



Futuretrack Stage 4: transitions into employment, further study and other outcomes

Full Report

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The study upon which this report is based, *Futuretrack*, is an ambitious and ground-breaking study of the process of higher education in the United Kingdom. Its ambition was to track applicants for a full-time place in higher education in 2006 as they made their way through the undergraduate stages of higher education and onwards, or the alternative pathways they chose. It was ground-breaking in that it was the first longitudinal survey ever undertaken exclusively via a web-based approach and for which statistical controls could be applied.

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For us, and for HECSU, this report marks the beginning rather than the end of the potential of this rich and detailed longitudinal survey, which provides a remarkable resource for all those with an interest in the HE and employment in the UK.

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EXECUTIVE SUMMARY

Futuretrack stage 4: transitions into employment, further study and other outcomes

In common with many countries in recent decades, UK governments since the late 1980s have promoted the expansion of higher education (HE), on the assumption that a major factor underlying economic prosperity is the development of a 'high skills' economy. Governments have also been concerned to emphasise that widening access to HE demonstrates commitment to the extension of equal opportunities. Education and access to career opportunities helps citizens to realise their potential to be socially mobile, to participate fully in society and access the full range of rights, resources and socio-economic advantages that UK citizenship and economic growth are assumed to confer.

Taking a longitudinal perspective

Futuretrack is a longitudinal study of people who applied in 2005/06 for a full-time place in a UK higher education institution, to commence study in October 2006.

The research has involved the collection and analysis of both quantitative and qualitative data over a five and a half year period. Online surveys were conducted with respondents at four stages: when they were applicants in summer 2006, in summer 2007 one year on, in autumn 2009 (repeated for those on four year degree programmes in 2010) and in winter 2011/12, five and a half years from the first survey.

This report is based on the Stage 4 survey, when the majority of respondents had completed three or four year undergraduate courses 18 or 30 months previously. Many of them, along with most of the sub-sample who had not obtained such degrees by full-time study, could be assumed to have achieved some degree of labour market integration.

The Stage 4 survey was the most challenging stage of the research to design, conduct, and analyse:

- Reaching and maintaining contact with respondents was more difficult than at earlier stages given that most had left higher education and were geographically mobile.
- The online questionnaires at all stages needed to be flexible, to be relevant to different groups of respondents, including those who did not take up a place in HE.
- This highly complex questionnaire produced a correspondingly complex data set.

At the outset of this ambitious longitudinal survey, we did not anticipate the political and economic changes that have taken place between 2005-6, when the cohort applied to enter HE, and the changed higher education and labour market context that they encountered almost six years later. They have been competing for opportunities during a global recession and where the graduate labour market and HE are political 'hot potatoes' that are rarely far from the forefront of media critical attention and political controversy.

The questions addressed at Stage 4

The Stage 4 questionnaire built on the earlier stages of the Futuretrack project. Its objective was to investigate graduates' evaluation of their HE experience, the career and employment choices that faced them, the opportunities they had accessed, the extent to which their aspirations and plans at the start of their courses had changed or remained stable, had been realised or obstructed. We wanted to know what had influenced career planning and aspirations.

Stage 4 was also an opportunity to explore how far prior educational and social advantage and disadvantage had been reinforced or had become less important during the process of HE, and the impact of studying in different types of HEI and in different regions. We wanted to examine the relationships between the educational and cultural capital brought into HE, the impact of different types of HE experience, including the knowledge and skills developed in subjects and disciplines, the variables that led to satisfaction with the experience of HE and early career outcomes. Analysis of Stage 4 responses allows us to address the big questions that are debated by all concerned with HE provision and graduate employment:

- What is the impact of participation and investment of time and resources in the increasingly diverse undergraduate course options now available?
- How far does an undergraduate degree provide access to opportunities?
- Does it still make sense to talk about ‘graduate jobs’ and ‘non-graduate jobs’?
- Has this cohort of graduates been integrated into the labour market to the same degree as their recent predecessor course-leavers were?
- Which graduates have constituted ‘talent’ - qualities sought after and paid a premium by employers for their HE knowledge and skills, and which have not yet been able to access jobs that require or use their HE credentials and competences?
- What has been the impact of HE choices and performance on relative earnings?
- Has higher education expansion led to increased under-employment and how far, and where, has the graduate premium increased, remained stable or declined?

We know that graduate unemployment since 2009 has increased, in conjunction with UK unemployment generally: but which types of graduates have been unable to access appropriate employment and why? We have considered the graduate outcomes in relation to the economic climate they have entered. How far was it possible to assess whether their experiences could be attributed to the global recession, or give any indication that current patterns of integration are indicative of changing longer-term trends in the demand for the graduate labour?

Finally, although the residual non-HE participant sub-sample was small, we hoped that it would be possible to make some evaluation of the differential impact of following an alternative path to full-time HE participation and investigate the experiences of those who had not obtained degrees. How had their careers developed, and how far did the longer experience of employment that most had acquired compare with the value of a degree in terms of relative earnings, access to opportunity and satisfaction with their current situations? For all categories of respondent, we asked them to evaluate their experiences, choices and opportunities, and how they envisaged their longer-term career prospects.

Classifying graduate jobs

In our earlier work on the graduate labour market we have employed a simple but useful device to help us understand the integration of graduates into the labour market. By assigning the detailed occupational categories of the Standard Occupational Classification (SOC) to ‘graduate’ or ‘non-graduate’ categories, we can explore how this classification

correlates with; graduates' views of the appropriateness of their job for someone with their education; their use of HE-acquired skills and knowledge; their earnings; and job satisfaction. However, we were dissatisfied with the way in which we had operationalised this classification (termed SOC(HE)); given that we had relied to a significant extent on information from the Labour Force Survey about the occupations of degree holders.

We have revisited this classification, using an approach by which we evaluate jobs in terms of their use of the knowledge and high level skills acquired through higher education, defined as 'expertise', the use of communication skills developed as a part of a degree course and a component we term 'strategic skills and knowledge' – the requirement a job makes on the incumbent in terms of high level evidence evaluation and decision-making skills which again form part of a course curriculum. The resulting classification has enabled us to identify more sharply the distinction between graduate jobs ('experts', 'communicators' and 'strategists'), and non-graduate jobs.¹

Graduate integration into the labour market

Compared with the experiences of graduates some ten years earlier, Futuretrack graduates faced a tough labour market. The greater number of graduates seeking employment, coupled with harsh economic conditions, have combined to create higher levels of graduate unemployment, a higher proportion of graduates in non-graduate employment and a lower rate of career progression for graduates than was the situation ten years earlier. More than 10 per cent of Futuretrack graduates have experienced significant spells of unemployment, which for some may still be continuing beyond the date of the survey.

There is strong evidence that graduates are taking non-graduate jobs, in which they do not consider their graduate skills and knowledge to be useful.

Despite this rather negative finding, it remains the case that the labour market allocates opportunities not just on the basis of factors such as course results and subjects studied but also according to the category of university attended, the age of the graduate, ethnic background and parental education. These factors appear to be instrumental in decreasing or increasing the likelihood that graduates will experience unemployment, or enter a graduate job and are associated with entry into further study. None of these results is surprising, but the strength of the observed associations was, in some instances, greater than expected. For example, graduates of Asian ethnic background are significantly less likely to have worked in non-graduate occupations than graduates from other ethnic backgrounds (including 'white').

Student finance and its impact on choice

Futuretrack graduates have experienced a range of tuition fee and associated debt repayment regimes. For those who studied at English institutions, fees of approximately £3,000 per year applied for most students. The situation in Scotland was different, with an endowment scheme initially replacing tuition fees. This scheme was abolished in 2008, with Scottish students at Scottish universities paying no tuition fees. In Wales, the cap on tuition fees rose to £3,000 in 2007-08, bringing them in line with universities in England and Northern Ireland, but with all Welsh students receiving a grant of £1,890 towards their fees.

The analysis of accumulated student debt at the time of graduation reported in chapter 4 reveals how instrumental these different fee and grant regimes have been in terms of the

¹ Further details, describing how the new version of SOC(HE) was created and tests of its validity, are available in a working paper at <http://www2.warwick.ac.uk/fac/soc/ier/futuretrack/findings/>

debt that is reported. While student debt has risen dramatically in real terms over the past ten years, the differences between graduates according to the institution they attended are remarkable. Almost half of graduates from English universities had debts of £20,000 or more. For those who attended a Scottish university only 1 in 6 had similar levels of debt.

Those who have accumulated higher debts than the average tend to be males though the differences by gender are not marked. Those of Asian ethnic origins are less likely to report that they had any debt at all on graduation. Social background appears to be linked to student indebtedness, though for those with high debt levels there are few significant differences by social class categories. The length of undergraduate course undertaken has a relationship with debt as expected; longer courses lead to higher levels of debt.

In terms of the ways in which the reported level of debt impacted upon post-graduation options, we note that the most marked effect is the way in which it limits postgraduate study.

The repayment of debt is clearly linked to the subsequent activity history of graduates. Those who were unemployed at the time of the survey, were in a non-graduate job or had low earnings were the least likely to have made any progress whatsoever in repaying their debts.

Graduate earnings

The earnings of graduates, particularly the 'graduate premium' (the additional earnings advantage conferred by a degree) is an indicator both of the productivity of higher education and of the value that society places upon particular jobs held by graduates. In terms of productivity, it has been argued elsewhere that the average increase in productivity associated with the acquisition of an undergraduate degree has a net present value of more than £200,000 over a male graduate's working life. This may well have been the case when this estimate was produced, but it does not reflect the evidence revealed here, that the relative earnings advantage associated with a degree appears to have been declining slowly over the past decade, possibly by as much as 2 per cent per annum relative to average earnings in the economy. Equally, it does not take account of the fact that not all graduate jobs are valued in the same way. Those who undertook law degrees, or studied in medicine and related subjects, have experienced much less of a decline, whereas for the arts and for those who graduated from universities we categorise as 'low tariff access institutions', the decline is much greater than average.

Despite these findings, we have evidence that supports the contention that a degree continues to confer a significant earnings advantage. Comparing the earnings of those who completed their undergraduate studies with those who applied for a place but did not take it up, or who did not complete their undergraduate studies, demonstrates the potential scale of this effect. While there are important selection effects at work here, the comparison between these applicants to higher education, in terms of whether or not they went on to gain a degree, is a comparison between two groups where both had the desire to enter higher education and the motivation to apply.

Underlying all of the analyses is a continuing and seemingly permanent finding – the fact that male graduates earn more than females. We drew attention to this in our studies of the 1995 and 1999 graduating cohorts. The same results are still in evidence some ten years later. We can highlight specific sectors of the economy and types of work where the gender differential in earnings is endemic.

Other graduate outcomes

We looked at the outcomes of UK graduates at the time of the Stage 4 survey along the following dimensions:

- subjects which led to full-time employment or further study and access to opportunity;
- qualifications, skills and demand for graduate labour;
- subject studied in relation to knowledge and skills;
- organisations and industries where Stage 4 graduates worked;
- views of the respondents about why they accepted their current job;
- whether they achieved the type of work they hoped to;
- satisfaction with their current job, and their perceptions of their longer-term career prospects.

Subjects with the highest proportions of graduates in employment were Medicine & Dentistry, Education, Business & Administrative Studies, and Subjects Allied to Medicine. Subjects with the highest proportions of graduates still in full-time study at the Stage 4 survey were Physical sciences, followed by Biology, Veterinary Sciences, Agriculture & related subjects and Languages. The relationship between subject studied and these later outcomes remains significant when controlling for key demographic and socio-economic variables. Graduates who studied Medicine & Dentistry were least likely to be unemployed, while those who studied Historical and Philosophical Studies were more than twice as likely to be unemployed as graduates from Social studies.

Being from a non-white ethnic group or having at least one parent who had a degree increased the likelihood of being in further study relative to being in employment. Graduates in Medicine & dentistry, subjects allied to medicine, Education, Engineering & Technologies were most likely to have entered graduate jobs early in their careers. Those least likely to have entered a graduate job had studied Arts, Humanities, Languages and Interdisciplinary subjects, and to a lesser extent Social Studies and some areas of the Natural Studies. There is clear evidence of the impact of the recession with increased proportions of graduates finding it harder to achieve rapid integration into appropriate occupations, compared to earlier graduates. This was most noticeable in Architecture, Building and Planning, Law, Mathematics & Computer sciences, and Education.

Some new graduates have more career route options than others, depending on whether they could afford to spend time in unpaid work experience, felt able to wait for an appropriate vacancy, felt forced to take whatever job they could or to choose or have no option but to be unemployed.

There are no significant differences in non-graduate employment or unemployment from graduates from different socio-economic backgrounds but there were differences in the likelihood of participation in other activities, which included unpaid work, travel and postgraduate study. Graduates from the highest entry tariff universities were most likely to enter 'expert' occupations or graduate occupations as a whole. Graduates from the medium tariff universities and specialist HEIs demonstrated a similar propensity to low-tariff university graduates to be in non-graduate jobs or unemployed. Full-time students who entered

university at a relatively young age were more likely than older students to be engaged in non-paid work activities and to have postponed or failed to access graduate jobs.

Developing and using skills

Respondents were asked the extent to which they had developed different skills on their course. Fewer graduates thought that they had developed entrepreneurial skills or numerical skills very much, or to some extent, on their courses, but the discrepancies between development and use were relatively low in both cases compared to more 'academically' based skills and soft skills. Those skills most in demand – spoken communication, team-working numeracy and entrepreneurial skills – may have been developed more on courses; and those least demanded – research skills – were developed less. The skills of spoken communication, team-working and ability to manage time were less likely to have been explicitly developed across the full spectrum of subjects, and required in virtually all employment contexts. A shortfall in the extent to which graduates had acquired or been given sufficient opportunity to develop numerical skills was one of the most frequent reasons cited for dissatisfaction cited by STEM subject graduates who were dissatisfied with their choice of course. However, high proportions of graduates claimed to be using the knowledge and skills they had acquired as students in their current occupations.

Around three-quarters of graduates thought they possessed all the skills employers were looking for when recruiting for the type of job they wanted, but just over three fifths believed they were using these skills in their jobs. A higher proportion of STEM and other numerate subject group graduates thought this than those from Arts subjects. In terms of employment, graduates in Medicine and related subjects, Engineering and Mathematics and computing graduates were among the most likely to have accessed graduate employment. Graduates from the other main vocationally orientated subject, Education, were the second highest. Overall graduates from the broad area of Natural sciences were least likely to have done so.

There are wide variations in the proportion of graduates in expert graduate jobs. The highest proportions are those who studied Nursing and Pharmacology with those from the engineering sub-groups also more often in expert graduate jobs. The proportion of graduates either unemployed or in non-graduate jobs was much higher for graduates in Biology, Mathematics and Physical and terrestrial geography and Architecture, and especially so for those who studied Sports Science and Agriculture.

Type of employment

Nearly two-thirds of graduates were employed in large organisations, 10 per cent in micro-companies with less than 10 employees, 27 per cent were almost equally divided between small and medium organisations. The great majority of graduates of Medicine and allied subjects, and three quarters of Engineering and Technologies graduates were employed in large organisations. In contrast, over half of graduates in Architecture, building and planning, Creative Arts and Design, and Education worked for an SME. Graduates in Medicine and Dentistry and allied subjects, and in Education were most likely to be in public sector employment. Ten per cent or more of graduates in any of the subjects in Social Studies, Historical and Philosophical Studies, and Linguistics and Classics were employed in the Not-for-Profit sector. Overall 58 per cent of graduates worked in the private sector.

Gender distributions of employed graduates by sector remains unchanged from the Class of 1999² graduates. There have been significant changes in proportions of graduates in

² Purcell, K., P. Elias, R. Davies and N. Wilton (2005). *The Class of '99*. DfES Research Report No 691 DfES: Sheffield

various sectors. The proportions of both male and female graduates in distribution tripled while there was a substantial decline in the proportions of graduates in banking. Among male graduates the proportion in construction fell by half while there was a growth in the information and communication sector.

Over half of graduates in the education, business services, information and communication, local and national government and the construction sectors worked in jobs which were done only, or mainly, by graduates. This was true for only just over 10 per cent of graduates with jobs in distribution, hotels and catering, and around a quarter of those with jobs in transport and tourism. The majority of graduates with jobs in manufacturing worked in occupations where a significant proportion of job-holders were not graduates

Graduate employment in non-graduate jobs is currently extensive across the full industry sector spectrum. In terms of the types of graduate jobs 70 per cent of 'experts' worked wholly or mainly alongside other graduates. This was true for around two thirds of 'communicators' and just less than half of 'strategists'. Two thirds of graduates in employment had a permanent or open-ended contract and a further fifth were on a fixed term contract. Eight per cent were agency workers or had temporary or casual work. Five per cent were self-employed. This rose to 18 per cent for graduates from specialist HE colleges that tend to offer longer expert and communication courses designed to prepare them for client-focussed work.

Job satisfaction

Sixty per cent of graduates in employment were satisfied with their job. Ten per cent were very dissatisfied. Satisfaction with future career options was even higher with over 70 per cent saying they were satisfied. These are remarkably positive responses. The characteristics our respondents thought were important in jobs remained largely unchanged with the opportunity to use initiative and the job itself being most frequently cited. The Stage 4 graduates did give greater emphasis than earlier surveys to job security and hours of work, which may reflect the current graduate labour market. In terms of the subjects studied at university over 40 per cent of those with Engineering and Technologies, Subjects Allied to Medicine, Mathematical and Computing Science, Education and Physical Sciences degrees were very satisfied with their current job. The least satisfied, with over 20 per cent saying they were not satisfied with their current job were graduates in Law, Biology and associated subjects, Historical and Philosophical studies, Creative Arts and Design, and Architecture, Building and Planning.

There were clear differences between STEM graduates and those from non-STEM courses in terms of why they accepted their current jobs. STEM graduates were more likely to say the job was 'exactly the type of work I wanted' while non-STEM graduates more often said the job they did was 'better than being unemployed' or that 'it suits me in the short term'. Overall 29 per cent said that their current job was exactly the type of work they wanted. Graduates who studied Subjects Allied to Medicine and Education were more likely to be in a job they wanted, while those who studied Social Studies or Law remained significantly less likely to agree with this. Black and Asian graduates are less likely to agree that they are in a job with the sort of work they really wanted. Graduates with good degrees and those with no debts were more likely to be in the job they wanted. This implies that levels of debt influence job choice.

Longer term career planning

Comparing the career planning activities of Stage 3 respondents while still at university with the career and work outcomes achieved at Stage 4 reveals that of those who had hoped to obtain employment related to longer-term career plans (some 46 per cent had said this) 87

per cent said that they now in a job which used the skills developed in HE and three quarters said they were using knowledge acquired in their studies. Those who planned to get a job related to their undergraduate studies were indeed more likely to use the skills and knowledge obtained. Those who felt confident, while still studying, that they could find a job allowing them to use the skills and knowledge obtained were even more likely to do so in practice.

Work experiences and paid employment

Our findings confirm previous analyses that, since the 1990s in particular, increased financial pressure and higher levels of debt had fostered an increase in the proportions of students taking on paid work in parallel with their course-work during term. The majority of Futuretrack respondents undertook some type of work experience during their undergraduate degree, including paid work, either for career development reasons or only for the money, vacation internships, sandwich placements and other structured shorter placements as well as unpaid work. Only 21 per cent of graduates had no work experience at all.

Work experience and other types of formal placements and assessed project work as part of the course are a more common feature of study at HEIs outside the highest tariff group. Conversely, graduates from highest tariff HEIs were more likely than those of other types of HEI to have taken part in paid or unpaid work which was not a recognised part of their studies, although they are also the most likely to have undertaken no paid or unpaid work while in HE. The provision of work placements and other work-based learning as part of undergraduate courses was lowest amongst graduates of Linguistics and Classics and Historical and Philosophical Studies, and highest amongst three of the most vocational subject groups: Medicine and Dentistry; Subjects Allied to Medicine; and Education. Graduates of subjects which have a high number of teaching hours, including the Physical Sciences, Mathematical and Computational Sciences and Creative Arts and Design, were the least likely to have undertaken any form of paid or unpaid work during their studies.

Using the revised SOC(HE) classification categories for graduate jobs, expert and communicator type jobs have the highest proportions of graduates who had undertaken structured work placements. The strategist job type has the highest proportion of respondents who undertook paid work only for the money. On the other hand, the unpaid work and unemployed categories have the highest proportions of respondents with no work experience at all, as well as the lowest proportions of structured work placements whilst studying.

Those who had any kind of work experience were more likely to say that they felt their job was very appropriate for someone with their level of skills and qualifications. However, those who did work placements integral to the course, a vacation internship or paid work for career experience had a higher proportion of respondents who felt that their job was very appropriate compared to those who did unpaid work for career experience or those who undertook paid work only for the money. The respondents who had no work experience at all also had the highest proportion who felt that their job was inappropriate for them, but they were also more likely to be in Non-graduate jobs or unpaid work.

Unpaid work

There has been very little systematic investigation of the impact of unpaid work experience and internships on career outcomes. Our analysis suggests that the timing of doing unpaid work, during an undergraduate degree or after graduation, can lead to different early career outcomes for graduates.

Most graduates did no unpaid work at all, and of those who did undertake it, the majority did so during their undergraduate degree only. A further 6 per cent did unpaid work both during their course and after graduation, and 5 per cent after graduation only.

The subject group with the lowest incidence of unpaid work is Mathematical and Computer Sciences. Social studies and Law subjects, Medicine and related, and Education subjects have the highest proportions of respondents who did unpaid work during their degrees. Graduates from Creative Arts and Design subjects had the highest proportion of respondents who did unpaid work after graduation only. For interdisciplinary subjects, those that involved a STEM subject were more likely to have done no unpaid work at all, and less likely to have done unpaid work during the degree, than those which did not include a STEM subject. Graduates who attended highest tariff universities were most likely to do unpaid work during their course and least likely to do so after graduation. Those who attended Specialist HE colleges were the least likely to do no unpaid work at all, but also the most likely to do so after graduation.

Respondents who have dependants, either adults or children under the age of 18, living with them are more likely to have done unpaid work after graduation only or both during course and after graduation.

Unpaid work undertaken at different times of the respondents' experiences of university has a varied impact on their current types of jobs, even when controlling for background characteristics and types of HEI attended. Undertaking unpaid work *during* the course only compared to doing no unpaid work increases the likelihood of being employed in an Expert or Communicator role by at least one and a half times relative being employed in a non-graduate job. However, undertaking unpaid work *after* graduation diminishes the odds of being employed in all three types of graduate jobs relative to a non-graduate job and relative to doing no unpaid work at all. Interestingly, doing unpaid work both during the course and after graduation also has a significant diminishing effect for being employed in an Expert role relative to a non-graduate job (the effect is also diminishing but not significant for Strategic and Communicator roles).

Part of the explanation for the above finding could be that graduates who undertook unpaid work after they graduated were much more likely to be currently employed in the Distribution, hotels and catering industry sector, which also has largest proportion of non-graduate jobs compared to other industry sectors.

Advantages of extra-curricular activity

There is evidence that participation in extra-curricular activities while in HE is associated with positive labour market integration. In particular, graduates who were office holders or student representatives while in HE, indicating experience of leadership and roles of responsibility, had more positive outcomes. Graduates who took part in extra-curricular activities, and those who were office holders, were less likely to be unemployed, and more likely to be employed in a graduate job. This demonstrates the value employers place on such activities as a means of demonstrating desirable characteristics, such as teamwork and leadership, and in particular the value placed on these activities by employers recruiting in areas of traditional graduate employment. As increasing proportions of graduates leave HE with a 1st or 2:1 (the traditional requirement for employment in a graduate job), 'added value' in the form of extra-curricular experience, along with work experience, outside academic studies has become an increasingly important way graduates may set themselves apart from others in their graduating cohort.

Graduates with extra-curricular experience while in HE were less likely to be earning a comparatively low salary, and those with experience of being an office holder or student representative were even less likely. In part because of their easier transition into the labour market, graduates with extra-curricular experience and those who had been office holders were found to be more positive about their post-graduation careers. They were found to be more likely to agree to some extent that they were satisfied with their current job, to feel it was appropriate for someone with their skills and qualifications and to agree that they were positive about their long-term career prospects.

Socio-economic background and extra-curricular activity

The findings indicate that participation in extra-curricular activities is clearly associated with labour market advantage. Earlier stages of the Futuretrack longitudinal survey and previous research has shown that some groups are less likely, due to a lack of finances, self-confidence or time, to have engaged in extra-curricular activities. Among the Futuretrack graduates, socio-economic background appeared to have the closest relationship with whether a respondent had taken part in extra-curricular activities while in HE or been an office holder. Two thirds (67 per cent) of those from a routine and manual background had taken part in extra-curricular activities while in HE, compared to over three quarters (80 per cent) of graduates from a higher managerial or professional background. Similarly, 13 per cent of graduates from a routine and manual background had been an office holder, compared to 20 per cent of graduates from a higher managerial or professional background. A similar pattern was observed when looking at the proportions of each group whose parents had a degree.

It was found that those students who had extra-curricular or office-holder experiences in HE were more likely to be in a graduate job. This suggests that participation in these activities can act as an intervening factor in enabling those from less advantaged backgrounds to gain access to similar opportunities to those from more advantaged backgrounds. Consequently, the lower proportions of graduates from a routine and manual background who have engaged in these activities, and the possibility that this is a result of exclusion based on personal characteristics, demonstrates the extent to which ability to make full use of HE experiences can further reinforce disadvantage, despite having the potential to enable graduates to overcome it.

Furthermore it may be that other variables associated with socio-economic background such as type of HEI, subject studied and access to social networks that facilitate labour market entry and achievement may be more important than socio-economic background *per se*.

Living at home or away

Previous Stages of the Futuretrack project have shown that students who lived at home while studying had different HE experiences than those who did not live at home, that living at home played a key role in determining the type of HEI they had access to and graduates who had chosen to study locally or within a relatively close distance to enable them to remain living at their existing homes, tended overall to be less positive about their experience of HE. This appeared to be the case regardless of whether a student lived in an adult home with or without dependents or remained in their parental home while they studied. However, when examining the impact of having lived at home while studying on transition into the labour market, it was clear that not all groups of students who lived at home had the same experiences. Age was used as a proxy to differentiate graduates who had lived in their own home while they studied (older graduates who were aged 21 and over when they entered HE) and those who remained in their parental home (younger students aged under 21 when they entered HE).

Differentiating between these two groups revealed that students who lived in their own home appeared to be somewhat advantaged in the labour market, being more likely to be in employment, more likely to be in a graduate job, more satisfied with their current job and more likely to think that their job was appropriate for someone with their skills and qualifications. In part this is likely to be because of their greater labour market experience prior to, and sometimes during, HE. However, they were also found to be less likely to be positive about their long-term career prospects, which is likely to reflect their age and the amount of time they have to develop their careers.

Younger students, who it was assumed remained in their parental home when they indicated that they lived at home while they studied, were found to be the most likely to be working in a non-graduate job, the most likely to be earning less than £15,000 per annum, to be least likely to say they were satisfied to some extent with their current job and to agree to some extent that their job was appropriate for someone with their skills and qualifications and to be less likely to agree that they were positive about their long-term career prospects. They were also least likely to have achieved a 1st or 2:1 degree. This is an issue for policy makers. As tuition fees for HE rise, it is anticipated that a greater proportion of students will remain in their parental home while they study as a way of saving money.

Graduates from a routine and manual background, those who did not have a parent with a degree, female students and those from minority ethnic groups were all more likely to remain in their parental home while they were studying. With the exception of Asian students, graduates from all the non-traditional groups were also more likely than their more traditional comparator groups to live in their own home while they studied. Comparison of graduates from a routine and manual background who remained in their parental home while they studied and those who left showed that those who left were less likely to be in non-graduate jobs.

Take up of careers advice

The proportion of graduates who had visited their HEI Careers Advice Service while they were in HE was surprisingly low. At the end of their final year in HE, 44 per cent of graduates said that they had not visited their HEI Careers Service. When looking at the different labour market experiences of those who had and had not visited their Careers Service when in HE, the benefits, in terms of the proportions who were in graduate employment, were unclear, as those who had not visited their Careers Service were approximately as likely as those who had to be in a graduate job, and to be positive about their job.

A clearer difference was seen when considering graduates' perception of the value of the advice they had received. This showed that graduates who, at the end of their final year, before they had completed their transition into the labour market, thought that the advice they had received had been very helpful were the most likely of those who had received advice to be in graduate employment, although those who had not visited their Careers Service were even more likely. Those who had found their advice very helpful were slightly less likely to be working in a job that was done mostly or only by non-graduates and were the most optimistic about their long-term career plans.

Networking

There was similarly no clear picture when examining access to very helpful advice from HEI Careers Services. However, the relatively small proportion of graduates who used their HEI's Careers Advice Service indicated that graduates had sought careers advice elsewhere.

The two most common sources for this advice were friends and family and department teaching staff, and it was in access to these resources that the impact of disadvantage became clearer. This was particularly the case when looking at the access of students from disadvantaged backgrounds to advice from their friends and family. Access to helpful advice from friends and family indicates that an individual has access to social networks comprised, at least in part, of individuals with knowledge and experience of the types of employment or further training the student aspired to enter. Access to these types of networks can be as a result of relationships which pre-exist HE or which are developed during a student's time in HE. When students come from a background where individuals with suitable knowledge and experience are relatively rare, networking in HE becomes increasingly important. However, the Futuretrack evidence has shown that, students from less traditional backgrounds are often limited in the extent to which they are able and/or willing to engage in networking with other students and in particular with those who have higher levels of social and cultural capital. Consequently, these more excluded students lack the resources to find graduate employment that their more advantaged peers possess, and as a result are more likely to become excluded graduates, working in non-graduate employment and not realising the social and economic benefits of HE.

The less positive labour market experience of graduates who did not take part in extra-curricular activities, who remained in their parental home when they studied, and who did not develop the kinds of social networks that provided them with helpful careers advice, and the extent to which such an activities are more likely amongst particular disadvantaged groups presents a challenge to the prevailing notion that HE participation is a vehicle for social mobility and reducing the impact of prior disadvantage. It instead suggests that prior disadvantage can be further entrenched by the very different HE experiences of those from more and less advantaged backgrounds.

Looking back: the benefits of the degree

Between Stage 3, and Stage 4, graduates had become less likely to agree that their subject, skills they had developed in higher education and higher education institution had been an advantage to them in looking for employment. The proportion of graduates who believed their degree subject had been an advantage to some extent fell from 77 per cent to 60 per cent. The proportion that believed their HEI had been an advantage from 68 per cent to 50 per cent, and the proportion who believed the skills they had developed on their course had made them more employable fell from 78 to 70 per cent.

Graduates with degrees in STEM and vocational subjects were the most likely to believe their subject had been an advantage, while graduates in Arts subjects were the least likely. Large falls in the proportion of graduates agreeing that their subject was an advantage were seen amongst those subjects associated with professions that have been worst hit by the recession, as well as amongst the STEM group as a whole.

Similarly, graduates with degrees in STEM and vocational subjects were the most likely to believe the skills they had developed on their course had made them more employable. Particular issues for graduates in Law, Architecture and media and PR-related subjects who hoped to go into employment using their subject skills were identified due to both over-supply and lack of demand in these areas. Graduates of all subject groups were more likely to say that they were using their undergraduate course skills in their current job than that they were using their subject knowledge. As was expected, graduates from the highest tariff HEIs were the most likely to believe that their HEI had been an advantage in looking for employment, with those from lowest tariff HEIs least likely.

Graduates' opinions about the extent to which their course offered good value for money are based on both the quality of the teaching and support they received and on the returns on having a degree that they had experienced (or anticipated experiencing) in the labour market. At Stage 4, approximately 60 per cent of graduates agreed to some extent that their degree had been good value for money and approximately a quarter disagreed to some extent.

Experiences of international students

We find evidence of the role international student mobility can play in developing skills that enable graduates to make an appropriate transition into the labour market. The development of communication and English language skills had been identified by many of them as a motivating factor in their decision to study in the UK. For European and other international students, the closing of the gap between graduates who had learned English as children or adults and those graduates who were monolingual English speakers demonstrates the extent to which UK HE experience had enhanced the employability of particular groups of international graduates. More than 65 per cent of non-native speakers of English rated their written and spoken communication skills after graduation as 'very good' or 'excellent' and because of the greater challenges most had faced as undergraduate students learning in a second language, they probably applied more stringent criteria than native speakers.

After graduation, international graduates were more likely than UK nationals to embark on taught Masters and PhD courses. There were various reasons for this. International graduates were more likely to have gained a first class degree, providing them with greater access to post-graduate study opportunities. However, like those of the UK students who did so, a significant proportion had gone on to further study in order to gain a recognised qualification that would give them an advantage in the labour market.

European and other international students were less likely than UK-domiciled graduates to have accrued debts as undergraduates. More than 50 per cent of all international graduates and more than 30 per cent of all other European graduates had not accrued any repayable debts at the time of their graduation. This largely reflects the funding regimes in the countries in which they studied and the relationship between social class and access to international experiences.

Looking at the career destinations of graduates of three-year undergraduate courses shows that European and other international graduates were likely to move more quickly into graduate occupations and experienced shorter periods of unemployment. Graduates who were nationals of countries outside Europe were most likely to be employed in a graduate occupation at the time of the Stage 4 survey, which is likely to be related to the types of subjects in which these graduates were concentrated and their relative educational and socio-economic advantages. Students who had come to the UK from non-European countries were more likely than UK students to study STEM subjects. As a consequence, international students were likely to be employed in expert graduate jobs.

UK graduates working overseas

Early-career international migration of UK-national graduates is relatively rare. Of all UK-national graduates, 2 per cent were living in a different European country and 4 per cent were living in a non-European country at the time of the survey. Motivations for moving abroad were diverse, including a desire to use language skills developed while studying or develop greater competence in another language, but difficulties in finding employment in the UK and perceptions that the situation might be easier elsewhere were mentioned frequently.

The experiences of international graduates were broadly positive and they were as satisfied as UK national graduates with their HE experiences. Nevertheless, the comments provided by international graduates who indicated that with hindsight they would choose to study at a different HEI, very often reflected a wish that they had studied in a different country to the UK. Non-European international graduates reported dissatisfaction about their course fees, the UK-orientation of their courses and difficulties in transferring their skills and qualifications outside the UK context, but overall, 70 per cent considered that their course had been good value for money and two-thirds stated that they would definitely or probably choose the same undergraduate course again.

Non-graduates: those who did not complete a degree

Non-graduates comprise 8 per cent of the Futuretrack sample in Stage 4. Almost two-thirds of the non-graduates entered HE at some point but subsequently dropped out. Those who applied to enter HE but who ultimately did not graduate are less likely to be from a traditional student background. They are more likely to come from routine and manual backgrounds, to have parents with no experience of HE, and to be mature students when they applied to enter HE. Although the Futuretrack non-graduates are not representative of all non-graduates, as they applied to enter HE, this difference between the characteristics of graduates and non-graduates raises issues about the greater exclusion of some groups from HE and consequently the extent to which HE can be seen as perpetuating disadvantage rather than promoting social mobility.

Despite being in the labour market for longer, non-graduates were only slightly more likely than graduates to have been in employment at the time of the survey, with most of this difference offset by the proportion of graduates who were still studying at post-graduate level. Non-graduates were more likely to be in permanent employment.

There was broad similarity in the sectors in which graduates and non-graduates were employed and in the size of their employer. However, there were significant differences in the proportion of each group who were in jobs only or mostly done by graduates.

Non-graduates whose social background was most similar to that of traditional students were the most likely to be employed in jobs mostly or only done by graduates. While having a degree undoubtedly gives graduates an advantage, having characteristics associated with being a graduate, aside from having a degree, cannot be discounted as factors in enabling non-graduates to find graduate-level employment.

The non-graduates in the Futuretrack cohort were earning less in their current job than graduates, and research suggests that they can expect this gap to widen as their careers progress.

Non-graduates who had undertaken further training were positive about the impact it had on their careers. Employer support appears to be key in enabling non-graduates to undertake both vocational education and training and enter HE on a part-time basis.

Satisfaction with their current job was broadly similar amongst graduates and non-graduates. However, non-graduates were less optimistic about their long-term career prospects, less likely to believe they had the skills employers were looking for when recruiting for the kind of job they wanted, and less likely to say that they had a clear idea about what kind of job they wanted to have in five years' time. This suggests that the impact of not having a degree may not be seen relatively early in respondents' careers, but it has longer-term implications which will become evident as the careers of both groups progress.

Would they do it all again?

The proportion of respondents who said that with hindsight they would definitely or probably study the same course again fell by approximately 10 per cent, from 70 to 60 per cent, between Stages 3 and 4. Choosing a different course was more frequently mentioned than choosing a different HEI. Reasons given by graduates who would choose a different HEI were focussed on a perceived lack of prestige of their actual HEI and the impact respondents thought this had on their employment prospects, and on unsatisfactory teaching and/or resources.

Graduates who said that with hindsight they would change their subject predominantly said they would change to something that they thought would give them more of an advantage in the labour market – usually something more specialised, vocational or technical, with a more clearly defined career path. A small minority took the opposite view, and said that they would choose to something more enjoyable, regardless of the impact it had on their employability.

Respondents noted that at the time they applied to enter HE they had not realised how much the opportunities in the labour market would be affected by the recession and consequently, only a small minority thought that they had been badly advised about the implications of their subject and HEI choice.

