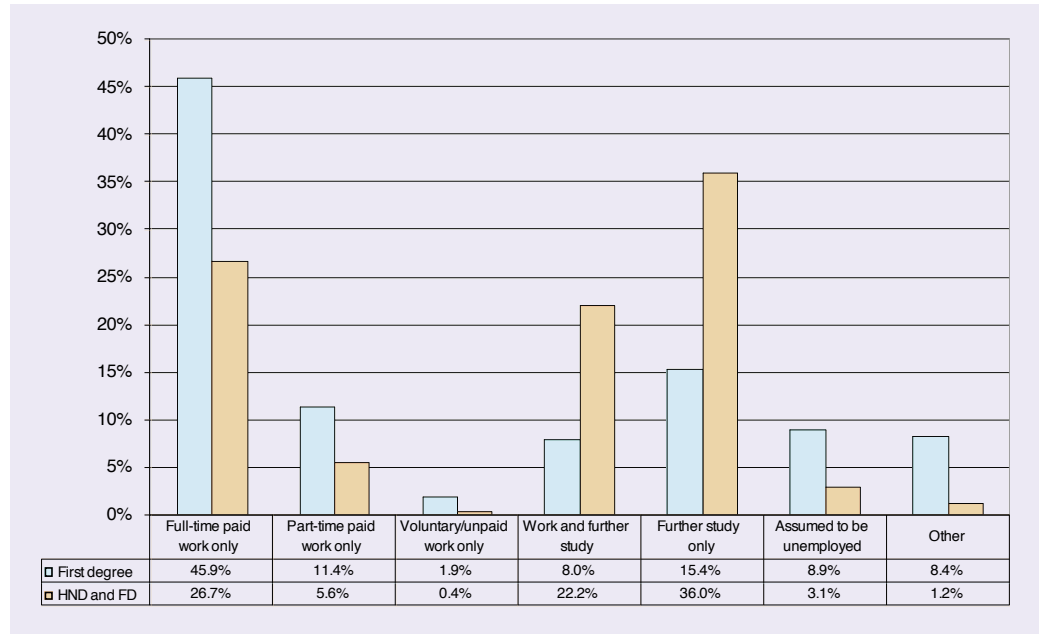
These figures illustrate that there are minor (plus or minus three per cent) fluctuations in employment rates in many subject disciplines between 2005/06 and 2007/08 that are likely to be in response to local or sectoral variation. In other cases, the fluctuations are greater and appear more likely to be in response to the recession or indicative of change in the labour market for graduates. For example, the numbers of graduates entering employment following graduation in information systems, civil engineering, building, planning and finance appear to be reducing; this is particularly interesting in light of the broad correspondence with reductions in applications to those subjects during 2009 and 2010. In all subjects except history, animal science, theology and clinical dentistry the employment rate for 2007/08 is lower than it was in the preceding year. Without data for the 2008/09 and 2009/10 cohorts of graduates it is difficult to be certain whether these reductions will form part of a structural or temporary trend.

This data also masks typical subject career trajectories; for example, within some of the STEM subjects (eg physics and chemistry) it is common for graduates to progress to postgraduate education and training prior to entry into the labour market. Further information is available in the annual *What do graduates do?* (HECSU/AGCAS, 2010).

The report demonstrates that first destination outcomes for graduates vary significantly according to subject of study. For example, progression to further study is typical for physics graduates (40 per cent) and far less so for business studies (8 per cent) and the reverse is true for entry to employment, with 51 per cent of business studies graduates entering employment, compared to eight per cent of physics graduates. The significance of this data is that employment rate alone may not be a useful indicator of the efficacy of subjects; this may be particularly important for prospective students and their advisers.

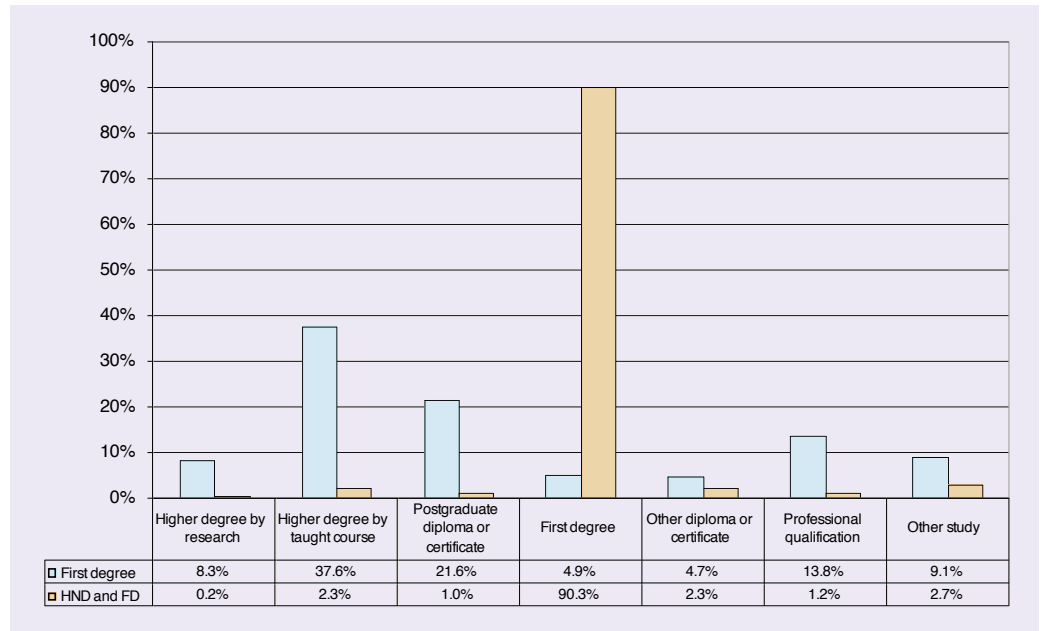
Additional differences in outcomes are visible when foundation degree qualifiers are compared with all other degree qualifiers. It might be expected that as a consequence of the requirement for foundation degrees to be vocationally relevant, employment outcomes would be higher than for other first-degree qualifiers. In fact, it appears that this is not the case (Figure 1.6); approximately one-third of foundation degree qualifiers progress to full- and part-time employment, and they are more than twice as likely to progress to 'further study only' and 'work and study'. Of those who do opt for further study (Figure 1.7) an overwhelming majority (90 per cent) progress to first degrees. This suggests that the availability of a 'top up' to BA or BSc programmes is taking foundation degree holders out of the graduate labour market in the short term.

Figure 1.6: First destination outcomes for first degree, foundation degree and HND qualifiers in 2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

Figure 1.7: Type of further education and training destination in first degree, foundation degree and HND qualifiers in 2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

Findings from the second DLHE longitudinal study (the 2004/05 graduating cohort) indicate that three and a half years after graduation those in work had risen to approximately 83 per cent, those in work and study were 6–8 per cent, and those presumed to be unemployed had fallen to just over two per cent overall. When combined data from the first and second DLHE longitudinal surveys (2002/03 and 2004/05 graduating cohorts) is considered by broad type of subject studied, the pattern in Table 1.5 emerges.

Table 1.5: Percentage of full-time degree leavers in work, study or assumed to be unemployed approximately three and a half years after graduation

	Work (including work & study)		Study (including work and study)		Assumed unemployed	
Highest	Medicine and dentistry	97.2%	Biological sciences	25.1%	Mass communications and documentation	4.7%
Second highest	Engineering and technology	94.3%	Physical sciences	24.7%	Creative arts and design	4.7%
Third highest	Business and administrative studies	93.5%	Mathematical sciences	20.5%	Computer science	3.7%
Third lowest	Combined	83.3%	Mass communications and documentation	7.4%	Engineering and technology	1.5%
Second lowest	Biological sciences	80.0%	Education	7.3%	Medicine and dentistry	0.4%
Lowest	Physical sciences	78.1%	Computer science	5.8%	Veterinary science	0.3%

Source: HESA presentation at AGCAS conference September 2009

Graduate-level jobs

The extent to which graduates achieve graduate-level jobs (traditional, modern, new or niche, and non-graduate) is a key feature of informal performance measurement but is also a reflection of the nature and size of the graduate labour market. Data in Appendix C shows absorption into the graduate labour market by subject, and there are some interesting contrasts with the analyses of employment rates in Table 1.5. Entry to graduate-level jobs from many subject disciplines appears to be increasing, for example, amongst graduates in nursing and medicine, sports science, psychology, building, social work, English, drama and education. Conversely, entry to graduate-level jobs appears to be falling amongst those graduating in computer science and information systems, architecture and some engineering and business studies.

The data in Table 1.5 suggests that there is some evidence of an increase in choice of subject and employment in ways that could be described as 'safe'. However, the extent which this is a direct response to the recession or is part of a longer-term trend is more difficult to determine. What does appear to be happening is that employment outcomes may be affecting subject choice, suggesting information about the employment of graduates and graduate level jobs is reaching applicants.

One example is IT and computing. The unemployment rate for graduates in computer science has been well above the average for some time,⁴ with the rate for graduates from 2008/09 standing at 16 per cent (see Table 2.1). The number of UK-domiciled first degree graduates in computer science has also fallen. This could be attributable to an increased awareness of a difficult employment market for graduates of this discipline.

Graduate jobs and occupations

The data presented thus far does not reveal the actual occupations reported by graduates; Figures 1–19 in Appendix A describe these in considerable detail. It is at this level of specificity that changes in employment policy at organisational level, driven by both market forces and governmental intervention, have the greatest impact. It is also the case that this level of analysis is not generally reported and yet it is at the occupational level that graduates apply for and obtain employment.

Further, it is with occupations in mind that many HE programmes are chosen; that is to say, applicants often report having occupational career ambitions that are independent of the sector or location – for example, a desire to become an accountant becomes gradually refined as learning progresses and opportunities are advertised and won, such that the desire to become an accountant becomes specifically attached to a desire to work in private practice in the North West of England. The evolution of career decision-making within the HE context is well documented elsewhere, for example, Bowen H et al (2006), but what is difficult for (students and) graduates to predict is the extent to which their choice of degree will enable a successful employment outcome given the minimum time span of four years from application to graduation.

Information about the operation of the graduate labour market is necessarily historical. Whilst it is possible to discern trends, such as an apparent rise in the number of graduates obtaining jobs as learning support workers (see Figure 12 at Appendix A), it is not clear why there has been such a rise and therefore whether it will be sustained or reversed. Ascertaining this requires detailed knowledge of (in this case) the social and welfare sector.

The data in Appendix A also highlights the need to be cautious when interpreting employment outcomes, particularly when they are presented in broad subject groupings and to consider instead what is happening at the occupational level. For example, opportunities in retail and wholesale management appear to be rising at the start of a recession (see Figure 1 at Appendix A), but this may be counter-intuitive.

Non-graduate employment

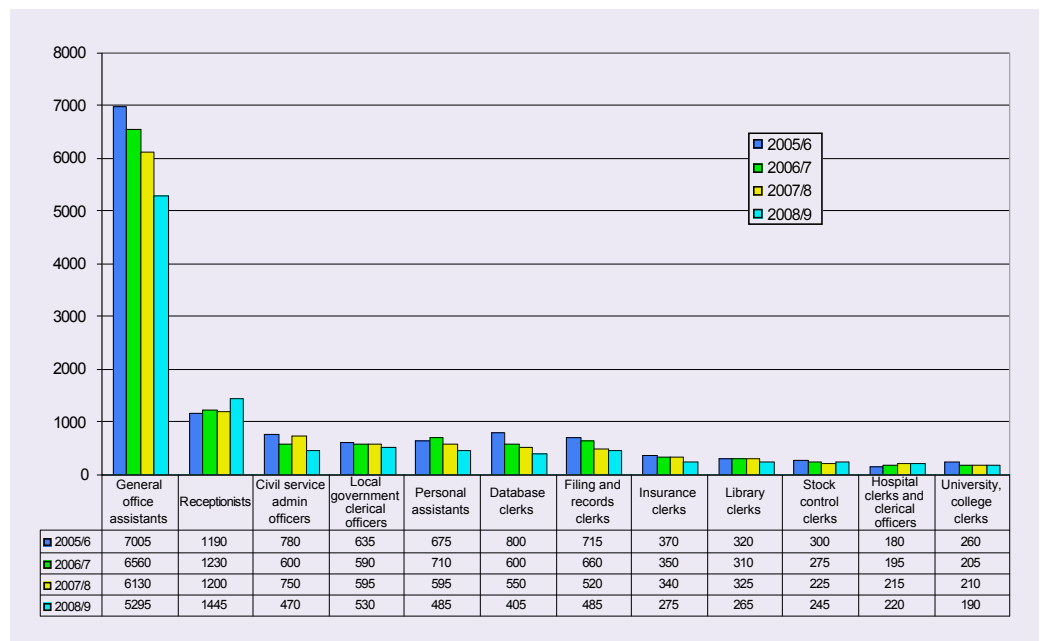
The incidence of the take up of non-graduate jobs is associated with a change in the labour market as a whole. Approximately one-third of graduates annually start employment in a non-graduate role immediately following graduation, often prior to progressing into a graduate job (Elias P and Purcell K 2004). It is important for graduates that the supply of these opportunities is not diminished as a result of the recession.

Data suggests that the availability of non-graduate opportunities is reducing. Jenkins J and Leaker D (2010) describe the current recession as leading to falling employment rates across the UK with Northern Ireland and Wales having the largest falls; the number of jobs in the UK has fallen, with manufacturing and construction industries having the largest percentage falls and redundancy levels having increased to a peak in March 2009 before falling over the following six months to September 2009.

Further, with the well-publicised likelihood of reductions in public sector spending in the coming spending cycles, it is probable that this route into employment will be inhibited for large numbers of graduates.

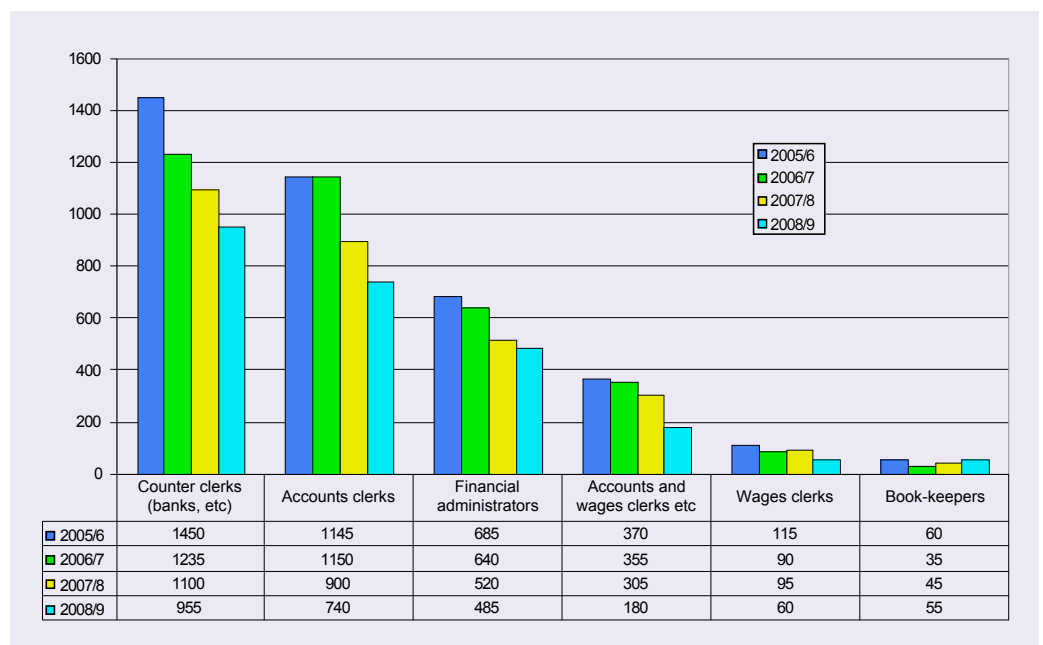
The recession may not be the only reason for a reduction in non-graduate employment; technological change is also influential. It can be seen from Figure 1.8 that not only are non-graduate jobs apparently diminishing, but also many of these opportunities provide entry points to large organisations (eg civil service and health services) from which graduates can access promotion opportunities, whilst gaining general experience of working life and clarifying career goals. In Figure 1.9 reductions in non-graduate jobs involving financial services can be observed. Here some job opportunities, such as counter clerk and accounts clerk, appear to have reduced significantly.

Figure 1.8: Entry into non-graduate jobs, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

Figure 1.9: Non-graduate job roles taken up, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

Public sector employment

The proposed public sector cuts, if implemented, will have a profound effect on graduate employment. The public sector has a higher proportion of its workforce qualified to NVQ4+ than the private sector, and cuts could have a disproportionate effect on graduates. In 2006, just under a third of public sector employees (32.4 per cent) had a degree or equivalent qualifications as opposed to 19.4 per cent of private sector employees. HECSU projected the possible effect of cuts to public sector jobs on graduate employment and calculated (on the basis of the 2007/08 DLHE data) that approximately 77,000 graduates depended upon the public sector for employment opportunities. Around three-quarters are women and eight in ten employed outside of London. Approximately 39,000 graduates are employed in jobs that are not 'frontline' public sector services (eg health service manager, laboratory microbiologists, therapists, accountants, records clerks and classroom assistants) (HECSU/AGCAS, 2010) and in some regions such as the North East of England, these roles comprise a quarter of all jobs taken up by graduates (Guardian, 2010).

At the time of writing it is not clear what the scale of public sector reductions will be. Consequently, the likely impact on the rate of graduate unemployment is difficult to predict; nonetheless, it can be assumed that there will be a significant impact upon graduates in terms of the availability of both first job opportunities and subsequent opportunities arising through replacement. HECSU has estimated that graduate unemployment could become as high as 20 per cent. The highest unemployment rate, for graduates six months following graduation, yet recorded in the UK, was for the cohort of 1981/82 when 13.5 per cent of graduates were unemployed at the start of 1983.

2. Graduate unemployment

Historically, graduate unemployment is at a lower level than amongst the general population and, currently, it is rising. The numbers of graduates presumed to be unemployed six months after graduation was 12,554 for those graduating in 2005/06; 11,451 in 2006/07; 17,362 in 2007/08; and 19,640 in 2008/09. The rate of unemployment is also rising and currently stands at an assumed 10 per cent.

What is certain is that, like employment, graduate unemployment is differentiated by subject. Graduates of vocational programmes, such as medicine and health studies, tend to experience lower levels of unemployment. However, graduating in a vocational subject cannot provide insurance against the risk of unemployment, as can be seen, for example, in veterinary science and software engineering where unemployment levels are rising. Table 2.1 suggests levels of unemployment are being influenced by both the recession and underlying shifts in demand for skills. For example, the increasing unemployment amongst building graduates is likely to be related to the recession but in computer and information technologies the levels reported appear to be more sustained. Unemployment amongst graduates appears to be rising overall, albeit from different subject bases. However, whilst percentage change at subject level is important, it can also be misleading as the numbers of qualifiers in each subject differs enormously.

Table 2.1 illustrates changes in levels of graduate unemployment during the period 2005/06–2008/09 experienced by graduates in selected subjects. It is interesting, here, to observe that some sub-disciplinary specialisms appear more likely to experience unemployment than others within the broad subject grouping. For example, those emerging with anatomy, physiology and pathology degrees are more at risk of unemployment than those who graduate in clinical medicine even though the mean risk of unemployment in nursing and medical graduates is relatively low. By comparison, those graduating in arts and humanities subjects can expect to face a greater likelihood of unemployment overall, with some graduates of sub-disciplines (design studies, photography and archaeology) facing a likelihood of around one in eight being unemployed at six months after graduation.

Such differences in graduate outcomes are not always apparent or readily understood at the time of application to HE, particularly where subject outcomes are reported at the higher JACS principal subject level ⁵.

Table 2.1: Unemployment at six months amongst graduates of various disciplines

	2005/06	2006/07	2007/08	2008/09
Nursing and medical graduates				
Nursing	1.9%	1.7%	1.7%	1.7%
Clinical medicine	0.1%	0.2%	0.2%	0.1%
Anatomy, physiology & pathology	6.9%	4.6%	5.6%	6.9%
Pharmacology, toxicology & pharmacy	2.1%	2.1%	3.5%	3.9%
Medical technology	2.2%	1.8%	3.1%	2.4%
Clinical dentistry	0.5%	0.7%	0.9%	0.5%
Ophthalmics	2.6%	1.0%	0.8%	1.6%
Bio-scientific graduates				
Psychology	6.0%	5.6%	7.4%	8.3%
Sports science	4.9%	3.9%	5.6%	6.9%
Biology	7.9%	6.7%	9.2%	10.0%
Molecular biology, biochemistry	6.2%	4.9%	9.6%	11.0%
Agriculture	7.5%	6.0%	8.2%	9.1%
Zoology	7.5%	6.5%	11.0%	12.1%
Veterinary medicine & dentistry	2.2%	1.8%	4.5%	5.5%
Animal science	4.4%	4.9%	8.7%	10.6%
Microbiology	7.9%	7.0%	7.2%	9.2%
Maths, Sciences and Computing graduates				
Computer science	10.8%	9.6%	13.9%	16.0%
Mathematics	5.4%	5.9%	8.7%	10.3%
Information systems	8.7%	9.4%	12.5%	16.2%
Chemistry	5.9%	6.2%	8.5%	8.7%
Forensic & archaeological science	7.3%	5.7%	10.6%	12.4%
Physics	8.2%	7.0%	9.1%	11.7%
Software engineering	11.5%	8.5%	15.7%	20.3%
Geology	7.3%	6.9%	10.2%	11.3%

Table 2.1 Continued

	2005/06	2006/07	2007/08	2008/09
Arts and humanities graduates				
Design studies	8.6%	8.3%	12.7%	13.1%
History	6.3%	6.0%	9.8%	9.2%
Drama	6.9%	6.3%	8.5%	9.3%
Fine art	9.3%	9.2%	10.7%	11.8%
Music	5.6%	5.2%	7.7%	9.1%
Cinematics & photography	12.0%	11.0%	12.3%	15.3%
Philosophy	6.7%	6.7%	9.9%	12.0%
Theology & religious studies	4.5%	3.9%	5.7%	6.5%
Archaeology	10.7%	8.3%	12.9%	14.1%
Dance	3.6%	5.1%	5.0%	6.8%

Source: HESA Destinations of Leavers from Higher Education surveys, 2005/6–2008/9

3. Changes to study and working patterns

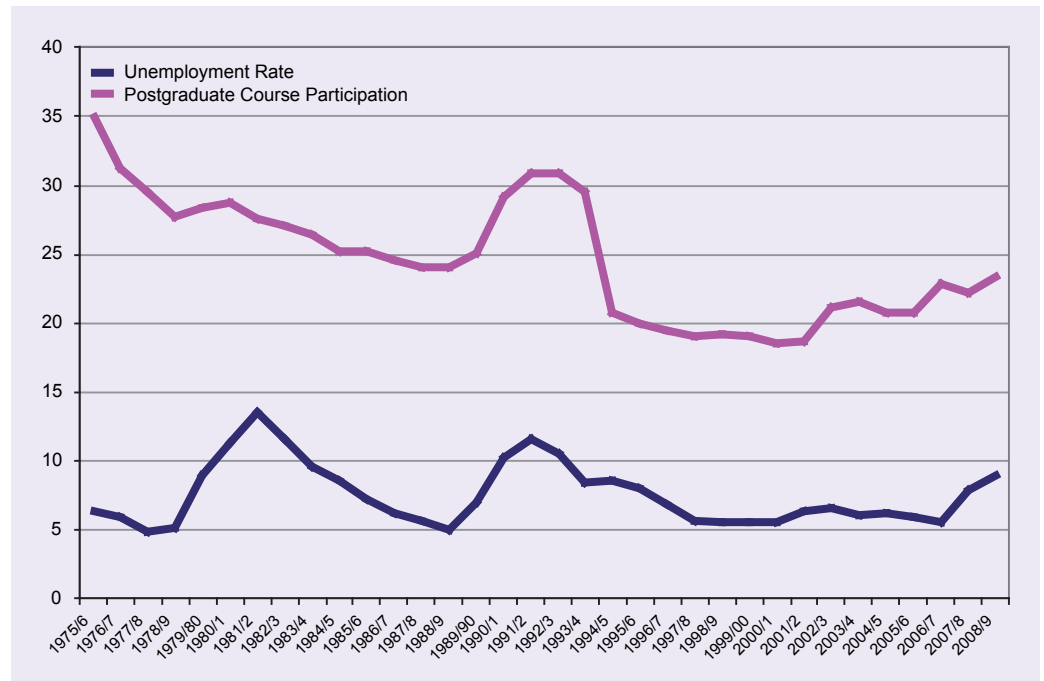
It was noted in Figure 1.5 that the proportion of graduates whose first graduate destination was combining working with studying had recently fallen. Figure 3.1 shows there is a strong relationship between rising unemployment for graduates and their tendency to enter postgraduate study when they graduate.