It would be expected that as respondents entered the labour market, their clarity about their future careers would increase. However, this has not been the case. Graduating into a recession and uncertainty about the long-term impact this will have on their careers has resulted in a significant minority of respondents feeling unclear about their future career and lacking in optimism about their long-term career prospects. However, approximately two thirds of all graduates agreed that they are optimistic about their long-term career prospects, and just 4 per cent would choose not to go into HE if they were facing today (the time of the survey) the choice they made in 2005/06.

CHAPTER 1

Introduction

Background to the research

In common with virtually all developed and developing countries in recent decades, UK governments since the late 1980s have promoted the expansion of higher education (HE), on the assumption that in an increasingly competitive global economy, sustainable growth increasingly rely on knowledge rather than material resources or productivity *per se* and the key to economic prosperity is the development of a 'high skills' economy. The actual and potential roles of higher education in economic development and the reduction of social inequalities are at the core of these considerations. Governments have also been concerned to emphasise that widening access to HE demonstrates commitment to the extension of equal opportunities. Education and access to career opportunities enables more advantaged citizens to increasingly realise their potential to be socially mobile, to participate fully in society and access the full range of rights, resources and socio-economic advantages that UK citizenship and economic growth are assumed to confer.

In 2005, the Higher Education Careers Service Unit (HECSU) launched a major programme of research, designed to explore the process of entry into and through higher education in more detail than had hitherto been attempted. This programme had at its core the Futuretrack 2006 longitudinal study of applicants to UK full time degree and sub-degree HE courses who applied through the Universities and Colleges Admissions service (UCAS) in 2006.

The Longitudinal Survey

Futuretrack is independent, interdisciplinary policy-related research on the relationship between higher education, career decision-making and labour market trends, being conducted by a research team at the Institute for Employment Research, University of Warwick directed by Professor Kate Purcell, with substantial design and statistical analysis input from Professor Peter Elias. Its ultimate objective from the outset has been to provide robust and comprehensive evidence to clarify the socio-economic and educational factors that determine career choices, and outcomes, to inform the policy, practitioner and research communities and perhaps most importantly, higher education applicants themselves. In addition, the complex and detailed dataset compiled provides a research resource for further analysis and development to the those who monitor change in the graduate labour market, higher education and occupational and labour market trends more broadly. This report constitutes the first exploration of an extensive and unprecedentedly detailed body of information about the relationships among demographic attributes and contexts, education, knowledge, skills and access to opportunity.

The research has involved the collection and analysis of both quantitative and qualitative data. Online surveys were conducted at four stages of the respondents' careers: when they were UCAS applicants in summer 2006, in summer 2007 one year on, in autumn 2009 (repeated for those on four year degree programmes in 2010 to investigate final year students' career-related attitudes and decision-making and to maintain contact with those on longer courses or who had taken alternative routes that did not include full-time HE) and in Winter 2011/12, six years in from the Stage 1 survey. This report is based on the Stage 4 survey, when the majority of respondents had completed undergraduate courses 18 or 30 months previously, and many of them, along with most of the sub-sample who had not obtained such degrees by full-time study, could be assumed likely to have achieved labour market integration. The Stage 4 sample achieved is described in the Technical Appendix at the end of this report, graphically outlined in Figure F4 on page 208.

The Stage 4 survey

The Stage 4 survey was the most challenging stage of the research to conduct, and to design and analyse.

- Reaching respondents was more difficult than at earlier stages. At the first three stages, most respondents had been at least potentially accessible via the HEIs and their Careers Advisory Services networks but in Stage 4 they had mainly joined the HE non-participants throughout the UK labour market or more widely dispersed, joining the highly-mobile early career labour market. Simultaneously, there had been a subtle but rapid evolution of social networking, email was used less than previously as most young people's main means of communication, and we had to make use of these newer channels of communication.
- The online questionnaires at all stages needed to be flexible, so that respondents could be tracked through them in as user-friendly a way possible according to alternative answers that they gave to many of the questions. At Stage 1, all applicants were essentially in the same situation and needed to be asked the same cafeteria of questions, with few multiple routes required. At Stages 2 and 3, the questionnaires were predominantly designed to collect detailed information from full-time students HE about their courses, experiences, attitudes and their career-related aspirations and plans, and non-HE participants were routed through a much shorter version of the questionnaires that was mainly designed to maintain contact, check their current career-related and economic activity situations and update their details. The Stage 4 questionnaire was different. In addition to specific undergraduate course-related information and evaluation of HE experience, it had to be designed to collect as much common information as possible from all respondents about all labour market and career-related activities, where in many cases exactly the same questions were to be asked of those who had completed undergraduate degrees (in some cases followed by postgraduate qualifications) and those who had not completed or never participated in full-time HE courses. The greatest challenge was to design an activity history data collection instrument that would enable us to track the full activity histories of all respondents from Autumn 2006 onwards³.
- This highly complex questionnaire produced a correspondingly complex data set, requiring extensive data management and coding of occupational, sectoral and other complicated data and responses to open-ended variables prior to the conduct of a robust analysis, and we have only started to realise the potential of the data in the analysis for this report. Different sub-groups among the respondents had to be identified, and to be discussed separately and comparatively in order to make sense of the aggregate data, as discussed in Chapter 2.

At the outset of this ambitious longitudinal survey, we did not anticipate the political and economic changes that have taken place between 2005-6, when the cohort applied to enter HE, and the changed higher education and labour market context that they encountered five or six years on. They have been competing for opportunities during a global recession where the graduate labour market and HE are political 'hot potatoes' which are rarely far from the forefront of media critical attention and political controversy.

³ PDFs of the online questionnaires at all the stages can be accessed and downloaded from <http://go.warwick.ac.uk/futuretrack/what>

The questions we addressed at Stage 4

The Stage 4 questionnaire built on the earlier stages of the Futuretrack project. Its objective was to investigate graduates' evaluation of their HE experience, the career and employment choices that faced them, the opportunities they had accessed, the extent to which their aspirations and plans at the start of their courses had been changed or remained stable and had been realised or obstructed. We wanted to know what had influenced career planning and aspirations.

As we had done at earlier stages, we wanted to explore how far prior educational and social advantage and disadvantage had been reinforced or had become less important during the process of HE, and the impact of studying in different types of HEI and in different regions. We wanted to explore the relationships between the educational and cultural capital brought into HE, the impact of different types of HE experience, including the knowledge and skills developed in subjects and disciplines, the variables that led to satisfaction with the experience of HE and early career outcomes. We wanted to address the big questions that are debated by all concerned with HE provision and graduate employment. What is the impact of participation and investment of time and resources in the increasingly diverse undergraduate course options now available? How far *does* an undergraduate degree provide access to opportunities? Does it still make sense to talk about 'graduate jobs' and 'non-graduate jobs'? Has this cohort of graduates been integrated into the labour market to the same degree as their recent predecessor course-leavers were? Which graduates have constituted 'talent' sought after and paid a premium by employers for their HE knowledge and skills, and which have not yet been able to access jobs that require or use their HE credentials and competences? What has been the impact of HE choices and performance on relative earnings? Has higher education expansion led to increased under-employment and how far, and where, has the graduate premium increased, remained stable or declined, in comparison to the early career experiences of recent earlier cohorts of similarly-qualified labour market entrants? We know that graduate unemployment since 2009 has increased, in conjunction with UK unemployment generally: but which types of graduates have been unable to access appropriate employment and why? We have considered the graduate outcomes in relation to the economic climate they have entered. How far was it possible to assess whether their experiences could be attributed to the global recession, or give any indication that current patterns of integration are indicative of changing longer-term trends in the demand for the graduate labour?

Finally, although the residual non-HE participant sub-sample was small, we hoped that it would be possible to make some evaluation of the differential impact of following an alternative path to full-time HE participation and investigate the experiences of those who had not obtained degrees. How had their careers developed, and how far did the longer experience of employment that most had acquired compare with the value of a degree in terms of relative earnings, access to opportunity and satisfaction with their current situations? For all categories of respondent, we asked them to evaluate their experiences, choices and opportunities, and how they envisaged their longer term career prospects. This report addresses these questions, but there remains considerably more scope for further exploration and detailed analyses of the Futuretrack dataset.

The structure of the report

In the initial exploration of the Stage 4 data to write this report, we have mainly focused on the transition from HE to early career of those who completed undergraduate degrees in 2009 and 2010, and who studied as home students. In Chapter 2, we provide an overview of the sample as a whole. In Chapter 3, we focus on those who graduated in 2009 or 2010 to examine their routes into employment, further study, or unemployment, looking separately at those who had completed three and four year degree courses. Chapter 4 evaluates the

impact of debt on graduates' subsequent opportunities and decisions, and in Chapter 5 the reported earnings of the graduates are analysed, looking separately at those who graduated in 2009 and 2010. Chapter 5 also compares the relative early career earnings patterns of the sub-sample of Futuretrack graduates who graduated from HEIs sampled in the *Class of '99* survey after the same period between degree completion and similar periods of graduate labour market experience, controlling for inflation during the period that has elapsed since the latter group graduated.

Chapter 6 examines the pattern of current graduate jobs and the kinds of job that the graduates were employed in when surveyed in Winter 2011-12, concentrating particularly on the impact of subject studied and using a revised version of the SOC(HE) classification developed by Elias and Purcell in the early 1990s, based on the 2010 Standard Occupational Classification. Chapter 7 explores the relationships between paid and unpaid work during study and on unpaid work undertaken as graduates to assess its impact on access to paid employment and opportunities.

In Chapter 8, the use of wider HE resources; extra-curricular activities and HEI careers services; is examined in relation to impact of access on opportunities and outcomes. In Chapter 9 we consider their conclusions about the how their HE knowledge, skills and credentials had contributed to career development by the Stage 4 survey. On consideration of the impact HE has had on their early career and prospects for further development, would they do the same thing again?

Chapters 10 and 11 move away from the focus on UK-domiciled graduates. Chapter 10 focuses on respondents who completed their undergraduate programmes as international students. We consider how the reported experiences, evaluations, attitudes and early career outcomes of those who studied as European and other international students have been similar or different to each other and to those of UK-domiciled respondents. In Chapter 11, we look at the important minority of respondents who did not proceed to, or did not complete, HE courses⁴, exploring how far their subsequent career-related experiences and outcomes differ from those of the graduates.

The report ends with Chapter 12, which draws together the main findings from the analysis so far and discussed the implications.

⁴ We hope that it will be possible to follow up respondents on courses longer than four years (e.g. those who studied medicine) in specific future studies, whether or not a further sweep of the survey is undertaken.

CHAPTER 2

Who are the Futuretrack 2006 respondents? A profile of ‘the recession generation’ of applicants to full-time HE in the UK who participated in this survey

The Futuretrack sample

This chapter provides a broad outline of the Futuretrack Stage 4 respondent sample. As has been discussed, the survey covered virtually the entire population of 2005-6 applicants to full-time undergraduate courses at UK HEIs, and the respondents include continuing students and applicants who did not proceed to study in October 2006. As was seen at previous stages of the survey, some of these had changed their minds about going on to HE and took alternative career routes, some postponed the start of their studies to take a gap year or to improve their exam grades, some failed to obtain a university or college place, or were unable to obtain the funding or sponsorship they required in order to proceed. Some, mainly non-UK applicants, went on to study in other countries. Consequently, the early career trajectories of the Futuretrack cohort have been diverse, and it has been necessary to focus on different groups within the sample to address the wide range of questions we had posed. In this chapter, we profile the sample as a whole, identify the different sub-samples that we will discuss, and introduce the key variables and classifications that we use to make sense of the experiences and accounts provided by the respondents⁵. We end with an outline of the remaining structure of the report.

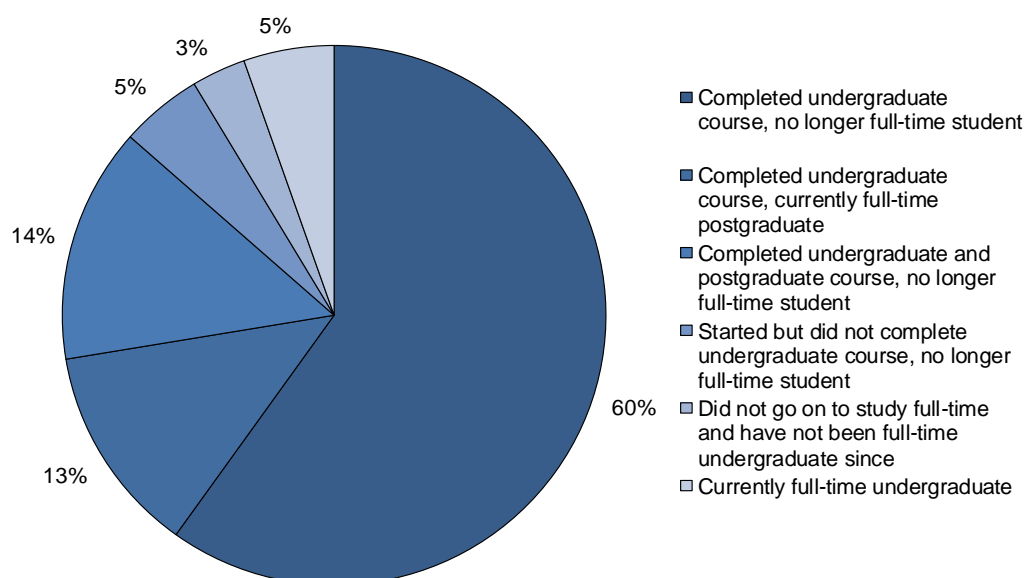
There are important differences between this survey and earlier longitudinal surveys investigating the relationship between undergraduate HE participation and early career development on which we have worked, most recently of 1999 and 1995 cohorts of UK graduates (Purcell *et al.* 2005, Purcell and Elias 2004, Elias *et al.* 1999). In both these cases, we surveyed randomly-selected samples of graduate alumni from 38 UK HEIs who had completed undergraduate degrees in summers 1995 and 1999, first contacted 3-4 years after graduation, rather than starting with the full-time undergraduate applicant population as it has been possible to do with Futuretrack. The earlier stages of the survey have enabled us to investigate career choices, educational background, experience and evaluation of this and changing attitudes to career development as it was happening, rather than asking for *post facto* accounts of these, and the survey has included those who took different career routes. It has nevertheless been possible to conduct some comparative analysis of some of the early career trajectories and outcomes of those who studied at the universities included in the *Class of '99* survey, as will be discussed in Chapters 4 and 6.

⁵ Detailed information about numbers of respondents, representativeness of the sample and weighting techniques used in the analyses are provided in the Technical Appendix at the end of this report.

Different routes and current situations

Figure 2.1 shows the basic distribution of the sample, according to whether or not respondents had entered or completed HE, according to responses to the question ‘Since applying to UCAS in 2005/6, which of the following has applied to you?’

Figure 2.1: Distribution of the sample by educational and career route since October 2006



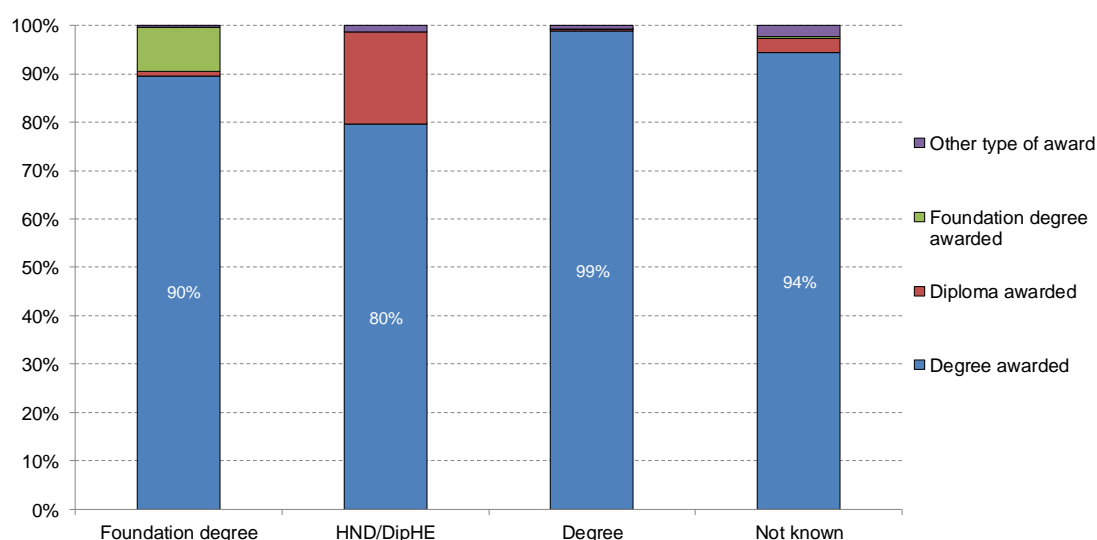
Source: *Futuretrack 2006: Combined Stages 1-4 dataset; all Stage 4 respondents; data weighted by weight_Stage 4.*

Figure 2.1 shows that 87 per cent of the Stage 4 of the Stage 4 respondents had completed an undergraduate degree, and of these, 14 per cent had also completed a postgraduate degree and 13 per cent were still engaged in postgraduate study. Five per cent had dropped out before gaining a qualification and a slightly higher proportion were still completing undergraduate degrees or had returned to study on a full-time undergraduate course. Thus, just over three per cent respondents had never entered full-time HE courses, which almost certainly under-represents such members of the original population, but there are no reliable comparable statistics and, along with the non-completers, they provide some indication of the parallel early career trajectories of relatively high achieving non-graduates. Their experiences, the extent to which they provide a useful comparison with graduates and an indication of the career options available to non-graduates are discussed in Chapter 11.

Of the course-leavers who responded to the Stage 4 survey, 84 per cent had applied for an undergraduate degree course, three per cent for Foundation degree courses, two per cent for HND or Dip HE courses, and we had no record of the initial application aspirations of the remaining 11 per cent. However, Figure 2.2 shows how the majority of surviving survey participants who had initially enrolled on Foundation Degree or undergraduate Diploma courses had gone on to gain undergraduate degrees⁶.

⁶ This reflects the greater difficulty of maintaining contact and consequent lower retention rates of respondents once they had left the HE system, but the survey ‘survivors’ from this sub-sample provide an indication of the experiences of non-standard students who accessed graduate status by less common routes.

Figure 2.2: Award obtained by those who participated at Stage 4, related to type of course applied for at Stage 1



Source: Futuretrack 2006: Combined Stages 1-4 dataset; all Stage 4 respondents; data weighted by weight_S4.

This report of the findings from Stage 4 reveals the scope of the data collected in the course of six data-collection exercises⁷ and the potential for further analysis and follow-up research of the sub-samples of respondents who have completed Diplomas or Foundation degrees.

In Table 2.1 we provide a comparison of the responses of different groups within the achieved sample to key questions about their current situation and views about their career so far and longer term prospects. In each row the figures in bold show the two categories of respondents most likely to have given positive responses. Those who had completed an undergraduate degree and were no longer studying were more likely to be in full-time employment, even than those who had never studied full-time, to be optimistic about their long-term career prospects, to be in a job that satisfied them and to be doing exactly the kind of work for which they had been looking. Those who had also completed a postgraduate degree and consequently entered the labour market more recently were considerably less likely to be employed full-time and most likely to be unemployed, but they were also the most likely of those in the labour market to be confident about their long-term career prospects and, when in employment, satisfied with their current job and doing exactly the kind of work they wanted.

Of those who had not obtained a degree, those who had never enrolled in HE were more likely to be in full-time employment, more likely to be in exactly the kind of work they had been looking for and less likely to be unemployed than those who had started but not completed an HE course. The latter were most likely (apart from current full-time students) to be in part-time employment, most likely to be self-employed and also a greater propensity to be unemployed.

⁷ Four stages of the main survey (which Stage 3 was conducted in the two consecutive years of 2009 and 2010 to access course-leavers completing three year and four year undergraduate courses respectively) and a short follow-up survey of non-respondent applicants who had been identified by UCAS as not having proceeded to HE in autumn 2006 (see the Technical Appendix, Figure F4 for full details).

Table 2.1: Current activities at time of survey according to career track between October 2006 and Winter 2011-12 Stage 4 Response

All current activities at time of survey	Completed undergraduate and postgraduate course, no longer full-time student	Completed undergraduate course, no longer full-time student	Started but did not complete undergraduate course, no longer full-time student	Did not go on to study full-time and have not been full-time undergraduate since	Completed undergraduate course, currently full-time postgraduate student	Currently full-time undergraduate student
Employed full-time	57%	66%	48%	63%	7%	3%
Employed part-time, (1 job)	10%	11%	12%	10%	16%	23%
Employed part-time, (multiple jobs)	6%	5%	5%	5%	5%	7%
Self-employed	6%	4%	13%	10%	4%	5%
Unemployed and looking for work	20%	11%	16%	7%	1%	1%
Engaged in full-time study/ training, or full-time research student	4%	2%	3%	2%	83%	85%
Current job appropriate for somebody with my skills and qualifications	58%	59%	58%	55%	*	*
Satisfied with current job	66%	65%	58%	63%	*	*
Jobs done wholly or mainly by graduates	70%	46%	12%	22%	*	*
Optimistic about long-term career	69%	65%	54%	55%	74%	82%
Very satisfied with life overall	33%	33%	24%	37%	44%	43%

Source: Futuretrack Stage 4, all UK domiciled respondents

The reasons for these differences reflect the different demographic profiles of the sub-sample, explored further throughout this report and, for those who did participate in full-time HE or started and did not complete courses, in Chapter 9. One striking comparative difference between those who had graduated and those who had started but not completed HE study or never embarked on HE was their very significantly lower propensity to evaluate their long-term career prospects as good or very good, despite their remarkably similar satisfaction with their life overall. The fact that those still studying were more optimistic than those who had faced the realities of the labour market may reflect experiences of the current recession. Those still engaged in undergraduate studies, perhaps not surprisingly, were most satisfied with life overall, as Table 2.1 shows.

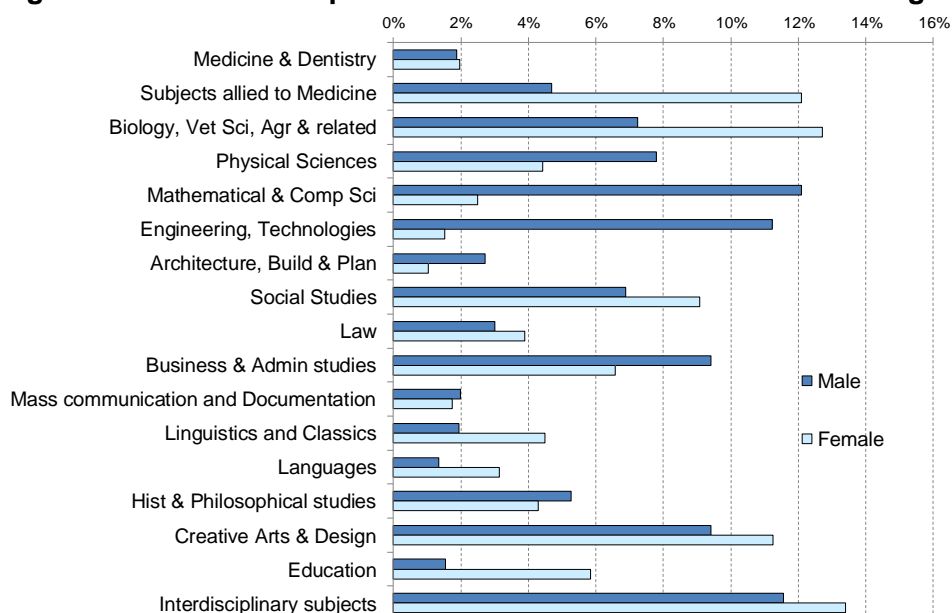
The Futuretrack graduates

In this report, the main focus is on respondents who had been awarded undergraduate degrees by the time of the Stage 4 survey, about whom most data have been collected. The most significant way in which the undergraduate population is heterogeneous is the extent to which it encompasses a very diverse range of disciplines and areas of study, which involve the acquisition of different kinds of knowledge, the development of different skills and competences and different teaching and learning contexts, and – on completion of courses – access to different kinds of opportunities and labour markets. Arguably, the second most significant aspect of this heterogeneity is the different gender distributions in subjects of study. It is important to consider the findings in this report bearing these two aspects of the graduate labour supply in mind. On this same issue of heterogeneity it should be noted that in this initial outline of the sample those who studied as international students are included.

The educational profile of Futuretrack graduates; subjects, backgrounds and key demographic attributes

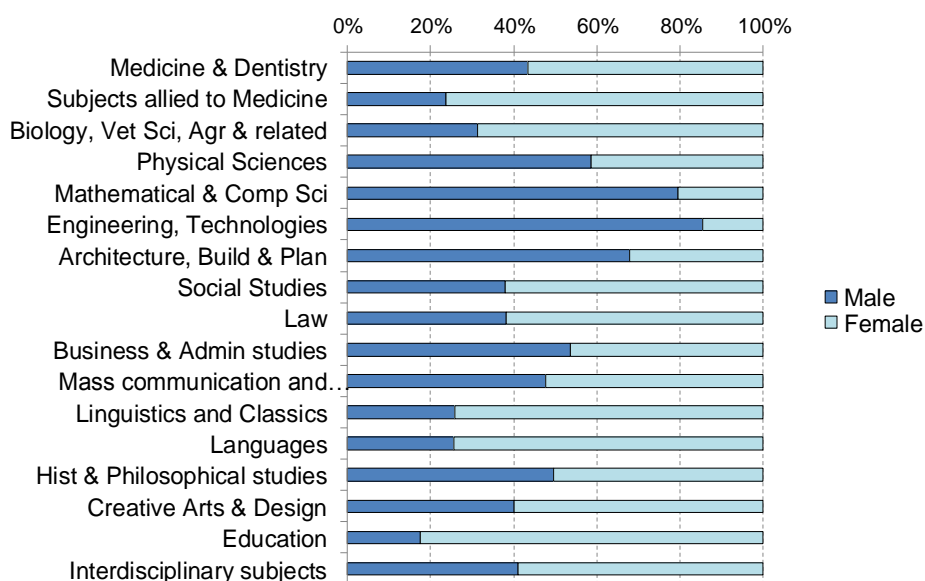
To classify the subjects studied by the graduates and explore their impact on early graduate career choices and outcomes, we mainly use the standard academic coding (JACS) system used by UK HE agencies and HEIs to classify HE courses studied into 17 broad groups. We have sometimes used modified or aggregated groups, and looked beyond the broad classification to explore particular subjects within them, as an indication of the further analyses that are possible in the longer term with these data. These will be explained where relevant.

Figure 2.3 compares the broad distribution of subjects studied by male and female students, and the relative proportions studying different subjects and disciplines, showing clearly that although relatively similar proportions of males and females enter HE, there are significant differences in their distribution across the spectrum of disciplines and courses, many continuing to reflect traditional gender patterns, acquiring different knowledge and developing different skills, aptitudes areas competence.

Figure 2.3: The comparative distributions of male and female graduates by subject

Source: Futuretrack 2006: Stage 4 respondents who completed an undergraduate degree; (weighted).

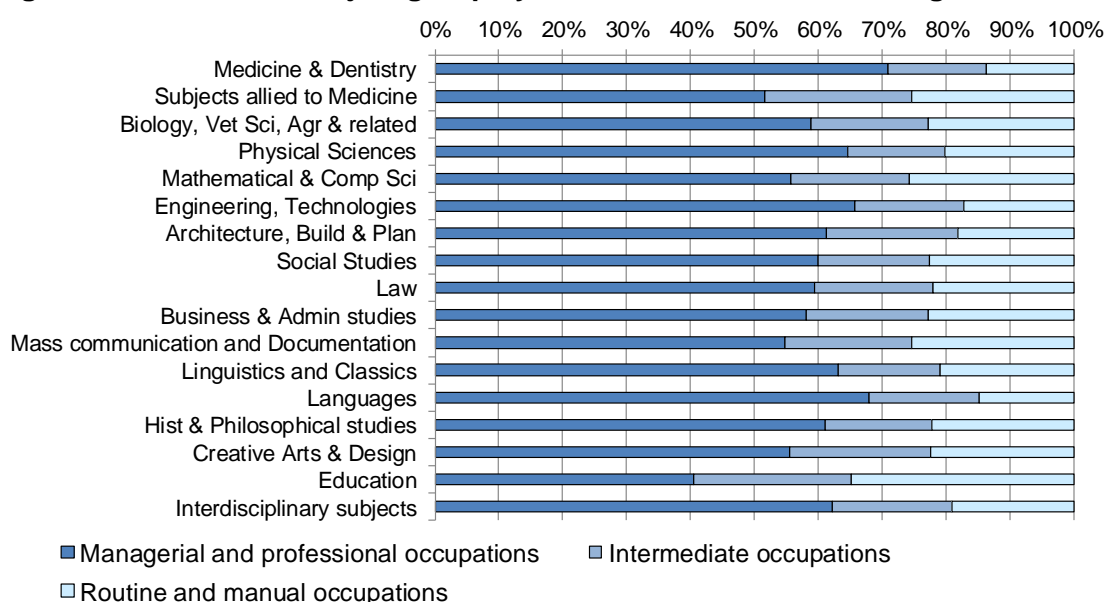
Figure 2.4 shows the consequent distributions of males and females in each subject: which shows even more clearly how the balance of educational HE participation and gendered subject choices reflects and (and in most areas, reinforces) how professions and occupations generally are identified with one or other sex (for example, Engineering as a predominantly male area, Languages as predominantly female), and where boundaries have been shifting (Administrative and Business Studies). In showing the gender balance in subject peer-groups, it also gives some indication of social differences in the teaching and learning environments in which HE experience is gained.

Figure 2.4 Comparative gender ratios of graduate respondents in subjects studied

Source: Futuretrack 2006: Stage 4 respondents who completed an undergraduate degree (weighted).

Such differences are also reflected in the different balances of socioeconomic backgrounds of the graduates in different subjects. This has been discussed in the earlier Futuretrack reports⁸, but needs to be taken into consideration when comparing the differences in early graduate career trajectories and outcomes according to subjects studied. Figure 2.5 shows the differences according to broad subject and broad socio-economic background. It shows clearly that although the full-time undergraduate population is dominated by those with socio-economic advantage, the relative proportions of graduates overall by the three grouped socio-economic categories (managerial and professional backgrounds, parents with intermediate occupations and from routine and manual occupational backgrounds) ranged widely by subject of study, from those leaving HE with degrees in Medicine and Dentistry, and Languages, to those who gained degrees in Subjects allied to Medicine (the largest component of whom had gained degrees in Nursing) and education. Figure 2.5 shows how the socio-economic balance of the graduate profiles varied by subject.

Figure 2.5: Broad subject group by broad socio-economic background



Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

To further understand the patterns of participation and subsequent career achievement according to socio-economic background at this Stage 4 survey, it is important take account of differences in lengths of courses according to subject, and in relation to some of the questions we addressed, we compare the trends and responses for those who did three or four year courses, because of their different lengths of early career experience since graduating.

The distributions of course length by subject ranged from Languages, with only 4 per cent doing 3 year courses, 60 per cent doing 4 year courses and 20 per cent doing longer courses⁹, and Design and Social Studies where we have information that 45 per cent of respondents were on 3 year courses (and a significant proportion of the 30 per cent for which we have no information on course length are likely to be 3 year course completed). Males were more likely to do longer courses, with only 43 per cent doing three year courses

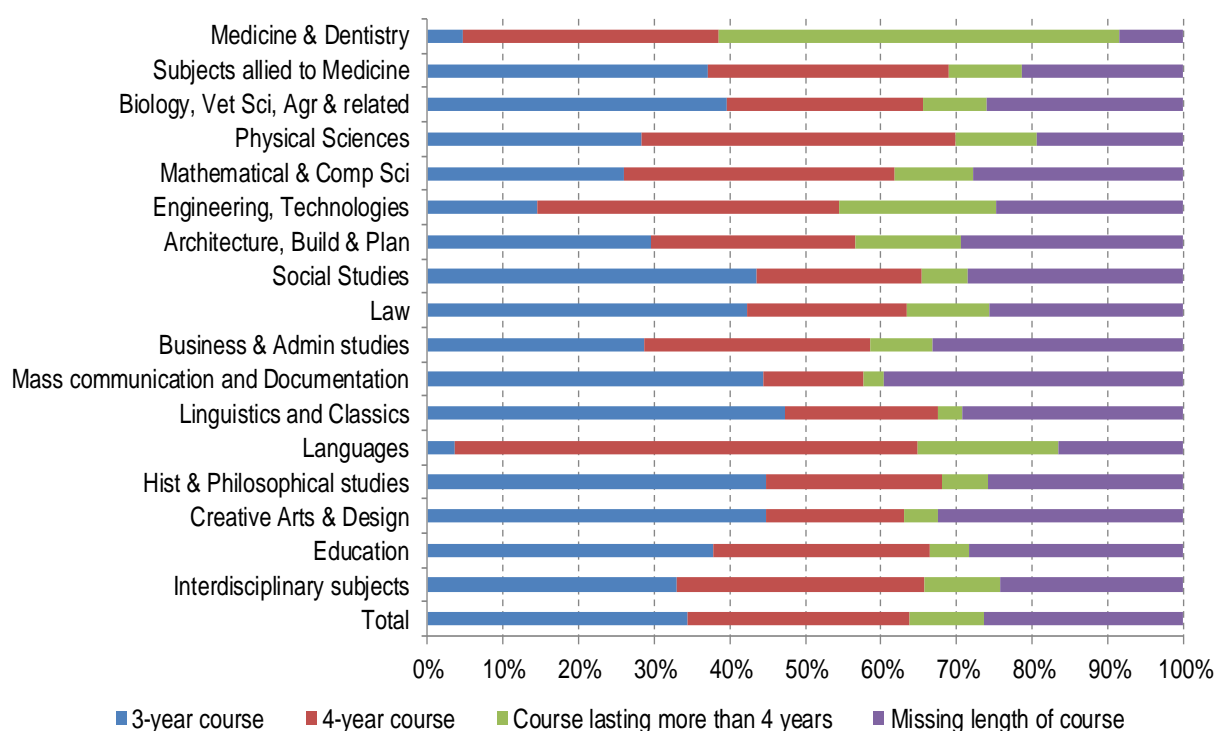
⁸ See, in particular, Purcell *et al* 2009: for a discussion of social and educational differences in the profiles of students in different areas of study.

⁹ Details of course length was not available for approximately one quarter of respondents.

compared to half of women. Those from lower socio-economic backgrounds had a propensity to do shorter courses than those from higher ones, with 52 per cent of those from routine and manual backgrounds, 48 per cent of those from intermediate backgrounds and 44 per cent of those from managerial and professional backgrounds doing three year courses. This reflected subject choices.

Figure 2.6 shows the information we have about course length for the graduates who participated at this stage of the survey¹⁰.

Figure 2.6: Broad subject studied by length of undergraduate course

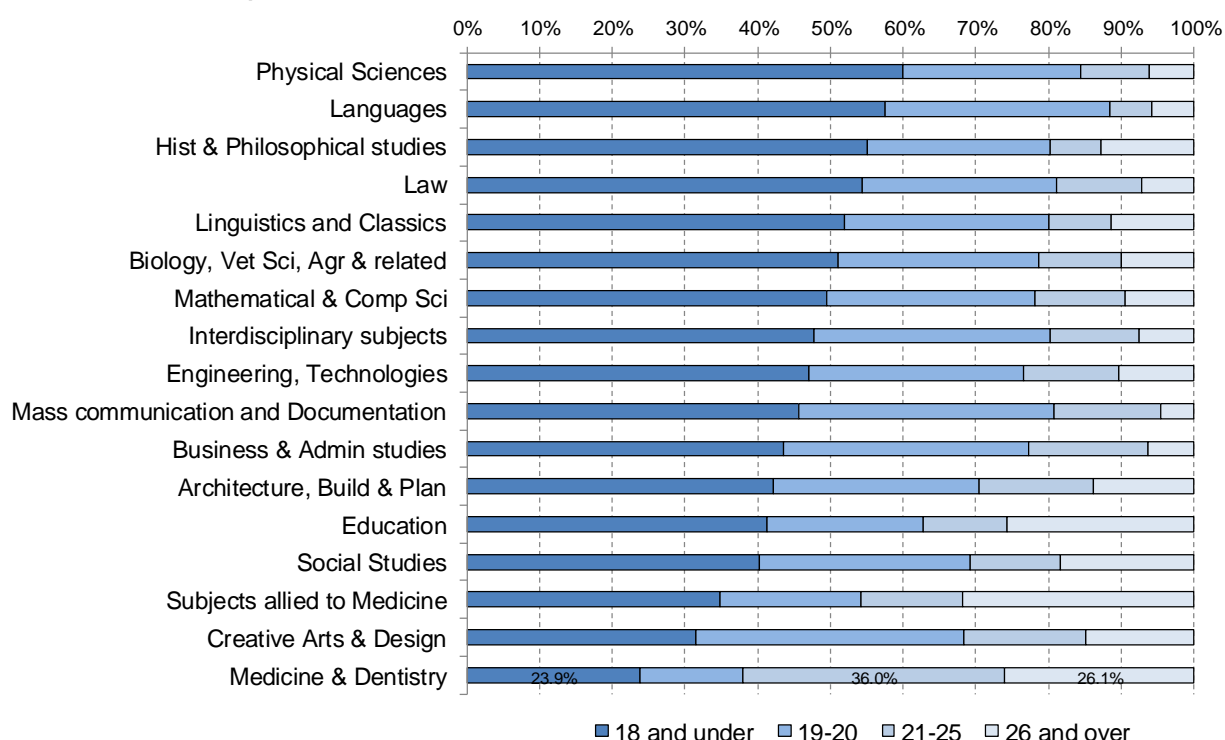


Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

Despite the increase in HE participation of adult returners to education, the majority of those who study full-time on undergraduate degrees are young people. The distribution of the graduate respondent population from different areas of study nevertheless varied considerably by age, from the traditional academic education areas; the natural sciences, Humanities, Languages and interdisciplinary subjects, where around 80 per cent or more started their undergraduate studies aged 20 or less, and the highly numerate and ICT-related subjects of Mathematics, Computing and Mass Communication where the majority had also been traditional school-leaving students. Figure 2.7 shows the relative ratios of respondents in each broad subject are by age.