In the recession of the early 1990s, postgraduate study started to sharply gain in popularity, although it was slightly after unemployment was seen to begin rising. This period also coincides with the rapid increase in participation in HE during the 1990s and may reflect 'credentialism' (Chillas, 2010), or a sense that a first degree needed to be supplemented with postgraduate qualification in order to succeed in the labour market, as much as a response to the recession.

Figure 3.1 suggests that there is a relationship between levels of unemployment and postgraduate participation. If previous behaviour is a guide, it is likely that postgraduate study will remain at an elevated level for some years to come, and until recovery in the graduate jobs market is well under way.

Destination data also tells us about those people who enter postgraduate study from other routes, particularly those who have been employed and return to education to gain extra qualifications. Anecdotal evidence suggests there has been a rise in interest in postgraduate study from those currently employed and it remains to be seen whether this will be evidenced by increased enrolments.

Figure 3.1: Historic unemployment rates for graduates six months after graduation compared with the proportion of those who progress to further study

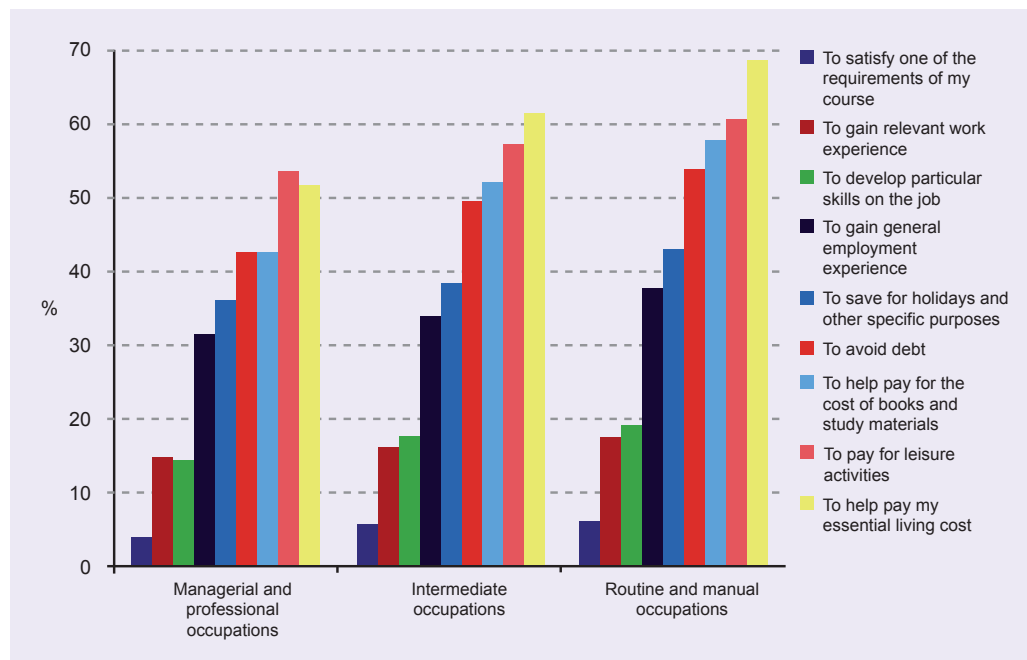


Source: Futuretrack study, Purcell K et al (2009)

Evidence from the *Futuretrack* study (Purcell K et al, 2009) suggests undergraduate students are combining work and study more than they expected to at the outset of their studies, and that the predominant reason for taking up paid work during term time and vacations is financial.⁶ The study is current and most of the *Futuretrack* cohort graduated in 2009 into a largely unexpected (at the outset of their study) recession; whether this cohort has been influenced to combine work and study more vigorously due to an awareness of the emerging recession or as way of off-setting debt, or both, is difficult to judge.

Futuretrack reveals that the propensity to work during both vacations and term time is highest amongst those on foundation degree and HND/DipHE programmes; whose parental occupations are described as 'routine'; whose ethnic group is Black Caribbean; and who are studying in Scotland. There is also a strong relationship between working and subject discipline:

'The average weekly hours worked during term by those who reported working at all in their first year was just over nine, but this ranged from 4.25 hours by medicine and dentistry students employed during term to just under 12 hours by those studying mass communications and while only 13 percent of the former employed during term worked for more than 16 hours, 27 percent of the latter did.' (Purcell K et al 2009)

Figure 3.2: Reasons for doing paid work by broad socio-economic background

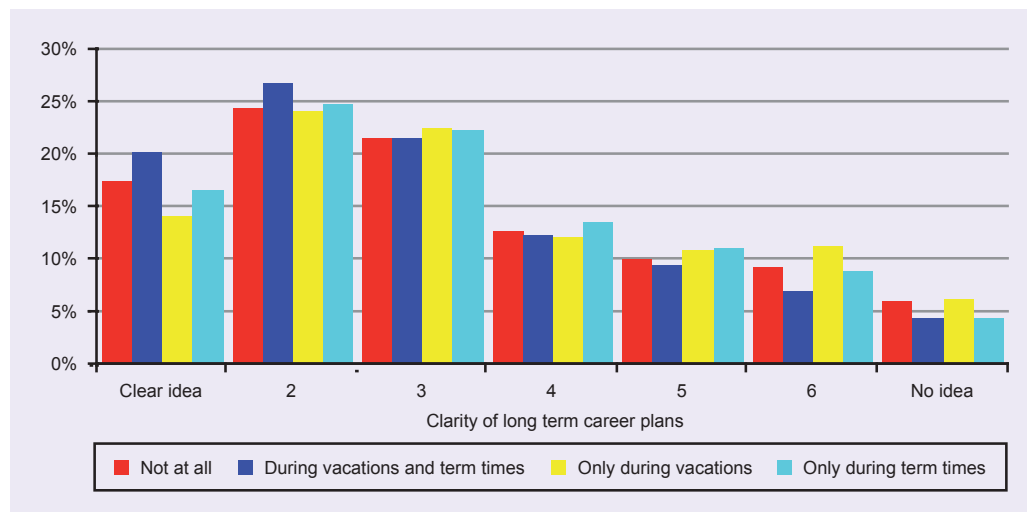
Source: HESA data

The main reasons students give for working whilst studying are not explicitly related to future employment outcomes (Figure 3.2) as much as to help pay for essential living, leisure and study costs. Using work whilst studying as a means to gain work-related skills is relatively low across all three socio-economic groups, which possibly indicates that most students do not see a relationship between working whilst studying and the achievement of their ultimate career goal.

There does appear to be a relationship between clarity of career planning (as judged by respondents on a self-rated scale of 1–7 where 1 indicates ‘I have a clear idea’ and 7 indicates ‘I have no idea’) and doing paid work during vacations and term time. Figure 3.3 suggests that those who are most clear about future plans are slightly more likely to work both during vacations and term time, but this is countered by the finding that high proportions of those who are very clear about their career goals did not work at all.

This apparently contradictory finding might be attributable to the opportunities that students in some disciplines have for taking up paid work, as a consequence of differential patterns of teaching and also due to varying affluence levels amongst the student population.

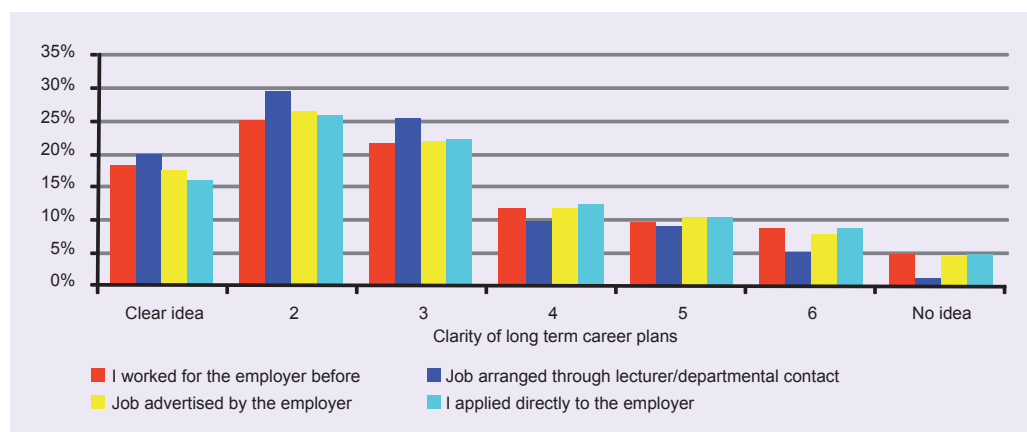
Figure 3.3 Relationship between clarity of career plans and whether paid work was undertaken during term times, vacations or not at all



Source: Futuretrack data: unpublished

Further, there appears to be a relationship between clarity of career plans and how the paid work was obtained (Figure 3.4); where the paid work had been arranged through a lecturer or departmental contact, there appears to be a greater likelihood of this being associated positively with clear long-term career plans. It is also likely that where paid work is arranged by the institution, that it is a course requirement and vocational in nature.

Figure 3.4: Relationship between clarity of career plans and how paid work was obtained



Source: Purcell K et al (2009)

Students' experience of unpaid work (and volunteering) differs significantly from paid work. Unpaid work is reported by less than one-third of *Futuretrack* respondents, undertaken by slightly more females than males, and the predominant reasons for doing so are in order to learn new skills and gain experience for a future career (Purcell K et al, 2009). Figure 3.5 illustrates the reasons for doing unpaid work. Of the three uppermost motivations, two are related to future employment, especially amongst women.

These findings suggest that while many full-time students are working in paid employment during their studies, the jobs they are doing may not be a rehearsal for ultimate careers. Where students are able to volunteer for work-related opportunities, these are more likely to be undertaken as a form of eventual work preparation.

Figure 3.5: Reasons for undertaking unpaid work by gender



Source: Purcell K et al (2009)

In their longitudinal study of the career development of part-time students, Callender C et al (2010) discovered that more than half of the students in their sample first considered further study for employment-related reasons (eg to enhance job skills). They also found that the predominant reason for studying part-time, rather than full-time, was due to wanting to remain in paid employment.

Whilst there is some evidence of different underlying motivations for combining work and study amongst full- and part-time students, it may not be unreasonable to assume that if the pattern of working whilst studying becomes well established at undergraduate level, it may persist as a pattern at postgraduate level.

4. Availability of work placement opportunities

The availability of work placements for students can provide a form of 'barometer' on the recession. When businesses are thriving, they are more readily persuaded to devote time and resource to student work placements than at times of economic pressure. Mindful of this, on behalf of Universities UK, HECSU carried out a brief survey in autumn 2009 of HE staff involved in the provision of work placements for students currently studying in HE. Here, work placements are defined as being those required (compulsorily or as an elective) as part of the curriculum.

Of the survey respondents who supplied numbers of placements, 52 per cent had secured fewer placements for students in 2008/09 than in 2007/08; and 18 per cent saw no change. The median percentage decrease in the number of placements secured was -20 per cent. Just under a third of respondents (30 per cent) secured more placements in 2008/09 than in 2007/08. For these respondents, the median percentage increase in the number of placements secured was around 19 per cent.

It may be self evident, but a key factor in determining the number of work placements secured is the number of students on the course(s); fluctuations in student numbers are necessarily reflected in fluctuations in demand from HEIs for work placements.

When respondents were asked if they thought employers were offering fewer placements in 2008/09 compared to 2007/08, just under half (45 per cent) thought fewer placements for students were offered and more than a third (37 per cent) thought employers had offered the same number of placements. Only five per cent, however, believed employers offered more placement opportunities.

The economic downturn is identified as the main reason for a decrease in the number of placements by those respondents who have seen a decrease in numbers of placements as the main reason. However, the downturn is not having a universal impact on the provision of work placements and whilst the recession was clearly well established at the time of the survey, its impact appears to be eccentric and subject to local variation at sector level. Respondents' comments reveal this:

'Still solid support from employers in 'core' engineering and technology and the level of student engagement still seems to be the key factor in the overall number of secured placements here. However in other sectors there was reduced demand, particularly from existing SME contacts. Also, general lack of suitable opportunities in property and construction sectors, hit hard by recession.'

'The hospitality sector was offering very few to start with, but there was a late rush of opportunities over the summer, prompted by student action and faculty staff contacts, allowing most of the students to secure very relevant placements. The industry seemed to be leaving it very late to put out offers but then did so at a time when our students could still confirm placements. Our cut off date was not until the end of September. Appropriate tourism placements generally need to be self-sourced, and even though the students worked hard there were very limited opportunities around due to the downturn in the industry.'

There is evidence that the provision of year-long placements is decreasing and shorter-term placements, so-called 'thin' placements, are becoming more common. This trend, however, seems to depend on a range of factors including the nature of the course, established work-placement practices and the tradition within the sector.

One interesting feature to emerge is concerned with the reduction in demand for work placements from students. This concurs with a recent study by Walker and Ferguson (2009) looking at the downward trend in students taking up sandwich placements.

One respondent comments:

‘There are considerable barriers to students taking on intercalated year placements – not least the costs of this, the break from a cohort who will not all opt to take a placement and actually sourcing placements is a problem (students are expected to source their own in most cases).’

Although, conversely, there is also evidence of an increase in demand for work placements from students:

‘Students have realised that they need an edge in the graduate marketplace. Also the fact that there has been so much publicity surrounding the lack of jobs for graduates.’

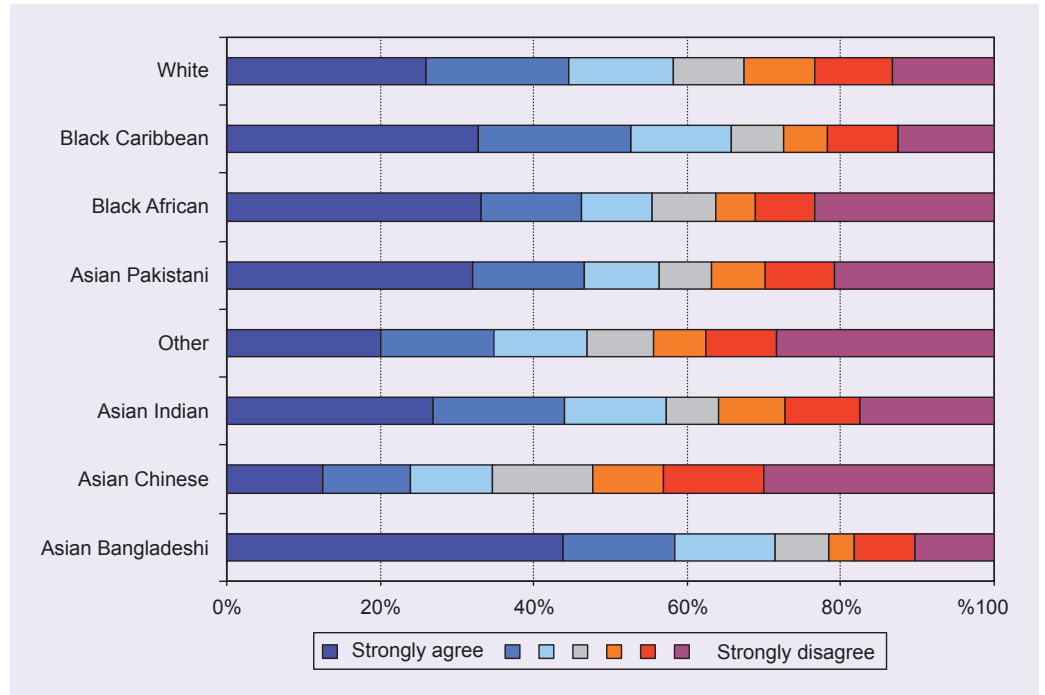
The majority of respondents report that it is too early to comment on whether graduate internship initiatives to support graduates at risk of unemployment are having an adverse effect on the number of work placements supporting course curriculum. Respondents are also concerned about the number of organisations who offer students unpaid work placements, arguing that students are entitled to be paid for the work that they do.

5. Student debt and the effect on student choice

Applications to and participation in HE has continued to rise year-on-year since before the introduction of variable tuition fees in 2006, despite fears to the contrary and the fee/loans reform does not appear to have affected participation levels. However, there is evidence of a fear of debt amongst current students. *Futuretrack* participants applied to HE in 2005/06 and, thus, represent the first cohort of students to graduate having experienced the new fee/funding arrangements. Their view of the management of this new level of debt would have been interesting during a period of certain employment but as graduation for most has been during 2009, concerns have been exacerbated by worries about whether the investment will ‘pay off’ in the current economic climate.

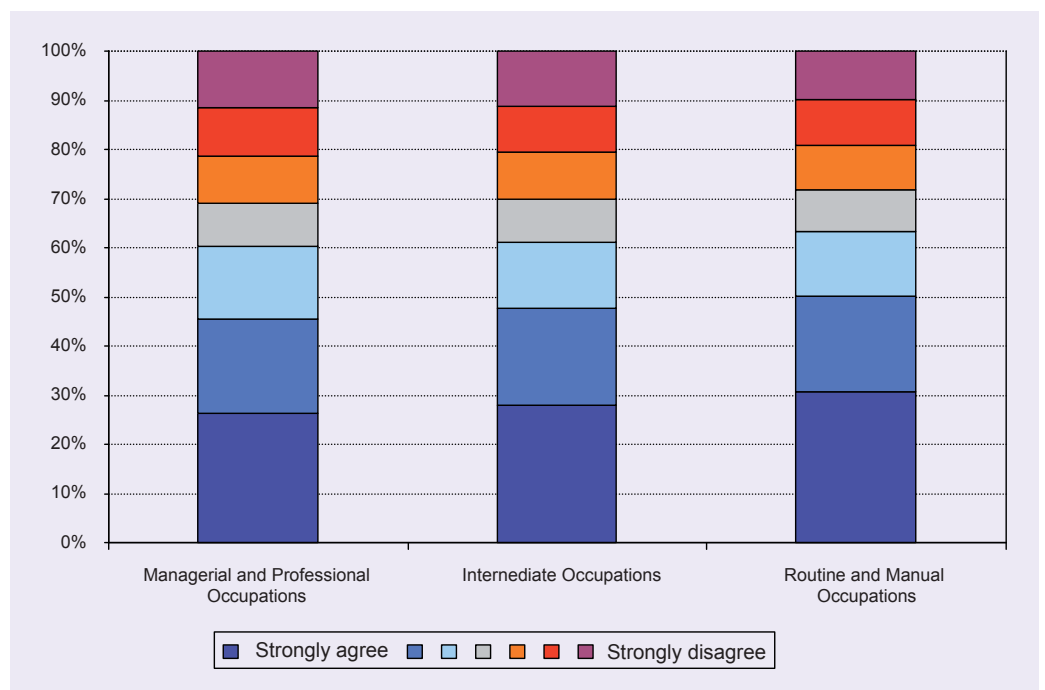
The effect that concerns about the management of debt might have upon student choice is likely to be influenced by personal (including socio-economic) factors and perception of future graduate employment opportunities. Figure 5.1⁷ shows that levels of concern differ by minority ethnic group, and when the same question is considered by socio-economic status alone (where parental occupation used as a proxy) at Figure 5.2, there is evidence that those from routine/manual backgrounds are the most likely to be concerned, although not a great deal more so than those from other social backgrounds. Concern about debt appears to be a more or less universal concern at the stage the data were collected (summer of 2007).

Figure 5.1: Extent of agreement with the statement “I am worried about the prospect of having to repay loans and debts when I have completed my course” by ethnic group



Source: Futuretrack data: unpublished

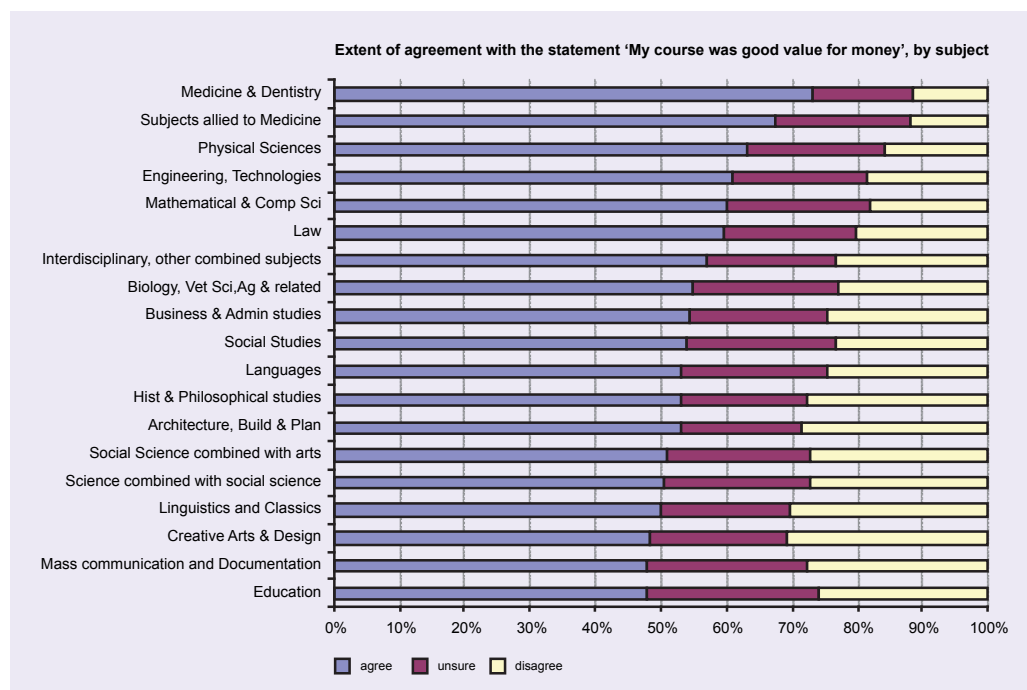
Figure 5.2: Extent of agreement with the statement ‘I am worried about the prospect of having to repay loans and debts when I have completed my course’ by socio-economic group



Source: Purcell K et al (2009)

The extent to which courses are viewed as good investment was found to be differentiated by not only institution but also by subject (Figure 5.3). It is interesting to note that *Futuretrack* respondents feel that the most expensive courses are also considered to be the best value for money; this suggests opinion is informed by knowledge of employment prospects (unemployment rates are very low) and knowledge of salaries (above average) thus making initial investment worthwhile in the longer term. Conversely, there is less certainty about value for money amongst students studying education, mass communications, creative arts and languages, where, with the exception of teacher training within education, employment prospects (and earnings potential) are lower. These differences in view may also be influenced by relative affluence and level of debt aversion.

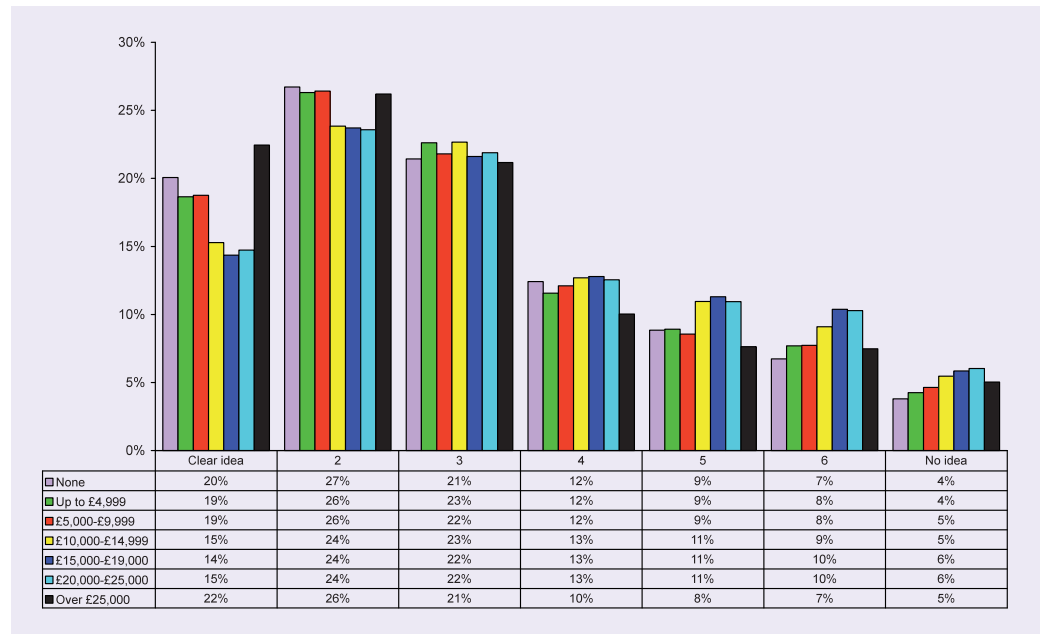
Figure 5.3: Extent of agreement with the statement 'My course was good value for money' by subject discipline



Source: Purcell K et al (2009)

Figure 5.4 plots the extent to which respondents have a clear idea of what they plan to do in the future against expectation of debt. The evidence suggests anticipation of high levels of debt (£25,000 or more) is positively associated with having clear goals and plans, and much less so with having no idea at all. However having clear goals is also associated with expectation of much lower levels of debt (under £10,000) suggesting career planning (and employment aspiration) may be relatively independent of financial considerations and, therefore, unlikely to affect choice. The data was captured after the cohort had been studying for approximately a year (stage 2). It will be interesting to find out whether views have altered by stage 3, when, for many, the search for employment and postgraduate training had begun in the third year of study.

Figure 5.4: Expectation of debt and clarity of career planning



Source: Futuretrack data: unpublished

Whether anticipation of student debt will discourage application to HE has been a contested issue since the introduction of variable tuition fees (VTFs) in 2006. There seems to be little evidence to indicate VTFs have adversely affected applications; indeed the continued rise in applications suggests that increasing interest in HE is a powerful trend that predates the emergence of recession, particularly amongst young people. In its submission to the independent review of HE funding and student finance, chaired by Lord Browne, in January 2010, Universities UK noted:

‘Absolute numbers of applicants are less meaningful than figures adjusted by the overall relevant population. ‘Variable fees in England’ illustrates the growth change in applications with reference to the 17 year-old population. In England, the number of applicants per thousand of the 17 year-old population showed a one-year reduction of 3.5 per cent in 2005/06 followed by increases of 6.3 per cent in 2006/07, 8.7 per cent in 2007/08 and 9.8 per cent in 2008/09. Overall, between 2004 and 2009 there has been a 30 per cent increase in the number of applicants per thousand of the 17 year-old population in England.’

(Universities UK, 2010)

An important aspect of the post-2006 funding arrangements is the provision of bursary support for students. The extent to which bursaries are an incentive to study is as yet unclear, but available evidence suggests bursaries are having no effect on student behaviour patterns:

‘There is a significant question about whether the institutional bursary regime achieves what it was intended to achieve in terms of influencing the decisions of potential students about whether to enter higher education. Although some evidence suggests that student choice is influenced by bursary provision, there is currently no evidence at a sector level from the applications data that the maximum level of bursary has had an influence on the application rate to individual institutions. Some argue that the institutional bursary system is inequitable to students. Others suggest that bursaries are an important tool in the effort to extend access to the most selective universities.’

(Universities UK, 2010)

6. Studying locally

Available data on student permanent domicile, whilst specific to regional (and even postcode) level, does not reveal proximity to the nearest HEI. Similarly, institutional locations can be categorised by administrative region but may span more than one region and adjacent HEIs might be categorised as being in different regions. It is, therefore, very difficult to judge whether a student is studying 'locally'. For example, a student studying in Chester and living in Wrexham might consider her/himself to be studying locally, but would actually be classified as studying in a different UK country. Arguably, what is required is the development of a robust system of 'catchment' areas for HEIs, in much the same manner as for schools, or 'travel-to-work' areas that are used to identify employment patterns. Currently, no such methodology has been identified.

The decision to study locally whilst living 'at home' does, however, affect the nature of the student experience. In particular, it can inhibit opportunities for extra curricular activities and social networking:

'Although the majority of Futuretrack Stage 2 respondents lived in traditional student halls of residence during their first year in higher education, a significant number lived in other types of accommodation. In particular a large proportion lived in their own home with other family members. While it was older students who were most likely to be living in their own home, significant numbers in even the youngest age group did so. Students from particular ethnic groups were particularly likely to be living at home, regardless of their age, with Bangladeshi and Pakistani students being the most likely to have lived at home in their first year.'

Students at the highest tariff universities and those from higher socio-economic groups were the most likely to take part in extra-curricular activities at their HEI, and to have been student representatives or office holders during their time in higher education. These are important arenas for developing key skills and social and cultural capital, and the responses indicated that there was a tendency for the students' existing advantages and disadvantages to be reinforced during their HE experience.'

(Purcell K et al, 2009)

It is well known that participation in HE is not uniform across all parts of the UK and low participation in HE is associated with areas of relative economic disadvantage (HEFCE, 2010b). Postcodes of young and mature students' home domicile are used to classify levels of participation in HE based on the percentage of students who come from low participation neighbourhoods. Subject participation grouped accordingly reveals that the distribution of students from the lowest 20 per cent participation in HE to the highest rank for HE participation varies significantly. Whilst there has been some overall increase in participation from the lowest 20 per cent between 2005/06 and 2007/08, participation in some subjects, (medicine and dentistry, mathematics, building, business, finance, history and philosophy, and languages) has remained below 10 per cent throughout the period. Table 6.1 illustrates this.

Table 6.1: Participation by neighbourhood amongst students by subject

	Lowest 20% participation in HE	21st to 40th rank participation in HE	Middle quintile for HE participation	61st to 80th rank for HE participation	Highest rank for HE participation
Medicine and Biological science students					
Medicine and Dentistry 2005/6	5.3%	10.0%	16.2%	23.6%	44.9%
Medicine and Dentistry 2006/7	5.3%	10.0%	16.1%	23.4%	45.2%
Medicine and Dentistry 2007/8	5.1%	9.9%	16.2%	23.4%	45.5%
Subjects allied to Medicine 2005/6	11.8%	17.6%	21.6%	23.0%	26.1%
Subjects allied to Medicine 2006/7	12.7%	18.1%	21.7%	23.0%	24.5%
Subjects allied to Medicine 2007/8	12.4%	18.1%	21.4%	22.5%	25.6%
Biological Sciences 2005/6	10.8%	15.8%	20.4%	23.8%	29.2%
Biological Sciences 2006/7	11.3%	16.5%	20.5%	23.5%	28.2%
Biological Sciences 2007/8	11.5%	16.6%	20.4%	23.5%	28.0%
STEM subject students					
Physical science 2005/6	9.3%	15.1%	19.5%	24.8%	31.2%
Physical science 2006/7	10.1%	15.3%	19.3%	24.5%	30.8%
Physical science 2007/8	10.5%	14.7%	19.1%	24.2%	31.5%
Maths 2005/6	8.1%	14.0%	18.5%	24.0%	35.4%
Maths 2006/7	8.6%	14.5%	18.7%	23.5%	34.7%
Maths 2007/8	8.2%	14.0%	18.5%	23.5%	35.9%
IT 2005/6	12.3%	18.5%	22.5%	21.9%	24.8%
IT 2006/7	13.1%	18.8%	22.8%	21.5%	23.8%
IT 2007/8	13.5%	19.0%	22.6%	21.5%	23.3%
Engineering 2005/6	8.8%	14.7%	19.6%	24.5%	32.3%
Engineering 2006/7	9.8%	15.3%	19.6%	24.4%	30.9%
Engineering 2007/8	9.6%	14.8%	19.6%	24.4%	31.6%
Building 2005/6	9.0%	15.0%	19.3%	24.2%	32.6%
Building 2006/7	9.1%	15.0%	19.8%	23.8%	32.2%
Building 2007/8	8.8%	14.6%	18.8%	24.3%	33.5%
Social Sciences subjects students					
Social science 2005/6	11.5%	16.3%	20.5%	22.1%	29.6%
Social science 2006/7	12.3%	16.9%	20.5%	22.1%	28.2%
Social science 2007/8	12.3%	16.7%	20.4%	22.0%	28.6%
Law 2005/6	11.1%	17.4%	21.4%	22.3%	27.8%
Law 2006/7	12.0%	18.1%	21.7%	21.6%	26.6%
Law 2007/8	12.4%	18.4%	21.6%	21.4%	26.2%
Business and finance 2005/6	9.3%	16.2%	21.0%	23.2%	30.3%
Business and finance 2006/7	9.9%	16.6%	21.2%	22.8%	29.6%
Business and finance 2007/8	10.1%	16.6%	20.9%	22.7%	29.7%

Table 6.1 Continued

	Lowest 20% participation in HE	21st to 40th rank participation in HE	Middle quintile for HE participation	61st to 80th rank for HE participation	Highest rank for HE participation
Arts and Humanities subjects students					
Mass communication and documentation 2005/6	10.1%	16.6%	20.9%	24.1%	28.3%
Mass communication and documentation 2006/7	10.4%	17.0%	21.2%	23.7%	27.6%
Mass communication and documentation 2007/8	11.1%	17.5%	20.9%	23.7%	26.8%
Languages 2005/6	8.4%	12.9%	18.1%	24.8%	35.8%
Languages 2006/7	8.5%	13.3%	18.2%	24.9%	35.1%
Languages 2007/8	8.5%	13.3%	18.1%	24.8%	35.3%
History and philosophy 2005/6	8.2%	12.9%	18.3%	24.7%	35.8%
History and philosophy 2006/7	8.7%	13.2%	18.6%	24.6%	34.9%
History and philosophy 2007/8	8.5%	13.2%	18.0%	24.6%	35.7%
Art and design 2005/6	10.0%	15.6%	20.2%	24.7%	29.4%
Art and design 2006/7	10.4%	15.8%	20.5%	24.3%	29.0%
Art and design 2007/8	10.9%	16.0%	20.3%	24.2%	28.6%

Source: HEFCE student record data

7. Progression to post-graduate programmes

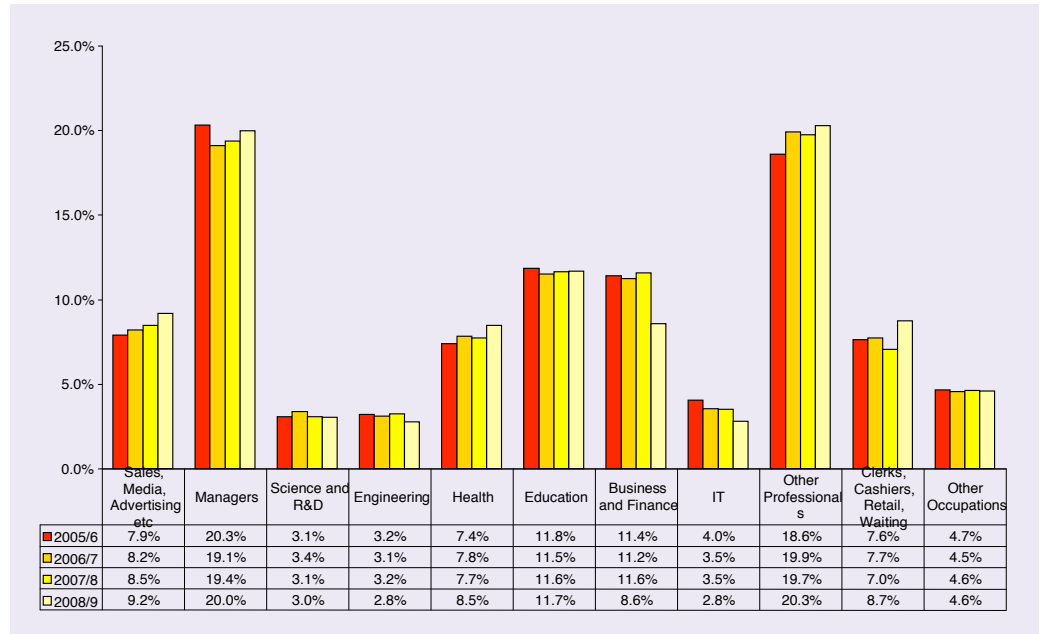
First destination progression to postgraduate education and training has increased during the period 2005/06–2008/09, but progression to ‘work and training’ has fallen (as shown in the latest DLHE survey).

The survey shows that the proportion of those progressing to postgraduate study was 13.5 per cent in 2005/06; 13.7 per cent in 2006/07; 13.8 per cent in 2007/08; and 18 per cent in 2008/09. This is consistent with other studies of the rise in postgraduate participation (Artess et al 2008). The proportion of those whose first destination was to combine working with studying was nine per cent in 2005/06; 9.1 per cent in 2006/07; 8.1 per cent in 2007/08; and just eight per cent in 2008/09. This data suggests opportunities to continue study whilst working may be becoming less available and/or graduates are choosing to study full-time instead.

It should be noted that ‘work and training’ encompasses a range of qualification aims including part-time postgraduate master’s level study and vocational education and training.

First job destinations amongst those qualifying to master’s level has been stable across the period 2005/06–2008/09, as Figure 7.1 indicates.

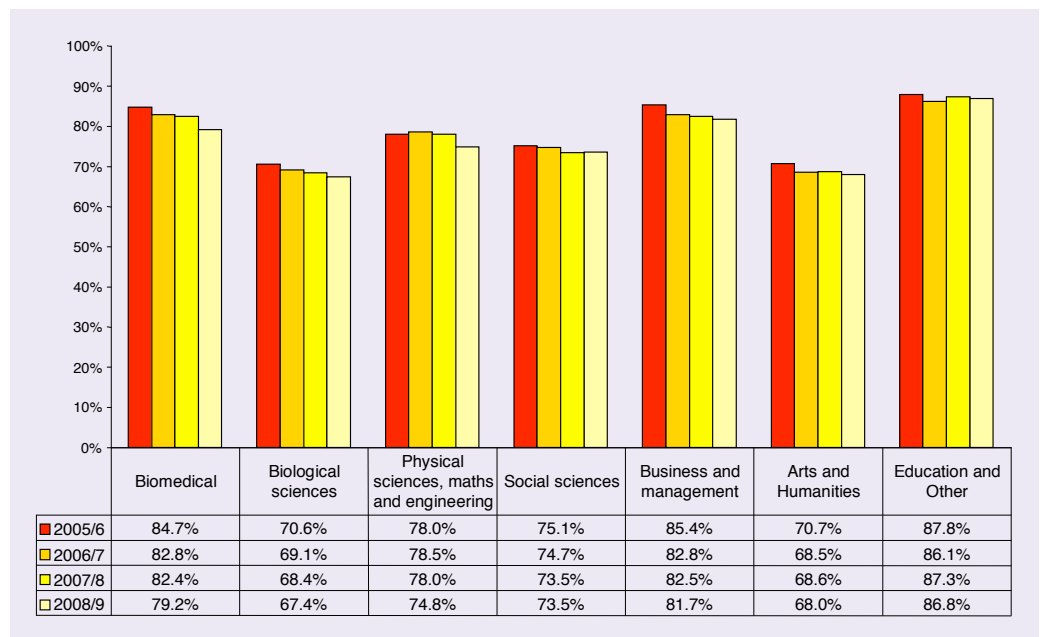
Figure 7.1: Proportion of master’s graduates in employment in the UK six months after graduation, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/06–2008/09

When employment outcomes for master’s students are considered by course type it can be seen that there has been relatively little change in recent years (Figure 7.2).

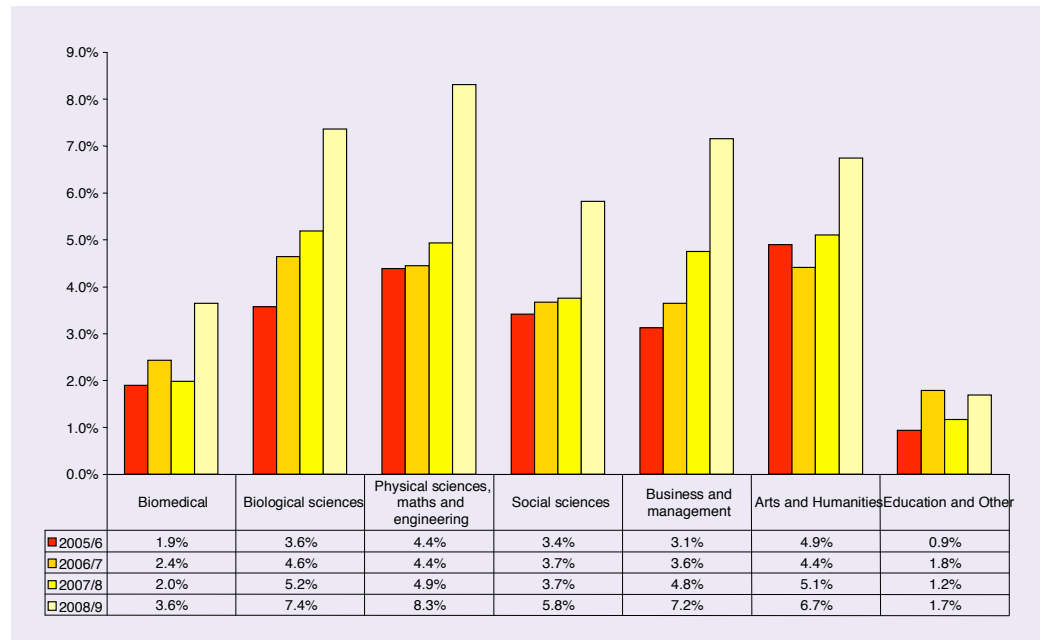
Figure 7.2: Proportion of master’s graduates in employment in the UK six months after graduation by broad subject discipline, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/06–2008/09

However, there is evidence of some increase in the level of unemployment amongst master’s graduates, except amongst those graduating in biomedical and education subjects.

Figure 7.3: Proportion of master's graduates unemployed six months after graduation by broad subject discipline, 2005/06–2008/09



Source: HESA Destinations of Leavers from Higher Education surveys, 2005/06–2008/09

8. Demand for 'flexible' provision

Flexible provision, in which students can combine work, study and other responsibilities, has typically been provided by part-time course provision:

'Part-time student enrolments rose rapidly during the late 1990s and early 2000s and this has contributed to expectations by the 2006 Leitch Review of Skills that part-time HE would contribute substantially to future increases in the proportion of 19–65 year olds achieving a Level 4 qualification.'

(Mason G in press)

More recently there are indications that part-time study is beginning to decline, firstly, amongst undergraduates and, more recently, in respect of postgraduates. The ratio of part-time to full-time students has also fallen by just under one percentage point between 2005/06 and 2007/08 from 19.7 per cent to 18.8 per cent.

Mason concludes:

'Hence there are grounds for doubting whether the part-time HE route will contribute substantially to growth in high-level skills and knowledge in future years. Part-time numbers in [the] future may also be reduced by the government's decision to phase out funding from 2008/09 for the majority of students in England and Northern Ireland who are studying for qualifications that are equivalent to or lower than qualifications than they already hold.'

Part-time students are disproportionately represented on foundation degrees and HNDs that are explicitly work-related, and work and study time is structured into the course design.

Part-time students are more likely to be female and older. For example, in 2007/08, 63 per cent of part-time students were female compared to 56 per cent of full-time students; and 39 per cent were over 40 years old (HESA, 2009). In Callender et al's (in press) study of part-time students it was found that the majority of part-time students were motivated by career ambitions when choosing to embark on part-time study, for example, seeking to develop new or existing skills that would help them progress in their present or future occupation. Estimates from the *Labour Force Survey* suggest that about a third of part-time first-degree students and a quarter of part-time foundation degree students are already in managerial or professional occupations, as are 18 per cent of part-time HNC students. Large proportions of part-time students are estimated to already be working in intermediate-level occupations and approximately 30 per cent of all part-time students are in occupations where HE qualifications are not typically required (Table 8.1).