¹⁰ Further detailed analysis and related research may enable us to identify the course lengths of at least some of those for whom we have no data about course length, but the picture, even in the activity history data, is complex, given that the sample of respondent includes graduates who had deferred the start of their courses, taken gap years or taken other years out and changed courses or repeated years in the course of their under.

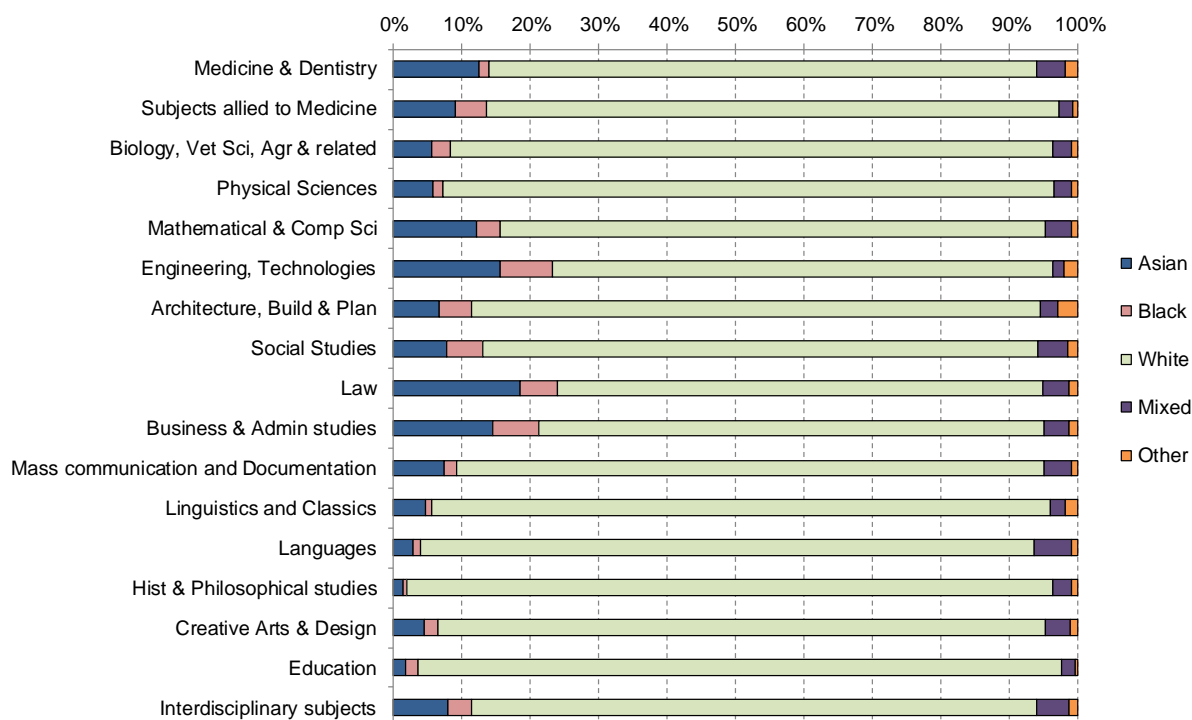
Figure 2.7: Broad subject group by age group on enrolment (age as of September 2006)



Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

Those studying as mature students were more likely to have achieved degrees in vocational subjects, generally requiring relatively high social and interpersonal skills and lower numeracy as was discussed at previous stages of the research, and those in the final stage 4 sample reflect this, with Subjects allied to Medicine, social studies and education followed closely by creative arts and design, and architecture and planning.

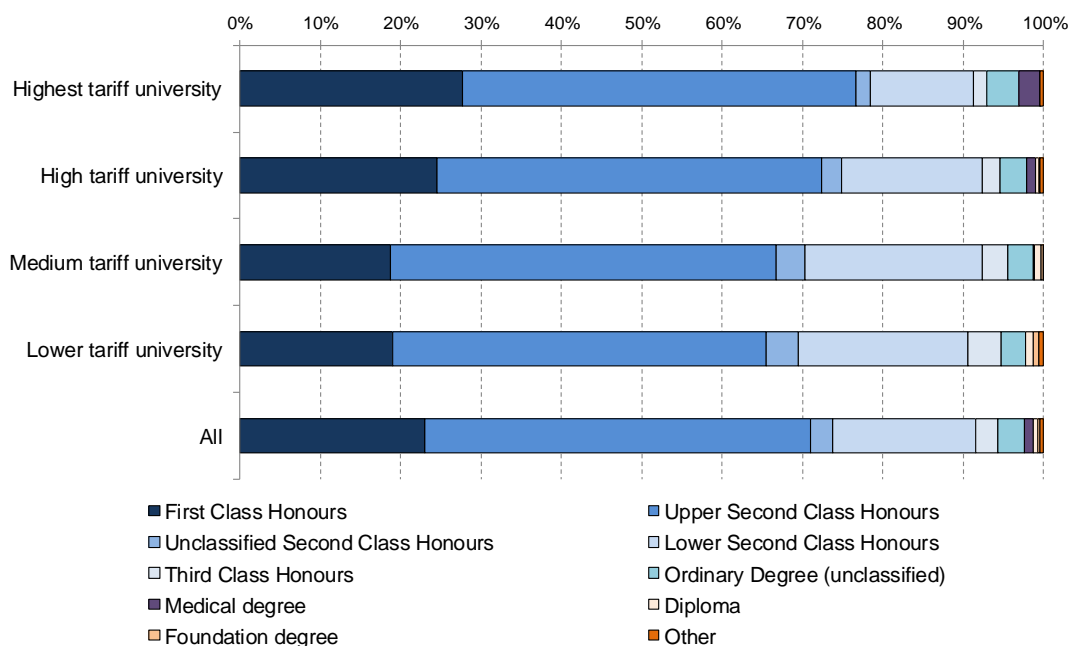
Figure 2.8 shows the broad ethnic distribution of graduates of each of the undergraduate subject groups, indicating the relative distributions of minority ethnic students. Asian graduates vary according to sub-group, with wide differences between, for example, those from Chinese and Pakistani Asian backgrounds – as discussed in reports prepared at earlier stages of the Futuretrack study and will be seen in the chapters that follow – but tend to have studied courses leading to traditional professional or vocational routes.

Figure 2.8: Broad subject group by ethnic group

Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

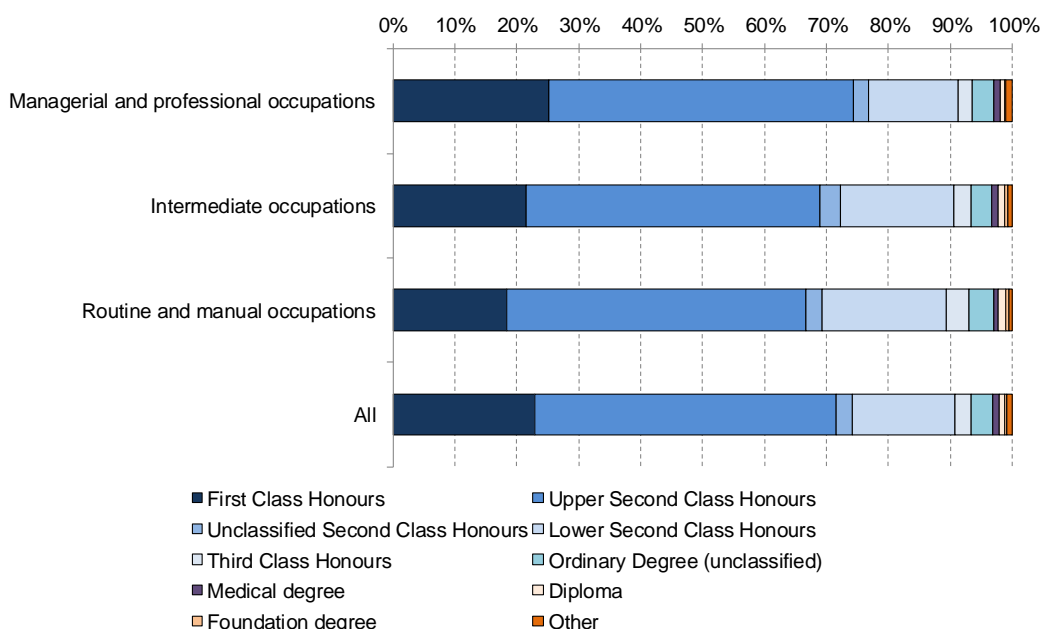
It was clear from previous stages that the differences in attributes, choices and behaviour by groups from different ethnic background were closely related to other demographic differences in the sub-groups, predominantly socio-economic background and age. In this report, we have carried out considerably more multivariate analyses of the key questions we are exploring and although sub-samples are small in some cases, it has been possible to further explore differences in early career choices and outcomes among the diverse new graduate sample.

The big question, of course, is the extent to which participation in HE widens access to opportunity beyond graduation and contributes to social mobility. The problem faced by 'non-standard' students is as was shown in the stage 1 survey, those who enter HE from educational and socially-advantaged backgrounds carry these advantages into the HE process, having been more likely to have studied at schools with a university-orientated ethos, with higher than average resources, likely to have had more information and guidance in making their HE choices, and having achieved higher tariff scores through the traditional secondary education route. They consequently had a greater propensity to obtain places in the high tariff universities and to opt for courses leading to STEM-subject degrees or the older professions. A prerequisite for application to the majority of the most sought-after graduate employment and professional training opportunities, and the possibility of studying for a higher degree, is academic achievement as an undergraduate. The relationships between degree grade and type of institution attended in enabling access to various areas of opportunity are explored in the report that follows. Below, Figure 2.9 compares the qualifications achieved according to type of HEI and Figure 2.10 by those from different socio-economic backgrounds.

Figure 2.9: Undergraduate award achieved by type of HE institution attended

Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

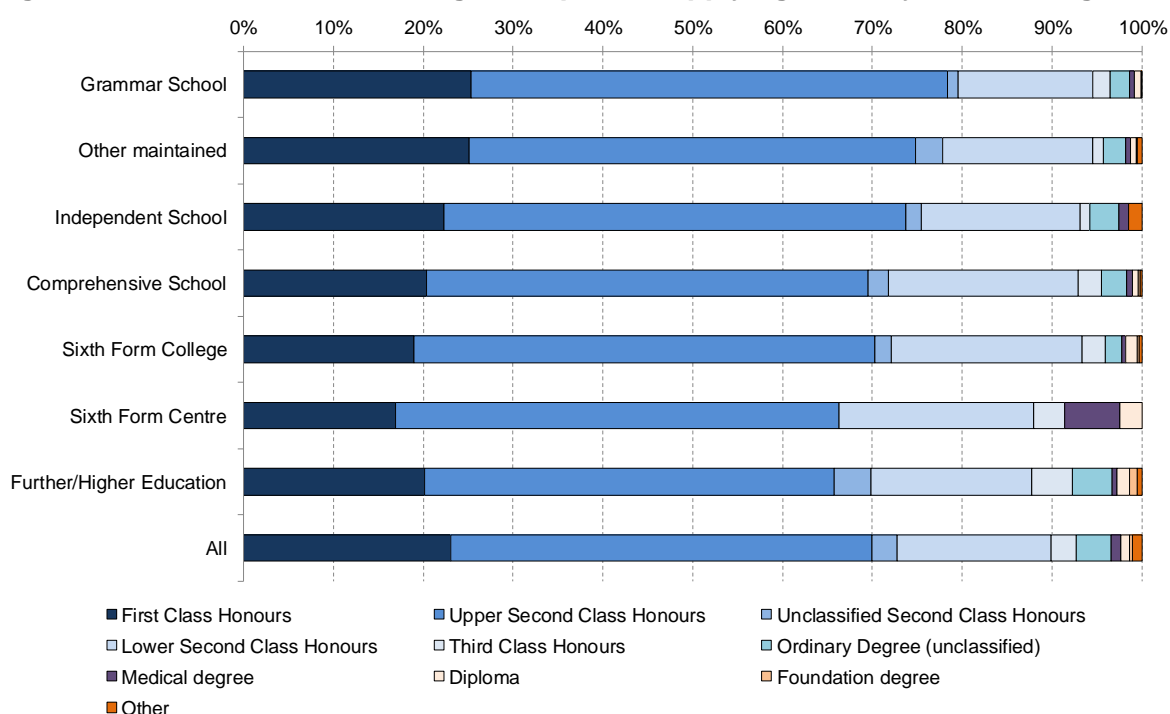
Figure 2.10 reveals that the range according to differences in socio-economic backgrounds is smaller but the pattern is similar, ranging from 74 per cent of those from managerial and professional backgrounds to 67 per cent of those from routine and manual backgrounds. The question for the analysis that follows is, how far access to an elite university redresses or ameliorates socio-economic disadvantage?

Figure 2.10: Undergraduate qualification awarded by socio-economic background

Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted).

Comparing the level of award achieved by type of school or other institution attended prior to HE entry shows some interesting differences in propensity to achieve highly, as Figure 2.11 shows.

Figure 2.11: Educational background prior to applying to HE by class of degree



Source: Futuretrack 2006: All Stage 4 respondents who had completed an undergraduate degree (weighted)

Not surprisingly, those who entered HE with high prior qualifications were likely to do well. Those with non-standard qualifications were more likely than those with medium range school-leaving achievement to get first class honours degrees and as likely, overall, to get the 'good degree' that opens the door to postgraduate and 'graduate job' opportunities. 'Non-standard', however, is a broad category which encompasses qualifications as diverse as access course completion and high-level overseas secondary school leaving qualifications, so further exploration of this variable, possible with this data set but not yet undertaken. Among 'traditional' graduates, subject of prior study and level of achievement could also be investigated.

The relationships between regional access to HE according to subject applied for and propensity to migrate to study, study locally and live at home in their existing households was explored at earlier stages of the survey. Table 2.2. provides an overview of the regional distribution of all Futuretrack respondents who answered the relevant questions in the Stage 4 survey.

Table 2.2: A comparison of the regional distribution of Stage 4 respondents

UK Region	Home address when they applied to enter HE (% of respondents)	Region where they studied (% of respondents)*	Home address in Winter 2011/12 (% of respondents)
North East	4	4	4
North West	10	9	9
Yorkshire & The Humber	7	8	6
East Midlands	6	8	5
West Midlands	8	6	7
East of England	5	5	4
Greater London	12	10	19
South East	18	11	15
South West	11	8	10
Wales	4	5	4
Scotland	8	8	8
Northern Ireland	3	2	2

Source: Futuretrack 2006. Home address when applied to enter HE: All respondents domiciled in the UK when applied. Region where they studied: All Stage 4 graduates. Home address in Winter 2011/12: All respondents domiciled in the UK in Winter 2011/12 (weighted).

Table 2.2 shows the proportion of respondents in each region at three points in time: when they applied to enter HE in 2006; when they were studying in HE; and their current location at the time of the Stage 4 survey. Changes in the proportion of respondents located in each region provide an indicative picture of the regions that gain and lose as a result of education- and employment motivated migration. The geography of HE access, participation and post-graduation employment is discussed further in Chapters 6, 10 and 11.

Summary

The Futuretrack survey covered virtually the entire population of 2005-6 applicants to full-time undergraduate courses at UK HEIs, and the respondents include continuing students and applicants who did not proceed to study in October 2006. Consequently, the early career trajectories of the Futuretrack cohort have been diverse, and it has been necessary to focus on different groups within the sample to address the wide range of questions we had posed.

At the time of the Stage 4 survey, 87 per cent of the Stage 4 respondents had completed an undergraduate degree, and of these, just over a quarter had also completed a postgraduate degree or were still engaged in postgraduate study. Five per cent had dropped out before gaining a qualification and a slightly higher proportion were still completing undergraduate degrees or had returned to study on a full-time undergraduate course.

Those who had completed an undergraduate degree and were no longer studying were more likely to be in full-time employment, even than those who had never studied full-time, to be optimistic about their long-term career prospects, to be in a job that satisfied them and to be doing exactly the kind of work for which they had been looking. Those who had also completed a postgraduate degree and consequently entered the labour market more recently were considerably less likely to be employed full-time and most likely to be unemployed, but they were also the most likely of those in the labour market to be confident about their long-term career prospects and, when in employment, satisfied with their current job and doing exactly the kind of work they wanted.

Of those who had not obtained a degree, those who had never enrolled in HE were more likely to be in full-time employment, more likely to be in exactly the kind of work they had been looking for and less likely to be unemployed than those who had started but not completed an HE course. The latter were most likely (apart from current full-time students) to be in part-time employment, most likely to be self-employed and also had a greater propensity to be unemployed.

One striking comparative difference between those who had graduated and those who had started but not completed HE study or never embarked on HE was their very significantly lower propensity to evaluate their long-term career prospects as good or very good, despite their remarkably similar satisfaction with their life overall. The fact that those still studying were more optimistic than those who had faced the realities of the labour market may reflect experiences of the current recession. Those still engaged in undergraduate studies, perhaps not surprisingly, were most satisfied with life overall.

While relatively similar proportions of males and females enter HE, there are significant differences in their distribution across the spectrum of disciplines and courses, many continuing to reflect traditional gender patterns, acquiring different knowledge and developing different skills, aptitudes areas competence. Education and subjects allied to medicine were the most female-dominated, while Mathematics and Engineering were most male-dominated. Business studies and Mass Communication and documentation had the most equal proportions of males and females.

Although the full-time undergraduate population is dominated by those with socio-economic advantage, the relative proportions of graduates overall by the three grouped socio-economic categories (managerial and professional backgrounds, intermediate occupations and routine and manual occupational backgrounds) ranged widely by subject of study. Those leaving HE with degrees in Medicine and dentistry and Languages had the highest proportion of managerial and professional backgrounds, and, to those who gained degrees in subjects allied to medicine (the largest component of whom had gained degrees in nursing) and education had the highest proportion of intermediate occupations and routine and manual occupational backgrounds.

The distributions of course length varied by subject, with Medicine and Languages subject groups having the greatest proportions of respondents who did courses lasting 4 years and longer. Overall, males were more likely to do longer courses, with only 43 per cent doing three year courses compared to half of women. Those from lower socio-economic backgrounds had a propensity to do shorter courses than those from higher ones,

Despite the increase in HE participation of adult returners to education, the majority of those who study full-time on undergraduate degrees are young people. The distribution of the graduate respondent population from different areas of study nevertheless varied considerably by age, from the traditional academic education areas; the natural sciences, humanities, languages and interdisciplinary subjects, where around 80 per cent or more started their undergraduate studies aged 20 or less, and the highly numerate and ICT-related subjects of Mathematics, Computing and Mass Communication where the majority had also been traditional school-leaving students.

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Not surprisingly, those who entered HE with high prior qualifications were likely to do well. Those with non-standard qualifications were more likely than those with medium range school-leaving achievement to get first class honours degrees and as likely, overall, to get the 'good degree' that opens most the door to postgraduate and 'graduate job' opportunities. 'Non-standard', however, is a broad category which encompasses many diverse qualifications, so further exploration of this variable is required.

CHAPTER 3

Routes into employment, further education or unemployment

Introduction

This chapter examines the routes followed by Futuretrack respondents upon completion of their undergraduate studies, detailing the experiences of employment, further study and unemployment. The information presented in this chapter is derived from the activity histories provided by respondents at the fourth stage of this study¹¹. For many of the figures presented in this chapter we summarise the information for relevant groups of respondents on a monthly basis, showing the evolution of these activity histories from May 2009 to the end of 2011.

Following a description of the general profile of the early careers of graduates, we display their movement into graduate jobs, the occupational pathways for different subject groups, the use of subject/discipline knowledge gained in higher education and the use of skills learned in higher education. Routes into further study (e.g. Masters' degrees, PhDs) are an option followed by a significant number of Futuretrack graduates. We reveal the characteristics of those who followed such routes. We then turn our attention to the experience of unemployment and attempt to unravel the factors contributing to graduate unemployment in these early career profiles.

In analysing these activity histories and with a focus on the timing of events, it is important to distinguish at times between Futuretrack respondents who have completed their undergraduate studies in three years as opposed to four years.

Analysing the changing graduate labour market – revising SOC(HE)

As part of continuing research on the changing occupational structure of the UK labour market and its links with the evolving demand for the skills and knowledge provided via the higher education sector, we developed a simple statistical method whereby detailed information on occupational structure could be reclassified into a set of 'graduate' occupational categories (Elias and Purcell 2004). The methodology underlying the allocation of occupation unit group to these graduate categories relied heavily upon analysis of Labour Force Survey data, combined with information collected as part of the work undertaken to construct the 1990 and 2000 versions of the Standard Occupational Classification¹².

The resulting aggregate classification, SOC(HE), has been widely used by both analysts and policy makers (e.g. HEFCE 2011, UUK 2010, Furlong and Cartmel 2009, Raffery and Dale 2008). Despite this interest, we have become increasingly concerned that, as graduates continue to enter the UK labour market in ever higher numbers, the method used previously to allocate occupation unit groups of the Standard Occupational Classification to graduate categories would no longer be tenable. We have recent evidence of graduate 'crowding' into a variety of jobs and in sectors where it would appear unlikely that the constituent tasks demand the skills and knowledge associated with higher education (Elias and Purcell 2011). A new approach was required which would take advantage of the recent revision of the

¹¹ The on-line questionnaire that respondents completed commenced with the question 'What have you been doing since October 2006?', requesting self-classification to one of five main activities ('employee', 'self-employed', 'studying', 'unemployed and looking for work' and 'other-please specify'). Questions were then asked about each activity, including its end date.

¹² See Thomas and Elias (1989) and Elias *et al.* (2000).

Standard Occupational Classifications (SOC) to the 2010 version¹³ and its implementation in the Labour Force Survey and to analyse the early career trajectories, routes into employment and jobs that the Futuretrack graduates had accessed since graduating.

In revising the classification we have attempted to develop a potentially more transferable analytic tool based upon the relationship between higher education, knowledge development and its labour market application. We started with consideration of the nature of jobs; how jobs are constructed and the knowledge, skills and responsibilities that they encapsulate. In doing this, we went back to a research instrument developed with Nick Wilton to analyse the different kinds of capabilities required in the course of graduate employment (Purcell *et al.* 2004). Reconsidering these in the context of policy debates about 'graduate employability skills' and in the light of subsequent graduate labour market research (e.g. Elias and Purcell 2011, Brown *et al.* 2011, UUK 2010), we reflected that it is imperative to put 'the knowledge society' under the microscope by looking at the jobs that graduates do and the knowledge required to do them. More specifically, we wanted to explore how, and how far, knowledge and high level skills normally inculcated and developed in tertiary-level education are likely to be required in the jobs to which graduates have been appointed, especially those where it appears that the employer has paid a premium to employ graduates.

We considered it appropriate to reposition the inculcation of knowledge, rather than the development of 'employability skills', as the prime function of higher education. Knowledge defined as theoretical or practical understanding and possession of information, normally acquired through an extended period of study; knowledge about something. The acquisition of knowledge invariably has practical applications. Higher education also entails the development of skills - encompassing both the development of high level and basic skills, understood as proficiency, facility or dexterity that is acquired or developed through training or experience. In HE, these higher-level skills are generally related to the creation, evaluation, use and communication of knowledge: problem-solving, critical assessment of evidence, logical thinking, theoretical development and creativity. However, we hope that as a result of our analyses it will be possible to distinguish more effectively than hitherto the relevance to employment of the separate (and sometimes combined) aspects of 'knowledge and skills' or, to put it another way, the education and training outcomes that graduates bring to the labour market from higher education.

These are the occupational categories that comprise 'graduate occupations' in SOC(HE) 2010¹⁴ and are used for analysis throughout this report:

- *Experts*: are those in knowledge-intensive occupations that require them to draw on and use their specialist HE knowledge and skills in the course of their daily work, and whose appointment to their jobs and capacity to carry out the tasks and responsibilities required is directly related to possession of their specialist knowledge and/or high level skills. Examples include Chemical Scientists, Civil Engineers, Pharmacists, Solicitors, Physiotherapists, Chartered Surveyors, Airline Pilots.
- *Strategists* are in jobs which require them to draw on and orchestrate their knowledge and the knowledge of others to evaluate information, assess options, plan, make decisions and co-ordinate the contributions of others to achieve

¹³ See Elias and Birch (2010).

¹⁴ A working paper (Elias and Purcell 2012) providing a detailed account of the methodological approach used to develop SOC(HE)2010, and the classification itself, is will be available to download on <http://go.warwick.ac.uk/ier>

objectives. The list of these is dominated by managers and directors but includes senior officers in the armed services, the police force and other public sector areas. As we have defined this group, it is unlikely that many recent graduates will be found in it, since it normally requires extensive experience in the fields of activity in question.

- *Communicators* require interactive skills that may be based on interpersonal skills, creative skills or high-level technological knowledge, capacity to access and manipulate information and/or an understanding of how to communicate information effectively to achieve objectives. Examples include Journalists, Actors, Conference and Exhibition Organisers, Web-design and Development Professionals and Marketing Associate Professionals.

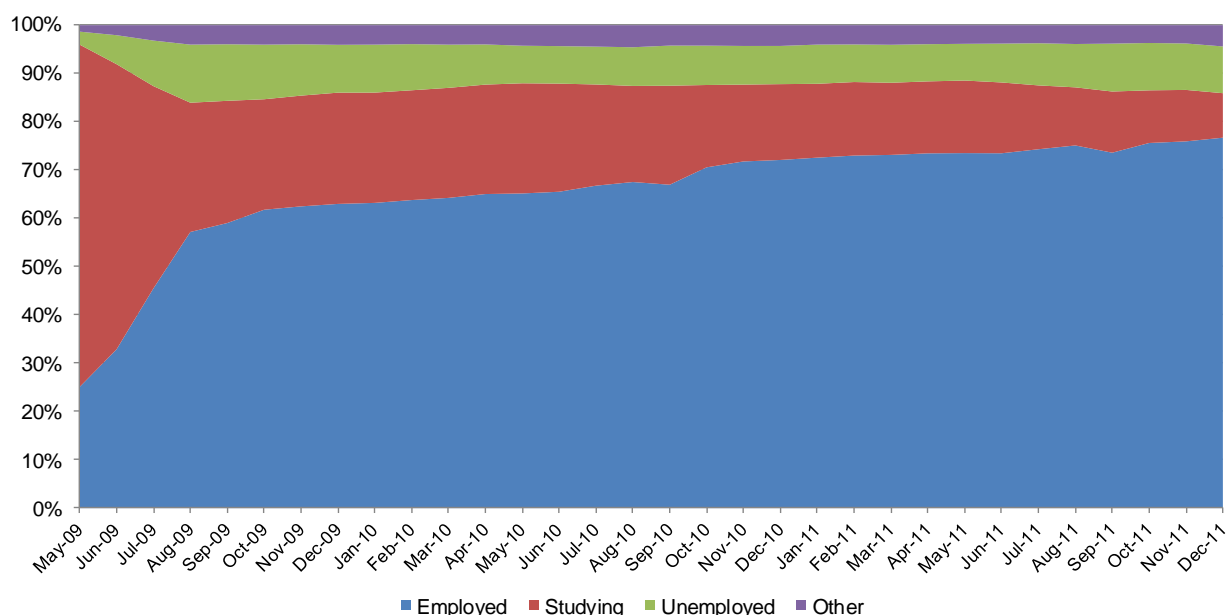
The occupations allocated to these categories encompass those that Brown *et al.* (*op. cit.*) have labelled as *developers* and *demonstrators*, but SOC(HE) 2010 provides a more nuanced distinction among the categories of jobs that require HE qualifications and are based on use of HE-developed knowledge rather than assuming either that knowledge is synonymous with qualifications or that professional autonomy is synonymous with knowledge use. Occupations excluded from these categories have been evaluated as non-graduate jobs on the criteria applied, with little or no evidence of requiring HE-developed knowledge and skills.

The revised SOC(HE), based on the 2010 revision of the Standard Occupational Classification is used throughout this report, with the exception of the comparison we make between the earnings of the 1999 cohort, where the original coding precluded classification to the revised version.

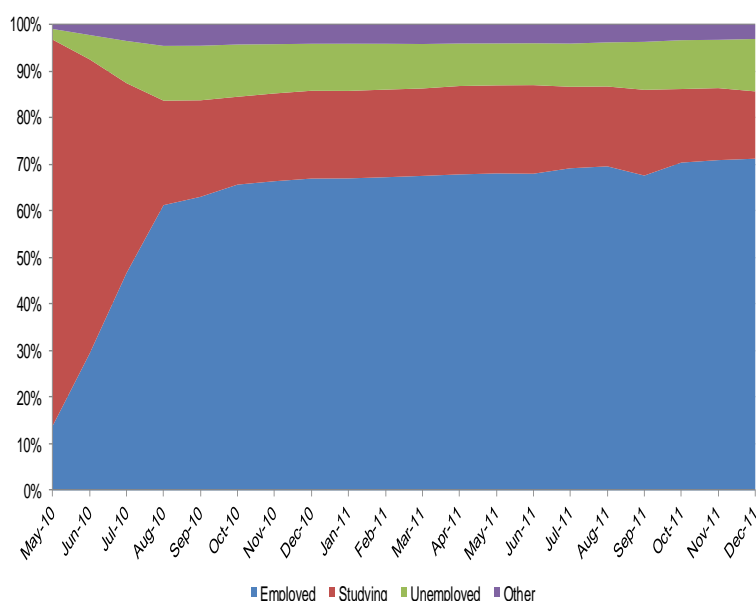
Activity profiles for graduates on three and four year courses

Figures 3.1 and 3.2 give an overview of the activity profiles for graduates from three year and four year courses respectively. Figure 3.1 shows the post-graduation profile for those who studied on three year courses, covering the period from May 2009 (immediately prior to graduation) to the date of the survey. Figure 3.2 gives similar information for those who graduated from four year courses, covering the period from May 2010 to the survey date, hence the shorter horizontal axis on this figure to facilitate comparison between the two groups of graduates at similar periods following graduation.

Considering first the situation of those who studied on three year courses, we note their exit from full-time study through the summer of 2009, although a substantial proportion continued with full-time study upon completion of their undergraduate degrees. More than one in five of the three year course undergraduates continue in full-time study, with this proportion falling to 10 per cent by December 2011. We note also the increase in the proportion of graduates who are unemployed as they complete their undergraduate degrees. This proportion falls slightly throughout 2009 and 2010, and then begins to increase in May 2011, with 10 per cent of graduates from three year courses unemployed in December 2011, some two and a half years after graduation.

Figure 3.1: Activity profile of graduates from three year course

Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

Figure 3.2: Activity profile of graduates from four year course

Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

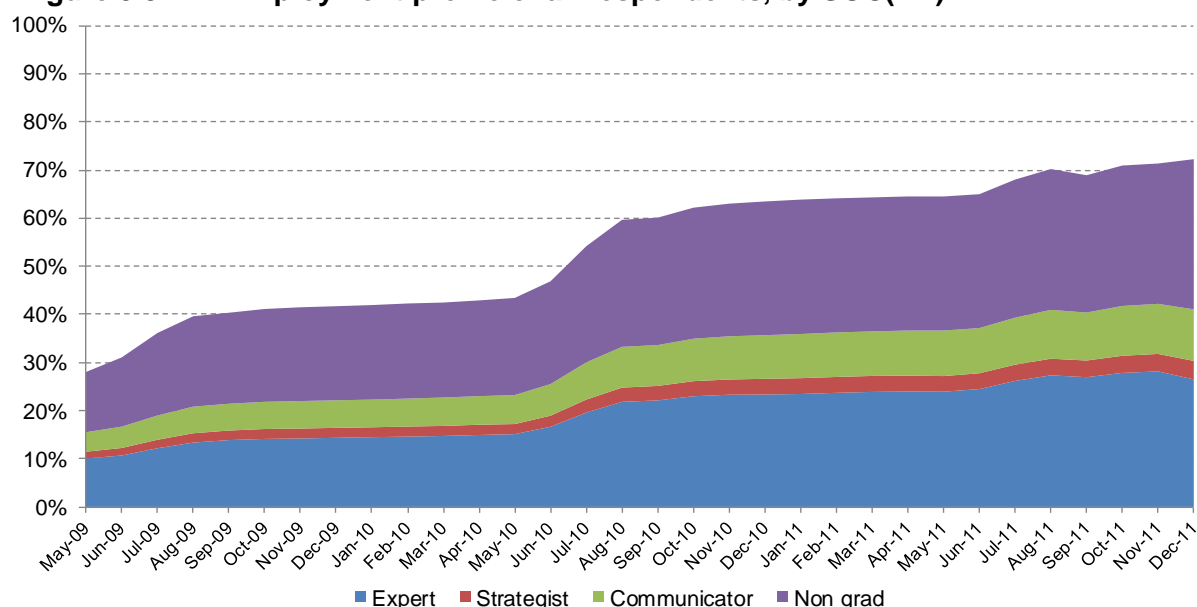
For graduates from four year courses, their activity profiles over the first year and a half following completion of their undergraduate studies show a remarkable similarity to those of the three year undergraduates. Again, approximately one in five remains in full-time study, declining to 15 per cent by December 2011. Their experience of unemployment is very similar, with 11 per cent becoming unemployed after their four year course, remaining at this level for the following eighteen months.

Graduate employment

Figure 3.3 shows the movement of employed graduates into and between the categories of SOC(HE). This figure combines the experiences of three and four year graduates.

Directly after graduation most Futuretrack graduates entered a non-graduate occupation. However, the proportion of employed graduates in non-graduate job does not fall rapidly in the months after graduation – as was found in our analysis of activity histories from the Classes of '95 and '99¹⁵. Instead, non-graduate employment as a proportion of all reported activity outcomes in a specific month rises slowly, reaching 30 per cent of all respondents by December 2011. For the three categories of graduate occupations, the proportions of graduates gaining employment in each of these categories rises through time, but this is a consequence mainly of movement from full-time study into these categories rather than movement out of non-graduate occupations. By the time of the survey, the proportion of graduates working in strategic occupations or in the 'communicators' category is fairly low, at 4 per cent and 11 per cent respectively of all respondents.

Figure 3.3: Employment profile of all respondents, by SOC(HE)



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted

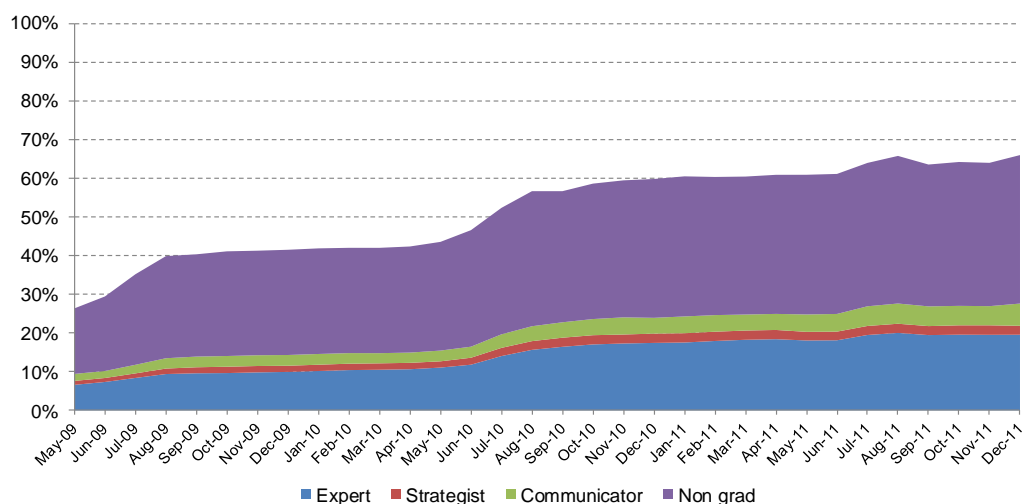
There are significant differences in these occupational employment profiles between the three categories of graduate occupations for different ages of graduates, by ethnicity, subjects studied at undergraduate level, HEI access groups and by class of degree. Older graduates were more likely to gain work in expert occupations. The main difference between male and female graduates, and between different ethnic groups, is in terms of the time they spend working in non-graduate occupations. Graduates of the following subjects worked on average for longer periods in expert occupations following graduation: Subjects allied to Medicine, Medicine & Dentistry, Engineering & Technology and Mathematical & Computer Science. Those who worked less than average in expert occupations were most likely to have studied Education or Creative Arts and Design. There are not many differences in terms of employment in strategic occupations; however, graduates of Business & Admin studies spend on average twice the time in these occupations (compared to all graduates). Those who had studied in highest tariff HEI access groups and those who

¹⁵ See Elias *et al.*(1999) and Purcell *et al.*(2005).

graduated with a first class honours degree worked on average for longer in strategist occupations and spent less time in non-graduate occupations.