Table 8.1: Distribution of part-time students' occupations by qualification aim⁸

	Managers	Professional Occupations	Associate professional and technical occupations	Administrative and secretarial occupations	Skilled trades	Personal service occupations	Sales and customer service occupations	Process, plant and machine operators	Elementary occupations	Total	Grossed up population estimate (unweighted n=)
Higher degrees	20%	43%	25%	7%	0.4%	4%	1%	0.2%	0.4%	100%	47,6027 (878)
First degrees	12%	16%	38%	8%	4%	12%	4%	1%	5%	100%	29,0146 (504)
Foundation degrees	20%	8%	23%	12%	3%	26%	3%	0%	6%	100%	72,536 (135)
Higher National Certificates / Diplomas	3%	12%	40%	16%	11%	8%	6%	3%	1%	100%	89,852 (151)
Other undergraduate qualifications	10%	28%	24%	13%	2%	15%	3%	1%	4%	100%	282,952 (509)
Total part-time HE students	14%	29%	29%	10%	3%	10%	3%	1%	3%	100%	1,211,296 (2,177)

Source: Labour Force Survey 2008 (Four quarter average)

Perhaps as a result of combining work and study, employment rates amongst graduates who studied part-time tend to be higher than those who studied full-time. Table 8.2 shows that whilst early employment progression for first degree holders into full- or part-time paid work or work and further study is better for part-time students than for full-time students – see rows A and C – the relative advantage appears to diminish over time, such that after three years these outcomes are virtually the same – see rows B and D.

Table 8.2: Destinations of HE students six months after graduation and three and a half years after graduation, 2004/05 cohort, analysed by mode of study and qualification level

2004-05 leavers:	Full-time paid work only (a)	Part-time paid work only	Work and further study	Further study only	Assumed to be unemployed	Not available for employment	Other (b)	Total	n =
% of leavers in each qualification category									
Full-time: A. Activity on 15 April 2005/ 16 January 2006									
Postgraduate	72	6	8	6	5	2	2	100	6385
First Degree	55	8	8	16	6	5	2	100	24985
Other undergraduate	48	7	15	24	3	1	1	100	2345
B. Activity on 24 November 2008									
Postgraduate	81	5	5	4	2	2	1	100	6385
First Degree	77	4	7	7	3	1	1	100	24985
Other undergraduate	72	10	8	4	3	2	1	100	2345
Part-time: C. Activity on 15 April 2005/ 16 January 2006									
Postgraduate	69	7	16	3	2	2	1	100	3830
First Degree	56	10	17	6	3	6	2	100	2625
Other undergraduate	50	9	29	7	2	2	2	100	1230
D. Activity on 24 November 2008									
Postgraduate	76	10	7	2	2	3	2	100	3835
First Degree	65	13	9	4	2	6	2	100	2620
Other undergraduate	70	12	8	3	4	3	1	100	1230

Source: Derived from Tables 1.1 and 1.4, Statistical Annex, HESA (2009), Destinations of Leavers from Higher Education Institutions Longitudinal Survey of the 2004 -05 Cohort: Key Findings Report, available from www.hesa.ac.uk/publications/dlhe_longitudinal

Notes:

(a) Includes self-employed

(b) Includes voluntary/unpaid work, those classified as 'employed mode unknown' and other activities not specified.

Conclusions

- That graduate unemployment is rising is well-established; what remains less clear is the extent to which this rise is associated with the recession. Data reported here reveals trends at the outset of the recessionary phase and at the beginning of the post-recessionary phase.
- The evidence suggests that the recession is having an impact on current choice of subject applied for in HE and, whilst applications to most subject areas have increased, those for which there have been a decrease might also be indicative of responses to economic conditions. Course programmes related to the building and finance sectors, both of which have been adversely affected by the recession, have received fewer applications.
- There is some evidence of an increase in applicants choosing subjects they think will lead to 'safe' employment. However the extent that this is in direct response to the recession or is part of a longer-term trend is more difficult to determine. What does appear to be happening is that employment outcomes may be affecting subject choice, which suggests information about the employment of graduates and graduate-level jobs is reaching applicants. However, the mechanisms that result in this are not clear, and questions about the validity and reliability of the assumptions applicants may be making about the state of the graduate labour market could become a cause for concern.
- The impact of likely reductions in public sector employment will be significant for graduates. This is likely to affect not only choice of subject, but also job-seeking behaviour beyond graduation. The assumption that public sector employment is 'safe' can no longer be upheld, and further work on the impact at a regional level should be undertaken.
- The major data sets identify applicants' choices of subjects; subjects actually taken up (enrolments); and employment destinations following graduation. It is only the first of these that could be considered to reflect the exercise of student choice as enrolments are pre-determined by the availability of places and employment opportunities are influenced by complex interactions within local, national and global economies. Student choice is likely to become further constrained by the increased competition for HE places as the number of applications rise.
- There does not appear to be evidence to support the notion that in difficult economic conditions more students choose to study on a part-time basis. However, there is evidence of both full- and part-time students combining work and study at undergraduate level. The reasons for this appear to be largely economic in nature and not as a means to enhancing skills, knowledge and employability. Nonetheless, this should be monitored as the post-recessionary period continues and also in light of any new financial arrangements that are the outcome of the Browne Review.

- A diminution of opportunities for non-graduate employment could have a profound effect on graduate progression into the labour market. Whilst evidence suggests entry into non-graduate jobs has been relatively stable to 2008/09, there are emerging concerns that one of the effects of the recession may be to reduce the number of low- or intermediate-level jobs in the economy. When coupled with anticipated reductions in public sector spending, it is possible that some 'entry-level' jobs taken up by graduates may disappear, thus increasing the likelihood of graduate unemployment.
- Choice of subject affects not only first destination and early career trajectory but also the earnings premium. There appears to be some evidence that students' sense of whether their course represents 'value for money' is determined by an assessment of the cost of study weighed against the likelihood of future earnings; for example, long (expensive) courses of study such as medicine and dentistry are rated highly in terms of value for money. Students (and graduates) appear to be making long-term assessments and whilst there is a lot of data and information available to support subject choice, the information is complex and not easily interpreted by applicants or their advisers.
- Current students are reporting concerns about anticipated levels of debt. Whilst participation in postgraduate study on graduation is increasing, it is difficult to predict that this will continue without modification to student support arrangements in favour of postgraduate students.

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Endnotes:

- ¹ The timescale of the project means that data used may be 'during' rather than 'post' recession
- ² DHLE data is compiled in January, approximately six months after graduation; hence data for 2007/08 became available in July 2009; for 2006/07 in July 2008; and 2008/09 data will not be available until July 2010
- ³ Universities UK (2010) Submission to Browne Review
- ⁴ It is widely believed that the UK computer industry entered recession as a result of the 'dotcom' crash of 2001/02, which started and had a similar effect in the US
- ⁵ Joint Academic Coding System (JACS) is by (HESA) and institutions to classify subjects to four levels of specificity. See also www.hesa.ac.uk/index.php?option=com_content&task=view&id=158&Itemid=233
- ⁶ The extent to which this represents a permanent change cannot be evidenced year-on-year by *Futuretrack* as it is a single cohort tracking study
- ⁷ Figures 5.1–5.4 inclusive reproduced by permission of Kate Purcell on behalf of HECSU and IER
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Recession to Recovery: Changes in student choices and graduate employment

Appendices

Appendix A

Numbers of graduates employed 2005/06 – 2007/08 by occupation.

- Figure (1) Management jobs
- Figure (2) Sales and Marketing jobs
- Figure (3) Scientific jobs
- Figure (4) Engineering jobs
- Figure (5) Education jobs
- Figure (6) IT related jobs
- Figure (7) Health related jobs
- Figure (8) Nursing and medical jobs
- Figure (9) Business jobs
- Figure (10) Jobs in Finance
- Figure (11) Social and welfare jobs
- Figure (12) Social work jobs
- Figure (13) Jobs in Art and design
- Figure (14) Jobs in the Media
- Figure (15) Jobs in Sport
- Figure (16) Performing arts jobs
- Figure (17) Jobs in Building and Architecture
- Figure (18) Technical and research jobs
- Figure (19) Other professionals

Appendix B

Percentage of UK employment six months after graduating by broad subject discipline.

- Figure (i) In UK employment six months after graduating - Medicine and Nursing
- Figure (ii) In UK employment six months after graduating Psychology, Biological and Animal Sciences
- Figure (iii) In UK employment six months after graduating - Physical Sciences, Maths and Computing
- Figure (iv) In UK employment six months after graduating - Engineering-related
- Figure (v) In UK employment six months after graduating - Social Sciences
- Figure (vi) In UK employment six months after graduating - Business Studies
- Figure (vii) In UK employment six months after graduating - Media, Communication and Languages
- Figure (viii) In UK employment six months after graduating - Arts and Humanities
- Figure (ix) In UK employment six months after graduating – Education

Appendix C

Change in graduate first destination outcomes 2005/06 – 2007/08 by broad subject discipline

- Figure (a) Numbers in UK graduate-level employment six months after graduating - Medicine and Nursing
- Figure (b) Numbers in UK graduate-level employment six months after graduating - Psychology, Biological and Animal Sciences
- Figure (c) Numbers in UK graduate-level employment six months after graduating - Physical Sciences, Mathematics and Computing

Figure (d) Numbers in UK graduate-level employment six months after graduating - Engineering-related
Figure (e) Numbers in UK graduate-level employment six months after graduating - Social Sciences
Figure (f) Numbers in UK graduate-level employment six months after graduating - Business Studies
Figure (g) Numbers in UK graduate-level employment six months after graduating - Media, Communications and Languages
Figure (h) Numbers in UK graduate-level employment six months after graduating - Arts and Humanities
Figure (j) Numbers in UK graduate-level employment six months after graduating – Education