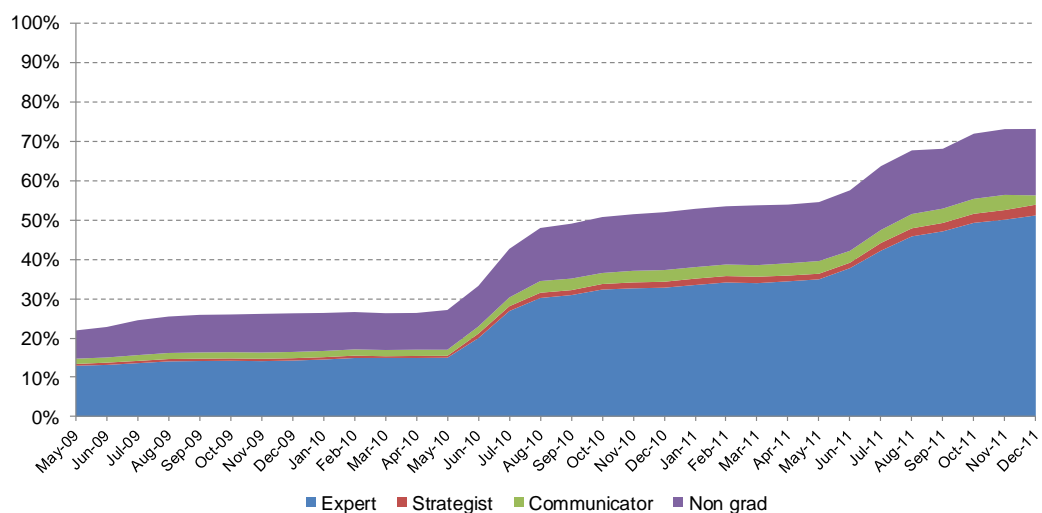
To give some indication of differences in these employment profiles by subject studied, Figures 3.4 and 3.5 show these profiles for graduates who studied biology at the undergraduate level and those who studied engineering and technology subjects. Here we note that one of the main differences relates to the preponderance of engineering and technology graduates on four year courses compared with biology graduates. A significantly higher proportion of biology graduates move into non-graduate occupations and remain in these jobs following completion of full-time study.

Figure 3.4: Employment profile for biology graduates by SOC(HE)



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted

Figure 3.5: Employment profile for engineering and technology graduates by SOC(HE)



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted

We now turn to graduates' use of subject/discipline knowledge acquired and skills developed during their undergraduate degree.

For each period of employment following graduation, respondents were asked:

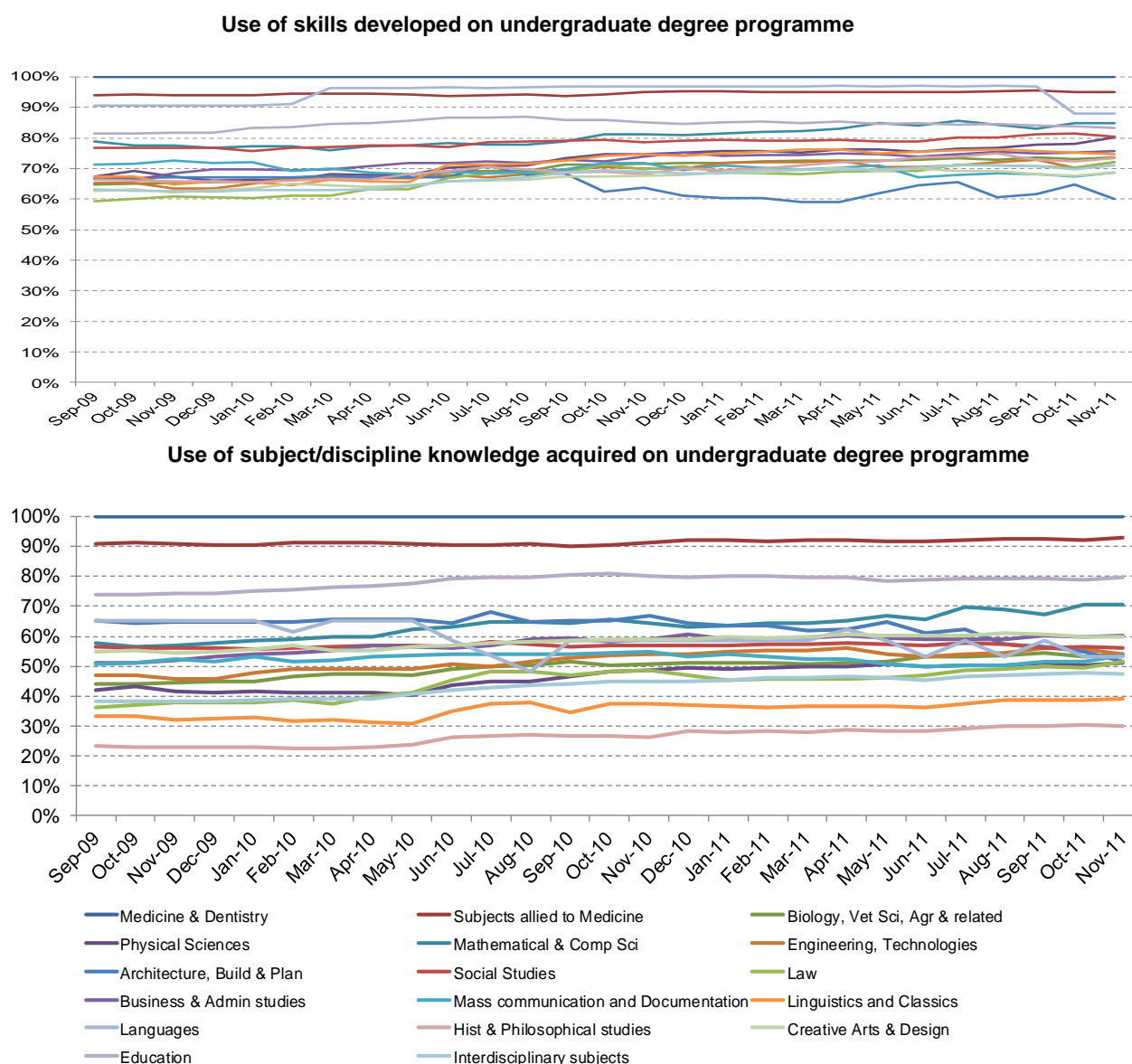
'Do/did you use the subject/discipline knowledge acquired on your undergraduate degree?'

and

'Do/did you use skills developed on your undergraduate degree programme?'

Figure 3.6 shows the responses to these questions for employed graduates, focussing here on the graduates from three year courses only.

Figure 3.6: Employed graduates use of HE skills and subject/discipline knowledge (graduates of 3 year course only)



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted

The uppermost chart in Figure 3.6 shows the track of the positive responses to the skills question for all months following graduation in which graduates were employed. Given that this question is quite general, referring broadly to ‘skills developed on your undergraduate course’, it is not surprising to note that the responses to this question lie well above 70 per cent for employed graduates from most subjects. Graduates from Architecture, Building and Planning courses record the lowest profile of positive responses to this question in all the jobs they held in the post-graduation period, but the numbers here are small given that many such degree courses are longer than three years. The highest proportions for HE skill usage in jobs are shown for those who studied Subjects allied to Medicine and Languages. We note also the general upward trend in HE skill usage as time progresses, moving from an average of about two thirds of all employed graduates from three year courses to about three quarters some two and a half years later.

The lower chart in Figure 3.6 shows much more variation by subject. This is as expected, given that this shows the profile of positive responses to the question on the use within jobs of subject/discipline knowledge acquired on their undergraduate courses. Here we note that the highest profile belongs to those who studied Subjects allied to Medicine and those from Education courses. The former group reports use of course/discipline knowledge in their jobs running at 90 per cent or over. For Education graduates this is slightly lower at about 80 per cent. This contrasts markedly with graduates from Linguistics and Classics and from History and Philosophical Studies, at 30-40 per cent for the former and 20-30 per cent for the latter. For most graduates from three year courses the proportion using their HE subject/discipline knowledge rises gradually over the two and a half years after graduation, from approximately 50 per cent to 60 per cent of all in employment.

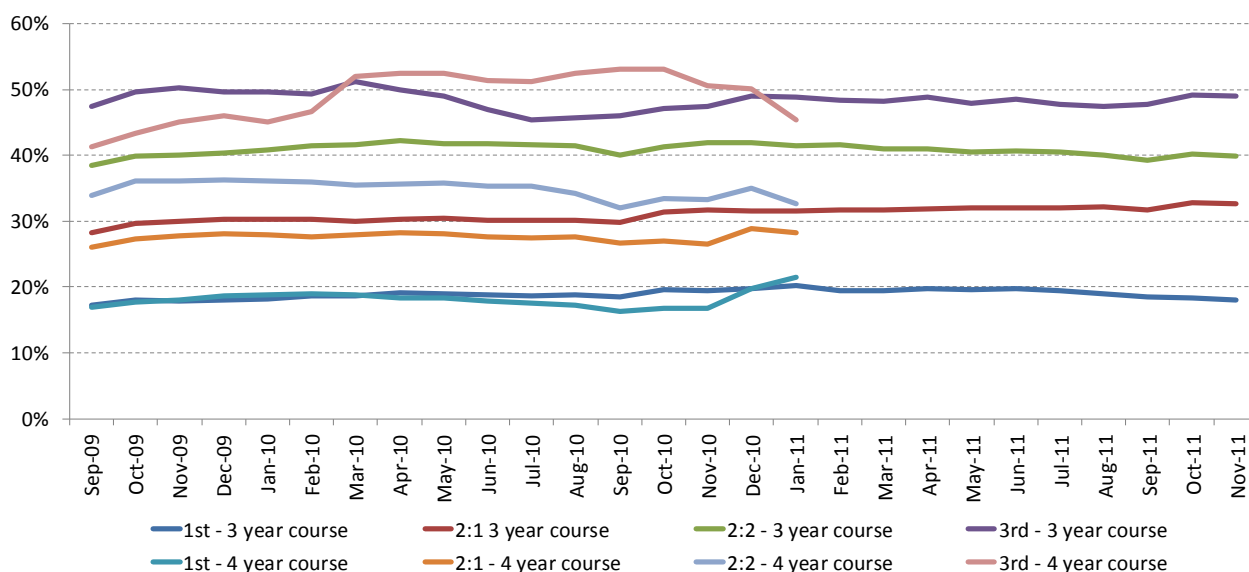
Graduates in non-graduate employment

The high proportion of graduates in non-graduate employment is an important finding from this analysis of the activity histories collected at stage 4 of the Futuretrack study. An earlier study (Purcell *et al.* 2005) based on a cohort of graduates from 38 selected HEIs who graduated in 1999 showed that, at 18 months after graduation, 26 per cent were in non-graduate jobs, and at 30 months after graduation this had declined to 20 per cent. Given the mix of graduates from three and four year courses which constitutes the Futuretrack sample, an equivalent percentage to that recorded from the *Class of '99* would be 22 to 23 per cent in non-graduate jobs. Instead we observe that approximately 40 per cent of graduates are in non-graduate employment. Furthermore, the earlier study revealed that the proportion of graduates in non-graduate employment fell steadily in the post-graduate period. This is not the case with Futuretrack respondents, for whom the proportion in non-graduate employment appears fairly constant.

It may well be the case that this apparent rise in the proportion of graduates in non-graduate employment shown between these two studies approximately ten years apart is an artefact of the revised classification of jobs into graduate and non-graduate categories introduced by SOC(HE) 2010. The sharper classification criteria employed in the construction of the new version of SOC(HE) undoubtedly contributes to this increase. We can gain a closer comparison with the earlier study and estimate the scale of this ‘classification effect’ by examining the situation for graduates from Futuretrack who studied at the same set of institutions as those who graduated in the *Class of '99* study, classifying their occupations post-graduation to SOC2000 rather than SOC2010 and from that classification to the earlier version of SOC(HE) used in our report on the *Class of '99*. On this previous definition of non-graduate employment, we note that 32 per cent of employed graduates in the Futuretrack study would be classified as in non-graduate jobs at the time of the survey, compared with 40 per cent using the revised classification. While this is a substantial shift arising from reclassification, it explains less than half of the rise in non-graduate employment noted between the two cohorts set ten years apart. Furthermore, reclassification does not

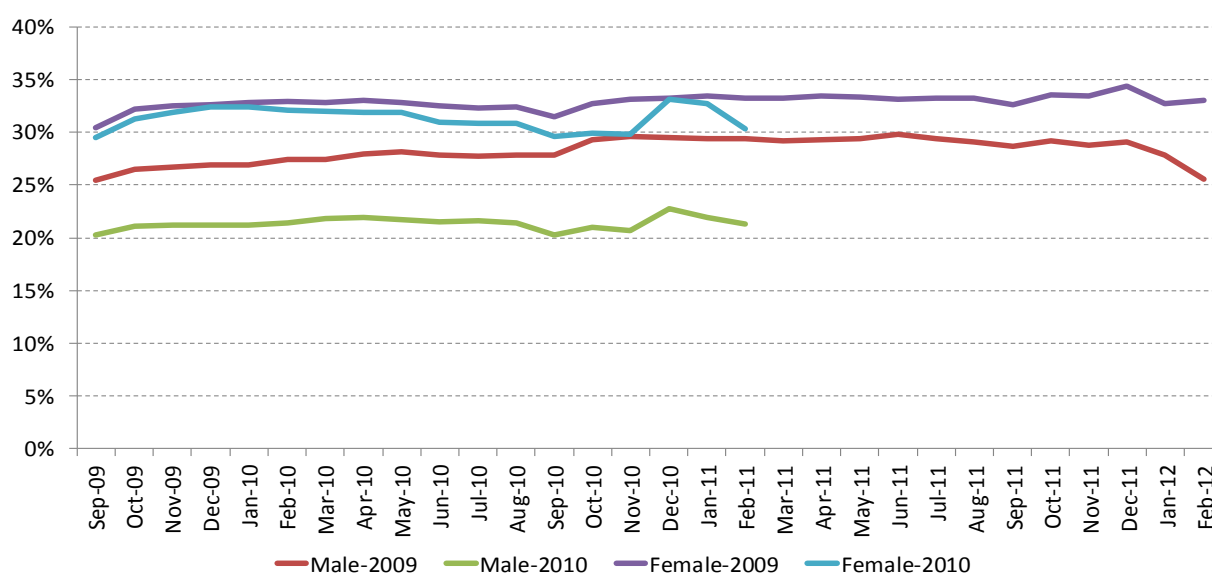
account for the observation that non-graduate employment is not decreasing throughout the post-graduation period as noted in the earlier study.

Figure 3.7: Employment in non-graduate occupations by class of degree



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

Figure 3.8: Male and female employment in non-graduate occupations



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

Figures 3.7 and 3.8 give further information on the employment of graduates in non-graduate jobs, distinguishing between those who studied on three year as opposed to four year courses, by class of degree (Figure 3.7) and gender (Figure 3.8). Here we see a clear link between degree class and non-graduate employment. Only 20 per cent of those graduates who gained a first class degree are in non-graduate jobs, compared with about 50 percent for those who graduated with a third class degree. The differences by length of course are much less marked, though the four year course completers tend, on average to have lower rates of participation in non-graduate jobs than three year course completers. However, this difference between three and four year completers is much more marked for men than for women, as can be seen in Figure 3.8.

To disentangle the variety of influences upon whether or not a graduate has experienced a spell of non-graduate employment, we conducted a logit regression analysis (see appendix, table A. 1) where the dependent variable was coded a '1' if the graduate had recorded a spell of non-graduate employment of more than 9 months¹⁶ and '0' otherwise. Of all graduates, 30 per cent worked for 10 months or longer in non-graduate employment.

Table 3.1 summarises the results of the regression model. The impact of the length of the course should be interpreted with caution, given that courses lasting five years do not allow sufficient time for a significant spell of non-graduate employment to have arisen. Nevertheless, the inclusion of this variable allows us to identify the impact of other factors such as subjects or HEI access groups, controlling for the length of time graduates spend on their courses.

This analysis shows that personal characteristics (*i.e.* gender, age, ethnicity) continue to impact upon the odds of working in non-graduate occupations even though HE-related variables (*i.e.* subject studied, HEI access group, class of degree) were included in the model. Interestingly, whether or not parents had degrees is correlated significantly with the odds of graduates working in non-graduate occupations, a result which could indicate a variety of parental influences (assistance with finding jobs, networks, attitudes to the type of work obtained by one's children, etc.)

Table 3.1: The probability of spending more than nine months in non-graduate employment

More likely to work in non-graduate occupations for more than nine months	Less likely to work in non-graduate occupations for more than nine months
3 year courses	5 or more year courses
	21 years old and older
Female	Male
Neither parents hold degree	Both parents hold degree
White	Asian
Other HEIs (not classified by tariff points)	Highest and high tariff HEIs
Biology, Vet Science, Agriculture & related; Architecture, Build & Plan; Law; Business & Admin studies; Linguistics and Classics; History & Philosophical studies; Creative Arts & Design	Subjects allied to Medicine
Class of degree obtained: 2:2	First

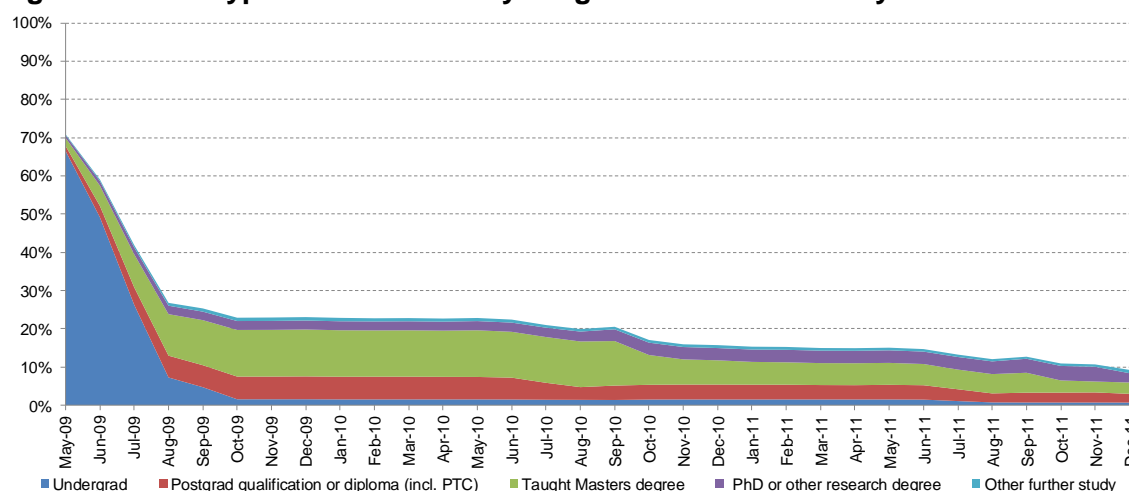
¹⁶ This was selected so as to eliminate very short experiences of non-graduate employment and the effect of vacation jobs taken immediately after graduation.

Routes into further study

Figures 3.9 and 3.10 show the evolution of further study for graduates from three year and four year courses. In the year after graduation we note that 21 per cent of graduates from three year courses were engaged in some form of further study. The majority of this group had embarked upon a taught Masters' degree. About a quarter of those engaged in further study were taking a postgraduate qualification of diploma and a small proportion were undertaking a PhD or other research degree. Compared with the *class of '99* we note a significant rise in postgraduate study. Only 15 per cent of this earlier cohort were recorded as undertaking further study following their undergraduate course.

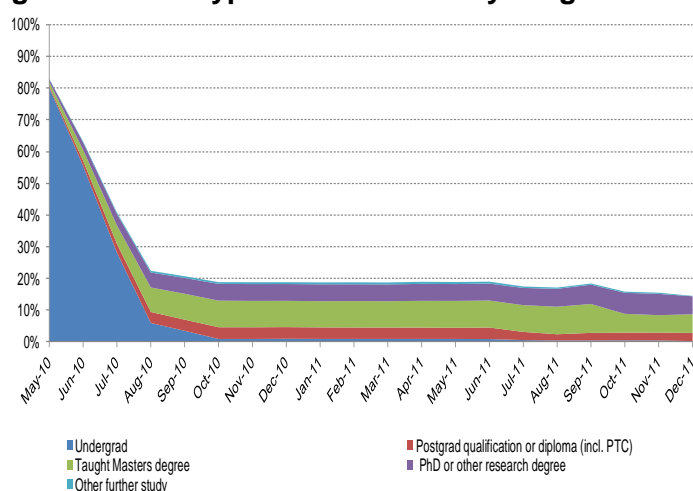
We note that those who undertook four year courses were less likely to move on to postgraduate study. By October 2010 about 19 per cent had moved on to further study, comprised of taught Masters' degree courses (8 per cent), PhD or other research degree courses (5 per cent), postgraduate certificate courses (4 per cent) and other (not classified courses) (2 per cent).

Figure 3.9: Types of further study for graduates from three year courses



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

Figure 3.10: Types of further study for graduates from four year courses



Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted.

To determine the relative importance of factors which contribute to the probability that a graduate will undertake further study, we estimated the parameters of a logit model for which we defined the dependent variable as '1' if the graduate had embarked upon a taught Masters' degree or PhD and '0' otherwise (see appendix table A.2). Table 4.3 shows the results of this analysis in terms of whether or not a specific factor was more or less likely to be associated with the probability that the graduate had moved on to such types of courses. The results hold no surprises, except perhaps that in terms of the graduates' social and educational background, social class appears to have little influence, whereas whether or not both parents hold a degree does associate with further study on Masters' degree courses or a PhD by Futuretrack graduates.

Table 3.3: Factors associated with probability that graduates embarked on further taught Masters' or PhD courses

More likely to have embarked on further study in Taught Masters' / PhD	Less likely to have embarked on further study in Taught Masters' / PhD
Undergraduate course of three years	Undergraduate course of five years or more
Male graduates	Female graduates
Both parents hold degree	Neither parent hold degree
Asian	White
Highest and High tariff HEIs, Other HEI not classified by tariff points	Middle and Low tariff HEIs
Biology, Vet Science and Agriculture; Physical Sciences; Linguistics and Classics; Languages; History and Philosophical Studies	Medicine & Dentistry, Subjects allied to Medicine, Education, Creative Art and Design
First Class Honours	Lower second class of degree, other class of degree

The experience of unemployment

Table 4.4 indicates how the experience of unemployment varies across the Futuretrack cohort by age, ethnicity, socio-economic background, subject studied, type of institution attended and class of degree obtained. Results are shown separately for graduates from three year courses and for all graduates, distinguishing between those who experienced at least one spell of unemployment and those who had accumulated six months unemployment or more.

Table 3.4: Graduates reporting spells of unemployment

		Graduates of three year courses		All Graduates	
		% at least one spell of unemployment	% 6 months or more unemployment	% at least one spell of unemployment	% 6 months or more unemployment
<i>Gender</i>	Male	25.1%	17.4%	18.1%	12.4%
	Female	20.5%	13.3%	17.2%	10.7%
<i>Age group (as at 30th Sept 2006)</i>	18 and under	22.3%	14.9%	17.6%	11.5%
	19-20	21.7%	13.9%	18.1%	11.3%
	21-25	25.8%	17.6%	19.4%	12.5%
	26 and over	21.0%	14.2%	15.1%	10.5%
<i>Ethnicity</i>	Asian	30.9%	23.6%	20.7%	15.0%
	Black	33.2%	22.0%	23.7%	17.2%
	White	20.9%	13.6%	16.7%	10.6%
	Mixed	28.5%	24.0%	21.5%	15.5%
	Other	30.7%	19.1%	24.3%	17.1%
<i>Broad socio-economic background</i>	Managerial and professional	17.5%	12.6%	14.5%	10.7%
	Intermediate occupations	21.9%	14.3%	17.2%	10.7%
	Routine and manual occupations	22.0%	15.6%	17.6%	12.6%
<i>Broad subject group of undergraduate degree</i>	Medicine & Dentistry	12.8%	12.8%	3.1%	2.1%
	Subjects allied to Medicine	12.4%	7.1%	12.1%	7.2%
	Biology, Vet Sci, Agr & related	24.2%	15.4%	20.7%	12.6%
	Physical Sciences	26.1%	18.5%	20.6%	13.7%
	Mathematical & Comp Sci	22.4%	15.1%	19.9%	15.1%
	Engineering, Technologies	36.2%	29.1%	21.0%	14.5%
	Architecture, Build & Plan	31.4%	18.3%	25.5%	18.8%
	Social Studies	18.6%	12.3%	18.9%	12.0%
	Law	15.6%	9.9%	19.4%	13.4%
	Business & Admin Studies	21.6%	13.6%	19.6%	12.2%
	Mass communication and Documentation	22.2%	16.7%	23.1%	17.7%
	Linguistics and Classics	26.5%	17.1%	22.9%	14.1%
	Languages	12.8%	12.8%	22.9%	9.1%
	Hist & Philosophical Studies	27.0%	16.7%	26.8%	15.5%
	Creative Arts & Design	30.0%	22.4%	26.1%	19.4%
	Education	13.0%	8.6%	11.6%	8.1%
	Interdisciplinary subjects	25.6%	16.2%	23.4%	14.3%
<i>HEI access classification</i>	Highest tariff university	19.6%	12.2%	17.3%	10.1%
	High tariff university	22.2%	14.0%	21.0%	13.0%
	Medium tariff university	25.4%	18.3%	22.5%	16.1%
	Lower tariff university	23.8%	16.1%	21.8%	15.6%
	General HE college	26.4%	9.2%	17.6%	8.3%
	Specialist HE college	28.2%	23.0%	25.6%	19.1%
<i>Class of undergraduate degree</i>	First Class	16.9%	9.8%	14.3%	7.7%
	Upper Second Class	23.4%	15.1%	20.6%	13.0%
	Unclassified Second Class	30.6%	23.9%	26.5%	20.5%
	Lower Second Class	28.5%	20.6%	27.4%	19.2%
	Third Class	26.5%	24.1%	31.1%	25.7%

Ordinary Degree (unclassified)	19.9%	16.1%	19.7%	14.9%
Other	11.8%	8.9%	12.0%	9.1%
Medical degree			1.1%	.7%
Total	23.0%	15.4%	20.4%	13.3%
Population	154,047	154,047	504,487	504,487
Sample	5,282	5,282	17,075	17,075

Source: Futuretrack combined dataset, Stage 4 respondents, UK graduates only, weighted

We note that, as previously indicated graphically, men record a higher experience of unemployment than women, having had at least one spell of unemployment, and longer durations of unemployment. Those who were in the 21-25 age range when they applied for a full-time place in higher education in 2006 have a demonstrably higher experience of unemployment as do most ethnic groups apart from 'white' graduates. Some variation by socio-economic background is apparent, but the most significant variations in the experience of unemployment are associated with course of study, type of HEI attended and class of degree obtained. The variations here are quite wide. For example, 10 per cent of law graduates from three year courses have experienced a spell of unemployment of six months or more, compared with 29 per cent of graduates from engineering and technology courses. Three year course graduates from the highest tariff universities have a significantly lower experience of unemployment and the difference by class of degree is apparent in Table 4.4.

Table 4.5 presents results from a multivariate analysis (logistic regression), examining factors associated with the probability that a graduate will have accumulated unemployment spells of six months or more since graduation. This analysis confirms as separate influences the variations revealed in Table 4.4, specifically the negative effect of belonging to any ethnic group other than white, being male, having attended at a low tariff HEI, obtaining a lower second degree and, for subjects, having studied Creative Arts and Design.

Table 3.5: Factors associated with the probability of experiencing unemployment for six months or more after graduation

More likely to be unemployed for six months or more	Less likely to be unemployed for six months or more
Undergrad course of three years	
Male graduates	Female graduates
Asian, Black, Mixed	White
Middle and Low HEI access groups	Highest and High, other HEI access groups
Creative Arts & Design	Medicine & Dentistry, Subjects allied to Medicine, Education, missing subject
Lower second class of degree	First Class honors degree, Upper second

Summary

Compared with the experiences of graduates some ten years earlier, Futuretrack graduates faced a tough labour market. The greater number of graduates seeking employment, coupled with harsh economic conditions, have combined to create higher levels of graduate unemployment, a higher proportion of graduates in non-graduate employment and a lower rate of career progression for graduates than was the situation ten years earlier. More than 10 per cent of Futuretrack graduates have experienced significant spells of unemployment, which for some may still be continuing beyond the date of the survey. There is strong evidence that graduates are taking non-graduate jobs, in which they do not consider their graduate skills and knowledge to be useful. While the reclassification of graduate and non-graduate in the revised SOC (HE) makes direct comparison difficult, we estimate that if Futuretrack graduates had experienced the same labour market conditions as the Class of '99, we would have expected about 22 to 23 per cent to be observed in non-graduate employment at the time of the survey. Instead, 40 per cent of graduates are in non-graduate jobs. Reclassification could account for 8 percentage points of this difference. The rest must be attributable to the different supply and demand conditions prevalent in the labour market faced by Futuretrack graduates.

Despite this rather negative finding, it remains the case that the labour market allocates opportunities not just on the basis of factors such as course results and subjects studied but also according to the category of university attended, the age of the graduate, ethnic background and parental education. These factors appear to be instrumental in helping graduates to avoid unemployment, enter a graduate job and are associated with entry into further study. None of these results are surprising, but the strength of the observed associations was, in some instances, greater than expected. For example, graduates of Asian ethnic background are significantly less likely to have worked in non-graduate occupations than graduates from other ethnic backgrounds (including 'white'). It is not clear why biology graduates experience much longer periods of employment in non-graduate jobs than those who studied other subjects. The information we present here must raise questions about why it is that women are less likely to embark on courses of further study than men and why are male graduates more likely to experience a significant spell of unemployment?

CHAPTER 4

Student debt and its impact on post-graduation opportunities

Introduction

Throughout the Futuretrack study we have been following the *expectations* students had of their accumulated debt on graduation. The stage 4 survey affords the opportunity for graduates to reflect on the debt that they had *actually* accumulated at the time of graduation and to enquire about the impact that this may have had on their career or study options on graduation.

Accumulated debt – looking forward and looking back

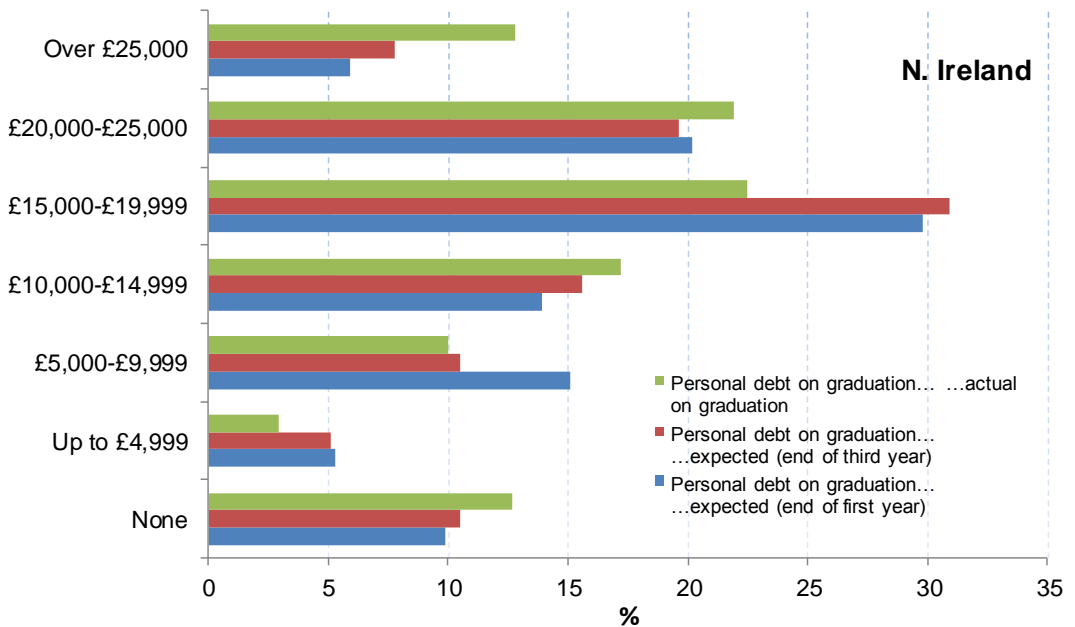
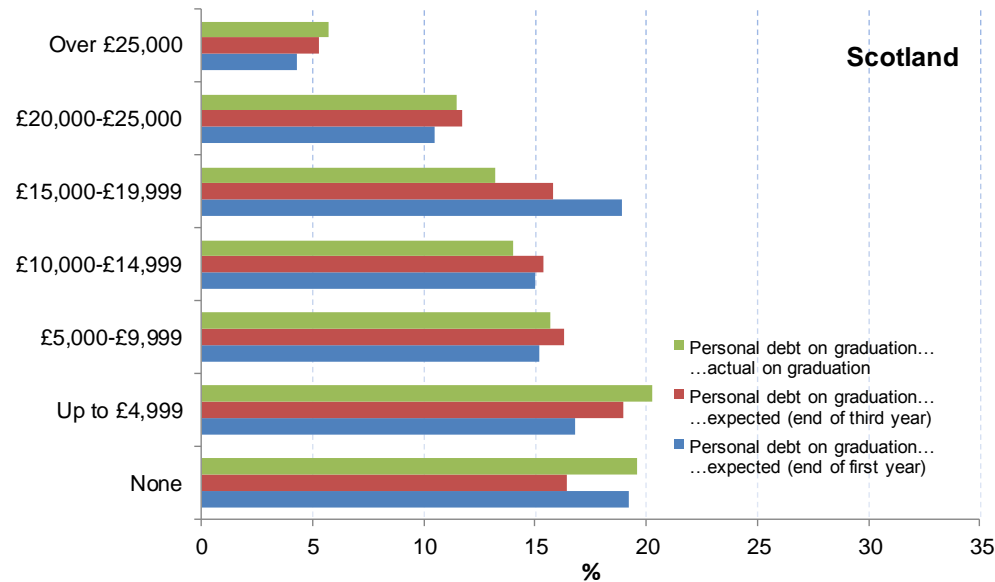
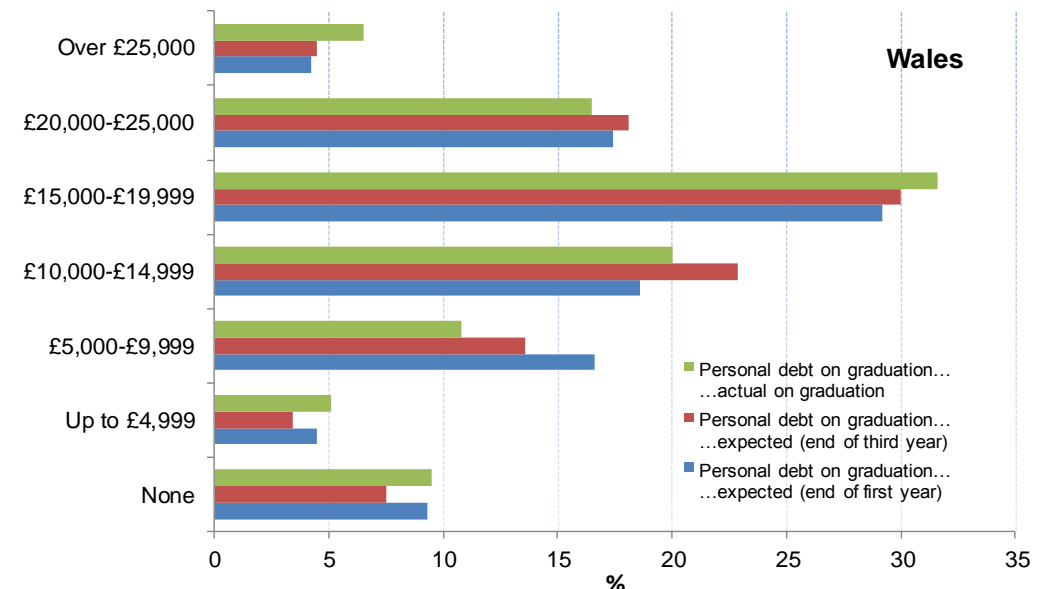
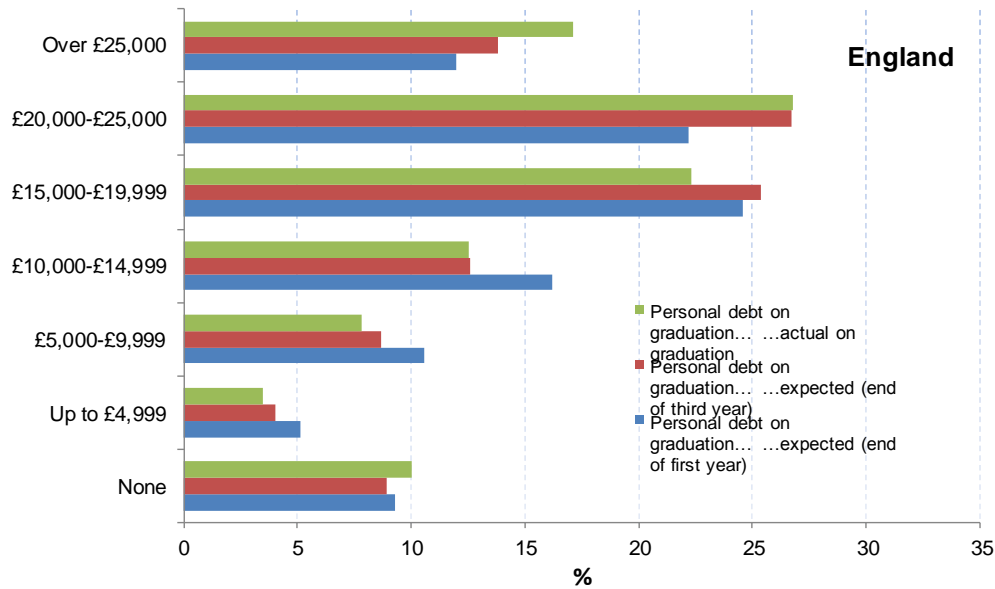
Information on accumulated debt on graduation (excluding mortgage debt and other loans unrelated to undergraduate study) was also collected in our study of the graduating class of 1999 (Purcell *et. al.*, 2004). Ten years prior to the Futuretrack study, mean repayable debt for the *Class of '99* stood at £7,960. Adjusting for inflation, this would be equivalent to £10,300 in 2009. For Futuretrack graduates of 2009/10 studying at the same institutions as those who responded to this earlier enquiry, the mean repayable debt at graduation stood at approximately £16,000. In other words, over this ten year period, graduate indebtedness had increased by approximately 60 per cent in real terms.