Appendix A Numbers of graduates employed 2005/06 – 2008/09 by occupation

Figure (1) Management jobs

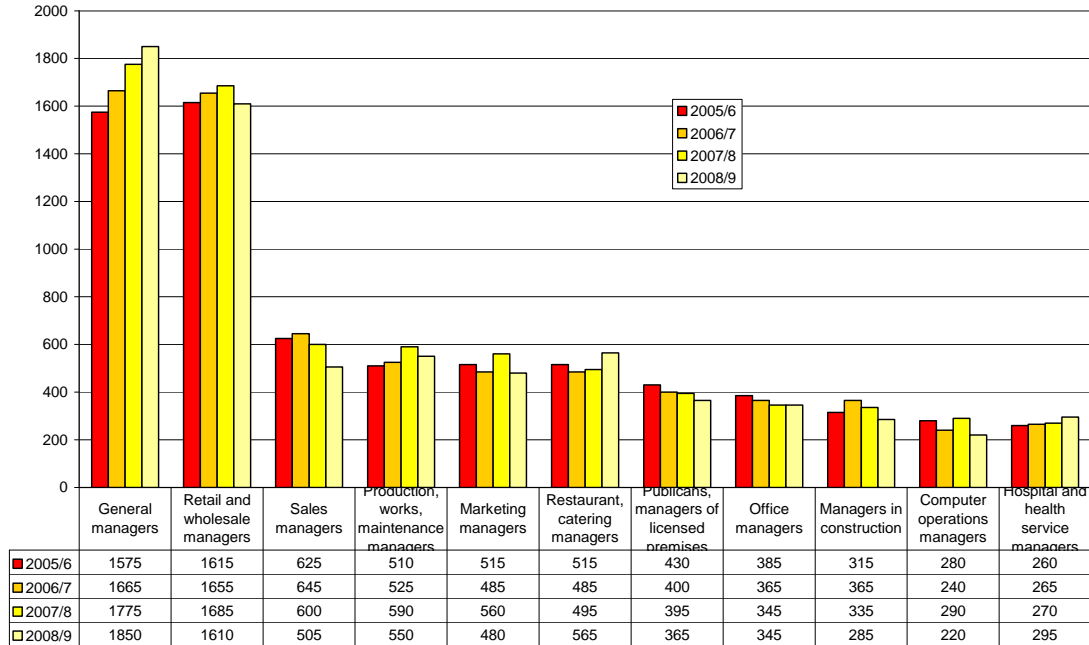


Figure (2) Sales and Marketing jobs

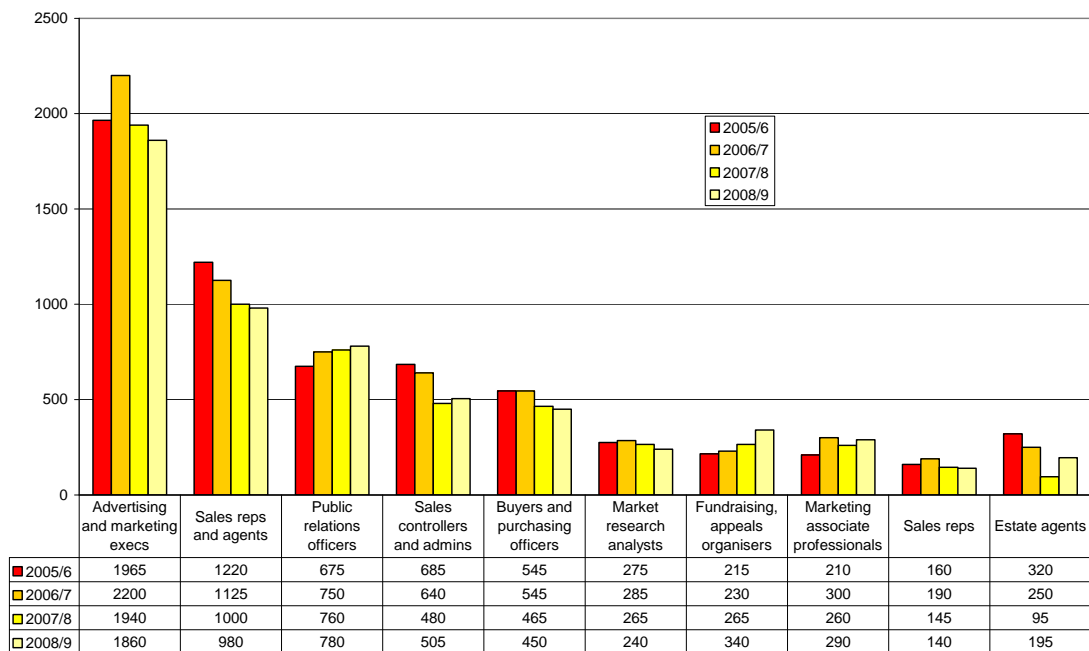


Figure (3) Scientific jobs

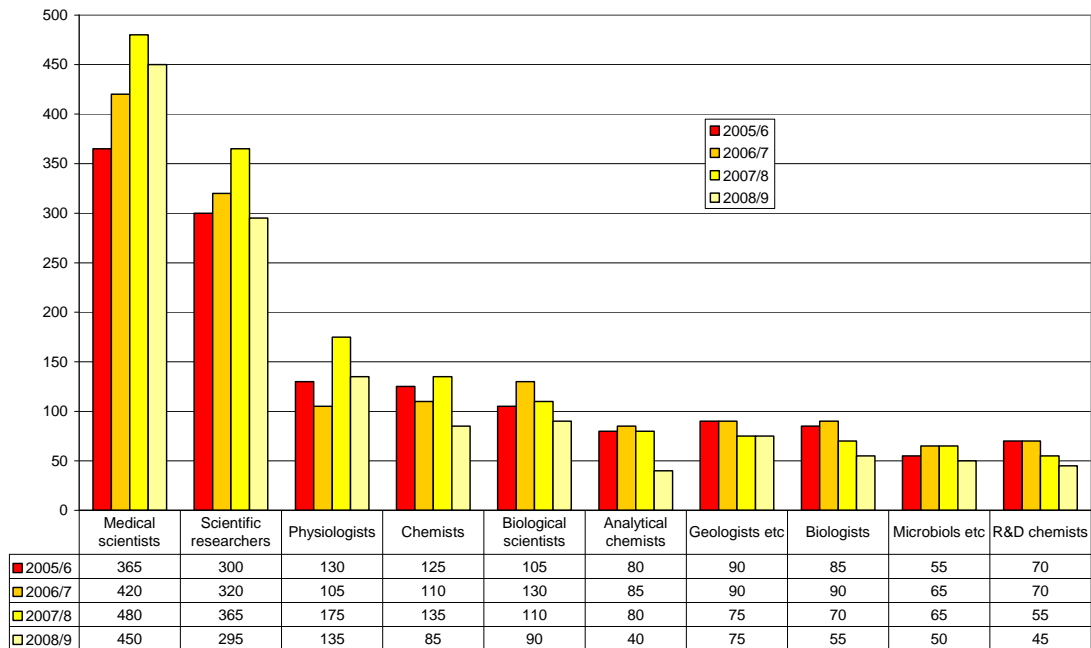


Figure (4) Engineering jobs

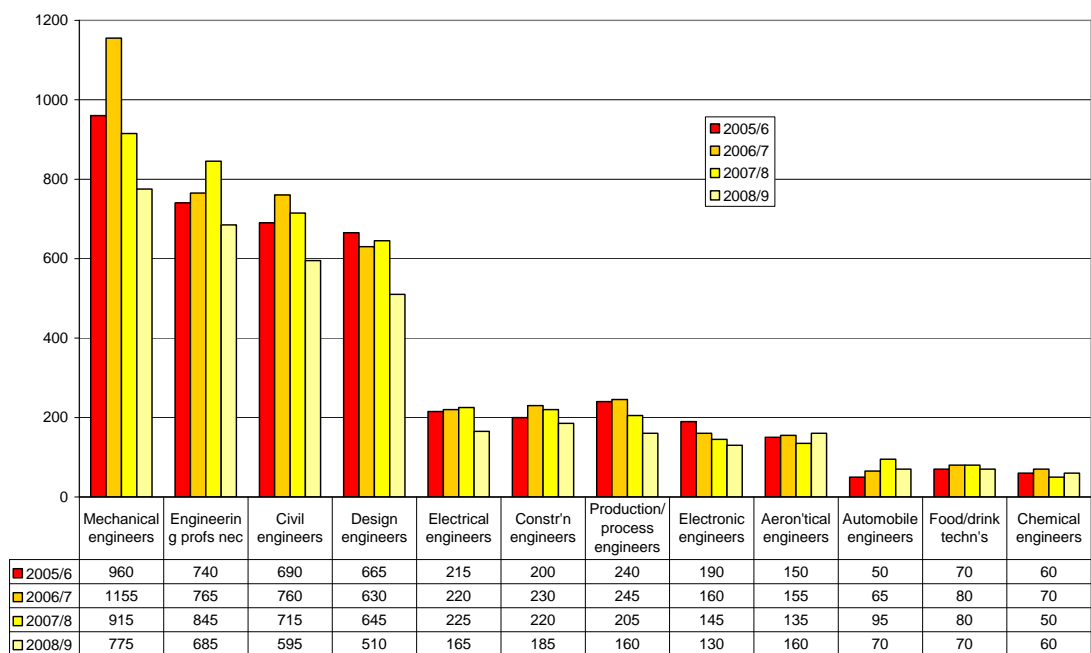


Figure (5) Education jobs

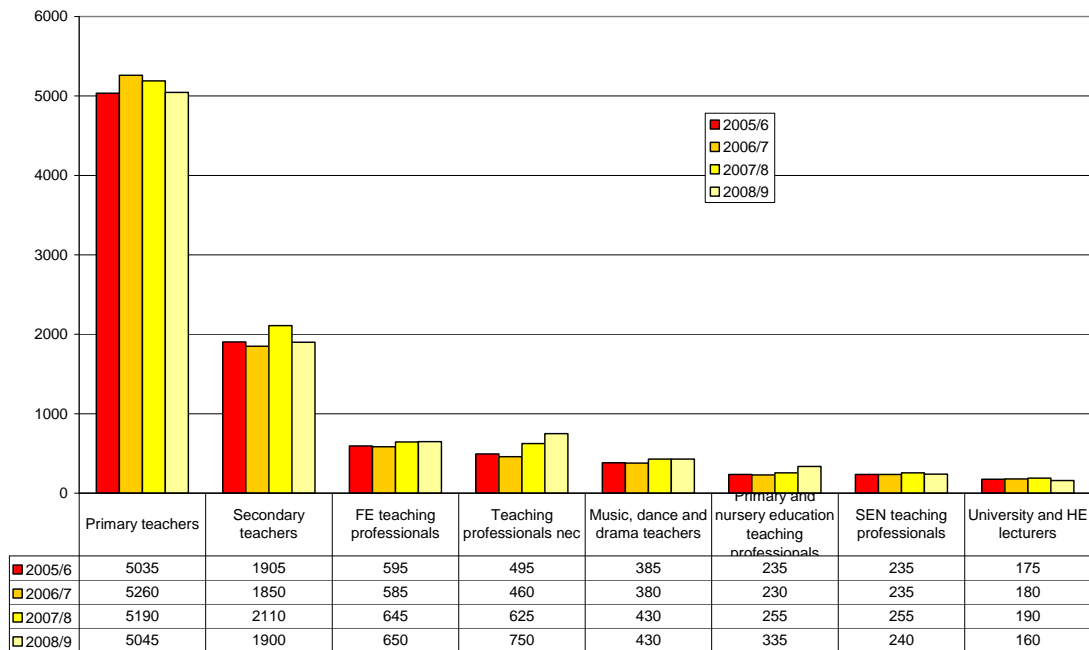


Figure (6) IT related jobs

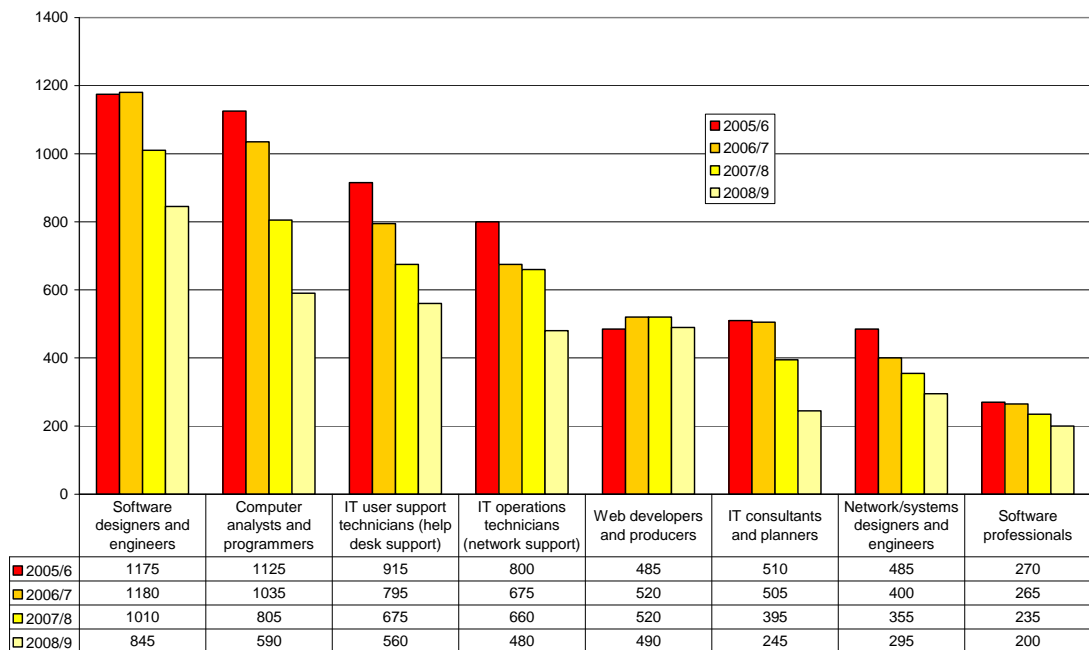


Figure (7) Health-related jobs

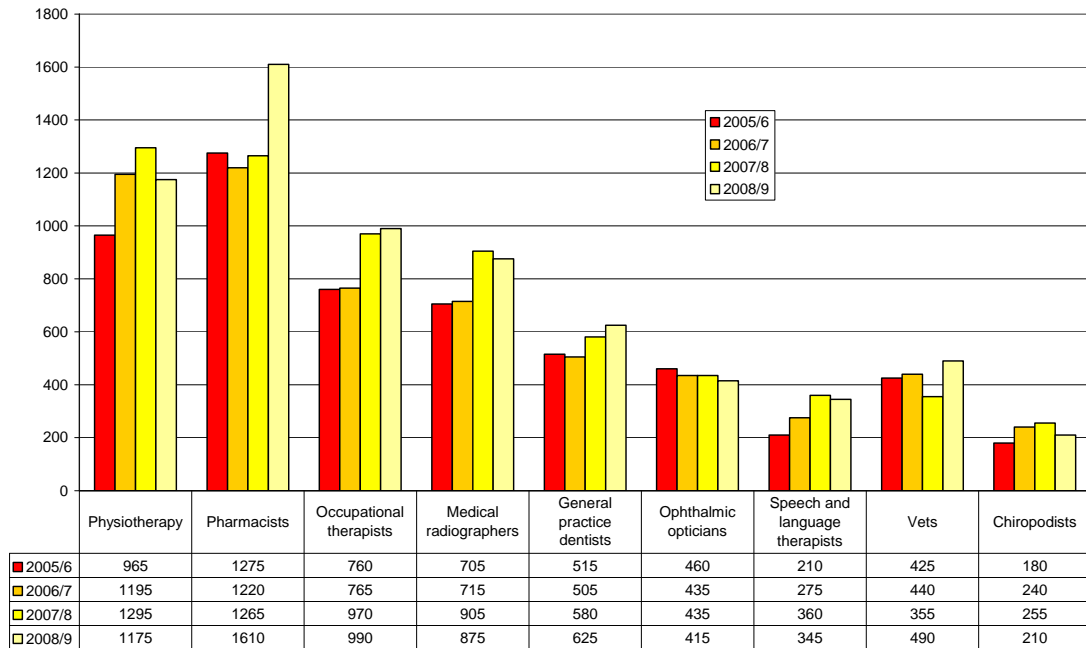
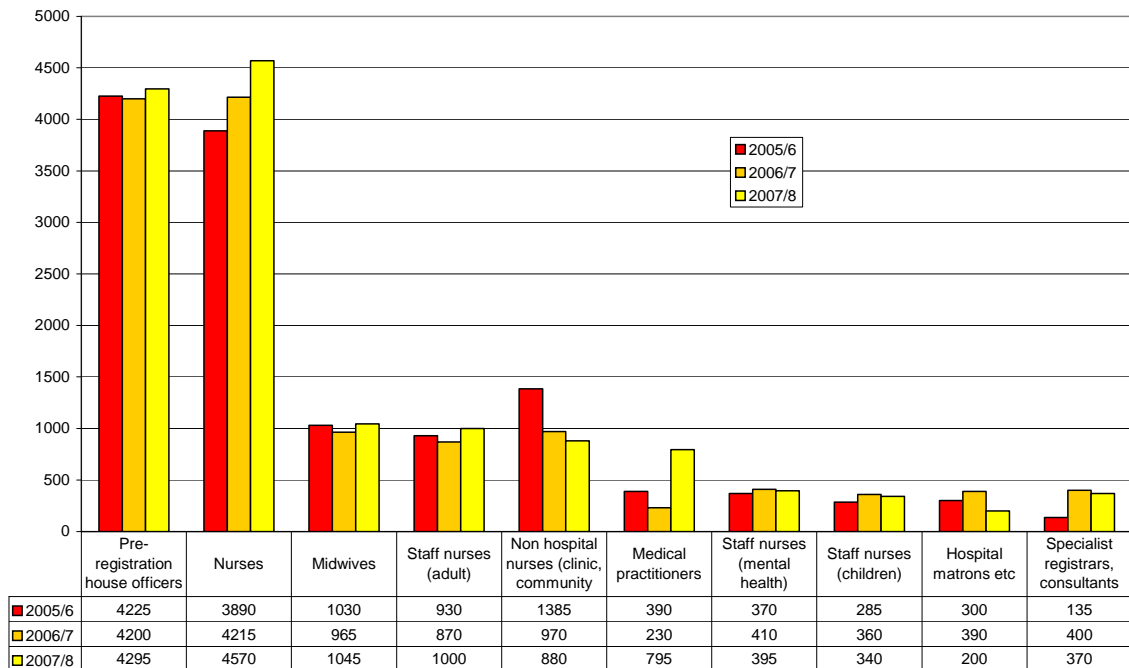


Figure (8) Nursing and medical jobs



Appendix A - Percentage of UK employment six months after graduating by broad subject discipline.

Figure (i) In UK employment six months after graduating - Medicine and Nursing

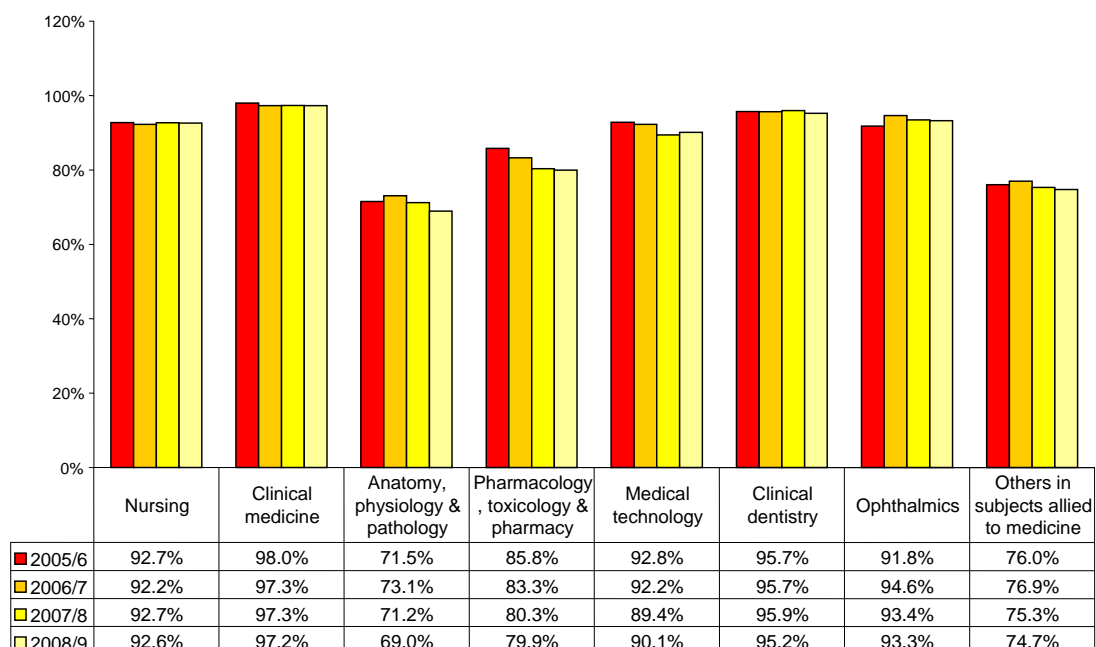


Figure (ii) In UK employment six months after graduating Psychology, Biological and Animal Sciences

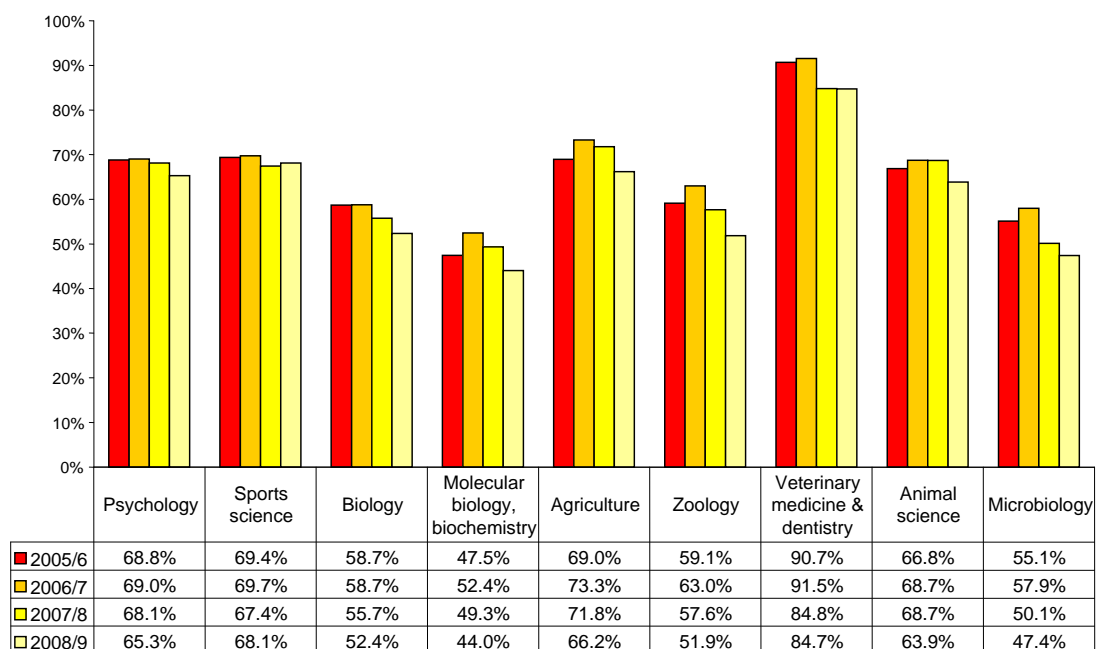


Figure (iii) In UK employment six months after graduating - Physical Sciences, Maths and Computing

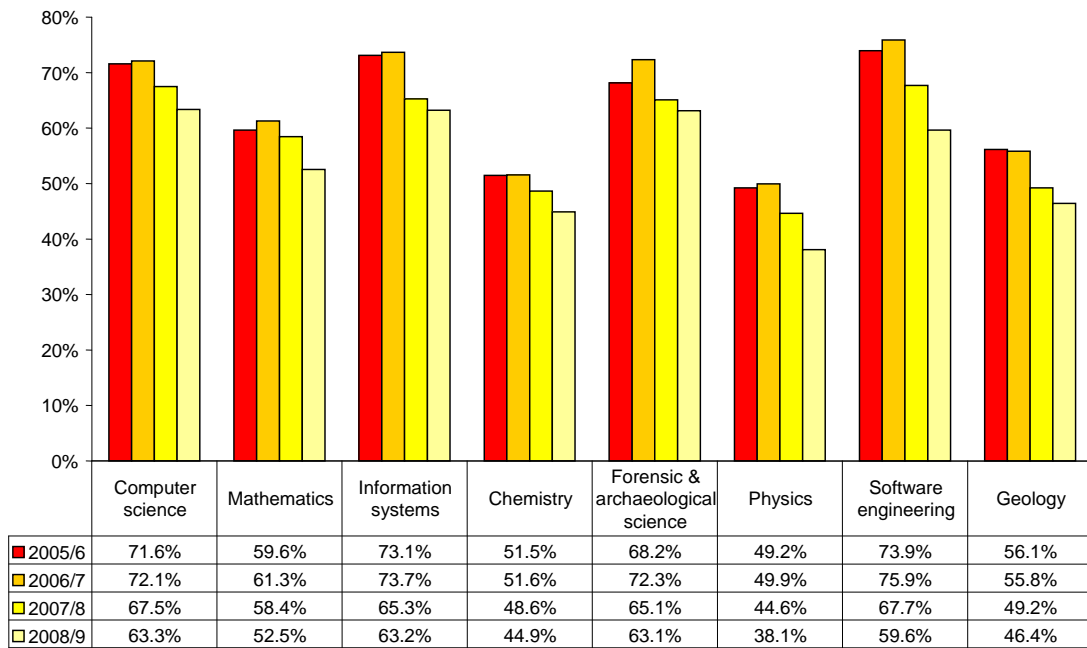


Figure (iv) In UK employment six months after graduating - Engineering-related

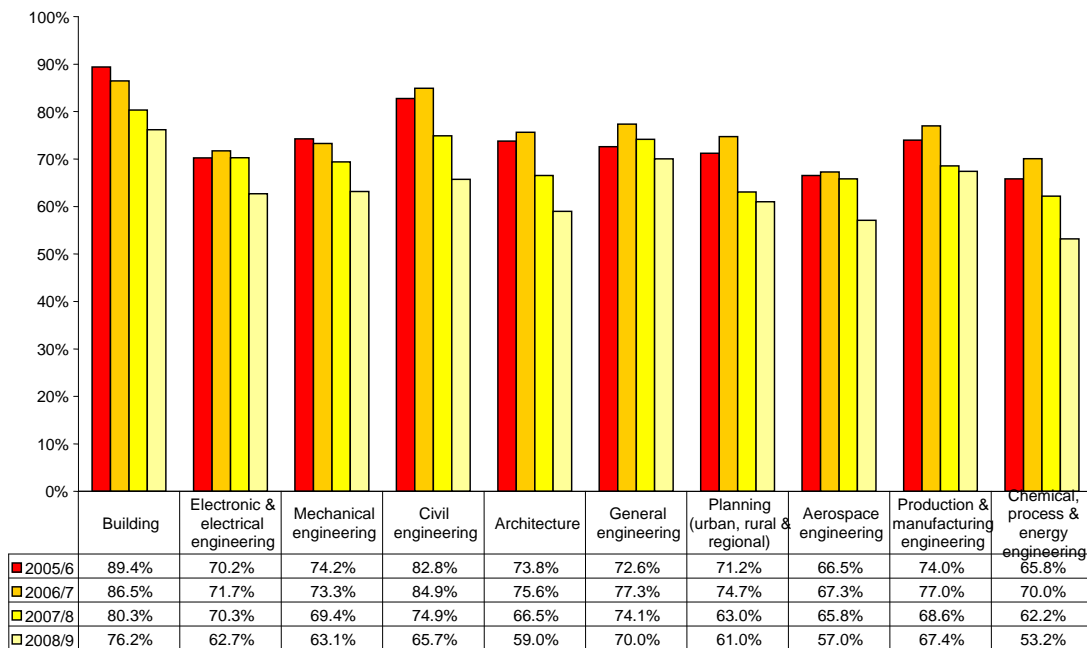


Figure (v) In UK employment six months after graduating - Social Sciences

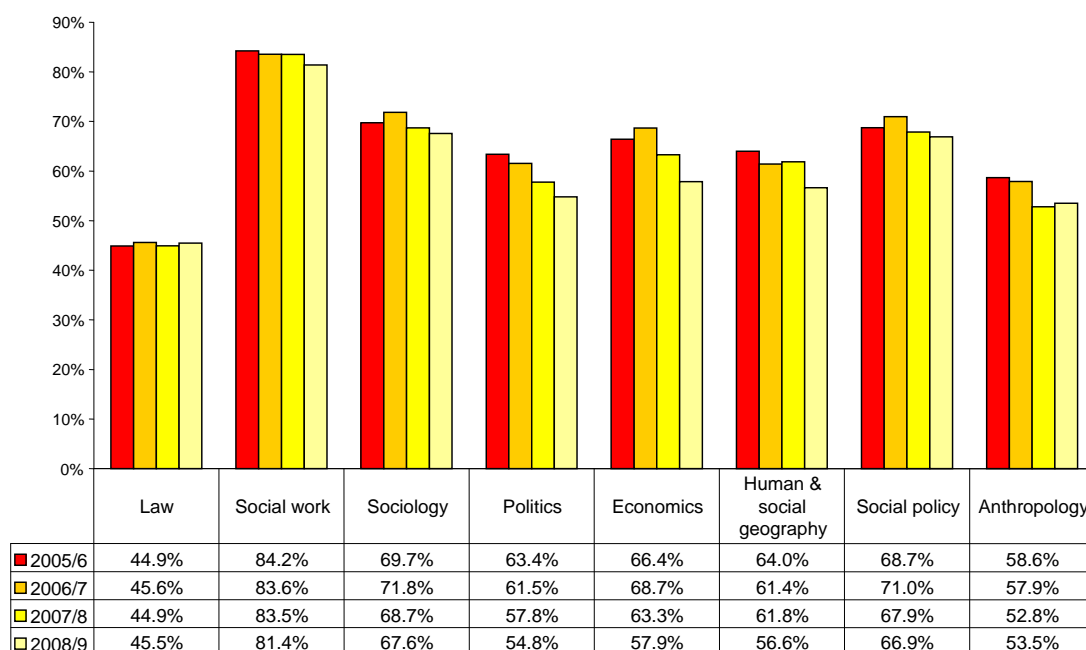


Figure (vi) In UK employment six months after graduating - Business Studies

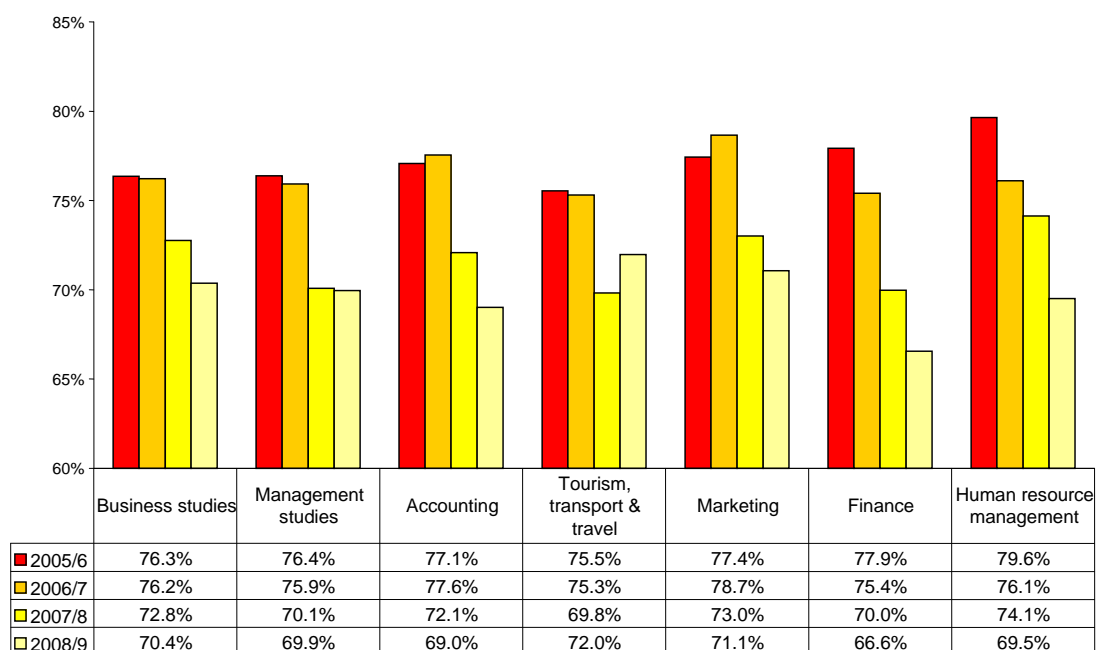


Figure (vii) In UK employment six months after graduating - Media, Communication and Languages