This increase in accumulated debt is unsurprising, given that the *Class of '99* graduated before tuition fees of £1,000 per year were introduced in the 1998/99 academic year. In Scotland and Wales, annual tuition fees were subsequently waived (or reduced via the reintroduction of grants). The Higher Education Act 2004 increased the cap on tuition fees at English higher education institutions from £1,000 to £3,000 with effect from 2006/07. This was the tuition fee faced by most Futuretrack respondents at English institutions.

Figure 4.1 uses the full longitudinal breadth of the Futuretrack study to show how the expectations of accumulated debt on graduation compare with the outcomes. Similar questions about personal debt on graduation were asked at stage 2 of Futuretrack (end of first year of undergraduate study), in stage 3 (towards end of third year of study) and now at stage 4 (one and a half to two and a half years after graduation). Information collected at stages 2 and stage 3 related to the expectation of debt on graduation, stage 4 shows the outcome on graduation.

The four charts shown in Figure 4.1 are constructed by classifying the higher education institution at which the respondent studied to the country of the UK in which it is located. Not surprisingly, there are major differences by country in the accumulation of debt whilst studying. For those who undertook their undergraduate studies at an English higher education institution (HEI), 44 per cent of graduates had debts on graduation of £20,000 or more. For those who attended a Scottish HEI, those with debts of £20,000 or more constituted only 17 per cent of graduate respondents. Similarly, for those who studied at a Welsh HEI, 23 per cent had debts of £20,000 or more on graduation. For graduates from Northern Ireland HEIs, this was higher at 34 per cent.

Figure 4.1: Debt on graduation: a comparison of expectations with outcomes, by country of HEI attended

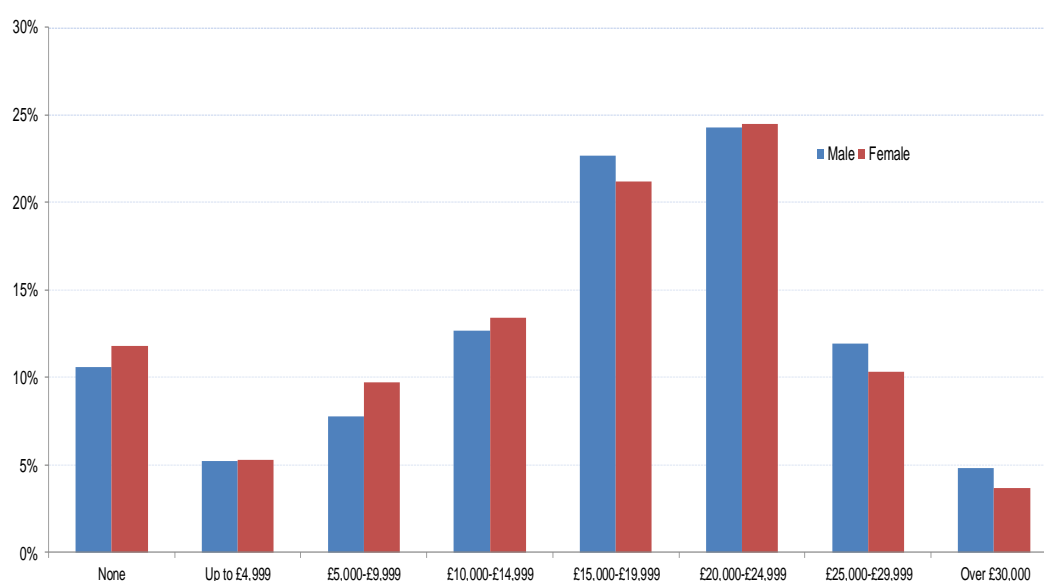


It is interesting to note the general underestimation of graduate debt when comparing expectations with the outcomes. For graduates across the UK, the proportion with debts over £25,000 represents a higher outcome than expected. Nonetheless, the general pattern of expectations and outcomes indicates that the majority of graduates had a fairly accurate match between their expectations of debt when they responded at the end of their first year of study, compared with the outcome two or three years later.

Futuretrack respondents and their debt on graduation

In this subsection we examine in more detail the characteristics of those who reported on the extent of their debt on graduation. Figure 4.2 shows the distribution of debt by gender. For those with debts of £25,000 or more on graduation, 17 per cent of male graduates fall into this category compared with 14 per cent of females. In the modal category of debt (£20,000 to £24,999) men and women are represented almost equally.

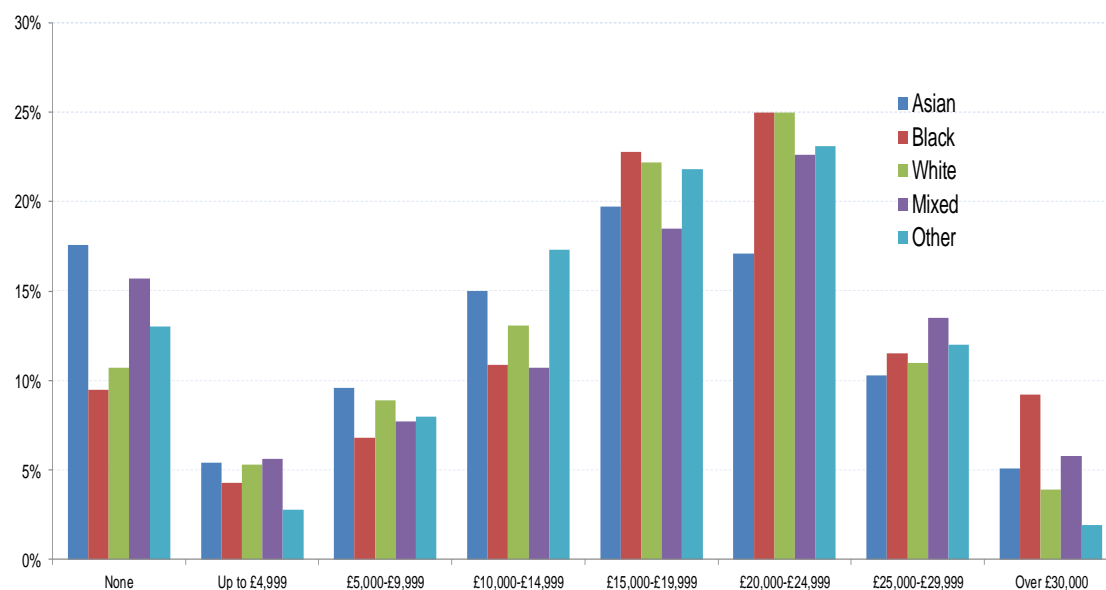
Figure 4.2: The extent of debt on graduation, by gender



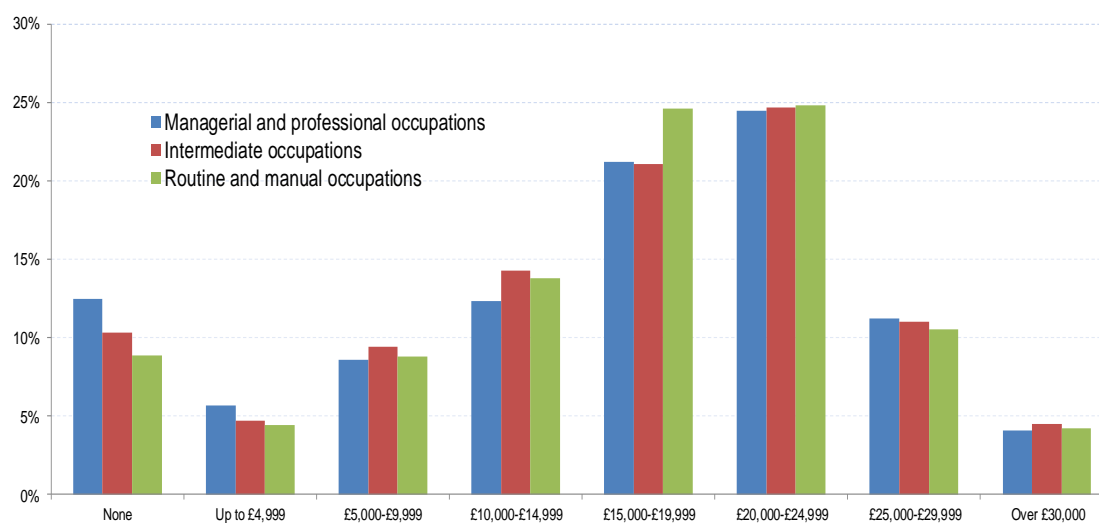
Source: Futuretrack stage 4, UK domiciled graduate completers

Figure 4.3 shows this same information by the ethnic group to which the respondent has classified him/herself. This reveals some surprising differences, with graduates of Asian ethnic origin reporting much lower levels of debt on graduation than any other group. For those reporting debt on graduation in the range £0 - £14,999, 48 per cent of Asian graduates fall into this category. For Black graduates the corresponding figure is 13 per cent.

Figure 4.4 examines the distribution of debt on graduation by socio-economic background. This shows that the variation by socio-economic background lies principally within the groups who report that they had no debt on graduation and those that reported debts of up to £19,999. As expected, students from managerial and professional socio-economic backgrounds were more likely to report that they had no debt, whereas those whose parents were in routine and manual occupations when the respondent was aged 14 were more likely to report debt on graduation in the range £15,000 to £19,999. For those who reported high levels of debt (over £25,000) there is little variation by socio-economic background.

Figure 4.3: The extent of debt on graduation, by ethnic origin

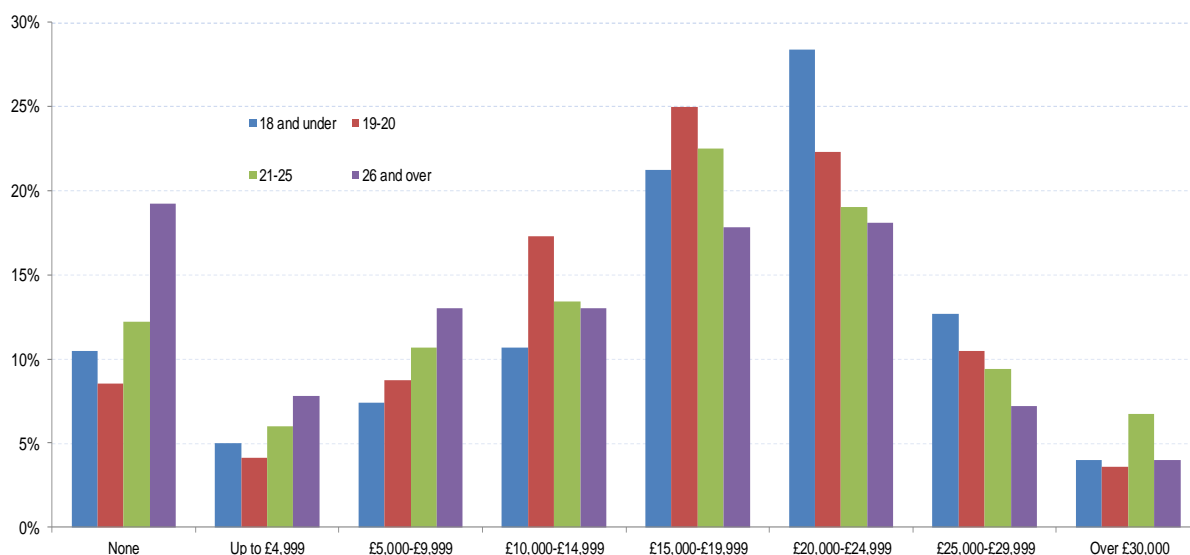
Source: Futuretrack stage 4, UK domiciled graduate completers

Figure 4.4: The extent of debt on graduation, by social background

Source: Futuretrack stage 4, UK domiciled graduate completers

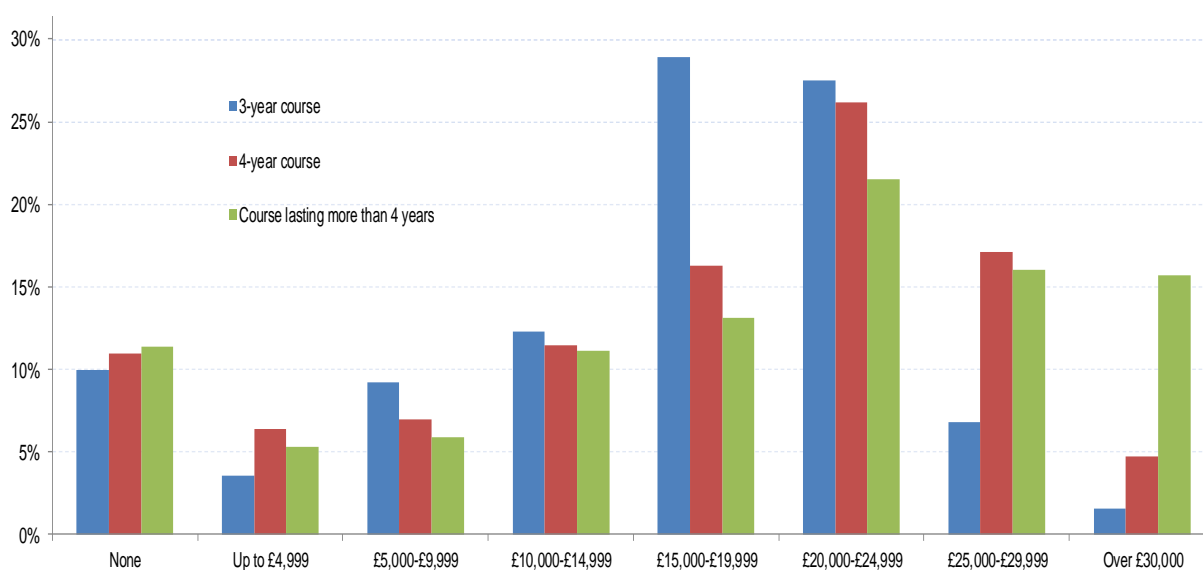
The relationship between the age of the graduate and their debt on graduation is shown in Figure 4.5. The predominant age group of respondents at this stage of the Futuretrack study is those who were 18 and under at the time they applied for a full-time place in higher education in 2006. This is also the age group who report the highest levels of debt on graduation, with well over a quarter reporting debts in the range £20,000 to £24,999. The age group with the least debt was graduates who were 26 and over at the time they applied for a place in higher education.

Figure 4.5: The extent of debt on graduates, by age group in 2006



Source: Futuretrack stage 4, UK domiciled graduate completers

Figure 4.6 shows that there is a clear relationship between the length of the course on which the graduate studied for his/her undergraduate degree and their accumulated debt on graduation. Sixteen per cent of all graduates on courses lasting more than 4 years have accumulated debts of over £30,000 by the time they graduated. For those on three year course the modal category is the range £15,000-£19,999, whereas for graduates from 4 years courses the modal category is £20,000 - £24,999.

Figure 4.6: The extent of debt on graduation by length of course

Source: Futuretrack stage 4, UK domiciled graduate completers

Multivariate analysis of 'high debt' graduates

There are likely to be important interactions between the factors shown in Figures 4.1 to 4.6, which may mask the effect of the UK country of study on the extent of the accumulated debt on graduation. For instance, Scottish students are much more likely to have completed a four year course than their English or Welsh counterparts. Also, living in London with its higher cost of living could well contribute to indebtedness.

To disentangle these factors, Table 4.1 gives results from a multivariate analysis of the information provided by Futuretrack respondents on their accumulated debt at the time they graduated. For this analysis, respondents allocated to two categories; those with debts of £25,000 or more and those with lesser or no debt. In this table, a 'positive' influence indicates that the factor listed is associated with the respondent having debts of £25,000 or more.

Table 4.1: Factors associated with debts on graduation of £25,000 or more

Strong positive influence	Weak positive influence	Weak negative influence	Strong negative influence
<i>Subject studied:</i> Arts Languages Law Maths and computing Natural sciences Medicine and related Engineering Business Studies Education Interdisciplinary	Male Parents in semi-routine occupations	<i>Subject studied:</i> Humanities Father has degree Parents in low supervisory/technical occupations	HEI at which studied was in: Scotland Wales N. Ireland
<i>Class of degree:</i> Ordinary		<i>Class of degree:</i> 2(i)	<i>Class of degree:</i> Pass/diploma/foundation
Living in London	Living in South East		
Medium/high tariff points on entry	Low tariff points on entry		

Source: Futuretrack stage 4, domestically domiciled graduate completers

The long list of subjects studied which are associated with a strong positive effect on having debts of £25,000 or more is indicative of the fact that the subject not shown in this table, social sciences, has a neutral impact. Graduates from the humanities have the lowest probability of belonging to the 'high debt' category defined in this analysis. Other factors corroborate the findings shown in figures 4.1 to 4.6 particularly the strong impact of having studied at an English higher education institution.

The impact of debt on post-graduation options

In this fourth stage of the Futuretrack study, and for those reporting that they had accumulated debt on graduation, we included questions about the impact that this debt had on their future options. Respondents were invited to indicate if any of the following options applied:

I wanted to do a postgraduate course but did not want to add to my debts

I had to apply for a postgraduate course where I could live at home rather than where I would have preferred to study

I had to accept the best paid job I could get rather than one I would have preferred

I had to live at home and/or be supported by my family

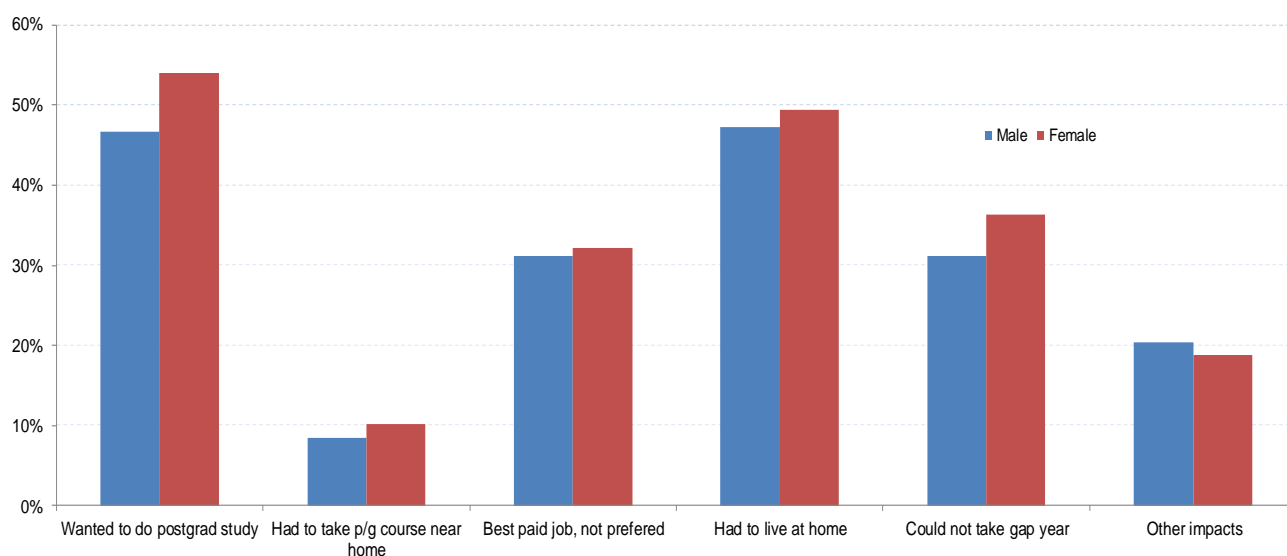
I did not believe I could take a gap year because I thought it important to get a job quickly

Other impact(s) of debt on my decisions

Multiple responses to this question were permitted, hence the percentages shown in the following figures total more than 100 per cent.

Figure 4.7 shows how the responses to these options were distributed by gender. The two categories which are the most prevalent for both men and women are that the desire to undertake a course of postgraduate study was limited by debt and the respondent had to live at home and/or be supported by his/her family. Female graduates were more likely than men to report that their options after graduation were limited after graduation.

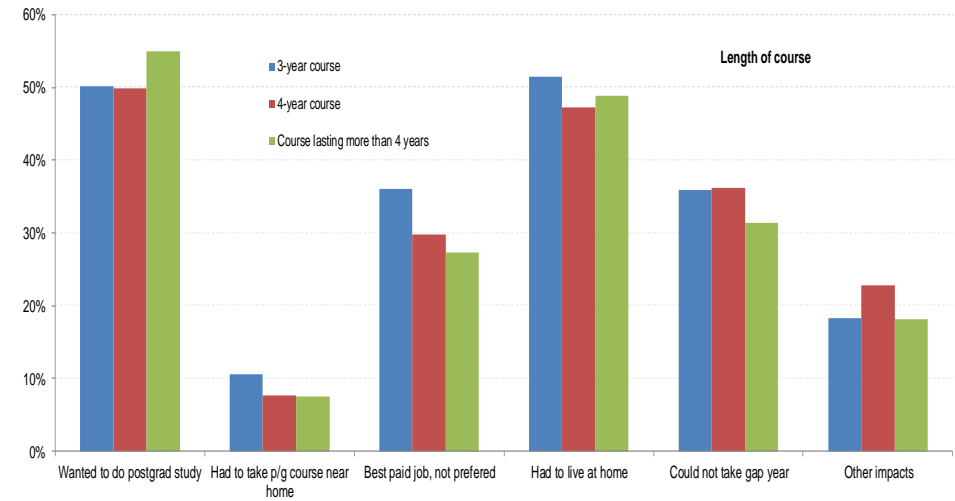
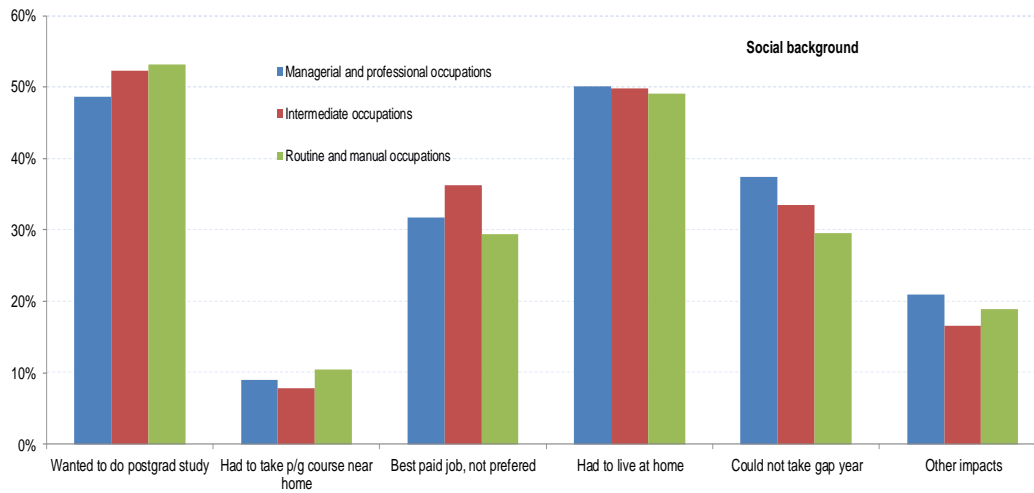
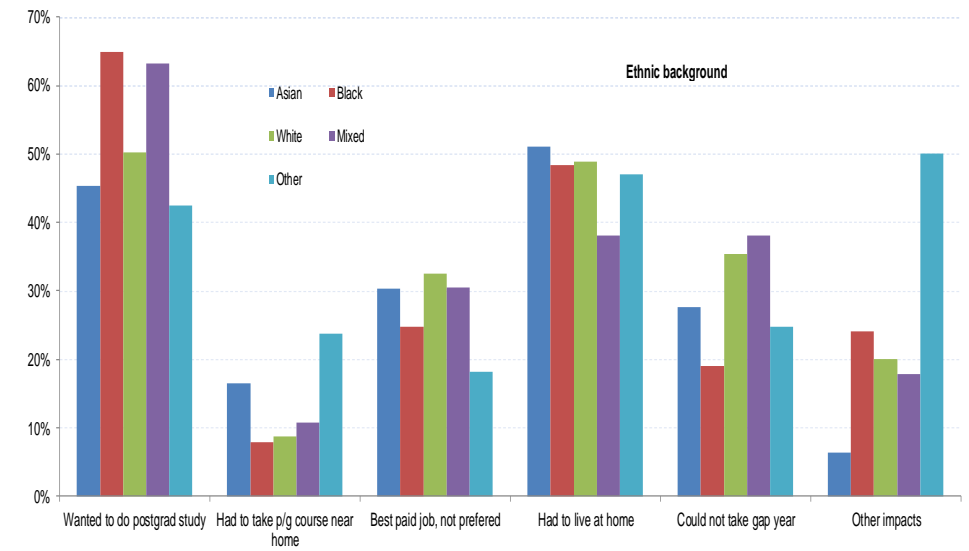
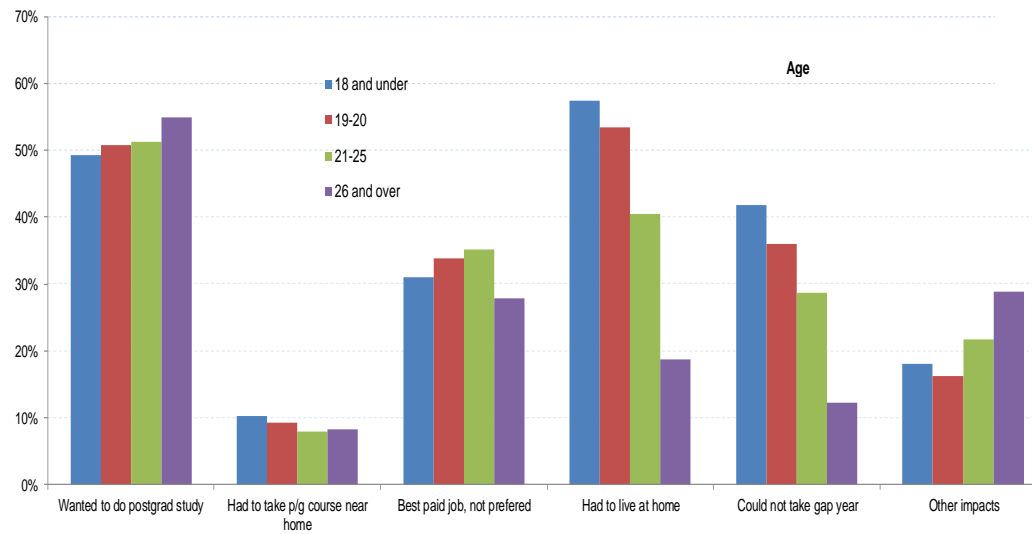
Figure 4.7: Options after graduation limited by debt, by type of limitation and gender



Source: *Futuretrack stage 4, domestically domiciled graduate completers reporting some accumulated debt on graduation*

Figures 4.8 show how these options which were reported as constraints on post-graduation opportunities vary by age on application for a place in higher education, ethnic background, social background and length of undergraduate course. Graduates in the older age group (26 years and over at time of application) were more likely to report that they felt that they could not pursue postgraduate study because of the debt they had accumulated during their undergraduate study. The same is true of those from Asian or mixed ethnic backgrounds, those with routine and manual social backgrounds and for those who had undertaken undergraduate courses lasting more than four years.

Figure 4.8: Options after graduation limited by debt, showing nature of limitation by age (on application to HE), ethnic background, social background and length of course



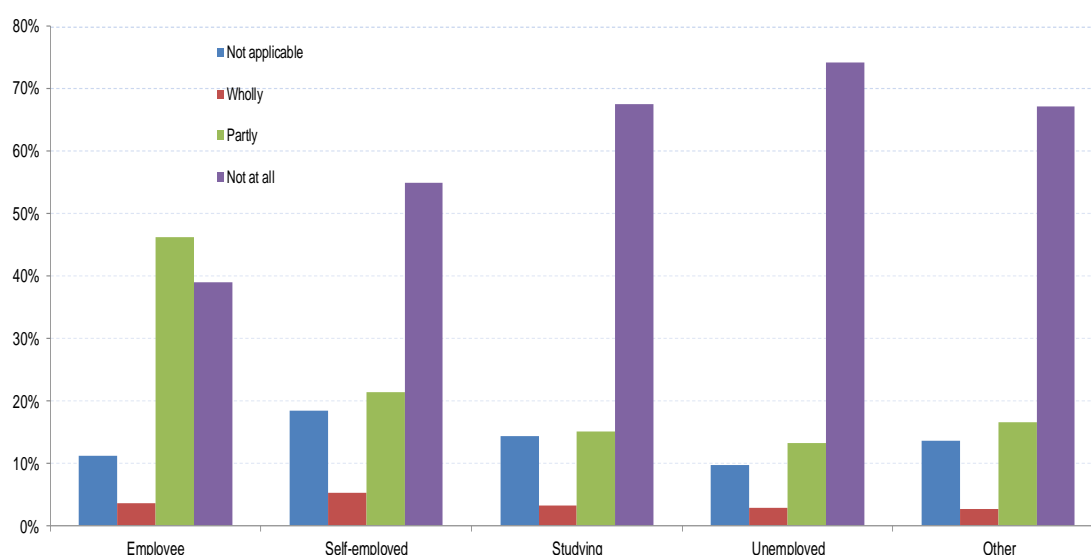
Repayment of debt

The stage 4 questionnaire asked those respondents who reported that they had some debt on graduation whether or not they had started repaying these debts. Three responses were permissible: 'wholly'; 'partly' and 'not at all'.

Examining the responses to this question, we find little variation by gender and by social background. Variations arise primarily in relationship to the events that took place following graduation.

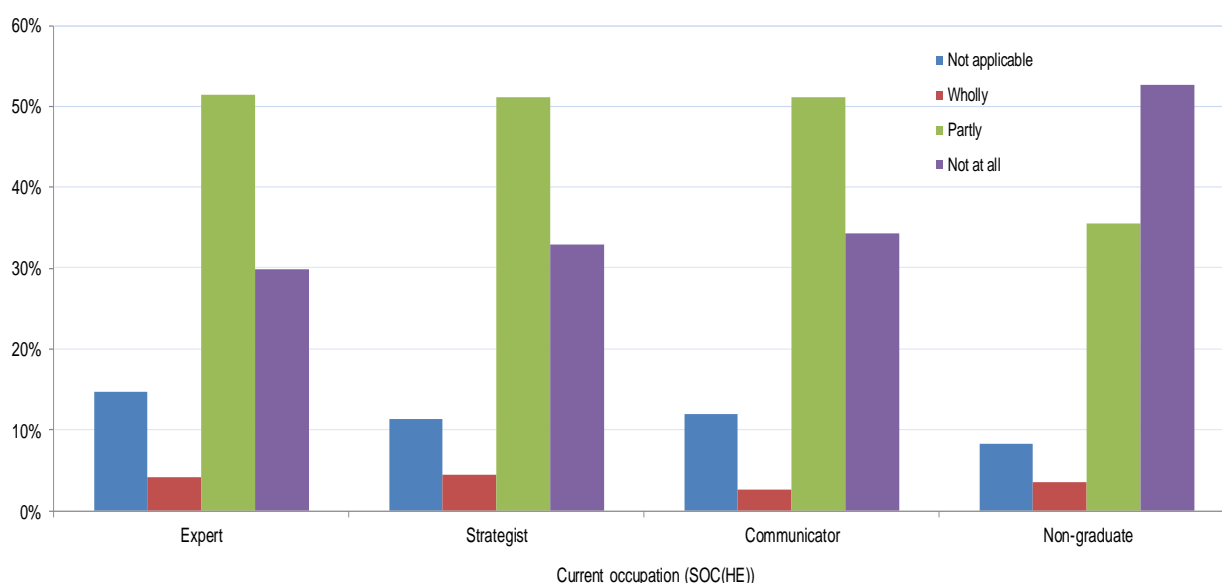
Figure 4.9 indicates the strong link between repayment of debt and the employment status of the respondents at the time of the survey. Three quarters of those whose current status was unemployed replied that they had not repaid any of their debts. This contrasts with 40 per cent of those whose current status was that of employee.

Figure 4.9: Repayment of debt by current economic activity



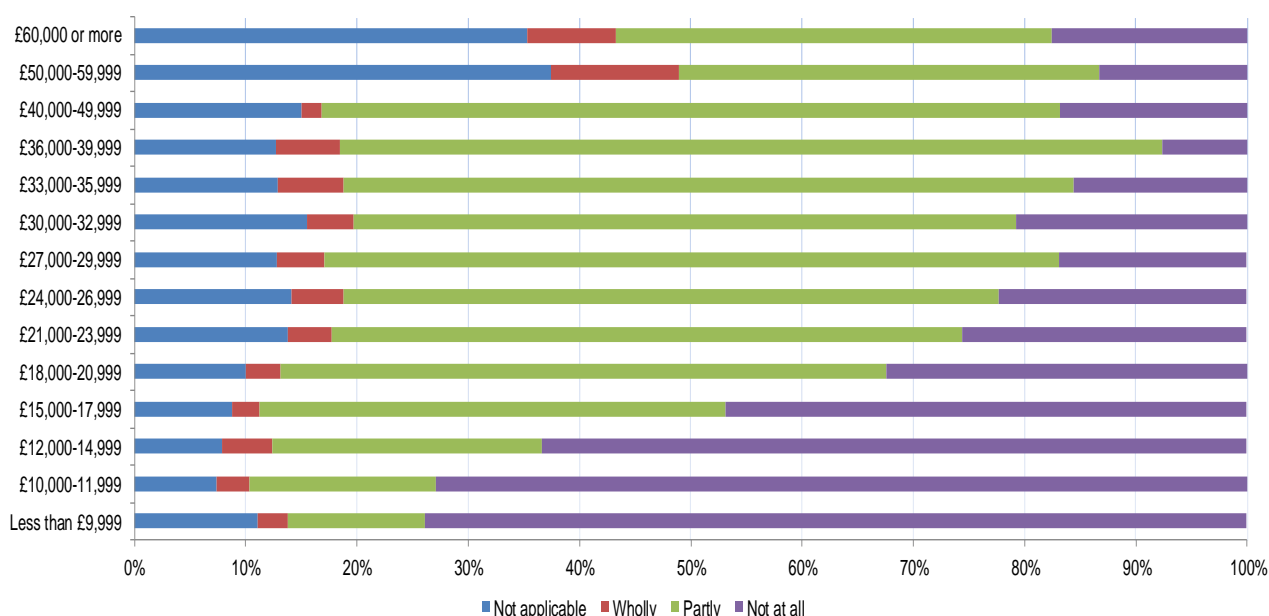
Source: Futuretrack stage 4, domestically domiciled graduate completers

For those who were employed, Figure 4.10 Shows how these proportions vary according to our classification of graduate occupations. Here the main difference is between those in graduate and non-graduate occupations. More than half of those whose current occupation was classified as non-graduate have not repaid any of their student debts. This compares with about one third of those in graduate occupations,

Figure 4.10: Repayment of debt by current occupation (SOC(HE))

Source: Futuretrack stage 4, domestically domiciled graduate completers

Figure 4.11 demonstrates clearly the link between post graduation earnings and student debt. As reported annual earnings increases, so does the proportion reporting that they have partly repaid their debts. Among the very high earners the proportion who have wholly repaid their debts is at its greatest, but still represents less than 10 per cent of all high earners. Nearly three quarters of those on low incomes have not repaid any of their debts.

Figure 4.11: Repayment of debt by earnings

Source: Futuretrack stage 4, domestically domiciled graduate completers

Summary

Futuretrack graduates have experienced a range of tuition fee and associated debt repayment regimes. For those who studied at English institutions, fees of approximately £3,000 per year applied for most students. The situation in Scotland was different, with an endowment scheme initially replacing tuition fees. This scheme was abolished in 2008, with Scottish students at Scottish universities paying no tuition fees. In Wales, the cap on tuition fees rose to £3,000 in 2007-08, bringing them in line with universities in England and Northern Ireland, but with all Welsh students receiving a grant of £1,890 towards their fees.

The analysis of accumulated student debt at the time of graduation reported in this chapter reveals how instrumental these different fee and grant regimes have been in terms of the debt that is reported. While student debt has risen dramatically in real terms over the past ten years, the differences between graduates according to the institution they attended are remarkable. Almost half of graduates from English universities had debts of £20,000 or more. For those who attended a Scottish university only 1 in 6 had similar levels of debt.

Those who have accumulated higher debts than the average tend to be males though the differences by gender are not marked. Those of Asian ethnic origins are less likely to report that they had any debt at all on graduation. Social background appears to be linked to student indebtedness, though for those with high debt levels there are few significant differences by social class categories. The length of undergraduate course undertaken has a relationship with debt which is as expected; longer courses lead to higher levels of debt.

In terms of the ways in which the reported level of debt impacted upon post-graduation options, we note that the most marked effect is the way in which it limits postgraduate study.

The repayment of debt is clearly linked to the subsequent activity history of graduates. Those who were unemployed at the time of the survey, were in a non-graduate job or had low earnings were the least likely to have made any progress whatsoever in repaying their debts.

CHAPTER 5

The earnings of the Futuretrack graduates of 2009/201

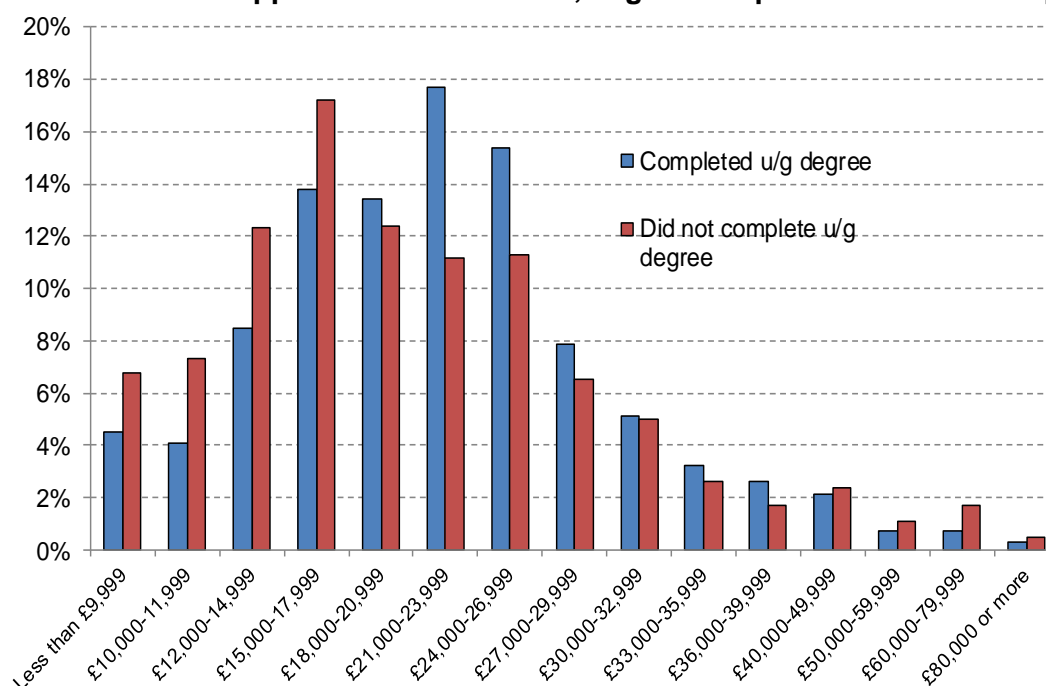
Introduction

Those who graduated in 2009 or 2010 and sought to gain employment faced a tougher labour market environment than their predecessors. Economic growth since the major recession of 2008 has been fitful, with many sectors of the economy experiencing the fall in demand from consumers, a decline in exports both to the emerging economies and to countries within the European Union and a slow-down in private sector investment. Coupled with sharp cut-backs in public sector spending, the prospects for graduate entrants to the labour market for the classes of 2009 and 2010 are likely to have been significantly poorer than for earlier cohorts. In this section we show the extent of this economic stagnation on the earnings of recent graduates. This is presented in two stages. First, we examine the earnings in 2011/2012 of those who were applicants for a full-time place in HE in the UK in 2006. Who has fared well and what are the characteristics of the relatively high earners compared with those who reported low levels of earnings? Second, we contrast the earnings of those who graduated ten years earlier with their counterparts from the 2009 and 2010 graduating classes – comparing the *Class of '99* with respondents to the fourth stage of the Futuretrack study.

The earnings of 2009/2010 graduates in 2011/12

Figure 5.1 compares the distribution of earnings of those who stated that, at the time of the survey of Futuretrack participants in 2011/12, they were in full-time employment, contrasting those who had completed an undergraduate degree with those who had not completed an undergraduate degree.

Figure 5.1: Distribution of earnings of those in full-time employment in 2011/2012 for applicants to HE in 2006, degree completers and non-completers

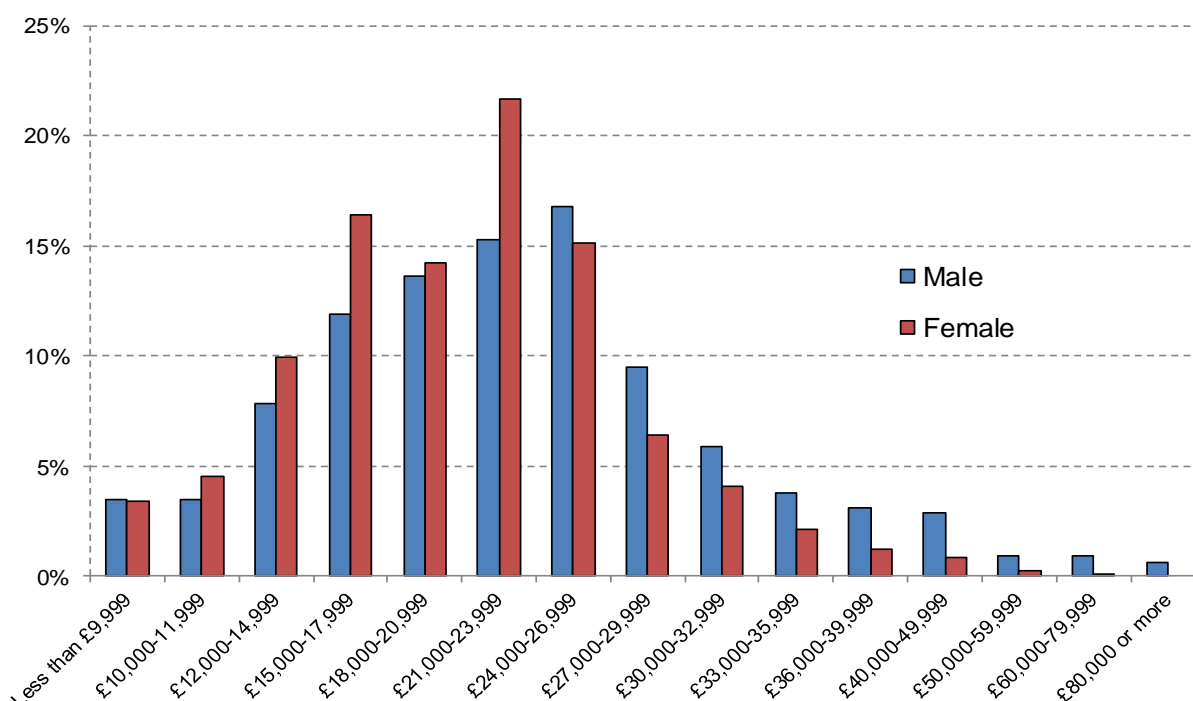


Source: Futuretrack Stage 4 combined file, weighted data

This comparison reveals that those who completed a degree following their application for a place in higher education in 2006 have, on average, significantly higher annual earnings if in full-time employment in 2012. Those who did not complete a degree tend to be concentrated in the lower part of the earnings distribution. More than half of those who applied but did not continue in HE and gain a degree earn less than £21,000 per annum, with modal earnings in the range £15,000-£17,999 per annum. For a small but relatively high earning (£30,000 and over) minority of applicants to HE in 2006, there is no clear relationship between earnings and whether or not the respondent completed an undergraduate degree.

Figure 5.2 shows, for undergraduate degree completers who were in full-time employment in 2012, the relationship between gender and earnings that was first revealed in our study of the class of '95 (Elias *et al.* 1999) is still highly visible. For women, the modal earnings category is the £21,000 - £23,999 band, compared with the £24,000 - £26,999 band for men. Women are more concentrated within the lower half of the earnings distribution, with higher proportions of men in all earnings bands about £24,000/year.

Figure 5.2: Distribution of earnings in 2012 of applicants to HE in 2006, degree completers by gender, full-time employees only



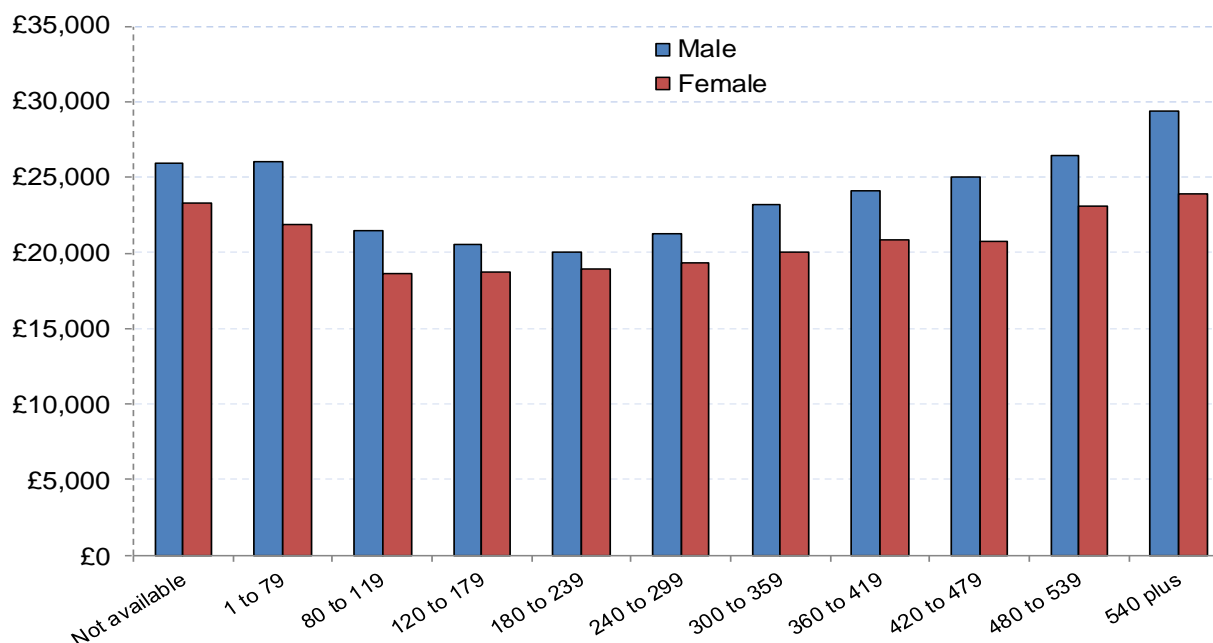
Source: Futuretrack Stage 4 combined file, weighted data

Figures 5.3 and 5.4 reveal the relationship between the entry qualifications of Futuretrack degree completers in full-time employment in 2011/2012 and their earnings. Unsurprisingly, we observe in Figure 5.3, what is essentially a positive relationship between their entry tariff points and their earnings. Those with very low tariff points or for whom tariff points could not be computed tend to have a variety other entry qualifications and to be older than average, with higher than average earnings associated with these characteristics. We note also that the gender difference in full-time earnings of graduates tends to widen for those with higher tariff points.

Using our tariff points-based access classification of higher education institutions, Figure 5.4 shows that those who obtained their undergraduate degrees in institutions that require high tariff points for entry tend to have graduated with the highest average earnings. While this

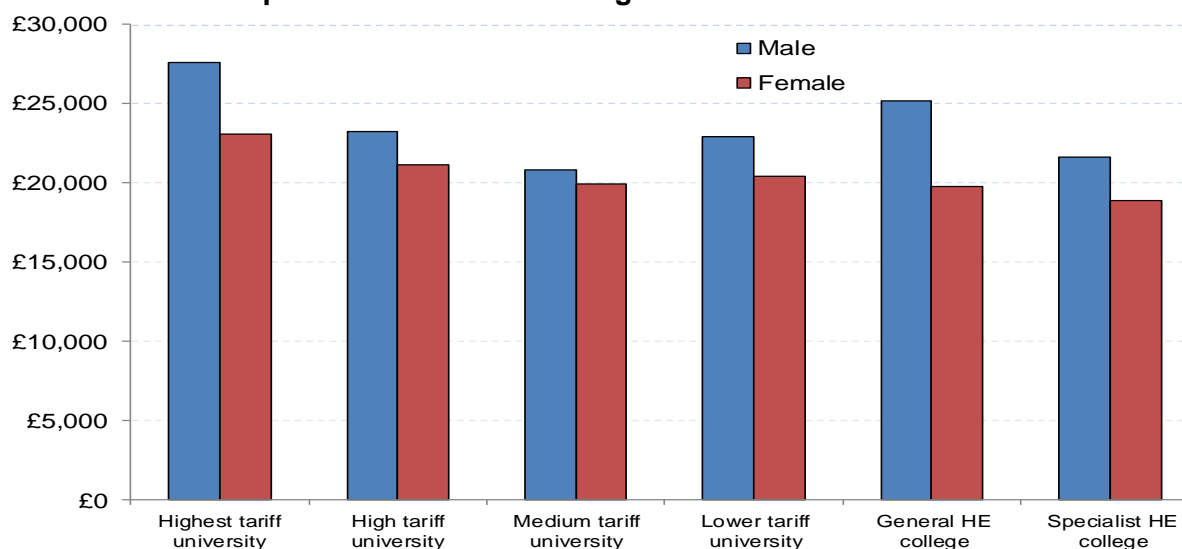
may seem simply to reflect the relationship shown in Figure 5.3, there is a need to identify the institutional influence on earnings. This is an issue to which we will return via multivariate analysis, disentangling the link between earnings, the tariff points held by the respondent and the access classification of the higher education institution based on the average tariff scores of entrants.

Figure 5.3: Average earnings of graduates in full-time employment in 2011/2012 by tariff point bands (entry qualifications)



Source: Futuretrack Stage 4 combined file, weighted data

Figure 5.4: Average earnings of graduates in full-time employment in 2012/2012 by tariff point classifications of higher education institution attended

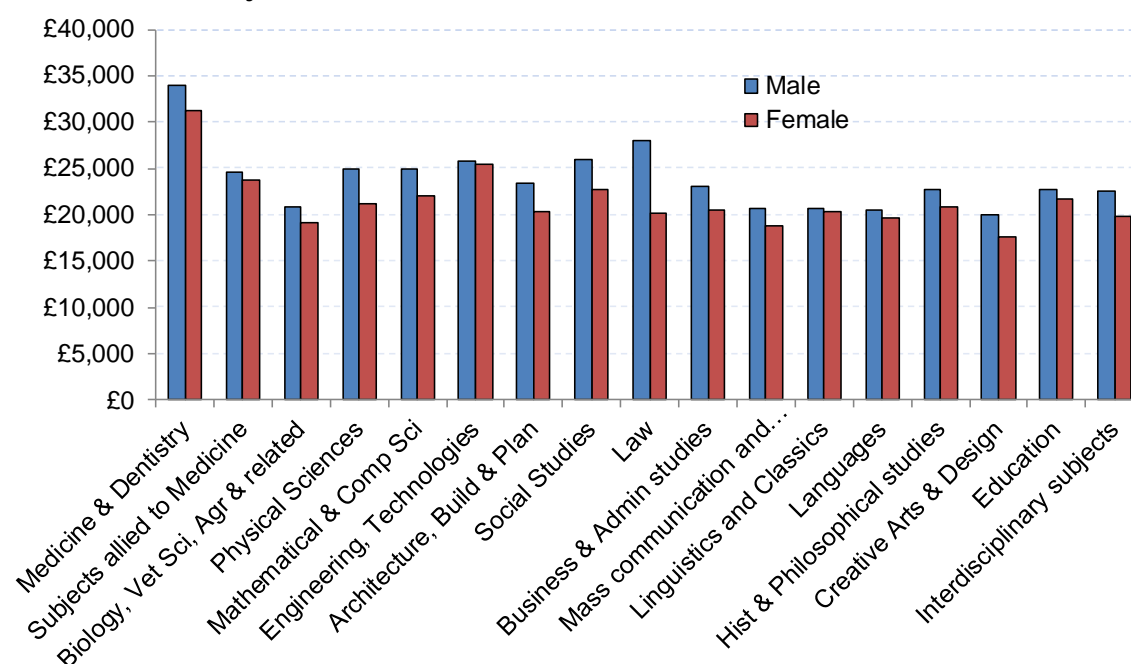


Source: Futuretrack stage 4 combined file, weighted data

Figure 5.5 indicates the effect of subject studied at undergraduate degree level on the earnings of full-time employees who graduated in 2009 or 2010. As we have shown in

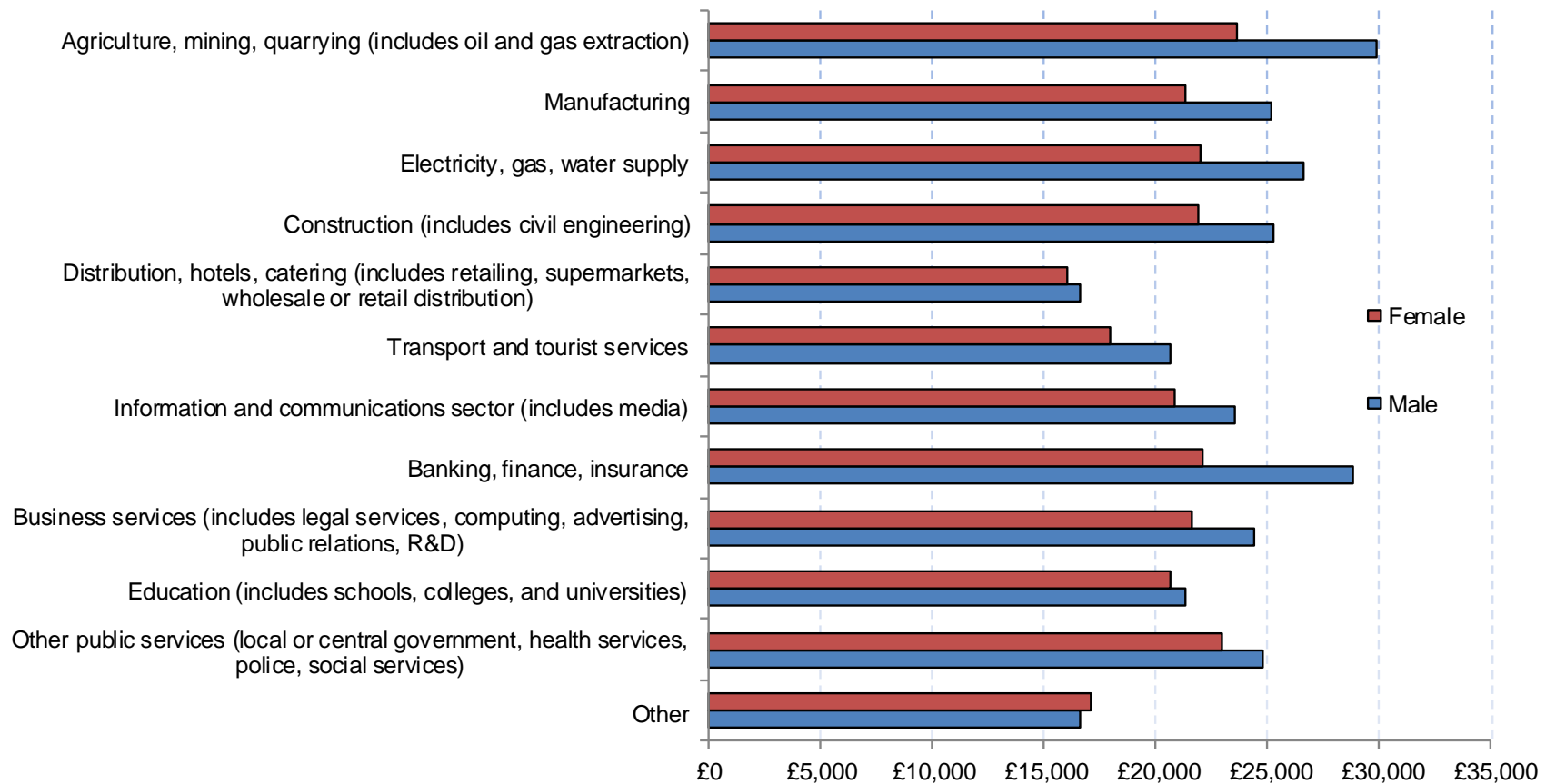
earlier studies (Elias, *et al.* 1999; Purcell *et al.*, 2005) medicine and dentistry remains the highest paid subject group despite the fact that most of the graduates in this subject area will have had less employment experience than their counterparts on other courses. Graduates who studied creative arts and design constitute the lowest paid subject group. The largest gender difference by subject is apparent for law graduates. Women who studied for a law degree and were in full-time employment at the date of the survey have annual earnings of just over £20,000, compared with their male counterparts earning on average more than £28,000 per annum.

Figure 5.5: Average earnings of graduates in full-time employment in 2011/2 by subject studied



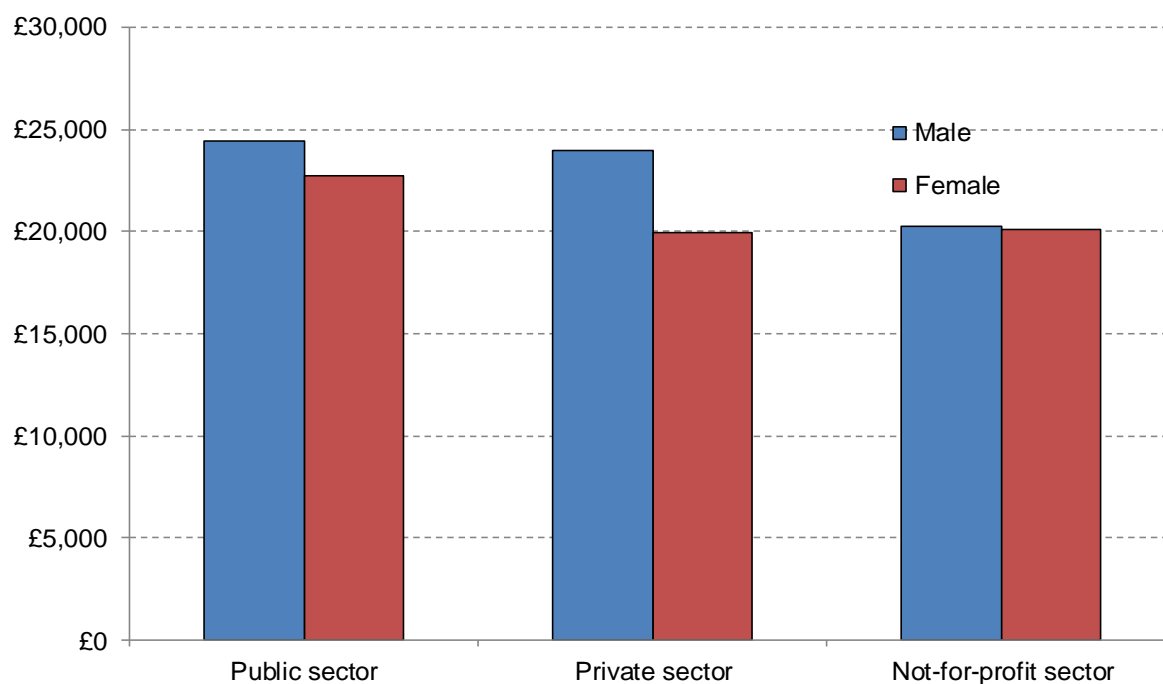
Source: Futuretrack Stage 4 combined file, weighted data

Turning attention to the relationship between job characteristics and earnings of these recent graduates, Figures 5.6 and 5.7 show the average earnings for male and female graduates by sectors of employment and by whether they work in public, private or not-for-profit organisations. Higher than average earnings are revealed in the primary sector (which includes oil and gas extraction), in utilities and in banking, insurance and finance. These sectors also display very significant gender differences in pay. The lowest gender differential by sector is in the education sector. The average annual earnings of Futuretrack graduates are highest in public sector organisations and lowest in not-for-profit organisations. The private sector demonstrates a larger gender gap in annual earnings for these recent graduates than for those employed in either public or not-for-profit organisations.

Figure 5.6: Average earnings of graduates in full-time employment in 2011/2012 by industry sectors

Source: Futuretrack Stage 4 combined file, weighted data

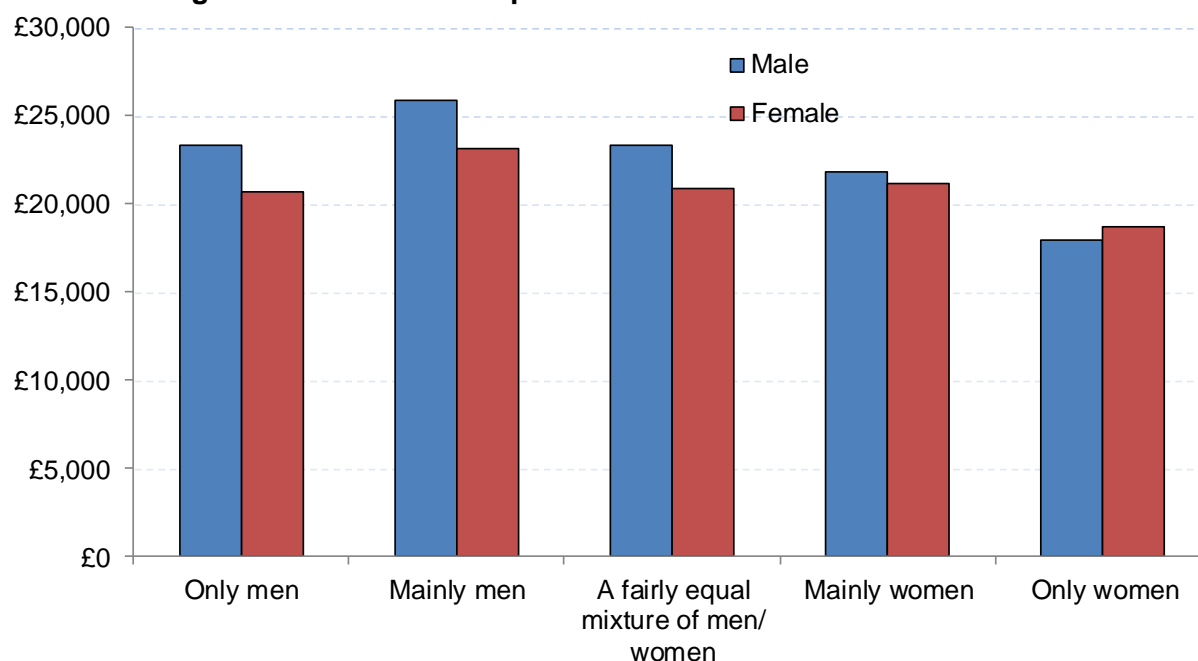
Figure 5.7: Average earnings of graduates in full-time employment in 2011/2012 by public, private or not-for-profit sectors



Source: Futuretrack Stage 4 combined file, weighted data

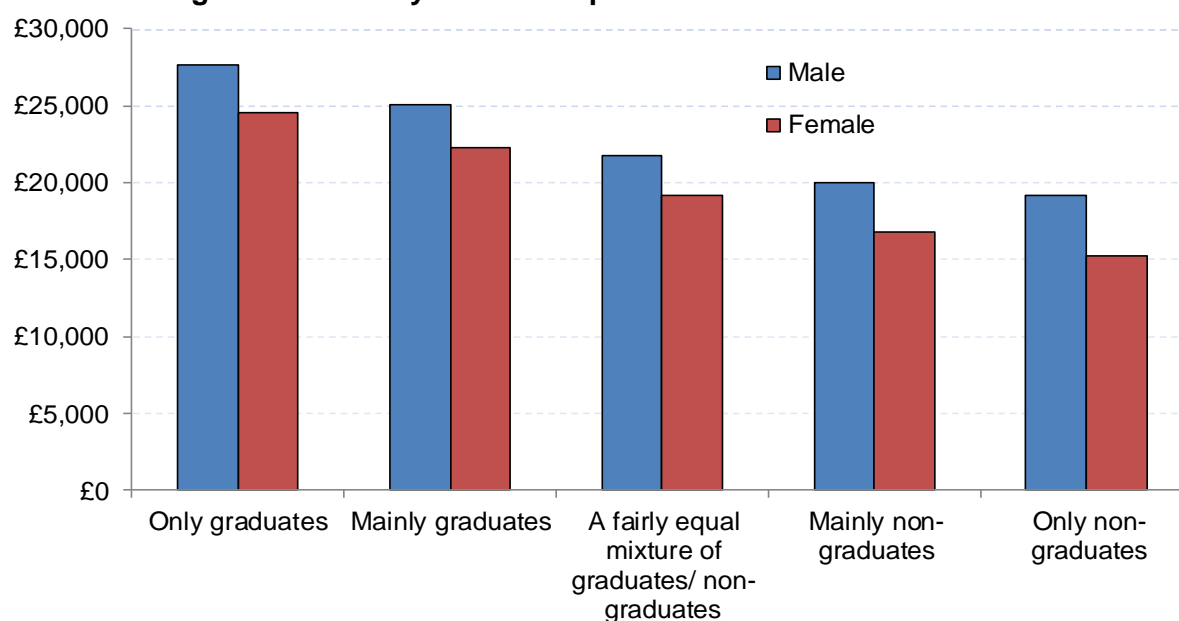
Figures 5.8 and 5.9 refer to the nature of the workplace environment in which the graduate is working, showing relationships between the gender balance at the workplace, graduate density and the average earnings of graduates in full-time employment. The average earnings of both men and women tend to be higher where graduates report that they work mainly with men and lowest for those reporting that they work only with women. Figure 5.9 shows a very distinct relationship between reported graduate density at the workplace and earnings.

Figure 5.8: Average earnings of graduates in full-time employment in 2011/2012 and gender mix at the workplace



Source: Futuretrack Stage 4 combined file, weighted data

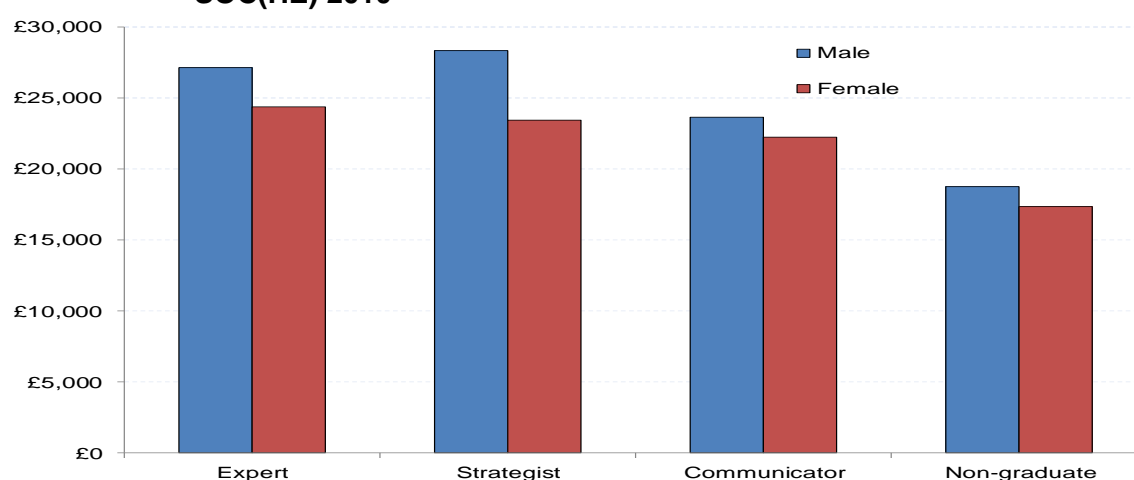
Figure 5.9: Average earnings of graduates in full-time employment in 2011/2012 and graduate density at the workplace



Source: Futuretrack Stage 4 combined file, weighted data

In terms of the occupations in which graduates are working, we make use of our revised classification of occupations based on SOC(HE) 2010. Figure 5.10 shows the relationship between the three-fold classification of jobs which we categorise as graduate jobs, with the highest average annual earnings of graduates in full-time employment being in the 'strategist' category of jobs, although this holds for men in such jobs rather than for women. Those in occupations categories as non-graduate jobs report average annual earnings well below the graduate categories.

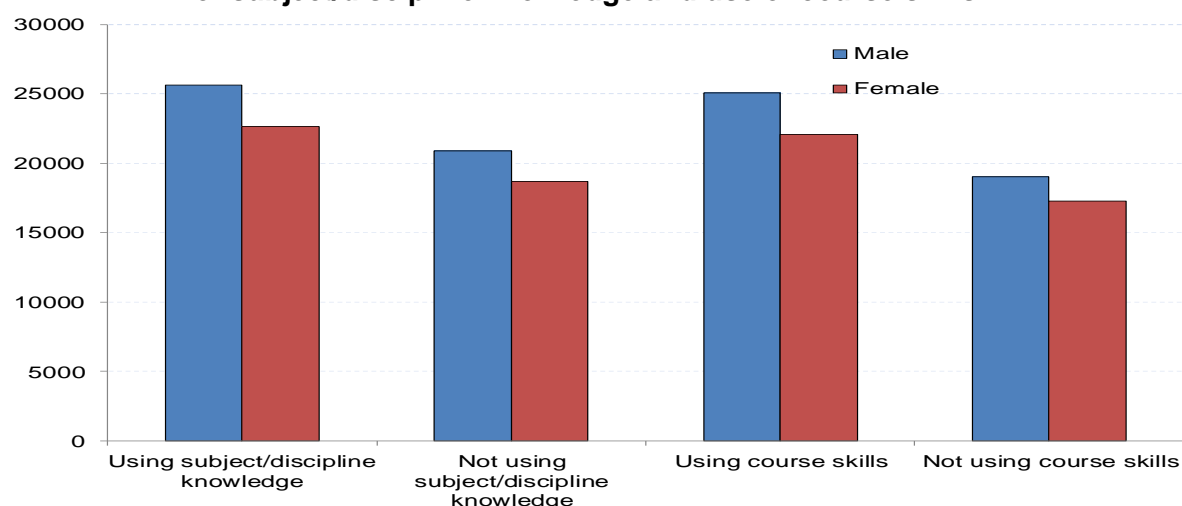
Figure 5.10: Average annual earnings of graduates in full-time employment by SOC(HE) 2010



Source: Futuretrack Stage 4 combined file, weighted data

Figure 5.11 reports the average annual earnings of graduates in full-time employment by whether or not they considered that they were using the subject/discipline knowledge gained in their undergraduate studies and whether or not they considered that they were using course skills in their current employment. For both subject/discipline knowledge and course skills we see the clear link between annual earnings and the use of these attributes.

Figure 5.11: Average annual earnings of graduates in full-time employment, by use of subject/discipline knowledge and use of course skills



Source: Futuretrack Stage 4 combined file, weighted data

In the Stage 4 questionnaire we include a question about the extent to which respondents were satisfied with their current job, using a scale from 1 to 7 where 1 was equated with 'completely satisfied' and 7 with 'not satisfied at all'. Figure 5.12 shows that, in general, the mean scores on this scale decreased as annual earnings increase, indicating higher levels of job satisfaction with higher earnings. For those reporting very low annual incomes (less than £10,000 per year), mean job satisfaction levels are slightly better than for those earnings £10,000–£11,999.