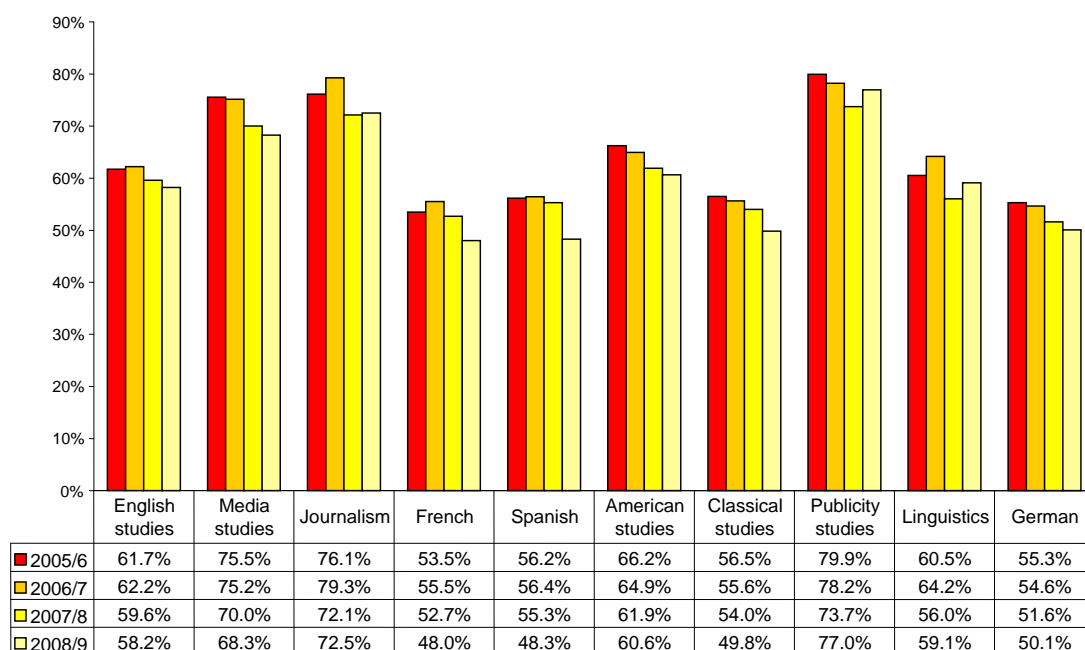


Figure (viii) In UK employment six months after graduating - Arts and Humanities

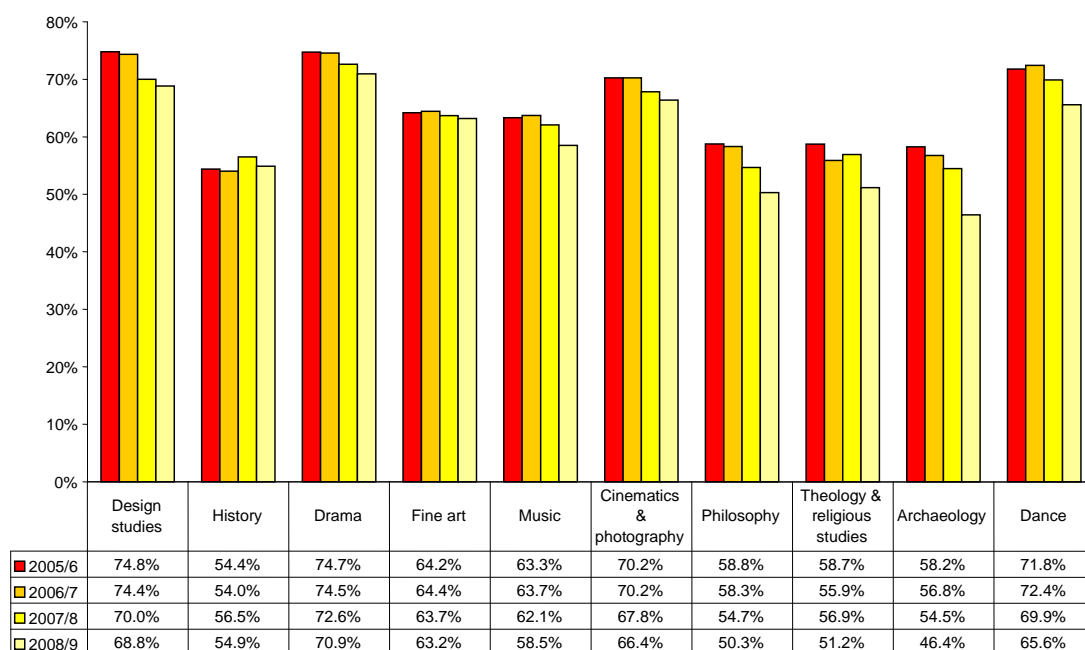
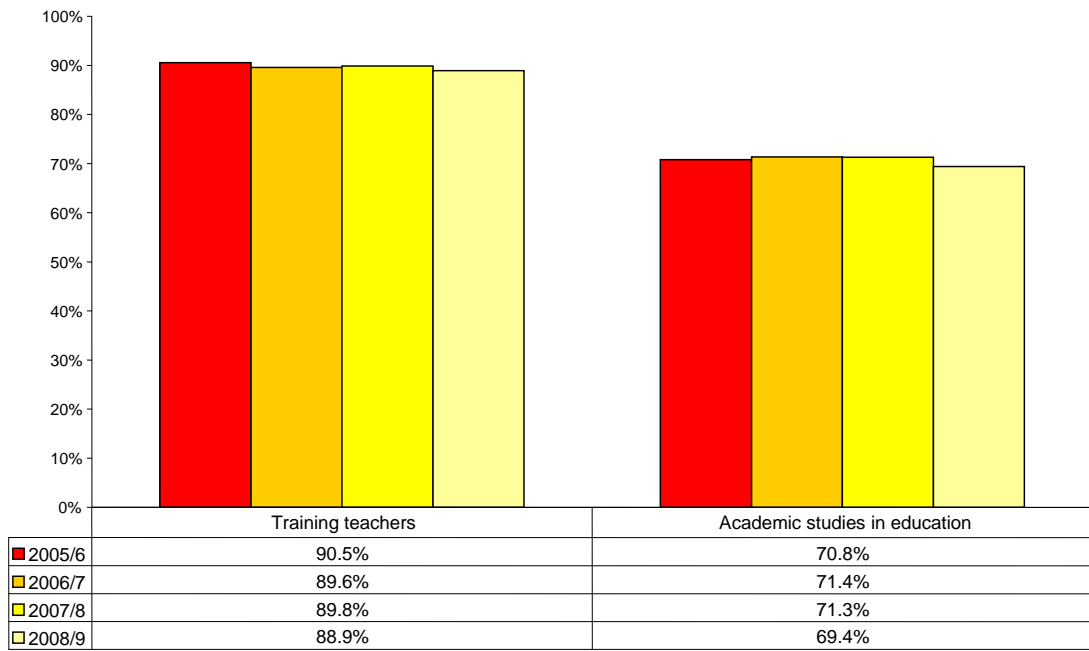


Figure (ix) In UK employment six months after graduating - Education



Appendix B - Change in graduate first destination outcomes 2005/06 – 2008/09 by broad subject discipline

Figure (a) Numbers in UK graduate-level employment six months after graduating - Medicine and Nursing

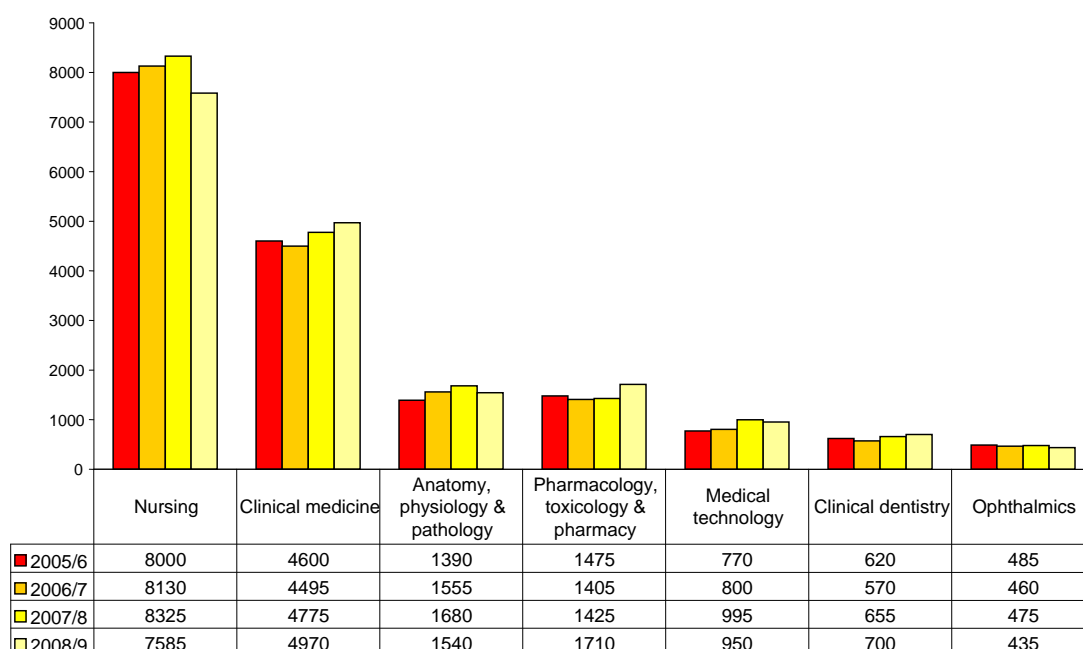


Figure (b) Numbers in UK graduate-level employment six months after graduating - Psychology, Biological and Animal Sciences

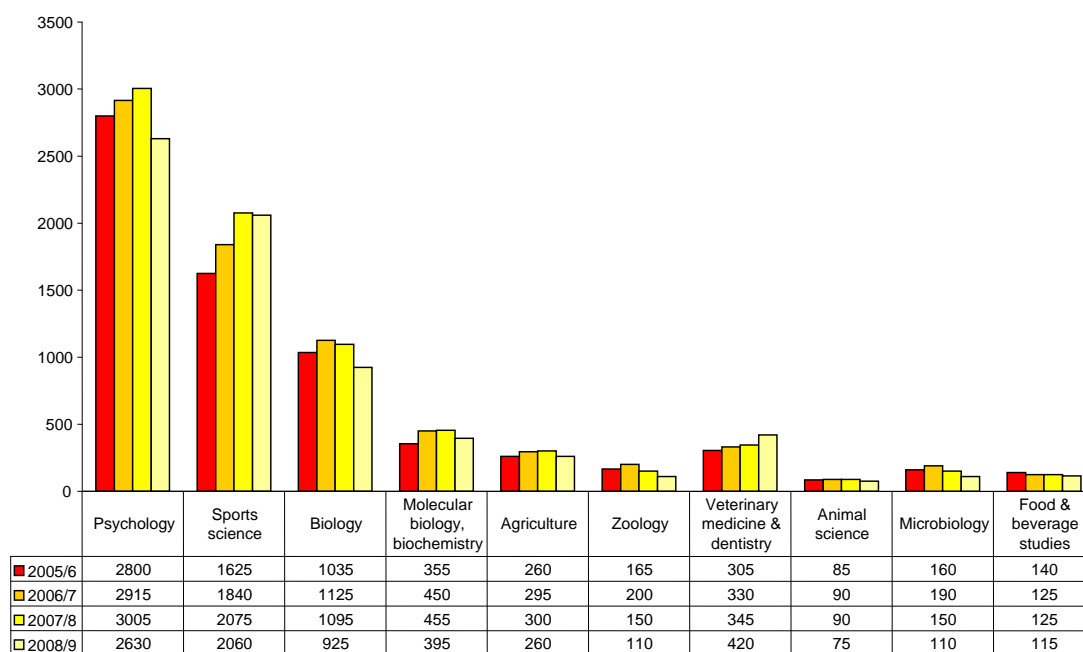


Figure (c) Numbers in UK graduate-level employment six months after graduating - Physical Sciences, Mathematics and Computing

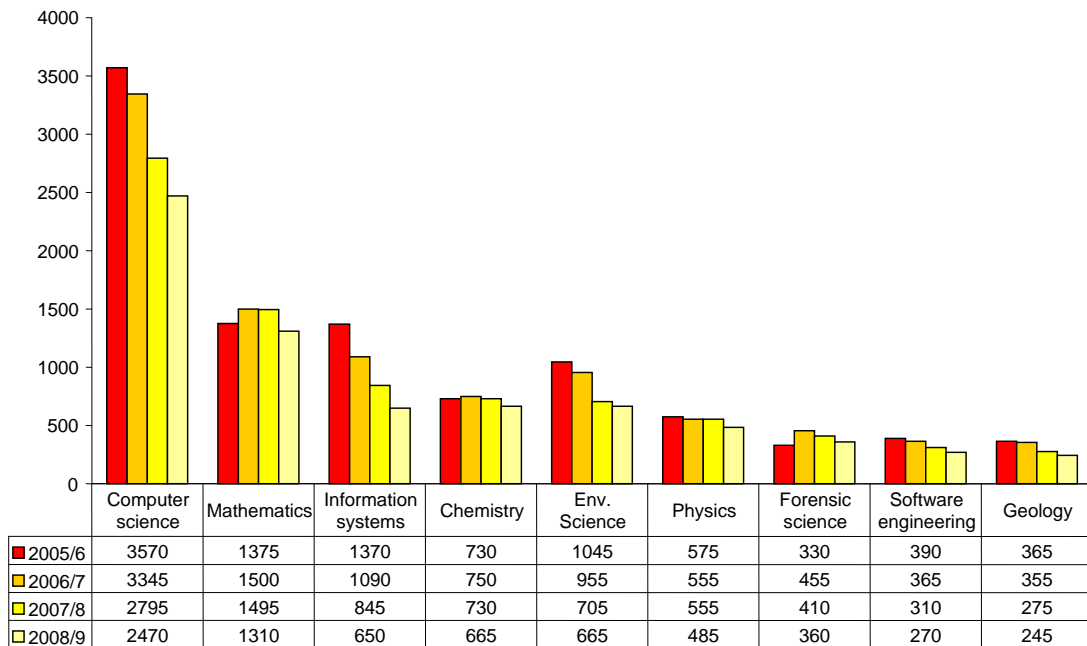


Figure (d) Numbers in UK graduate-level employment six months after graduating - Engineering-related

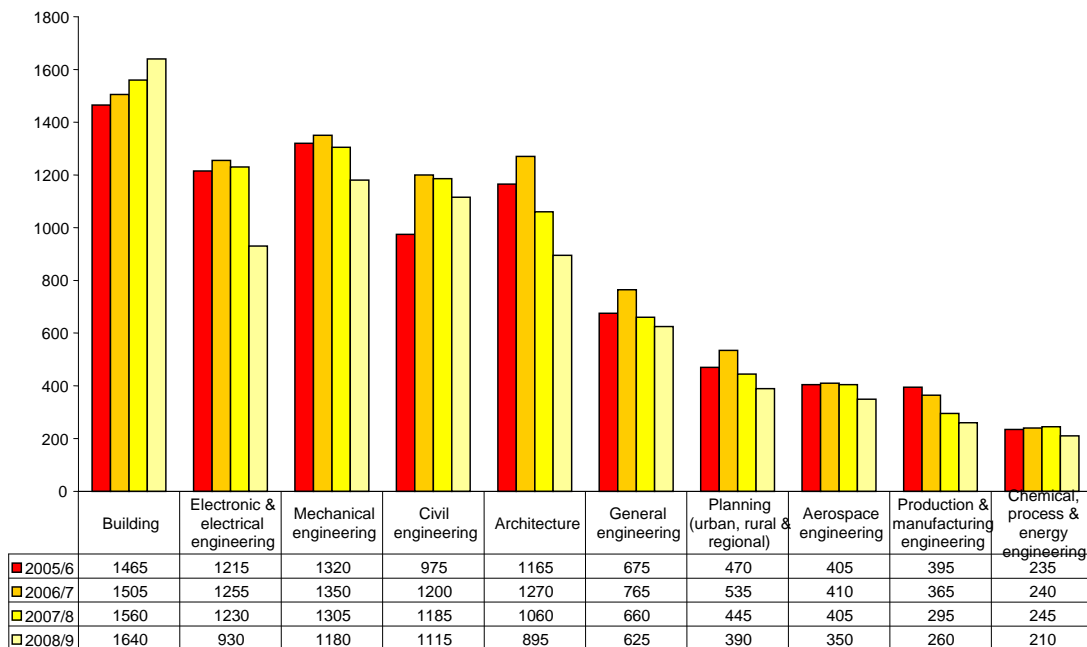


Figure (e) Numbers in UK graduate-level employment six months after graduating - Social Sciences

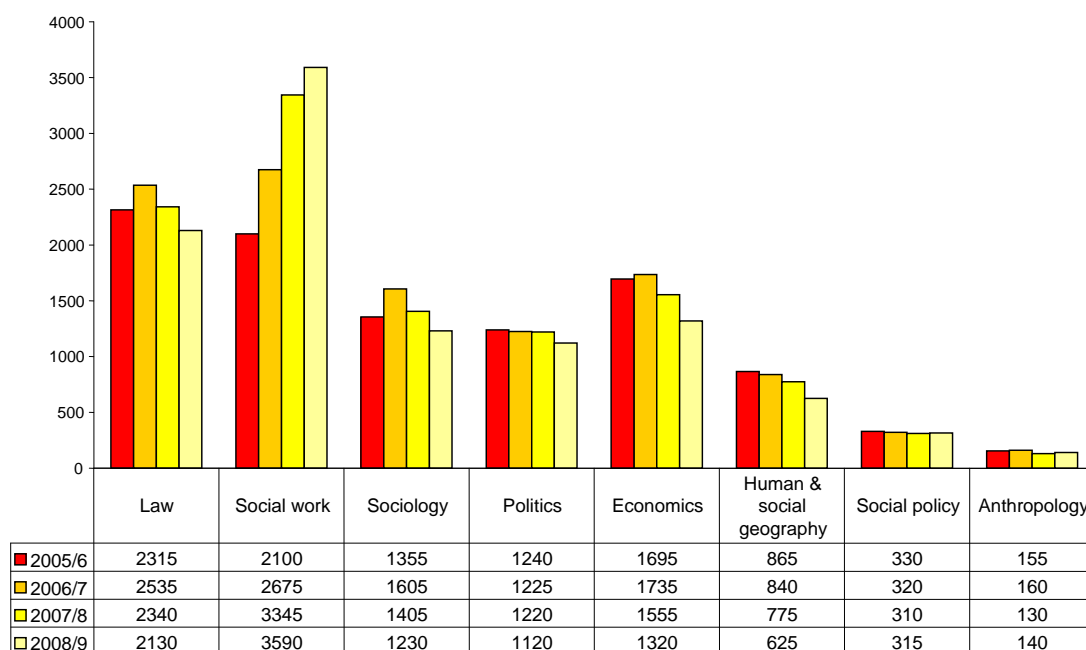


Figure (f) Numbers in UK graduate-level employment six months after graduating - Business Studies

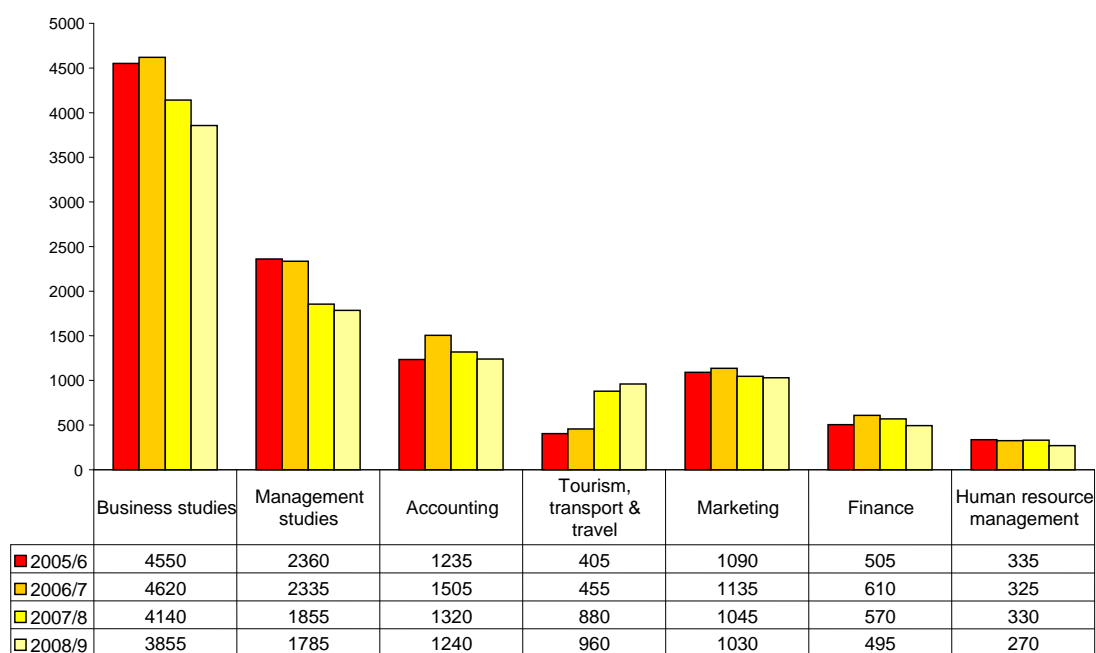


Figure (g) Numbers in UK graduate-level employment six months after graduating - Media, Communications and Languages

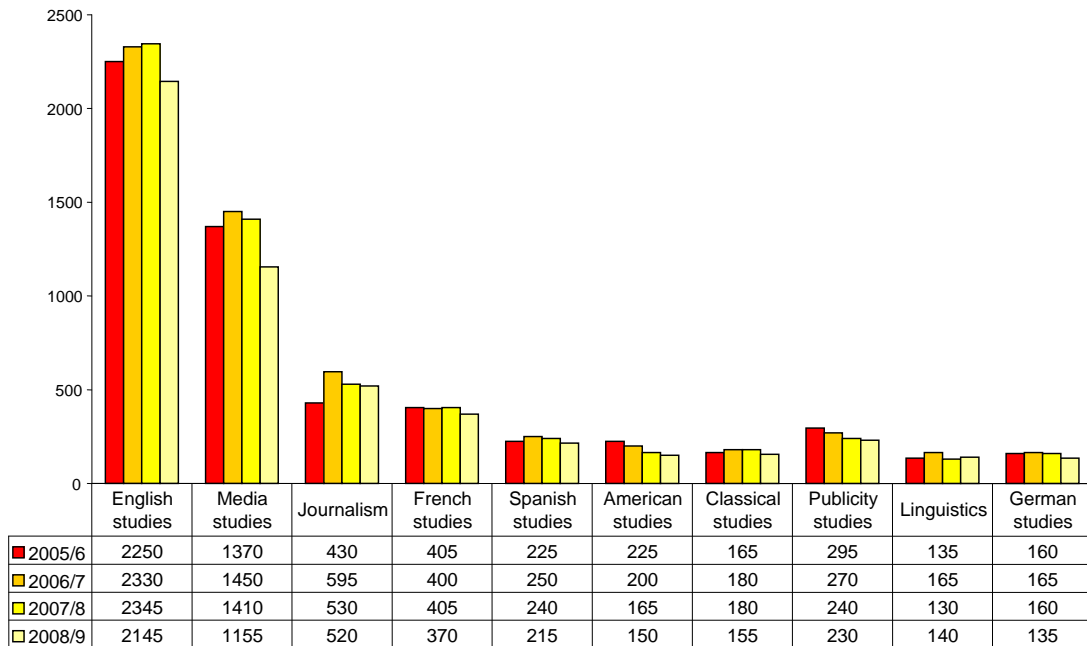


Figure (h) Numbers in UK graduate-level employment six months after graduating - Arts and Humanities