Figure 5.12: Mean job satisfaction scores of graduates in full-time employment, by annual earnings



Source: Futuretrack Stage 4 combined file, weighted data

Source:

The Class of '99 and Classes of 2009/2010

In 2004 we published results from a study of graduates who had completed their undergraduate studies in 1999 (Purcell, *et al.* 2009). Contrasting information in this study referred to hereafter as the *Class of '99* with an earlier 1998 survey of graduates who had completed their undergraduate studies in 1995, we showed that the growth of earnings of graduates in their early careers had slowed down relative to the increase in average earnings across the whole economy. Detailed statistical analysis of the earnings of these two cohorts after they had accumulated 3½ to 4 years of labour market experience showed that, relative to average earnings, there was a fall of approximately 10 per cent in the real

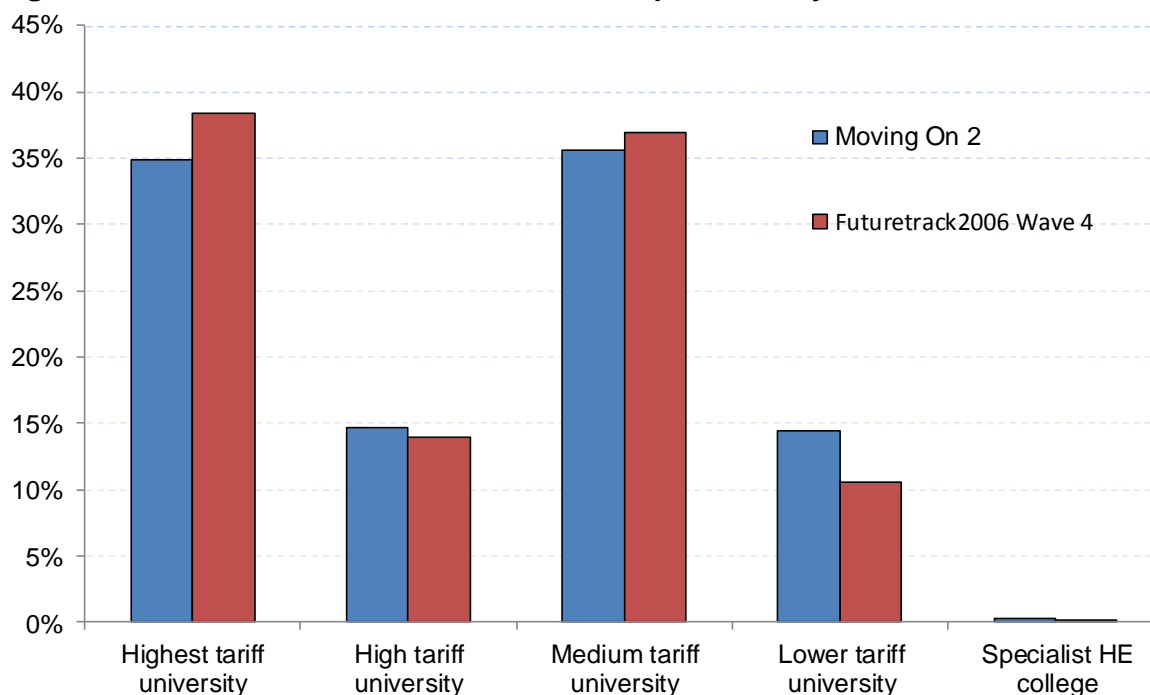
earnings of graduates in the later cohort relative to their counterparts from the survey conducted four years earlier.

Earlier research we have conducted, examining the earnings of graduates and non-graduates in some detail using information from the UK Labour Force Surveys, indicates that significant changes have taken place in the distribution of the graduate earnings premium (the additional value of a degree that can be attributed to the process of higher education). Between 1994/95 and 2009/10 we noted that the graduate earning premium for 22-34 year olds has on average remained constant, but has declined among low earners whilst rising for those towards the upper end of the earning distribution (Elias and Purcell 2011).

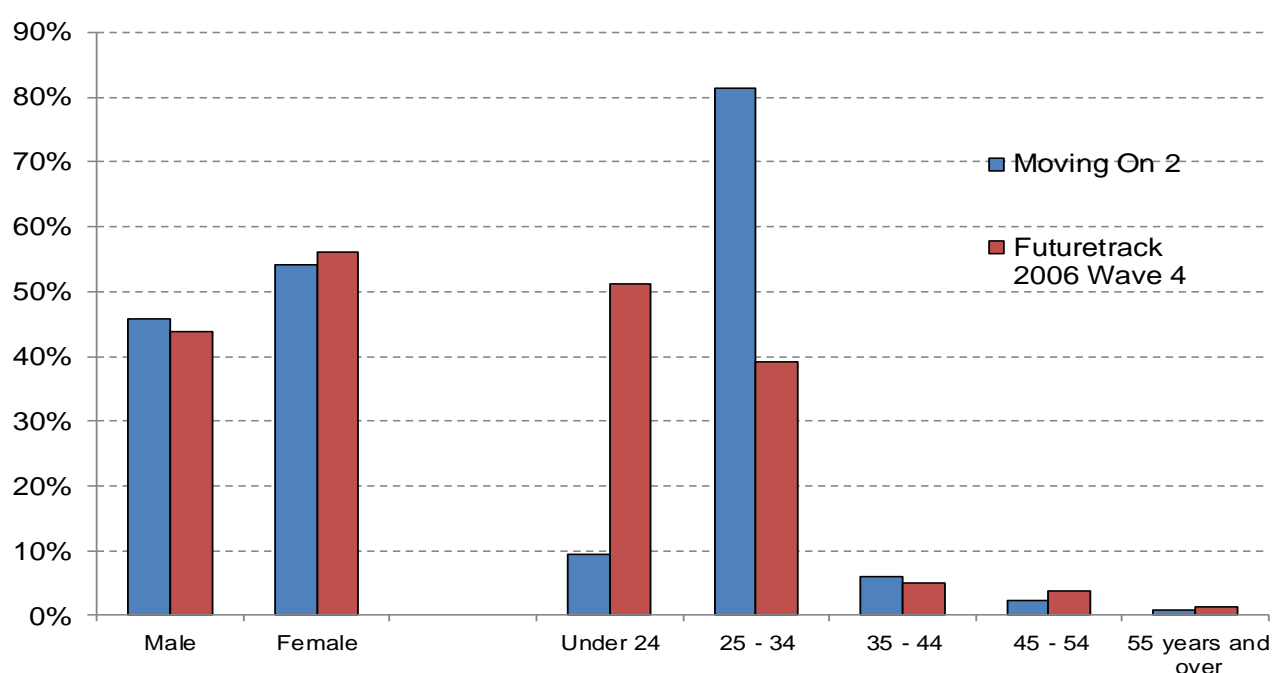
We now investigate further the nature of these distributional changes, using the same methods we employed when comparing the 1995 and 1999 cohort some three and a half to four years after graduation. Here our comparison is between the 1999 cohort and data collected in Futuretrack Stage 4. In so doing, we had to ensure that the comparisons made are as similar as possible. There are some important differences between the two studies that must be taken into account, as discussed in Chapter 2. First, the *Class of '99* was a 'post graduation' sample. Respondents to this survey belong to populations of graduates who had obtained their undergraduate degrees in 1999. This included a mix of those who had undertaken three or four year courses, but all of whom had graduated in 1999. Second, the early career histories of the *Class of '99* spanned a period which was some 3½ -4 years after graduation. For Futuretrack, the sampled population consists of all those who had applied for a full-time place in a UK higher education institution in 2006. The early career histories for those who completed an undergraduate degree spans a period of approximately 1½ -2½ years depending upon whether they had undertaken a three or four year course. Finally, the *Class of '99* survey was a sample of the graduating population from 38 randomly selected UK higher education institutions. These same 38 institutions were identified in the Futuretrack study and comparable samples constructed from both the *Class of '99* and Futuretrack Stage 4 surveys¹⁷ Figures 5.13 to 5.16 compare the samples of graduates in these two surveys.

Figure 5.13 shows the distributions of the weighted samples of graduates in these two studies by the tariff points based classification of higher education institutions. Comparing these distributions confirms that the two surveys have similar samples of graduates in terms of their institutional composition. Figure 5.14 compares the two samples by gender and age group. The changing gender composition reflects the increased participation of women in higher education over the ten year period between these two graduating cohorts. The differing age distributions reflects the fact that the respondents to the *Class of '99* were surveyed approximately 3½ to 4 years after graduation, compared with the 1½ to 2½ years for the Futuretrack Stage 4 respondents.

¹⁷ Futuretrack stage 4 was restricted to those who were UK citizens (or dual nationals with UK citizenship), had completed an undergraduate degree and had obtained their undergraduate degree at the one of the 38 HEIs surveyed in the *Class of '99* study. The *Class of '99* study was restricted to those who had obtained an undergraduate degree and were UK citizens.

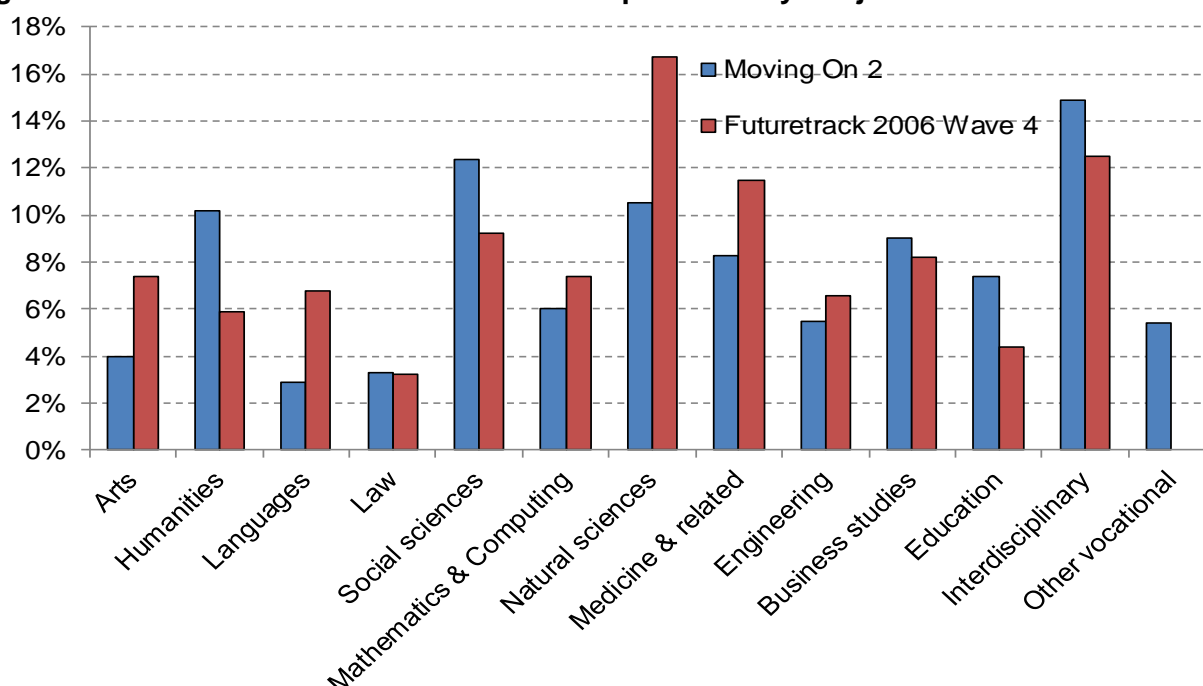
Figure 5.13: Class of '99 and Futuretrack respondents by HEI tariff classification

The earnings of the Futuretrack graduates of 2009/2010 Sources: Class of '99 and Futuretrack (selected institutions).

Figure 5.14: Class of '99 and Futuretrack respondents by gender and age group

Sources: Class of '99 and Futuretrack (selected institutions)

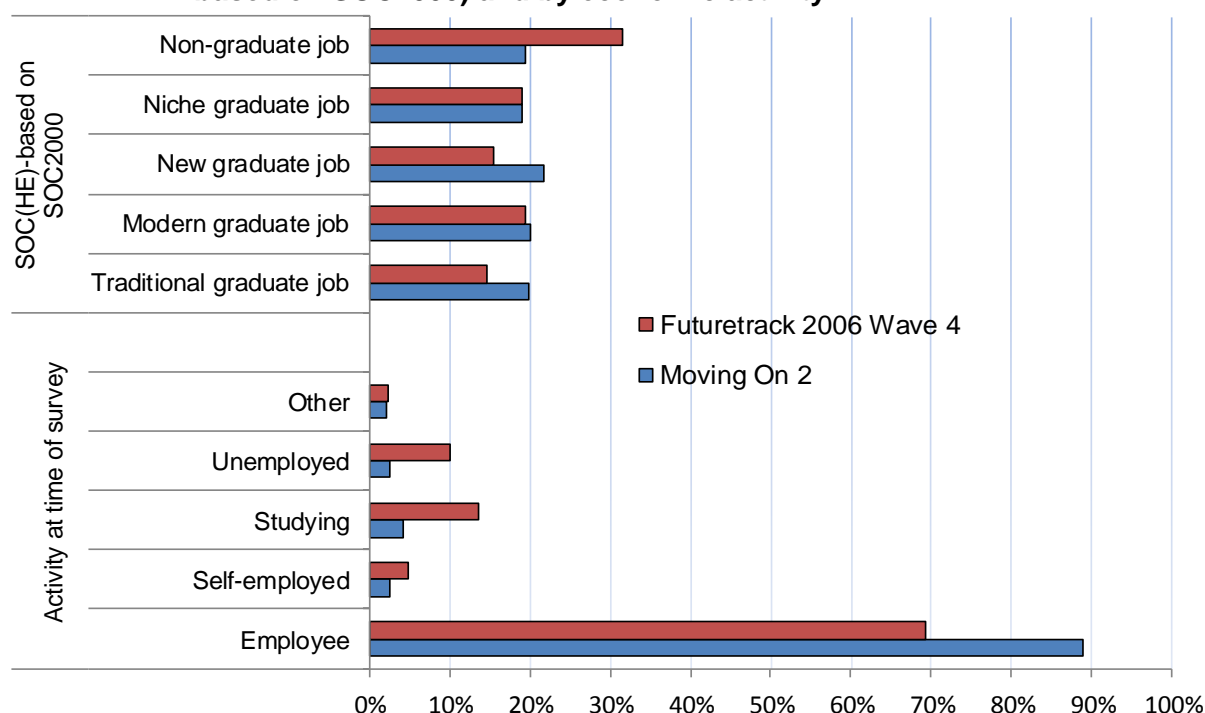
Figure 5.15 compares the distribution of two samples by subject studied. Some important differences are in evidence, notably the higher concentration of graduates who had studied for an undergraduate degree in the natural sciences, medicine and related subjects and the arts in the Futuretrack sample.

Figure 5.15: Class of '99 and Futuretrack respondents by subject studied

Sources: *Class of '99* and Futuretrack (selected institutions)

Other comparisons revealed that the entry tariff points for respondents in the two samples were similar. The distribution of each sample by social background (parental social class) indicated a higher proportion of graduates from managerial and professional backgrounds in the Futuretrack sample. In terms of parent's qualifications, the Futuretrack sample has slightly higher proportions of respondents whose father or mother has a degree. In terms of their status at the time of the surveys, Figure 5.16 compares these samples by the SOC(HE) occupational classification used in the *Class of '99* study and by economic activity status. As shown earlier a higher proportion of graduates in the Futuretrack study are in non-graduate jobs than was the case with the *Class of '99*, and approximately 10 per cent of Futuretrack respondents in these 38 HEIs are unemployed compared with 3 per cent in the *Class of '99*.

Figure 5.16: *Class of '99* and Futuretrack respondents by SOC(HE) (five-fold version based on SOC2000) and by economic activity



Sources: *Class of '99* and Futuretrack (selected institutions)

In comparing the earnings of these two cohorts, the role of the above factors and their compositional influence on earnings needs to be taken into account. This is done first by adjusting the earnings recorded in the *Class of '99* to account for the increase in average weekly earnings between May 2003 (the median response month for the *Class of '99*) and November 2011, the median response date for Stage 4 of Futuretrack. The basic regression model used for this adjustment process is shown in Appendix Table A5.1

Table 5.1 shows relative decline in real earnings of graduates from the 38 higher education institutions. Having adjusted for a wide variety of compositional factors, this analysis shows that the Futuretrack cohort of graduates has not maintained the earnings advantage demonstrated by graduates from these same institutions some 10 to 11 years earlier. This does not imply that the graduate earnings premium has disappeared, but it is consistent with the analysis of earnings data from the Labour Force Survey, that the graduate earnings premium is declining.

This analysis also reveals that not all graduates have experienced this decline to the same extent. The relative earnings of male graduates has fallen at a faster rate than for females, and those who graduated from the highest tariff institutions have fared better than those from the lower tariff institutions. Graduates who studied certain subjects, notably law and medicine and related, have a significantly lower decline in relative earnings at this early Stage in their careers.

Table 5.1: Comparisons of the early career earnings of graduates in full-time employment – Classes of '99 and 2009/2010

Relative decline in real annual earnings: May 2003 – November 2011	
All	-21.9%
Males	-23.8%
Females	-20.7%
Highest tariff institutions	-17.5%
Lowest tariff institutions	-30.0%
First/2(i)	-21.3%
2(ii)/Third	-24.2%
Arts	-32.9%
Humanities	-23.4%
Law	-9.0%
Medicine and related	-16.0%
Education	-24.1%
Traditional graduate job	-19.9%
Modern graduate job	-21.9%
New graduate job	-20.3%
Niche graduate job	-19.3%
Non graduate job	-21.9%

Note: Decline in real earnings is measured relative to the increase in index of average weekly earnings for the whole economy: May 2003=355; November 2011 = 464

Sources: *Class of '99 and Futuretrack Stage 4 – selected institutions*

It is tempting to conclude that the decline in relative earnings revealed in this analysis is a recessionary effect, and that the earnings of graduates from these institutions will progress rapidly as the economy moves out of its low growth path. However, the scale of the effect mirrors what was found in the comparison of the early career earnings of graduates from the Class of '95 and '99. Over this four year period, the earnings of the later cohort relative to 1995 counterparts fell by approximately 11 per cent in real terms, or 2.7 per cent per annum on average. The comparison between the *Class of '99* and *Futuretrack* indicates a real decline in 22 per cent, or just over 2 per cent per annum. This suggests that the relative decline in graduate earnings for recent graduates may be slowing somewhat.

Summary

The earnings of graduates, particularly the 'graduate premium' (the additional earnings advantage conferred by a degree) is an indicator both of the productivity of higher education and of the value that society places upon particular jobs held by graduates. In terms of productivity, it has been argued elsewhere (BIS 2010) that the average increase in productivity associated with the acquisition of an undergraduate degree has a net present value of more than £200,000 over a male graduate's working life. This may well have been the case when this estimate was produced, but it does not reflect the evidence revealed here, that the relative earnings advantage associated with a degree appears to have been declining slowly over the past decade, possibly by as much as 2 per cent per annum relative to average earnings in the economy. Equally, it does not take account of the fact that not all graduate jobs are valued in the same way. The analysis undertaken here shows that those who undertook law degrees, or studied in medicine and related subjects, have experienced much less of a decline, whereas for the arts and for those who graduated from universities with low tariff access, the decline is much greater than average.

Despite these findings, we have evidence that supports the contention that a degree continues to confer a significant earnings advantage. A comparison of the earnings of those who completed their undergraduate studies with those who applied for a place but did not take it up or who did not complete their undergraduate studies demonstrates the potential scale of this effect. While there are important selection effects at work here, the comparison between these applicants to higher education, in terms of whether or not they went on to gain a degree, is a comparison between those with a desire to enter higher education and the motivation to apply.

Underlying all of the analyses shown in this chapter is a continuing and seemingly permanent finding – the fact that male graduates earn more than females. We drew attention to this in our studies of the 1995 and 1999 graduating cohorts. The same results are still in evidence some ten years later. Again, we can highlight specific sectors of the economy and types of work where the gender differential in earnings is endemic.

CHAPTER 6

What is a graduate job? Futuretrack UK graduates' labour market integration, current jobs and use of HE knowledge and skills*Current activities of graduate respondents*

Chapter 3 examined the transitions of the UK-domiciled graduates who completed undergraduate courses in 2009 and 2010 from October 2006, when most embarked on their HE undergraduate courses, until the point at which they were surveyed at Stage 4 in Winter 2011/12, whatever their route after graduation. In this chapter, we focus on that point. Table 6.1 shows, by broad subject studied, the relative proportions of UK-domiciled students who had completed full-time undergraduate degrees according to whether they were employed, full-time students, unemployed or none of these, in subject order of employment rates from highest to lowest.

Table 6.1: Distribution of main current activity by undergraduate degree subject (%)

Broad subject group of undergraduate degree	Employed*	Studying	Unemployed	Other
Medicine & Dentistry	92	6	2	0
Education	86	6	8	1
Business & Administrative Studies	84	5	10	1
Subjects allied to Medicine	82	11	5	2
Mass Communication and Documentation	78	5	14	2
Creative Arts & Design	77	7	14	2
Mathematical & Computer Sciences	76	11	11	2
Social Studies	75	10	13	2
Engineering, Technologies	74	14	10	1
Interdisciplinary Subjects	71	13	13	2
Law	69	14	14	3
Linguistics and Classics	67	16	14	3
Languages	65	18	13	3
Historical & Philosophical Studies	65	15	16	4
Biology, Veterinary Science, Agriculture & related	65	20	12	3
Architecture, Building & Planning	64	17	15	4
Physical Sciences	60	28	10	2
Total average	73	13	11	2

*Source: Futuretrack 2006, Stage 4 UK graduates only (weighted) *Employed* includes those in paid employment or self-employed.*

We can see from Table 6.1 that the subjects with highest proportions of graduates in employment at the time of the survey were those who had studied Medicine & Dentistry, Education, Business & Administrative Studies and Subjects allied to Medicine: all vocational or employment-focused courses, whereas the subjects with the highest proportions of graduates going on to further study were the Physical Sciences, followed by Biology, Veterinary Sciences, Agriculture & related subjects and Languages.

Using a multinomial logit model to look at the effects of having studied different undergraduate subjects on graduates' main current activity shows there are subject-related

differences in the likelihood of going into further study, being unemployed or doing something else, relative to being in employment, which remains significant when controlling for key demographic and socio-economic variables. Graduates who had studied Medicine and Dentistry were least likely to be unemployed, while those who had studied Historical and Philosophical Studies were more than twice as likely to be unemployed compared to graduates from Social Studies subjects.

Similarly, Medicine and Dentistry graduates were least likely to be engaged in other activities at the time of the survey relative to being employed, while no other subject had a significant effect. Women were 1.5 times more likely to have said that they were doing other activities compared to men, and those from Intermediate occupations compared to Managerial and professional occupations were half as likely to report that they were doing other things at the time of the survey.

Graduates who studied Physical Sciences were the most likely to be in further study at the time of the survey, while those who did Mass Communication and Documentation were least likely to be in further study, compared to those who did Social Studies subjects. Being from a non-white ethnic group or having at least one parent who had a degree also increased the likelihood of being in further study relative to being in employment at the time of the survey.

Using the SOC(HE)2010 classification to disaggregate the employed graduates according to type of current main job, Table 6.2 shows that this population reveals very different distributions by broad subject group across the employed graduates spectrum, and examines these more detailed patterns in relation to unemployment and other activities (which includes full-time postgraduate study). In this table, the relative proportions of graduates of each broad subject group who were unemployed at the time of the Stage 4 survey and those who took an alternative route to employment can be compared to the proportions employed in non-graduate jobs.

Table 6.2: Current occupational category or alternative activity of UK graduates in Winter 2011 by broad subject studied

	Type of current occupation or other activity					
	Expert	Strategist	Communicator	Non-graduate job	Employed, occupation not known	Unemployed Other activity
Medicine & Dentistry	92%					2% 6%
Subjects allied to Medicine	67%	0%	1%	13%	1%	5% 13%
Biology, Vet Sci, Agr & related	20%	2%	5%	37%	1%	12% 23%
Physical Sciences	29%	4%	3%	24%	1%	10% 30%
Mathematical & Comp Sci	41%	4%	8%	23%	1%	11% 13%
Engineering, Technologies	51%	2%	4%	16%	1%	10% 15%
Architecture, Build & Plan	21%	6%	5%	28%	4%	15% 22%
Social Studies	30%	6%	8%	29%	3%	13% 12%
Law	20%	4%	6%	36%	2%	14% 17%
Business & Admin studies	17%	8%	16%	41%	2%	10% 6%
Mass communication and Documentation	10%	3%	31%	34%	1%	14% 7%
Linguistics and Classics	13%	3%	15%	34%	1%	14% 19%
Languages	19%	5%	13%	26%	2%	13% 22%
Hist & Philosophical studies	18%	6%	11%	29%	2%	16% 19%
Creative Arts & Design	20%	2%	15%	37%	3%	14% 10%
Education	14%	2%	44%	24%	1%	8% 6%
Interdisciplinary subjects	20%	5%	12%	33%	2%	13% 16%

Source: *Futuretrack 2006, Stage 4 UK-domiciled graduates (weighted)*.

We see that those subjects where graduates were most likely to have entered graduate jobs relatively early in their careers are similar to those identified in previous analyses (e.g. Walker and Zhu *op. cit*; Purcell *et al.* 2005): Medicine & Dentistry, Subjects allied to Medicine, Education, Engineering & Technologies; subjects where graduates were less likely to have done so were Arts, Humanities, Languages and Interdisciplinary subjects and - to a

lesser extent - Social Studies as well as (as we will see in detail later), some areas of the Natural Sciences. However, we also see clear evidence of the impact of the recession, in the increased proportions of graduates from subject groups which previously appeared to experience more rapid integration into appropriate occupations for graduates in non-graduate jobs or unemployed: Architecture, Building & Planning, Law, Mathematics & Computer Sciences, and Education. The subject and discipline areas with the highest proportions of those in 'other activities' are those where the graduates have gone on to undertake further study or training beyond a first degree, are doing unpaid work experience or have taken a break to travel or take time out of the labour market, but as we saw in Table 6.1, the majority of this group were in full-time study.

Advantages and access to opportunity

Although the causes of simultaneously rising unemployment and skill shortages have recently been subjected to debate and the extent of alleged shortfalls in the supply of skilled labour has been questioned (for example, see Capelli 2012), graduate recruiters continue to claim shortfalls in their capacity to recruit 'appropriate talent' to fill particular graduate vacancies (e.g. Brown *et al.* 2011). Some new graduates have more career route options than others, depending on whether they could afford to spend time in unpaid work experience or were able to wait for an appropriate vacancy, felt forced to take whatever job they could in order to support themselves or dependants, or choose or have no option but to be unemployed. The underutilisation of skills has tended to receive less attention than the issue of graduates not using their degree-level qualifications. However, it is of growing concern in light of the increasing costs of HE.

The distribution of the current situation of UK graduates from different socio-economic backgrounds is shown in Table 6.3. This table shows no significant difference in the incidence of either non-graduate employment or unemployment, but there were more substantial differences in the likelihood of participation in other activities, which included unpaid work, travel and postgraduate study. These differences suggest that graduates from relatively socially advantaged background, with greater likelihood of having access to information about HE and career options, were more likely to have been able to have taken advantage of these.

Table 6.3: Situation of UK graduate respondents in winter 2011/12 by type of occupation or other current activity, according to socio-economic background

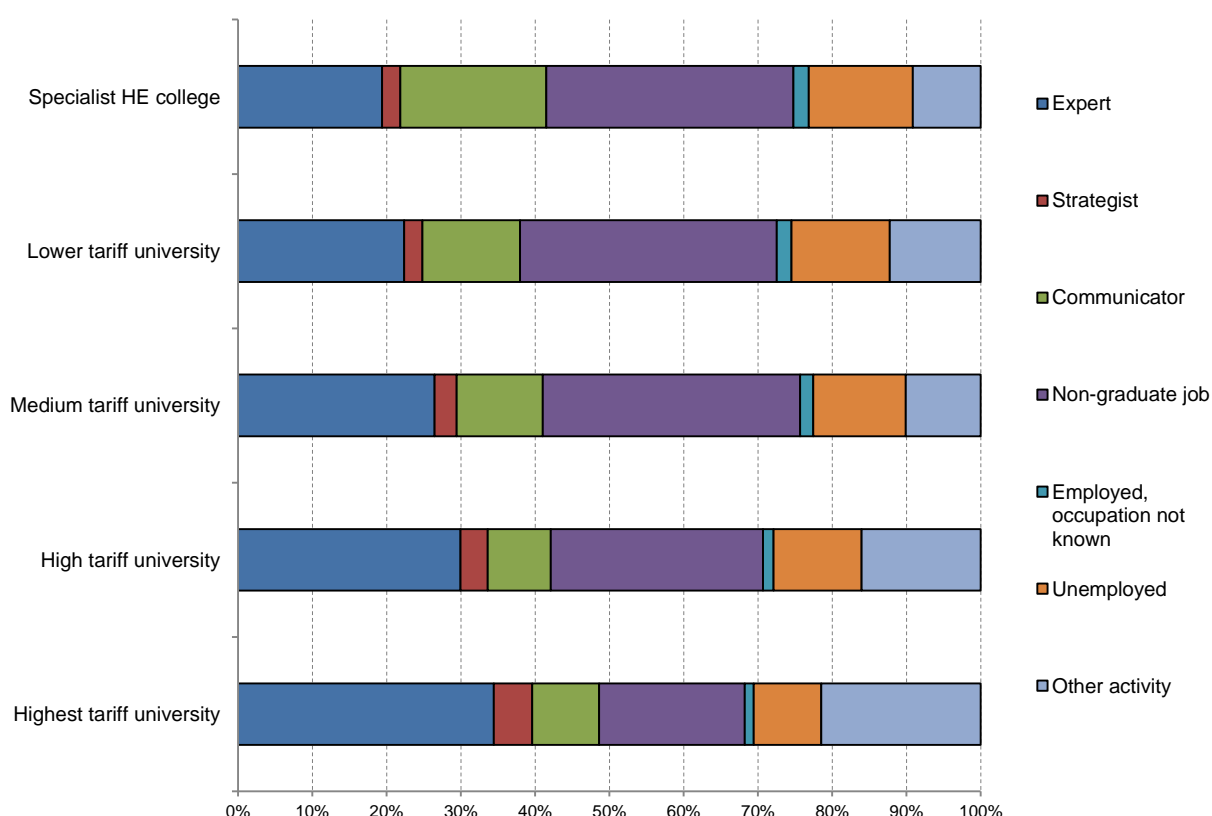
	Expert	Strategist	Communicator	Non-graduate job	Employed, occupation not known	Unemployed	Other activity
Higher managerial and professional occupations	32%	4%	11%	25%	1%	10%	17%
Lower managerial and professional occupations	29%	4%	11%	28%	2%	11%	16%
Intermediate occupations	27%	3%	11%	30%	1%	13%	13%
Small employers and own account workers	26%	4%	9%	33%	2%	11%	15%
Lower supervisory and technical occupations	31%	2%	9%	33%	1%	11%	12%
Semi-routine occupations	27%	3%	10%	31%	2%	12%	14%
Routine occupations	26%	4%	11%	33%	2%	11%	13%

Source: Futuretrack 2006: Stage 4 respondents who were UK-domiciled graduates (weighted)

Figure 6.1 depicts how this pattern of cumulative advantage and disadvantage is further borne out by the relationship between the type of HEI from which the degrees were awarded and the outcomes by Stage 4, reflecting of course the different population profiles within

these categories in terms of the variables above. As at earlier stages of the research we see those from the highest tariff universities being most likely to have entered Expert occupations and the SOC(HE)2010-defined graduate occupations as a whole, followed by those who attended high tariff, medium tariff and specialist HEIs. In these cases, there were no significant differences in the proportions accessing graduate jobs, but there are different distributions among these categories. Those from the medium tariff universities and specialist HEIs demonstrated a similar propensity to the low-tariff university graduates to be in non-graduate jobs or unemployed. An exploration of the types of jobs done by graduates with different educational and subject-related knowledge and skills will be reported later in this chapter, but the broad patterns of outcome are described in the section that follows.

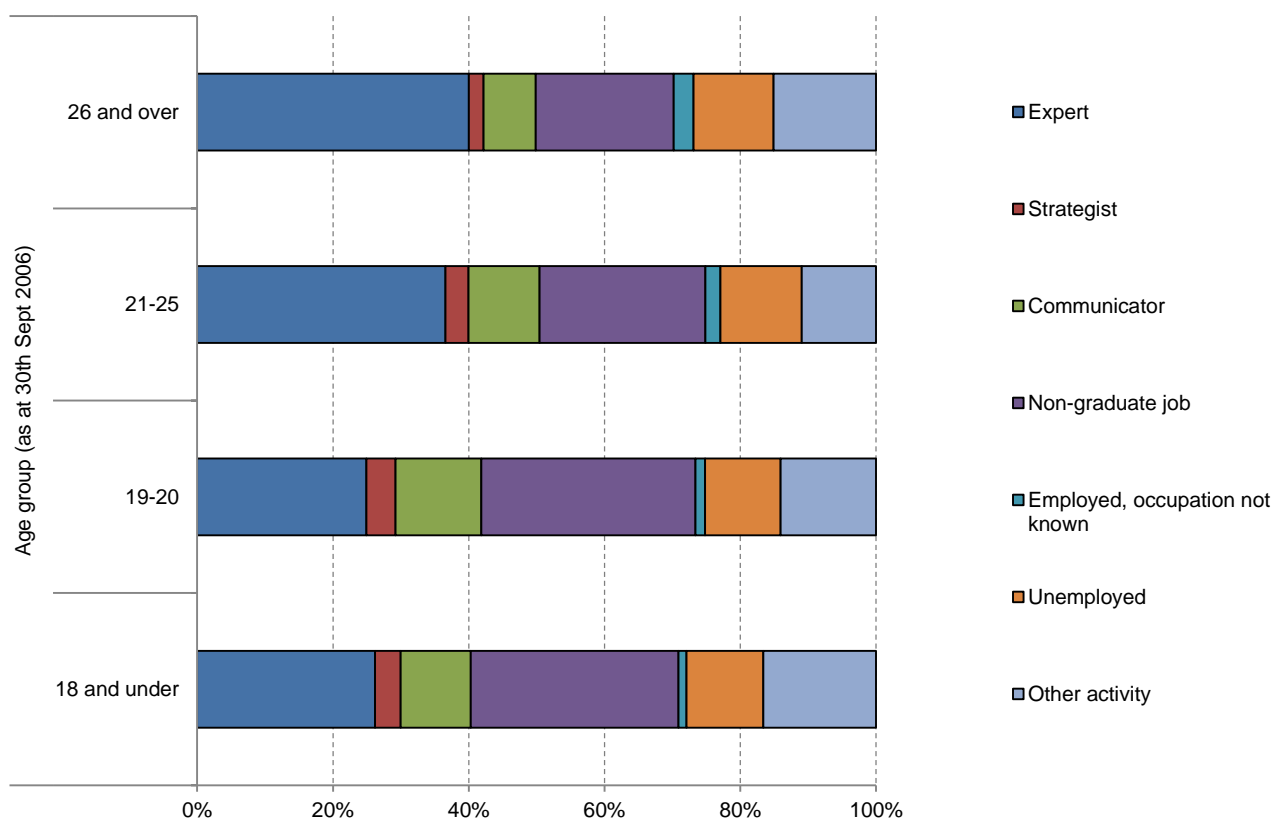
Figure 6.1: The situation of UK graduate respondents in winter 2011/12 by type of HEI attended



Source: Futuretrack 2006: Stage 4 UK-domiciled graduates (weighted).

Figure 6.2 depicts the association between age-group and enrolment, which is consistent with the findings at earlier stages of the survey that mature students had a clearer career plan and have entered HE with motivations related to occupation or career.

Figure 6.2: Situation of UK graduate respondents in winter 2011/12 by age on enrolment to full-time undergraduate course



Source: Futuretrack 2006 Stage 4 UK-domiciled graduates (weighted).

Figure 6.2 shows that those who enrolled as full-time students when they were older than 25 were most likely to be in Expert occupations, followed by the 'young mature' graduates, with the younger groups progressively more likely to be engaged in one of the other possible non-paid work activities and to have postponed or failed to access graduate jobs by Winter 2011/12. These patterns illustrate the patterns of access found in the activity history multivariate analysis undertaken, discussed in Chapter 3.

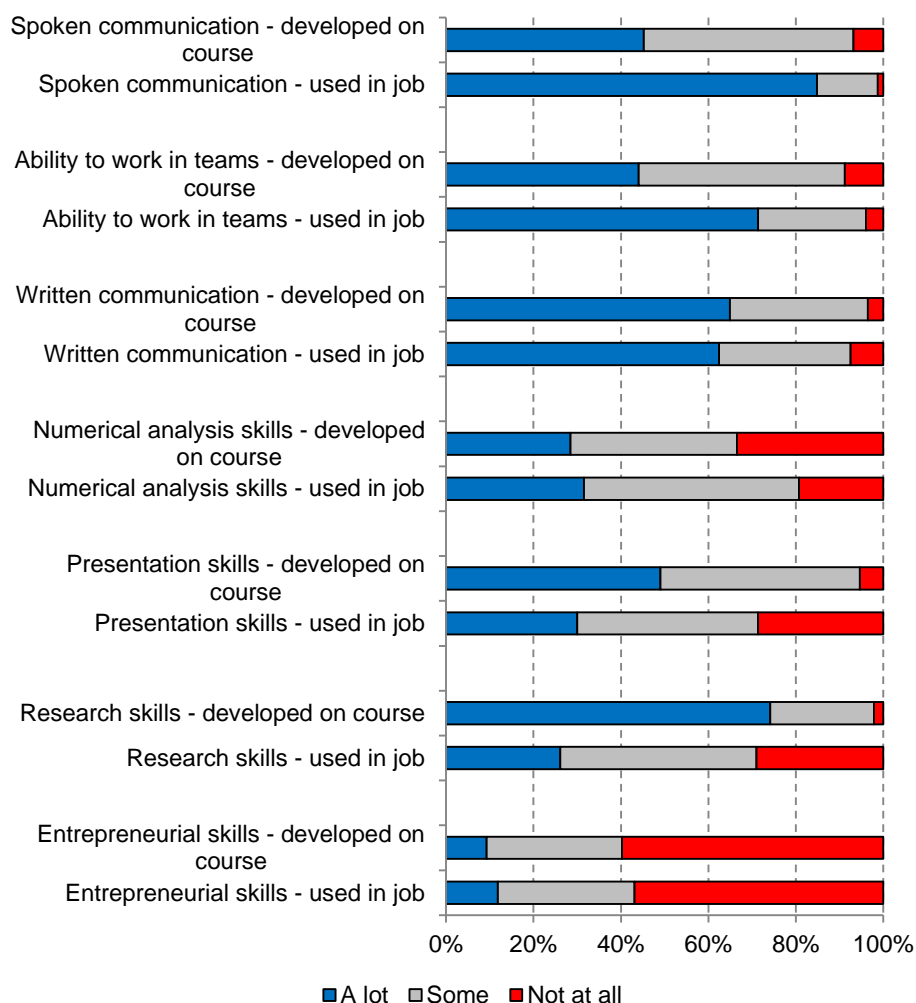
Qualifications, skills and the demand for graduate labour

Those with degrees have remained consistently less likely than lower-qualified job-seekers to be unemployed throughout the recession, but graduate unemployment has been growing in recent years, along with increasingly high rates of unemployment generally, which have increased particularly rapidly among young people and women (TUC 2012). For more than a decade, though, research on skills use in employment has revealed under-utilisation of skills alongside skills shortages and skills gaps, and a great deal of research and analysis has been invested in the identification of graduate 'underemployment' and 'over-education'. There has been much debate about whether HE equips students and graduates with the skills they need to be able to access a graduate job and fulfil the requirements of such jobs. Surveys of employers have indicated that there are deficits in particular key areas, to the extent that this has affected employers' ability to recruit suitably skilled and qualified graduates. These are not new findings. In 2006, Gillinson and O'Leary found that 54 per cent of recruiters thought that it was becoming increasingly difficult to find the right graduates with 'the right skills' (p.13), while a 2009 survey by the Association of Graduate Recruiters discovered that 38 per cent of employers were struggling to find suitable graduate recruits, despite the recession, and that graduates lacking appropriate skills was 'one of the greatest recruitment challenges' (reported in Ace Research 2009). Half of the companies surveyed

by the Confederation of British Industry (CBI) reported that they were not confident that they would be able to fill graduate-level posts in the following few years (CBI, 2010).