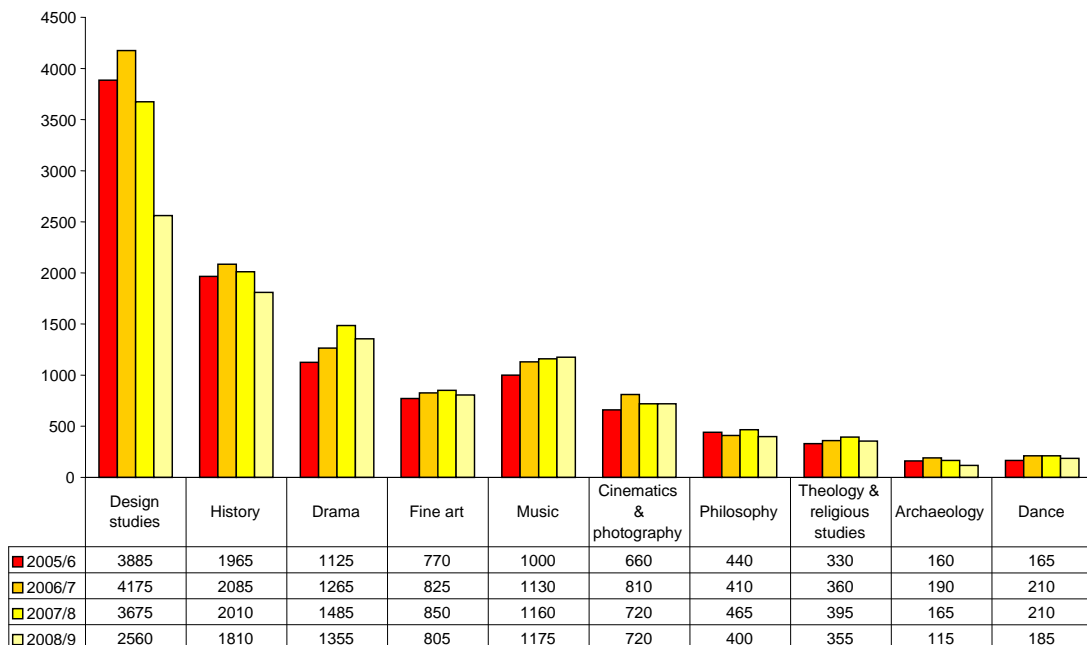
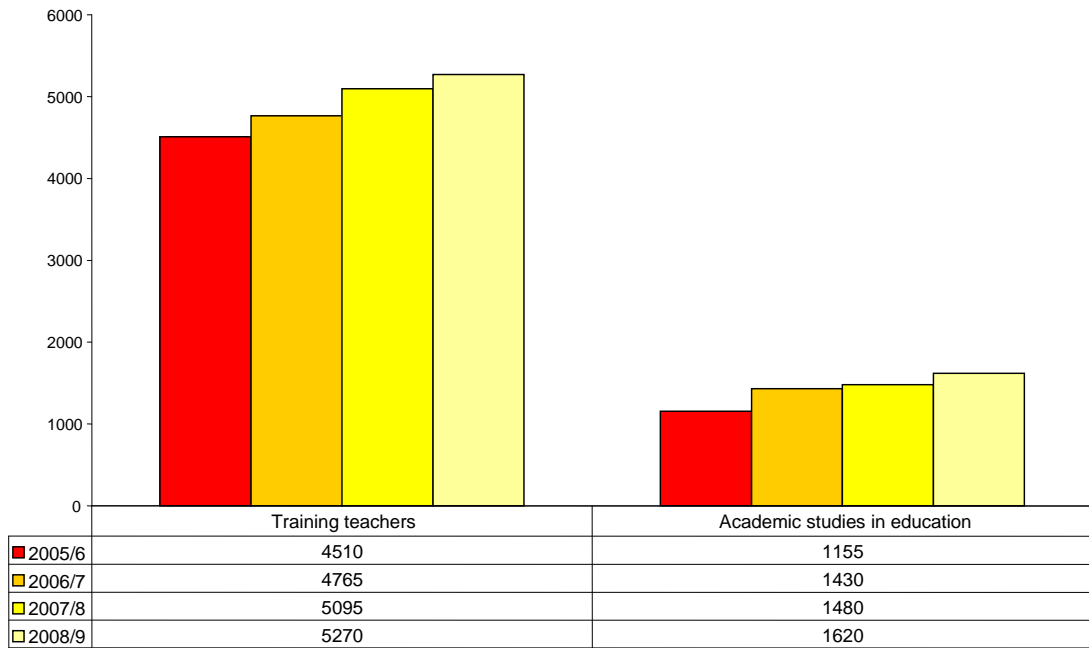


Figure (j) Numbers in UK graduate-level employment six months after graduating - Education



Appendix C Numbers of graduates employed 2005/06 – 2008/09 by occupation

Figure (1) Management jobs

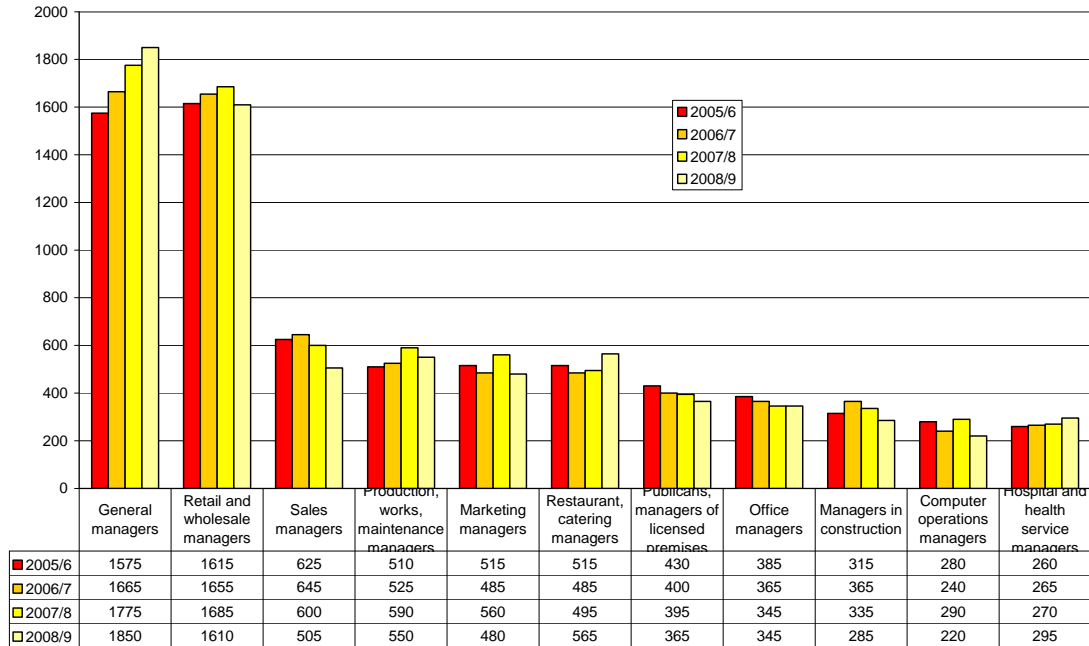


Figure (2) Sales and Marketing jobs

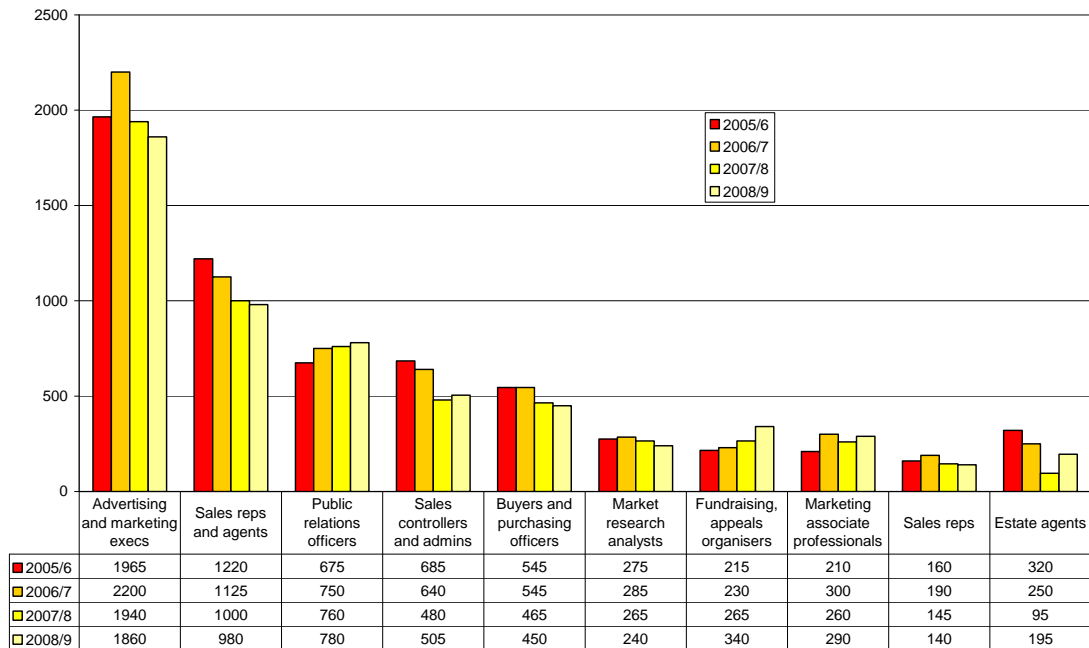


Figure (3) Scientific jobs

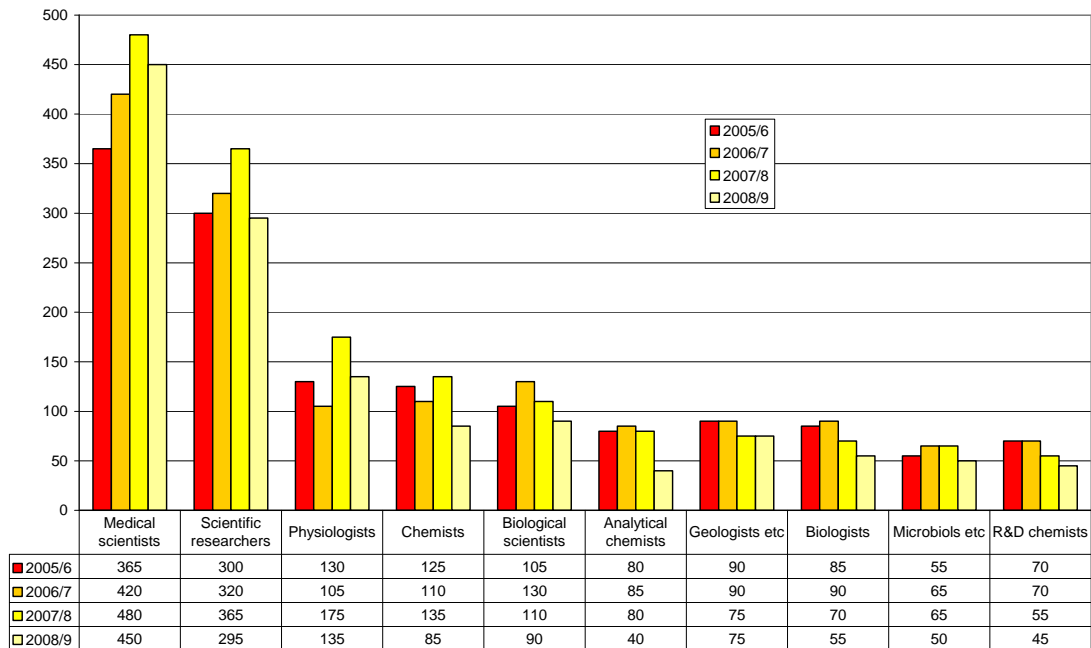


Figure (4) Engineering jobs

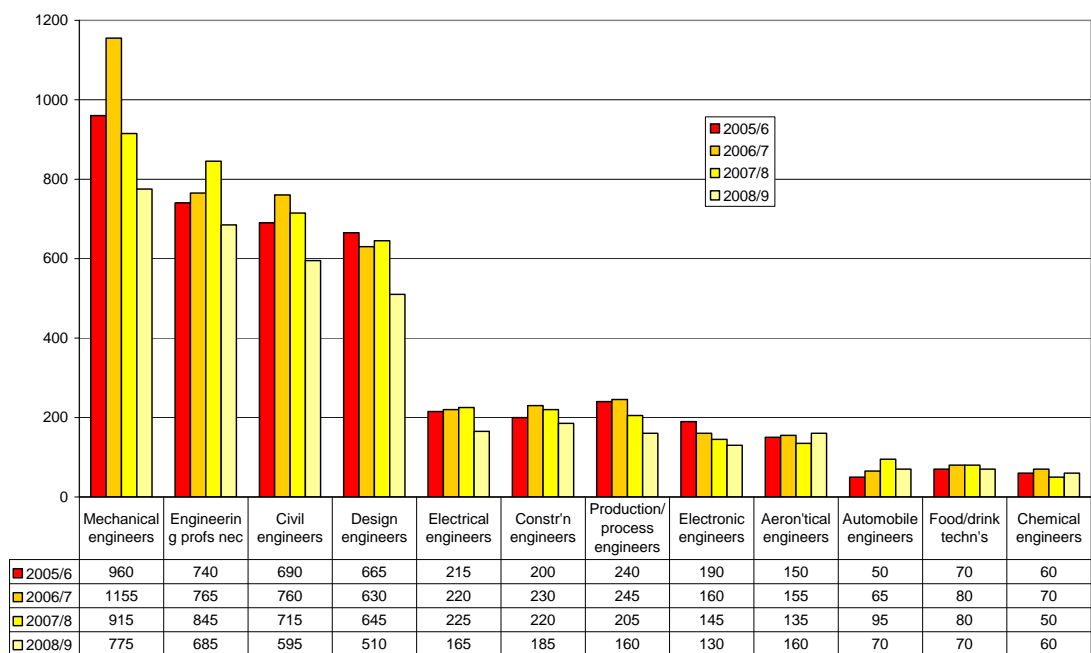


Figure (5) Education jobs

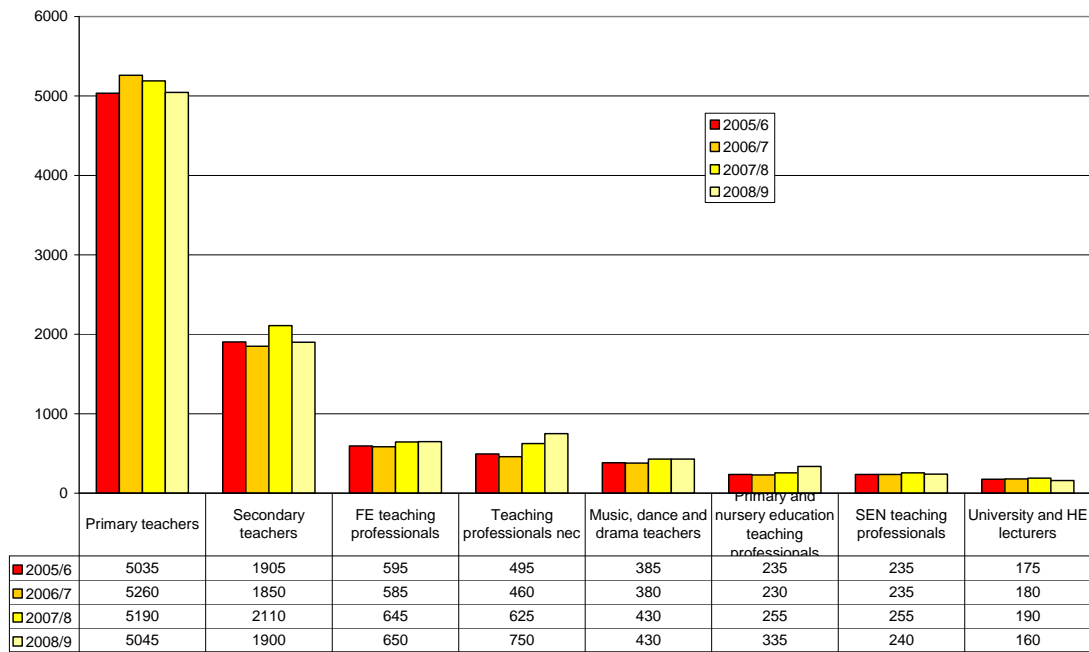


Figure (6) IT related jobs

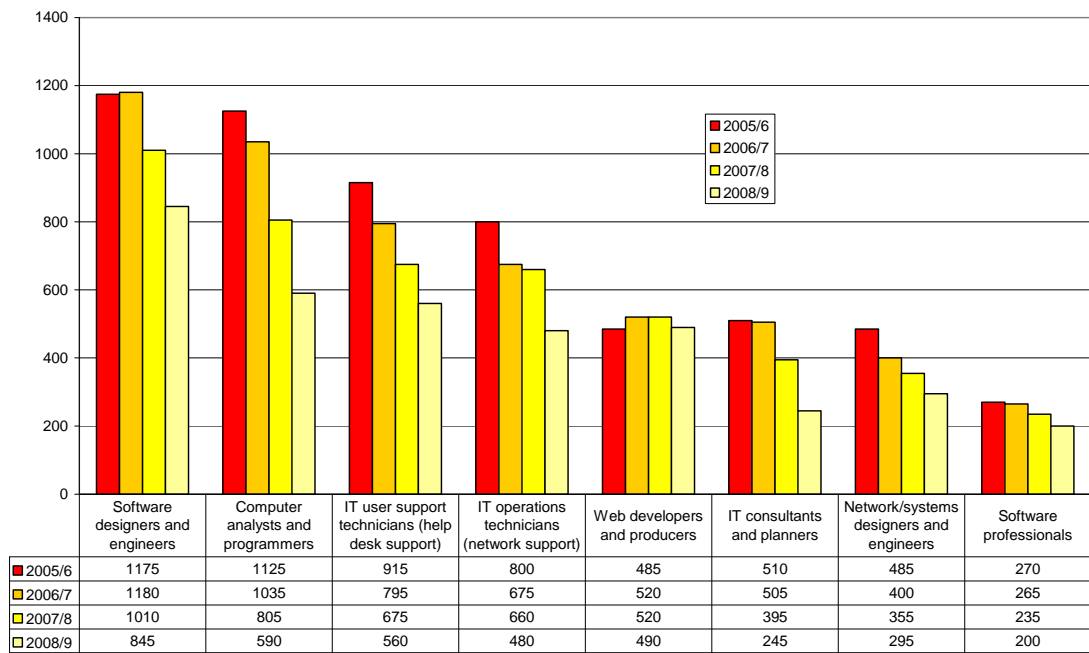


Figure (7) Health-related jobs

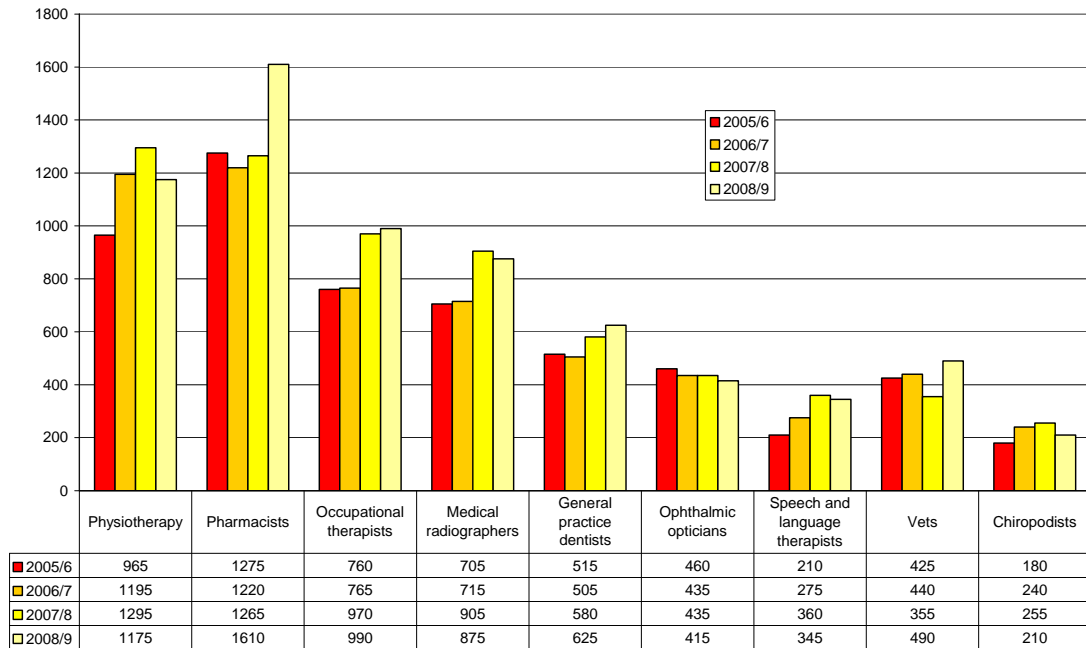


Figure (8) Nursing and medical jobs

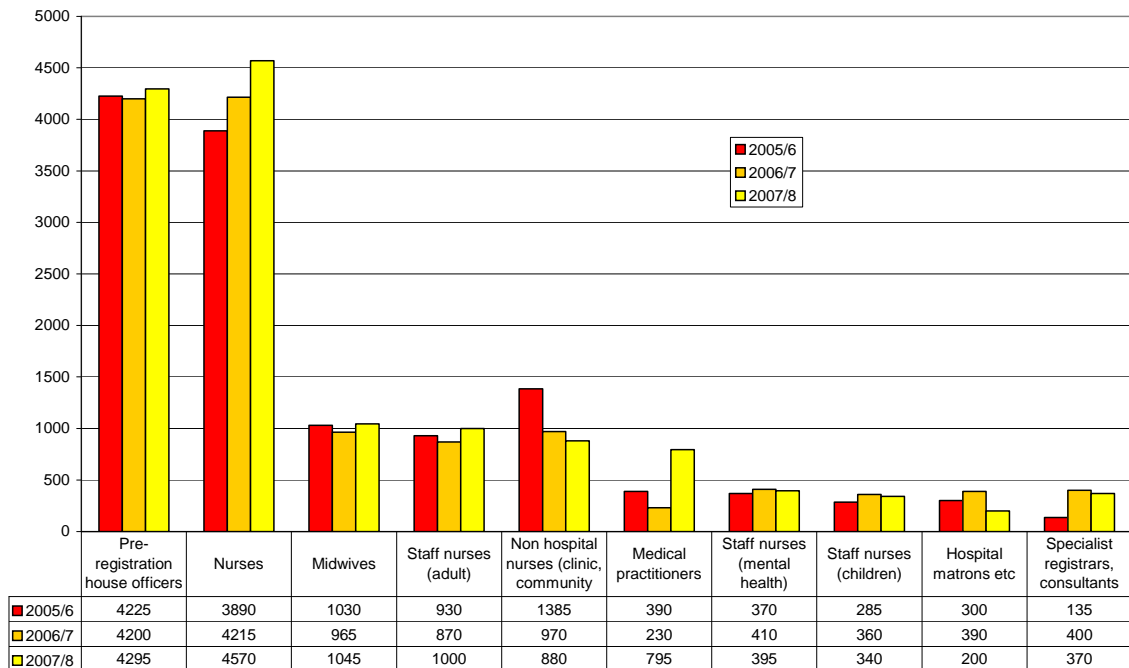


Figure (9) Business jobs

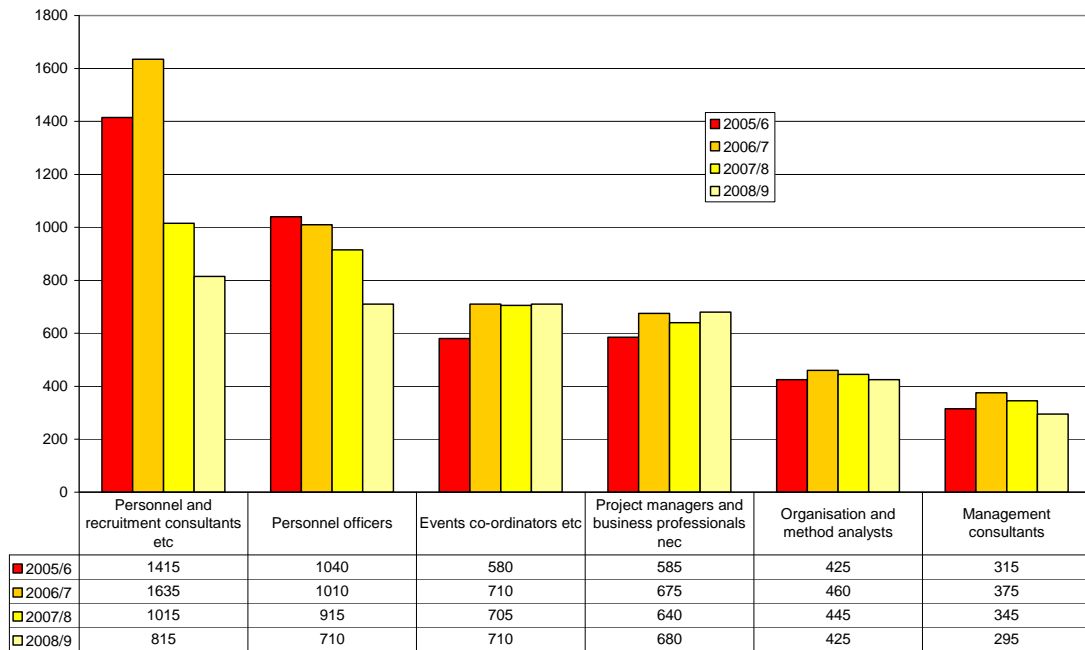


Figure (10) Jobs in Finance

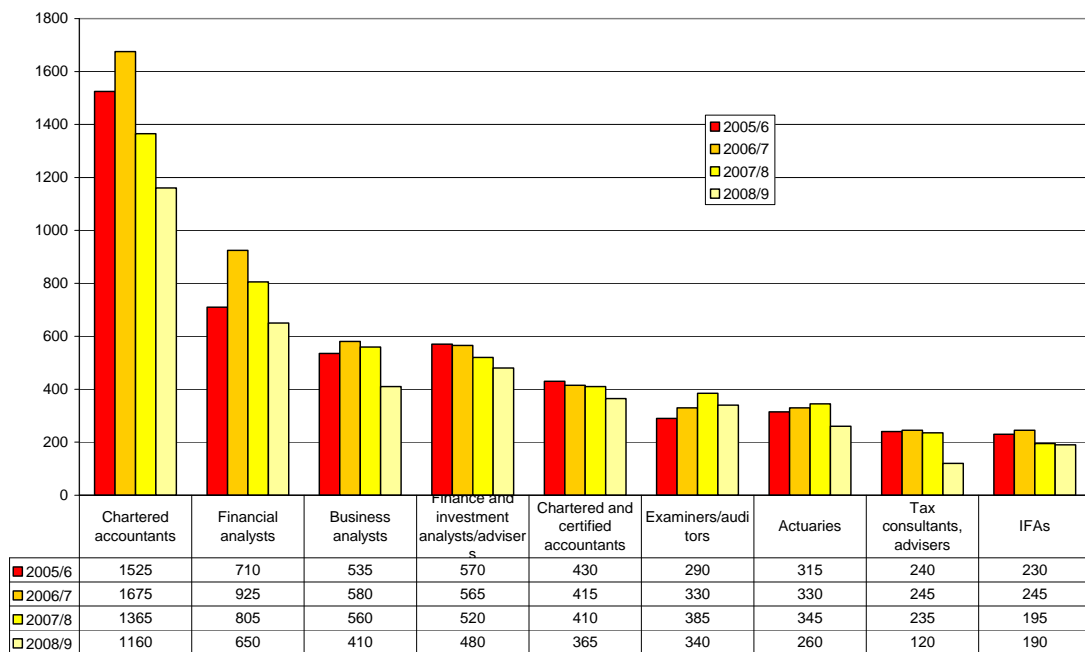


Figure (11) Social and welfare jobs

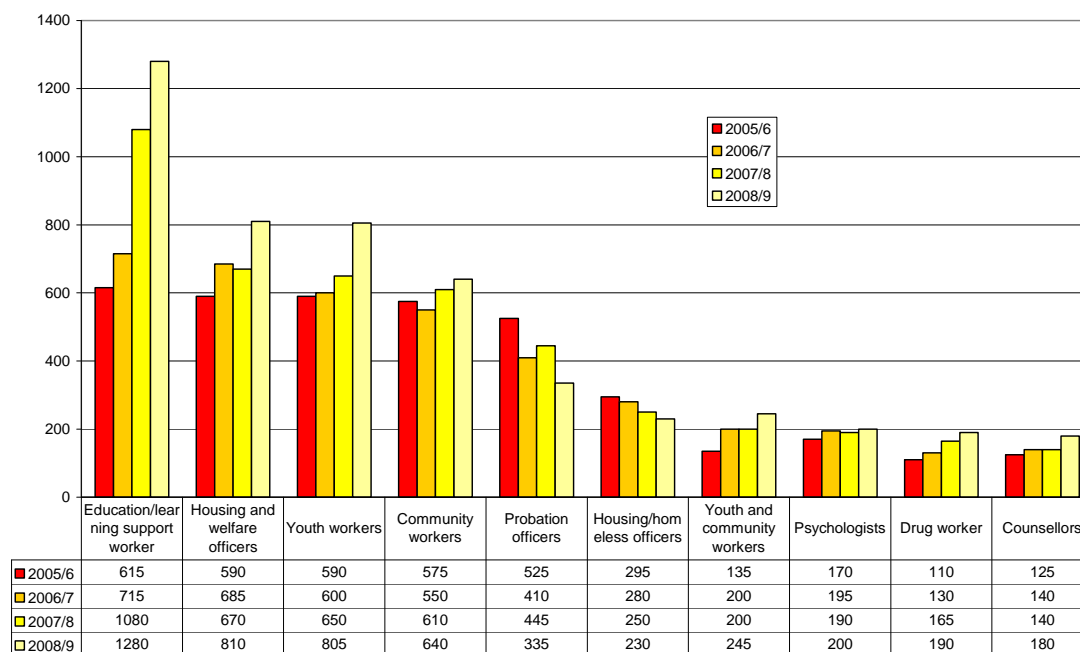


Figure (12) Social work jobs

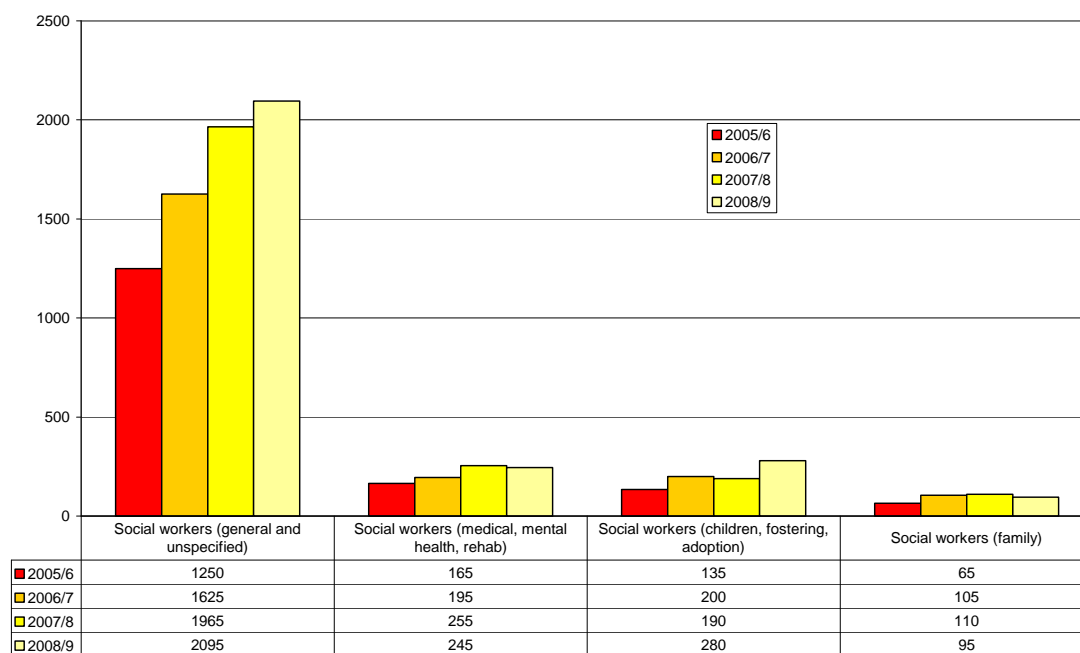


Figure (13) Jobs in Art and Design

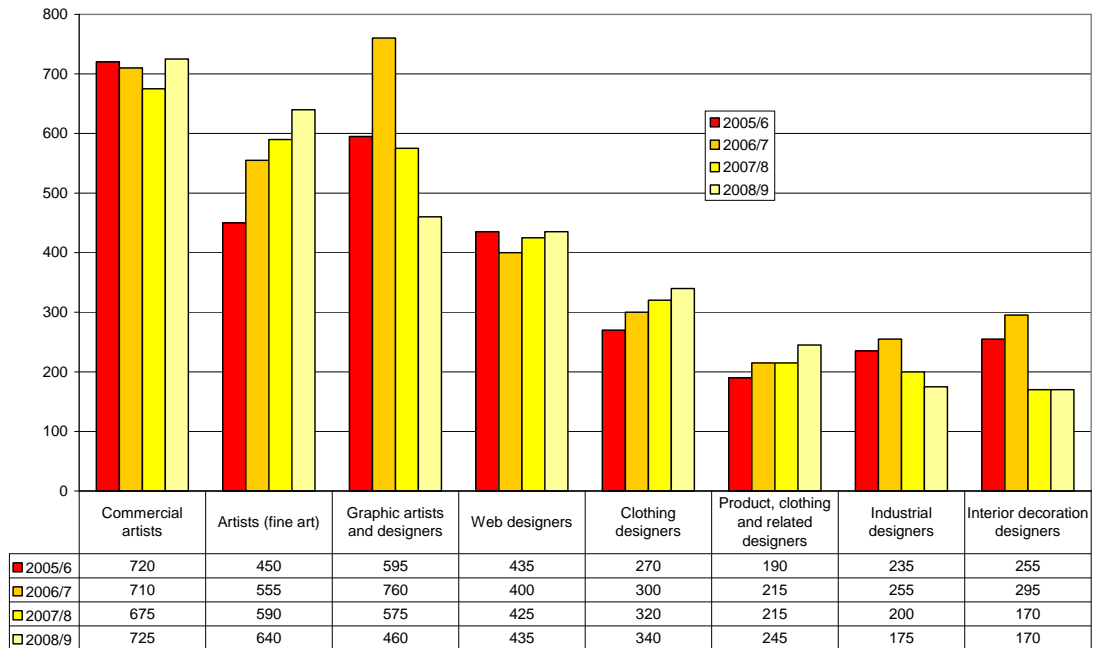


Figure (14) Jobs in the Media

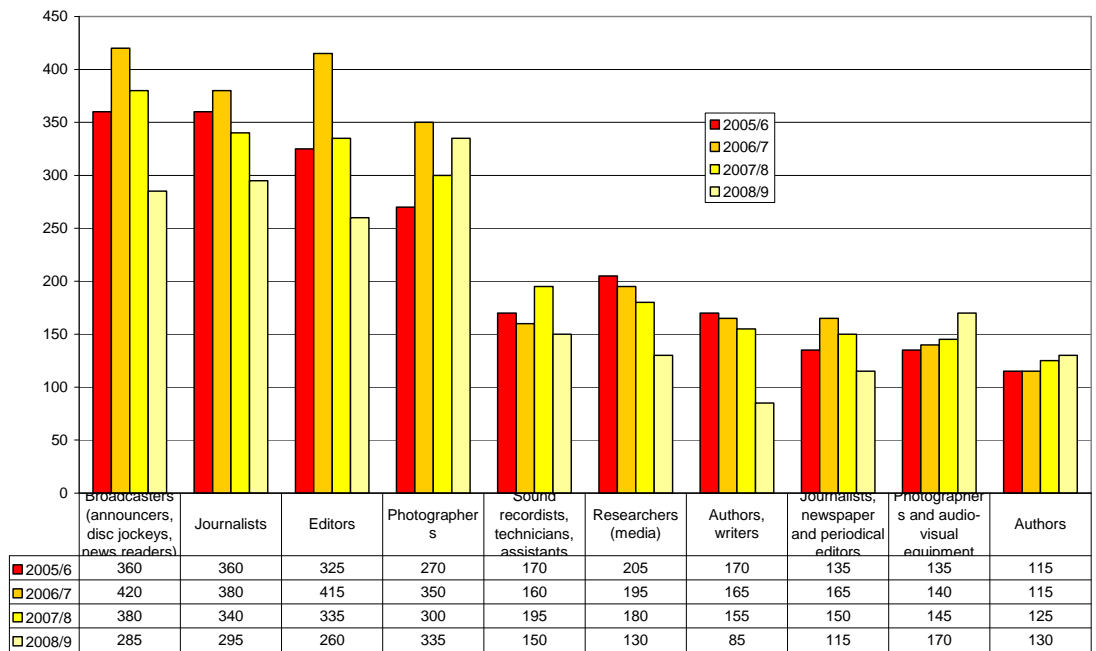


Figure (15) Jobs in Sport

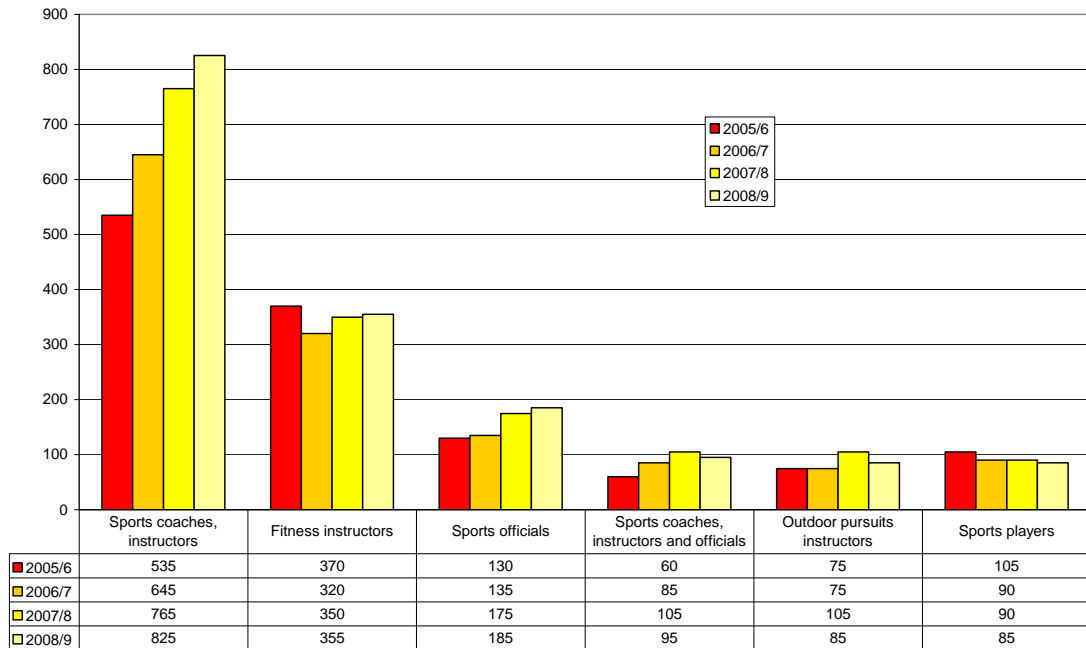


Figure (16) Performing Arts jobs

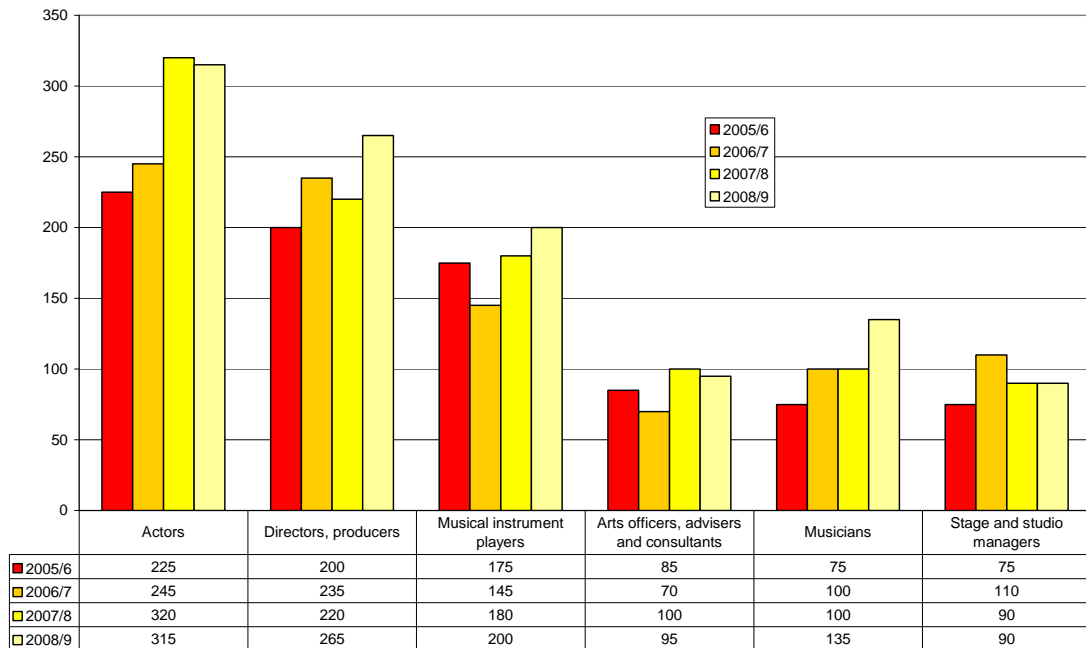


Figure (17) Jobs in Building and Architecture

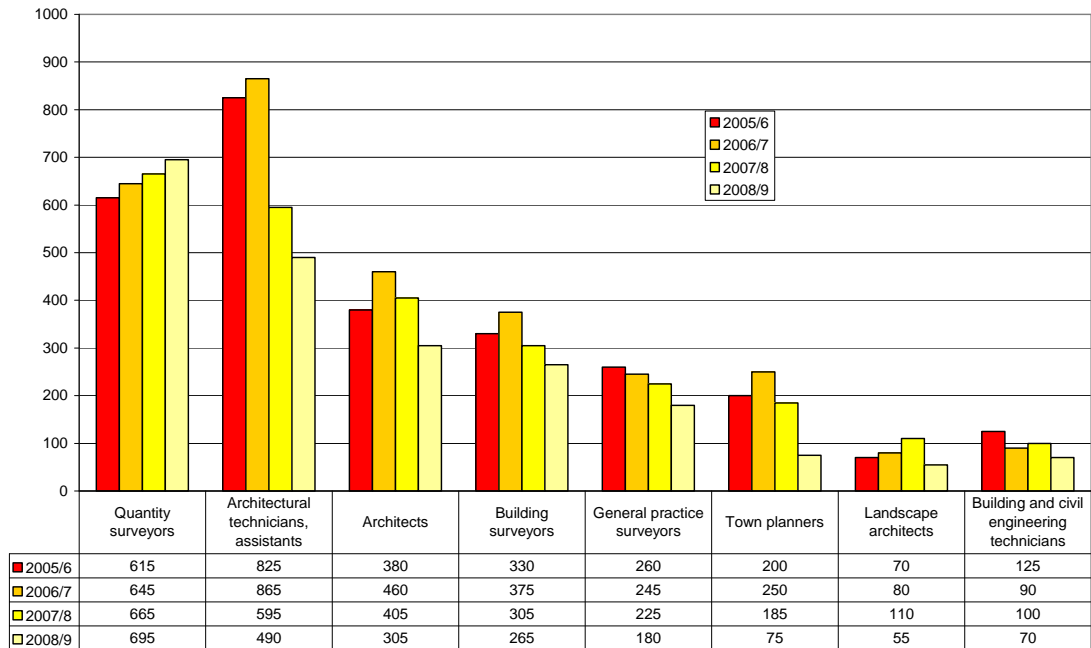


Figure (18) Technical and research jobs

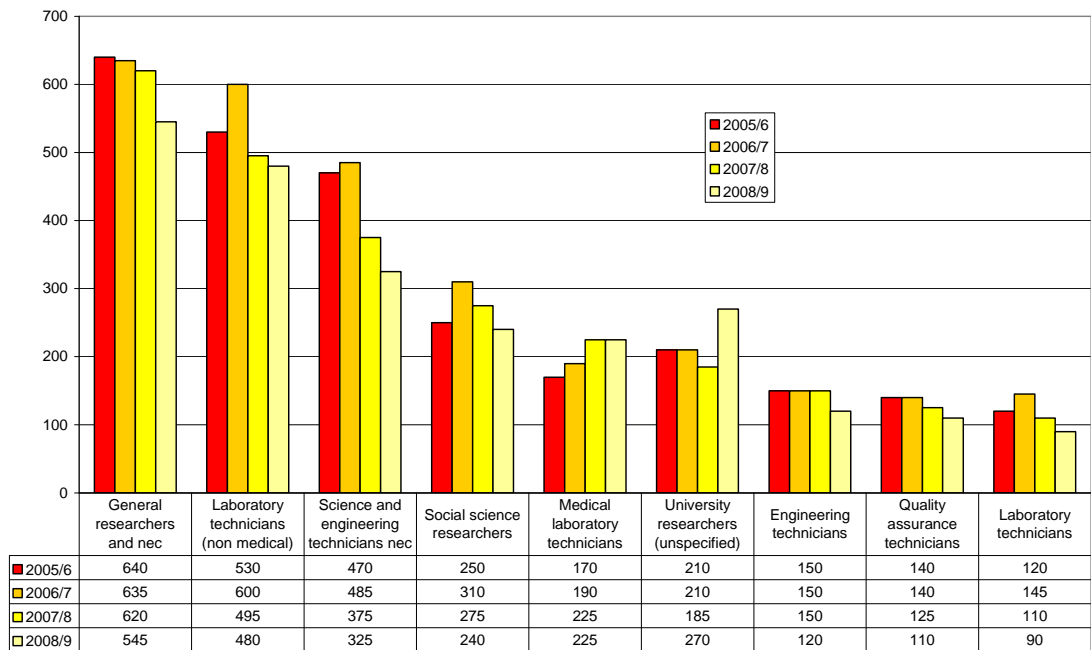


Figure (19) Other professionals