Futuretrack Stage 4 graduates were asked about the extent to which they had developed different skills on their course 'a lot', 'some' or 'not at all' and whether they used these skills in their current job 'very much', 'some' or 'not at all'. Figure 6.3 shows the extent to which graduates had developed selected skills on their undergraduate courses and how much they use these skills in their current job.

Figure 6.3: Comparison of the extent to which graduates had developed particular skills on their undergraduate courses and used these skills in their current job



Source: Futuretrack 2006 Stage 4: UK graduates currently in employment (weighted).

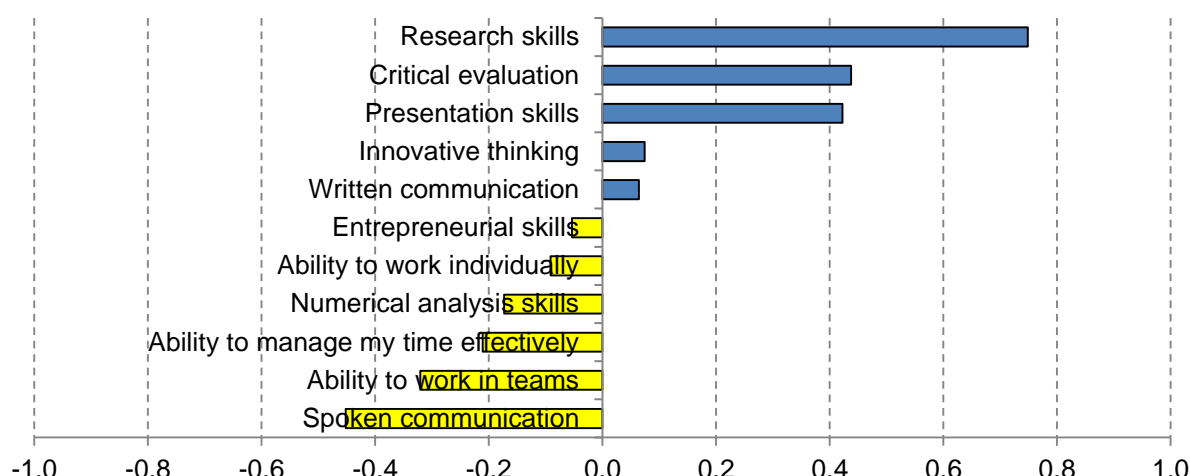
Figure 6.3 reveals that the biggest discrepancies respondents perceived between skills least likely to have been developed in undergraduate courses and required in jobs were not those where fewest graduates believed they had acquired them on their courses. Fewer graduates thought that they had developed entrepreneurial skills or numerical analysis skills very much (9 per cent and 29 per cent) or some (38 per cent and 31 per cent) on their courses, but the discrepancies between development and use among those in employment were relatively low in both cases compared to the more 'academically' based skills and soft skills. The proportion who used entrepreneurial skills a lot or some in their current job (12 per cent and 31 per cent) shows the lowest difference between supply and demand, and the relatively larger proportions in the case of numerical skills (32 per cent and 49 per cent), may

indicate greater cause for concern, but as Figure 6.3 shows, is far from being the most substantial mismatch.

Figure 6.4 shows the average difference between the scores graduates gave to their HE development of the skills and use of these skills in their current jobs. As can be seen, the skills can be divided into two groups based on the gap between development and use of skills. Skills at the top of the graph are the ones graduates developed more on their courses than used in current jobs, and skills at the bottom are those that graduates said they used more in their current job than they had developed on their courses. All of these evaluations are subjective and the concepts in question open to widely different interpretations, but the findings echo those of earlier research and suggest that the perceptions of graduates about the mismatches between skills developed and required in their employment have not changed dramatically. Similarly, graduates' perceptions of employers' requirements and priorities for the skills selected for the discussion in this chapter have not changed. The good news, perhaps, is that the skill most in demand - spoken communication, team-working skills, numeracy and entrepreneurial skills - may have been developed more on courses; and those least demanded – research skills – developed less¹⁸. For research, critical evaluation and presentation skills, all of which are a core element of much undergraduate HE provision, graduate perceptions of what they learned and what they have been required to use in employment show the biggest gaps. Spoken communication, team-working and ability to manage time (presumably on a day-to-day basis to a greater extent than was the case on most undergraduate courses) were less likely to have been explicitly developed across the full spectrum of subjects and disciplines, and required in virtually all employment contexts to a greater or lesser degree.

¹⁸ As discussed in previous chapters, the findings of the *Class of '99* survey cannot be reliably compared with those from the Futuretrack sample without careful selection of sub-samples from both surveys, but it is worth comparing the findings discussed on this issue (-see Purcell *et al.* 2005, Chapter 3 and particularly, Figure 3.11).

Figure 6.4: Difference between skills graduate developed on their undergraduate courses and skills graduates used in the current job



Source: Futuretrack 2006 combined dataset: UK graduates currently in employment (weighted).

*To create this figure a scale based on the same conceptual distribution to evaluate the extent of development and use of these slightly more detailed selected high-level competences was created, where 'a lot' was assigned a value of 3, 'some' 2 and 'not at all' 1.

A shortfall in the extent to which they had acquired, or been given sufficient opportunity to develop numerical skills was nevertheless one of the most frequently cited reasons for dissatisfaction cited by the STEM-subject graduate respondents' dissatisfied with their choice of course.

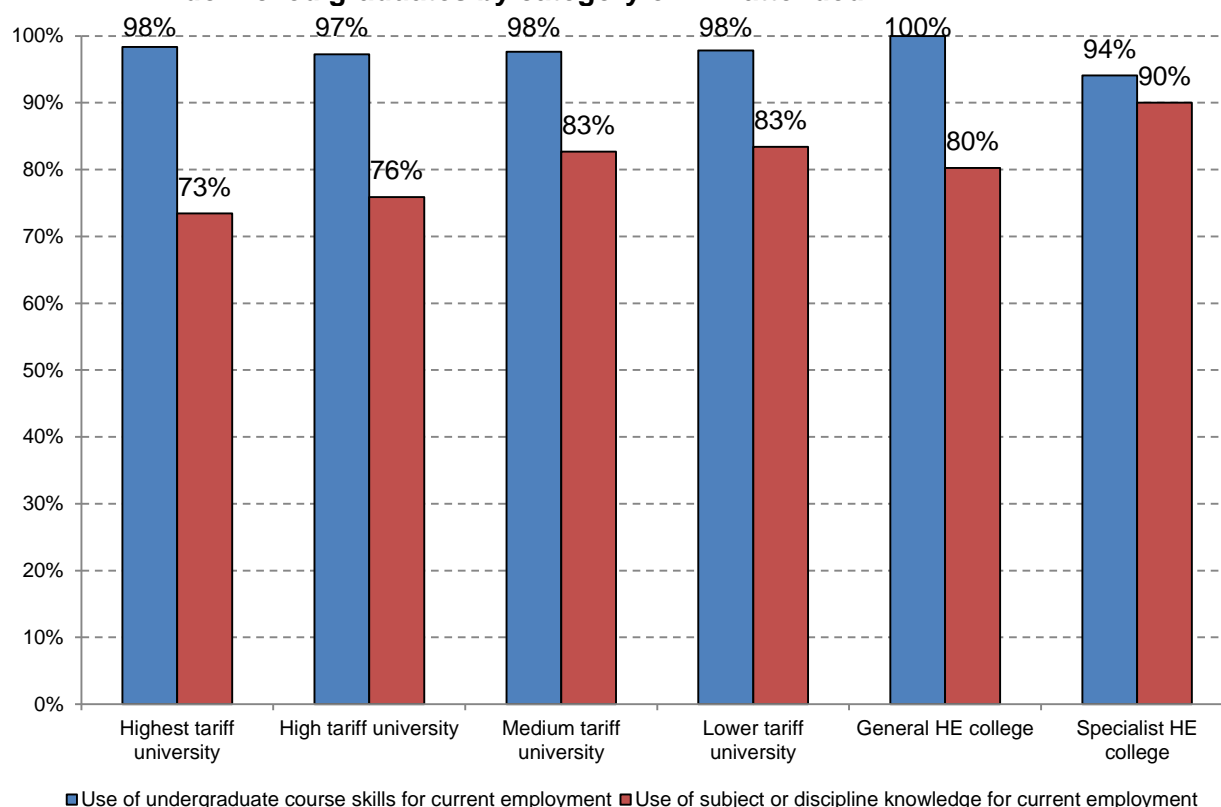
"Mathematical skills did not get enough emphasis during the course. We didn't complete some parts of Maths that other people do in universities around the world" [Engineering and Technologies, Highest tariff university]

The extent to which graduates considered they had developed different skills on their courses was related to the subjects they had studied, and the extent to which graduates were required to use these skills in their jobs reflects this.

As has been revealed by responses at earlier stages of the survey, not all graduates from across the range of subjects developed the full spectrum of these skills, and not all of them were studying subjects with the same labour markets or jobs in mind, or considered the same range of career options. Two other variables found to be significantly associated with outcomes and earnings were category of HEI from which their degrees had been awarded and gender, and we make a preliminary examination of these in relation to use of knowledge and skills. When we look at answers about these separately in relation to the graduates'

current job at the time of the Stage 4 survey in Figure 6.5, we get the initially surprising finding that there are not wide differences between institutions according to the tariff-based entry criteria that we developed as an alternative to the initial 'Russell Group' classification. On closer consideration, however, on the basis of the points made at the start of this paragraph and the known differences between the profile of courses offered by these different types of institutions, the differences that we see are highly plausible.

Figure 6.5: Use of HE knowledge and skills in the current job of employed UK-domiciled graduates by category of HEI attended



Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted).

In the same way, high proportions of graduates across the jobs spectrum claimed to be using the knowledge and skills they had acquired as students in their current occupations, with almost all the SOC(HE)2010 categories of graduate job-holders claiming to be using their HE skills, with 89 per cent of experts, 61 per cent of strategists and 80 per cent of communicators also claiming to use their undergraduate subject knowledge. This subjective evaluation by the graduates themselves undoubtedly means very different levels of achievement and transferability of skills and knowledge in different areas of undergraduate learning, and different degrees of use and requirement among occupations, as is discussed later in this chapter, but they may also be indicative of the possibility that employers have to use underemployed graduates able to carry out tasks and take responsibilities beyond their paid-for job specifications. Graduates value jobs which offer interesting and challenging work and continual skills development and, in the current economic climate, are likely to be attracted by these to provide them with useful experience of employment and the opportunity to create evidence of developing employability skills, even in jobs which do not require their qualifications or recognise these in the payment structure.

Knowledge, skills and the significance of subject studied

When asked about the skills they thought they possessed on graduation, approximately 75 per cent of the UK-domiciled graduates believed that they had all the skills employers were looking for *when recruiting for the type of job they wanted*, and across the full range of subjects, only 62 per cent believed that they were using their undergraduate course skills in their current job. Similarly, 61 per cent of graduates currently in employment thought that their job was appropriate for someone with their skills and qualifications.

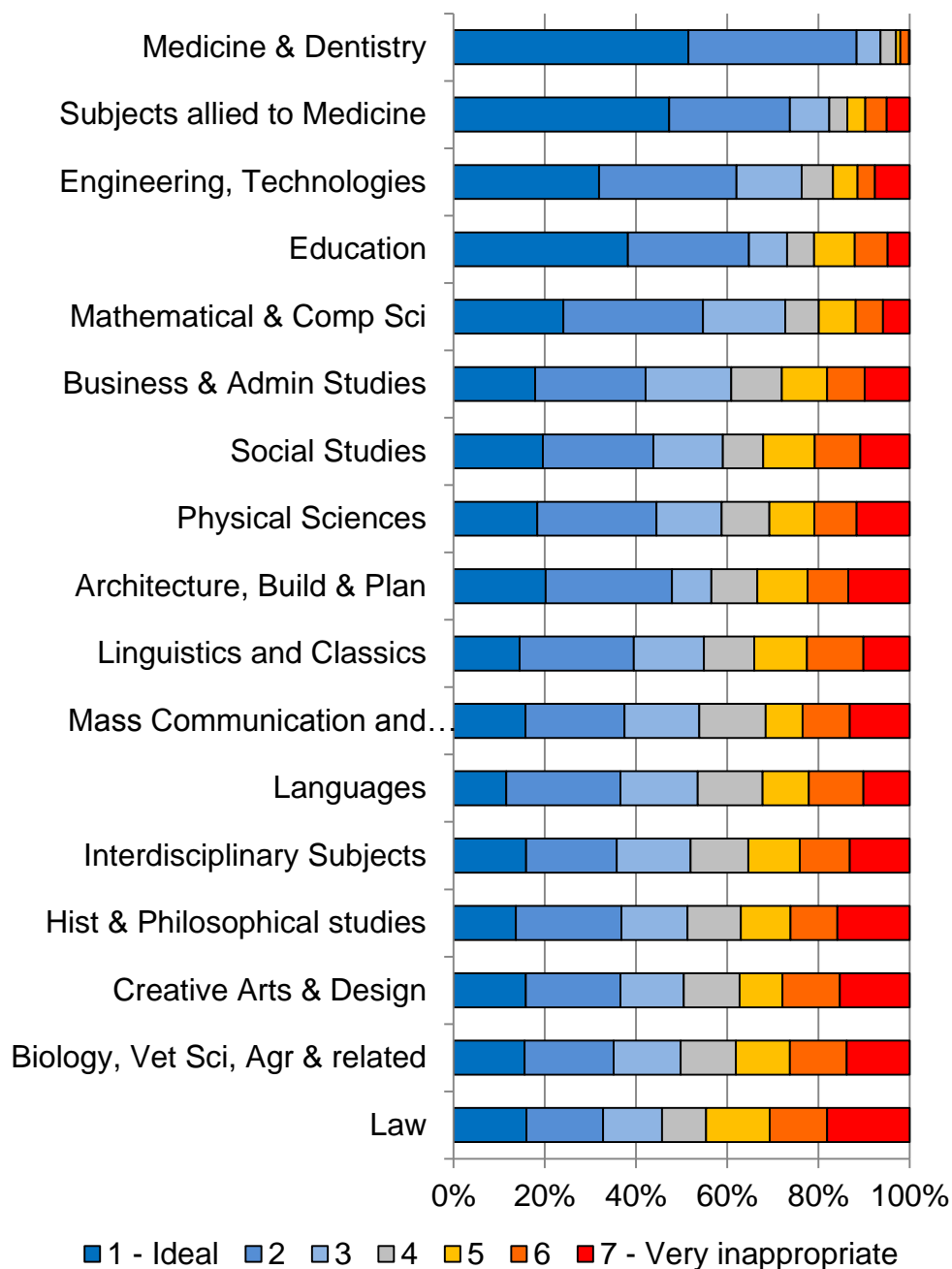
Figure 6.6 shows that, overall graduates from STEM and other numerate subject groups were most likely to agree to some extent that their current job was appropriate. Conversely,

graduates from Arts subjects were among the least likely. Very often, possession of a relevant qualification is regarded as adequate proof for entry into employment that utilises technical skills, whereas broader competences and potential are more difficult to assess from interviews, or even individual or team exercises designed to provide evidence of aptitudes and potential. Lexmond and Bradley (2010) have found that graduates have less difficulty demonstrating that they have technical skills than they do demonstrating that they have softer skills to contribute to their effectiveness in employment. However, underutilisation of skills was not limited to softer, more generic skills. In 2006, CIPD found that only 54 per cent of respondents who graduated in 2005 were using the technical or specialist skills they gained in HE in their current job.

Figure 6.6 also shows that graduates of three subject groups (Creative Arts and Design, Biology, Veterinary Science and Agriculture, and Law) had the lowest proportions who believed that their job was appropriate for someone with their skills and qualifications. A high proportion of graduates from these subject groups reported that they had been unable to use their skills either appropriately or at all in their current job.

“I may have a first class degree from [HEI] but when people ask what in, their ears immediately switch off. It makes me sad. I have been offered apprenticeships, as if I have no real world experience, which is not true as I have done a lot of volunteer work and work experience. [...] [I] am considering re-training in midwifery. I do not want to re-train, I want to use my degree, which I loved and which gave me lots of skills” [Creative Arts and Design, Highest tariff University]

Figure 6.6: Appropriateness of current job for someone with the graduate's skills and qualifications by broad subject group



Source: Futuretrack 2006 combined dataset: UK graduates currently in employment (weighted).

Some graduates choose to move into jobs which do not use their subject-specific knowledge and skills, as was found by the Stage 3 surveys¹⁹. However, in 2010, CIPD found that 59 per cent of employees who had graduated in the past two years were not working in a field or profession related to the degree they studied, and 58 per cent of these graduates said that the reason for this was that they could not find a suitable job (CIPD 2010a). High Fliers Research (2010) discovered that a third of graduates said that in the current economic climate they would have to accept any job they were offered, and one in six said that they

¹⁹ e.g. See Atfield and Purcell (2010:18-22).

had applied to employers in which they were not really interested. This was also apparent from responses at Stage 4.

“My course, although interesting, has not helped me in any way to start a career. I am currently in a job that I could have got without going to University” [Social Studies, High tariff university]

“My degree did not give me an advantage in seeking employment and I went into full time work at a job which did not require degree-level education” [Linguistics and Classics, Highest tariff university]

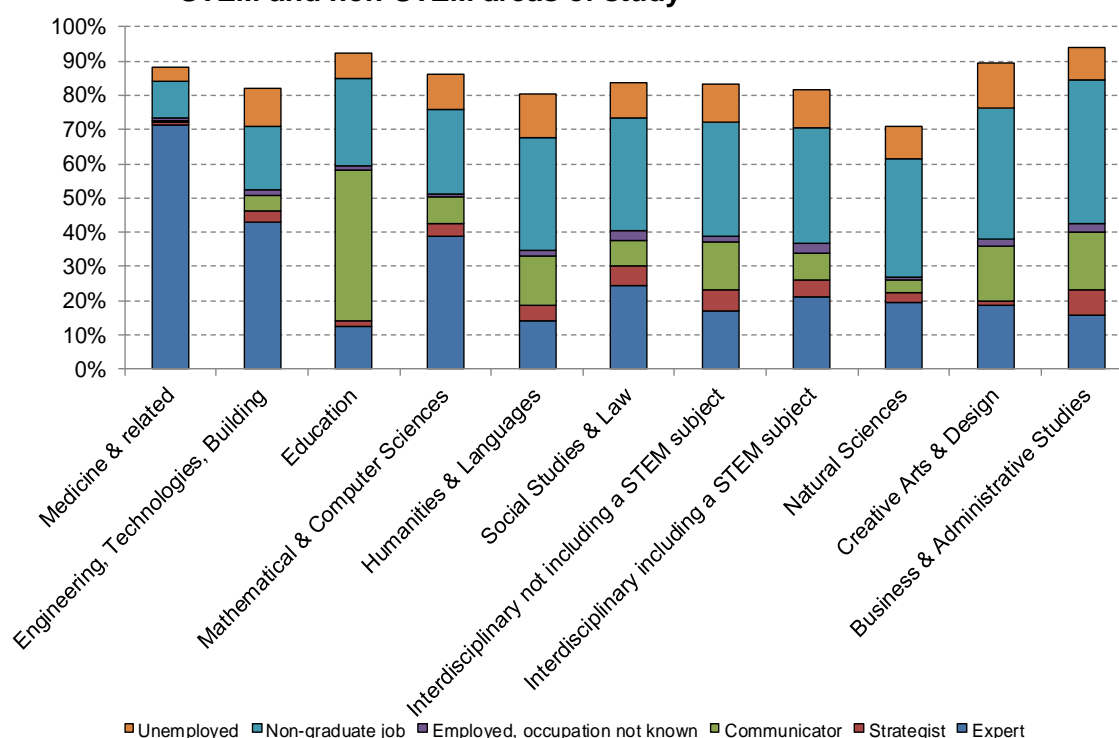
Given that it is government policy²⁰ to prioritise public investment in the Science, Technology, Engineering and Mathematics (STEM) subjects it is worth looking more closely to see if doing a STEM course had affected graduates' outcomes. To make a first attempt at this, we use a slightly different broad grouping of subjects that aggregates the broad categories of subjects in a way that distinguishes those with at least an element of numerical skill development²¹, to see if those graduating with degrees in these subjects between Summer 2009 and 2011 were more likely to have been recruited into graduate jobs and less likely to be under-employed or unemployed when surveyed in Winter 2011/12.

Figure 6.7 indicates both expected and unexpected differences in outcomes of broad courses classified in this way.

²⁰ <http://www.bis.gov.uk/news/topstories/2010/Oct/BIS-CSR>

²¹ To achieve this, we have grouped subjects in such a way as to enable us to distinguish between subjects and disciplines with a significant Science, technology, engineering and mathematics (STEM) component and those without. The most widely-used definition of STEM subjects identifies the broad JACS groups of A (Medicine and Dentistry), B (Subjects allied to Medicine), C (Biological Sciences), D (Veterinary Sciences, Agriculture and related subjects), F (Physical Sciences), G (Mathematical and Computer Sciences), H (Engineering), J (Technologies), K (Architecture, Building and Planning), and Interdisciplinary courses composed of two or more STEM subjects. Non-STEM subject groups include L (Social Studies), M (Law), N (Business and Administrative Studies), P (Mass Communications and Documentation), Q (Linguistics, Classics and related subjects), R (European Languages, Literature and related subjects), T (Eastern, Asiatic, African, American and Australasian Language, Literature and related subjects), V (Historical and Philosophical Studies), W (Creative Arts and Design), X (Education), and Interdisciplinary courses composed of two or more non-STEM subjects.

Figure 6.7: Comparison of the labour market status distributions of economically-active graduates, grouped to distinguish subjects widely classified as STEM and non-STEM areas of study



Source: Futuretrack 2006 Stage 4 UK-domiciled graduates (weighted)

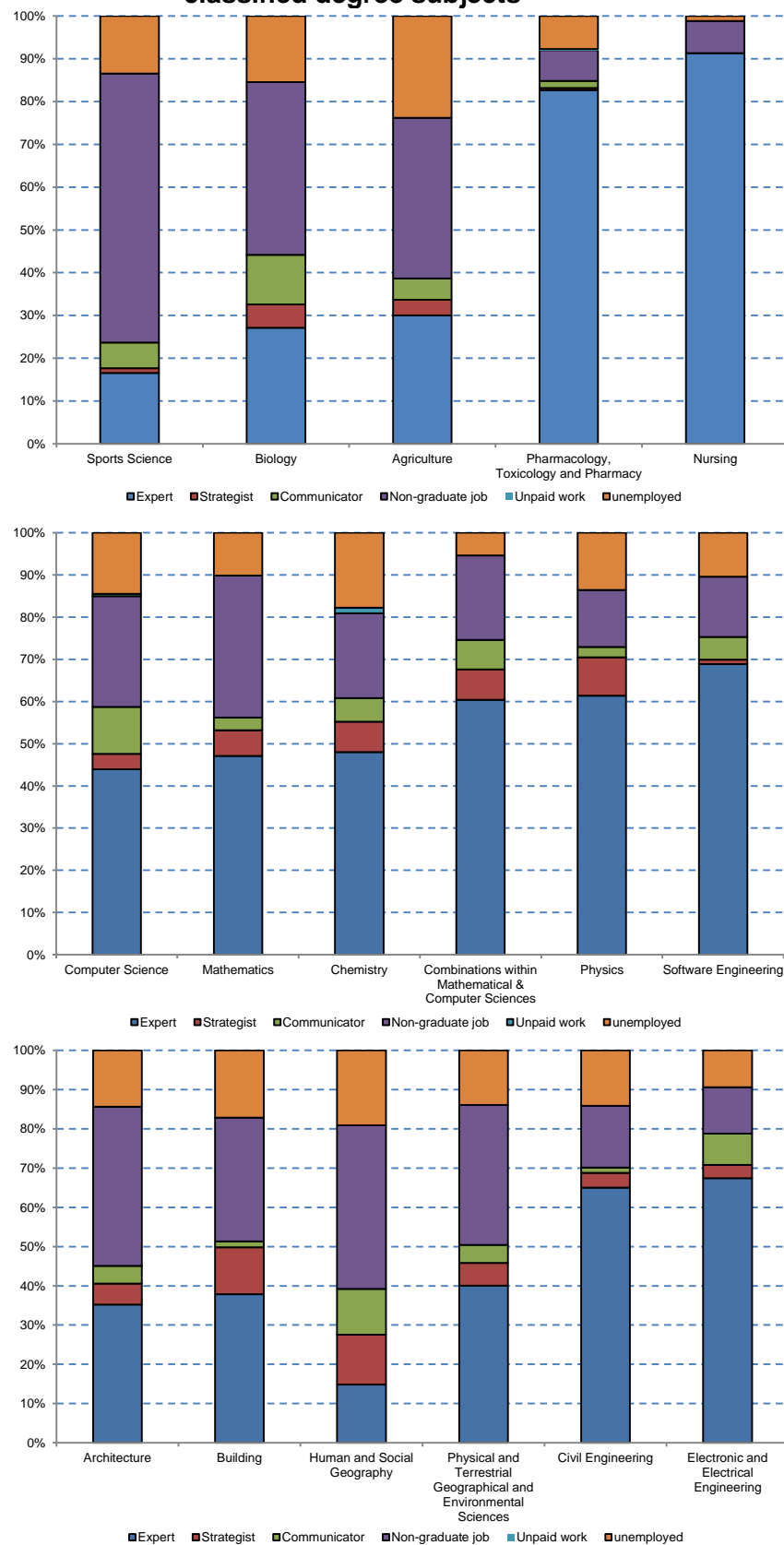
Figure 6.7 reveals that Medicine and related graduates, Engineering and Mathematics and computing graduates were among the most likely groups to have accessed graduate employment, but graduates from the other main vocationally-orientated subject, Education, were second highest to do so, and overall, graduates from the broad area of Natural Sciences were least likely to have done so. Interdisciplinary subjects with a STEM component did marginally less well than non-STEM interdisciplinary courses. This illustrates the important finding that broad subject areas in themselves are a poor guide to the development of transferable knowledge and skills or 'employability' skills.

It is worth looking more closely at the range of difference in labour market outcomes, and the relationships between non-graduate employment and unemployment, across the spectrum of both STEM and non-STEM broad subject areas. In Figures 6.8 and 6.9 we compare subjects within two sets of three broadly coherent grouped disciplinary areas: Medical and Biological Sciences, Physical Sciences, Mathematics and Computing, and Engineering; Environmental Sciences and subjects related to Architecture in Figure 6.8; and Social Studies, Law and History, Business Studies and Education, and selected Arts and Humanities subjects in 6.9. The subject comparisons are interesting and will be followed up subsequently by closer examination of the specific SOC(HE)2010 job categories that graduates of different subject areas have accessed.

When considering these, it is important to bear in mind the distribution of graduate completers as a whole, composed of those who were economically active and those who had gone on to further study and those who had spent longer and shorter periods in the labour market since graduation, as discussed in Chapters 2 and 3 and shown at the beginning of this chapter in Table 6.1. From some of these subject groups (for example, Architecture), most who had graduated by Winter 2011/12 had completed atypical courses within the subject which were shorter than the full professionally-orientated courses, and had a more limited curriculum and objectives. Where respondents had done courses longer than

four years, they were consequently very recent recruits to the labour market. It has not been possible to create a more refined STEM/non-STEM classification in the time available between the full checking and coding of the subject groups within the broad groupings before the analysis for this report, but we have made a start on this and will develop it further using the Stage 4 findings.

Figure 6.8: Current labour market situation of graduates, comparing selected STEM classified degree subjects



Source: Futuretrack 2006: Stage 4 all economically-active UK-domiciled graduate respondents in the selected subject areas (weighted)

Figure 6.8 shows wide discrepancies in accessing SOC(HE)2010-defined graduate jobs among subjects commonly included in the STEM category. Ranging from the most directly-vocational degree courses, Nursing and the Pharmacology group of courses, through some of the Engineering sub-groups, we find a wide difference between those in non-graduate categories or unemployed in Biology, Mathematics, Physical and terrestrial geography and Architecture, and worryingly low graduate employment among those who studied Sports Science and Agriculture. Graduates with Human and Social Geography degrees, classified as a Social Studies subject rather than within the STEM-classified sciences group, had been less successful in accessing graduate jobs than their STEM-classified Physical Geography peers by Winter 2011/12.

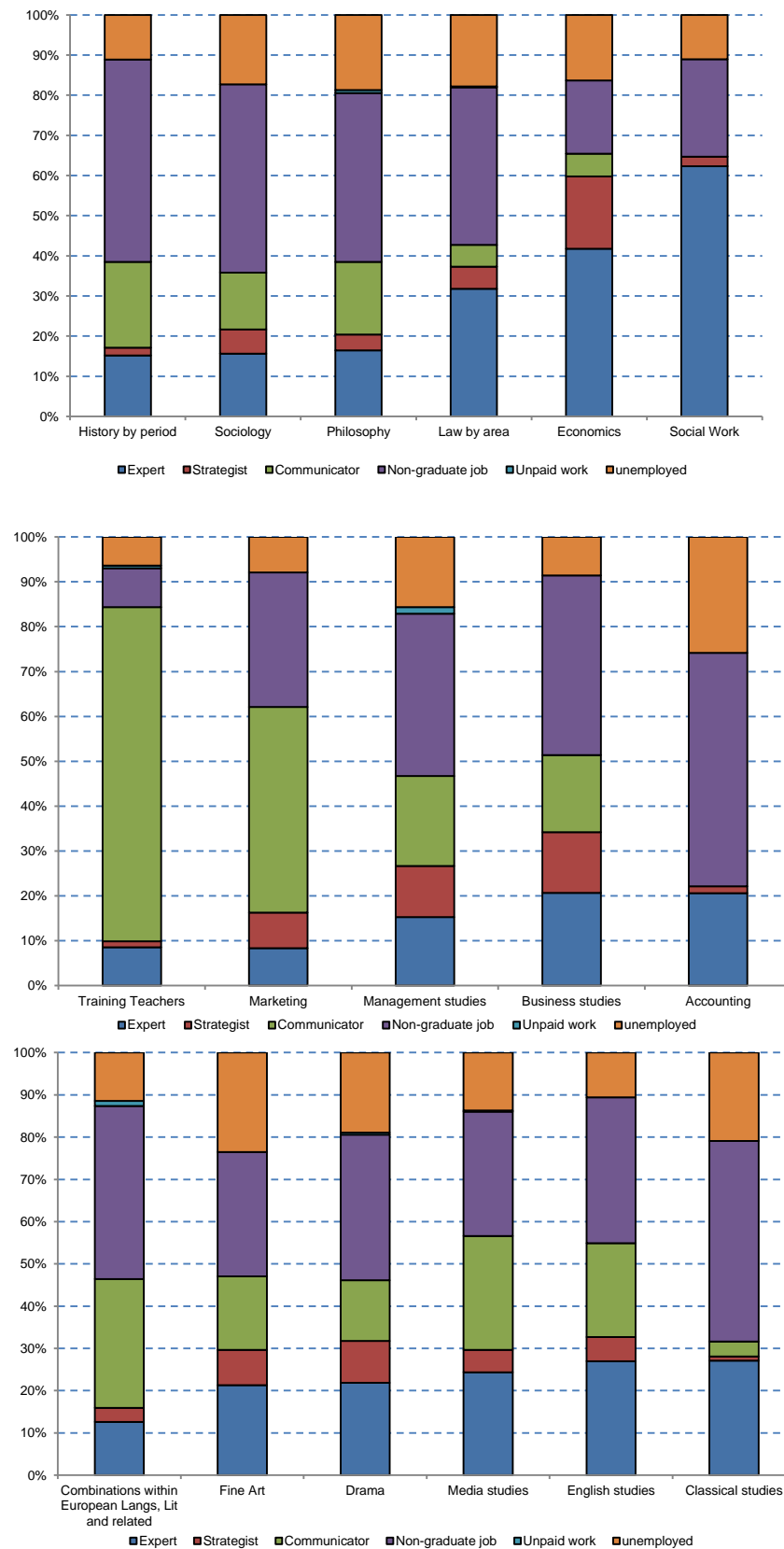
Figure 6.9 illustrates the even more diverse range of non-STEM subjects, comparing Social studies and Humanities, Business & Administration Studies and the largest group of Education graduates (who had studied for an undergraduate teacher-training degree), as well as the most popular Arts and Languages undergraduate courses. We find a wider dispersion among the SOC(HE)2010-defined types of graduate jobs, so that, although a significantly higher proportion of graduates in the large non-STEM subject groups have been associated in the past with a lower probability of early integration to graduate occupations, the lowest is the STEM-classified subject of Sports Science and less than half of the graduates in the labour market in three of the other large STEM subjects had accessed graduate jobs. Table 6.4 shows the percentage of graduates accessing graduate jobs where our information indicates that 50 per cent or less of their economically-active graduates had entered graduate employment, in reverse order.

Table 6.4: Economically-active graduates in selected subjects where graduates were least likely to have accessed SOC(HE)2010-classified graduate jobs, from lowest to highest

SUBJECT STUDIED	STEM/ Not STEM	Percentage in graduate jobs
Sports Science	STEM	22%
Accountancy	Not STEM	23%
Classical Studies	Not STEM	31%
Sociology	Not STEM	36%
Agriculture	STEM	37%
History by period	Not STEM	37%
Philosophy	Not STEM	38%
Social and Human Geography	Not STEM	40%
Law	Not STEM	43%
Biology	STEM	44%
Architecture	STEM	45%
Combinations within European Languages	Not STEM	46%
Drama	Not STEM	46%
Fine Art	Not STEM	47%

Source: Futuretrack 2006, Stage 4, selected subjects as indicated (weighted)

Figure 6.9: Current labour market situation of graduates, comparing selected degree subjects classified as non-STEM



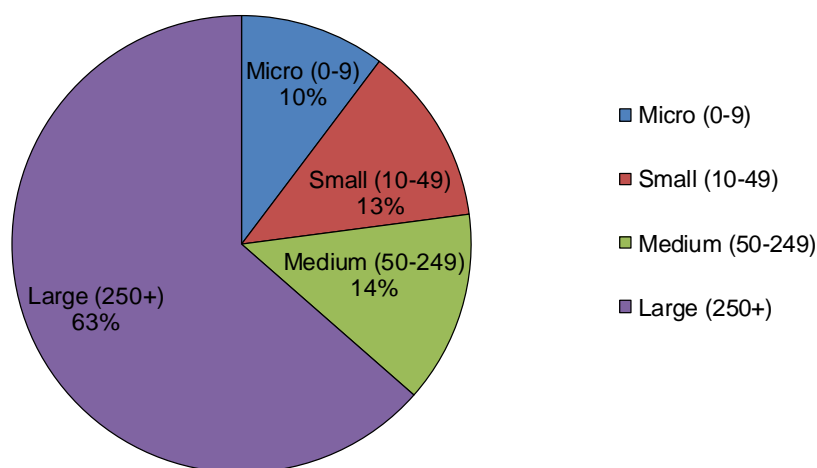
Source: Futuretrack 2006: Stage 4 all economically-active UK-domiciled graduate respondents in the selected subject areas (weighted)

The organisations and industries where the Stage 4 graduates worked

With the growth of the graduate labour supply, one of the most closely-monitored trends has been the extent to which small and medium organisations (SMEs) have increasingly recruited graduates. Research on this topic in the past has been limited, mainly to relatively small studies or to analyses of aggregated national sectoral statistics (Luchinskaya 2012). The Futuretrack survey allows for a considerably more detailed and revealing exploration and analysis of 2009 and 2010 graduates who have worked or continue to work in SMEs and the impact on their career development and other outcomes. In this report, we present a broad overview of the size distribution of the organisations in which the Stage 4 graduates in employment worked. Figure 6.10 shows this for all employed Stage 4 graduate respondents.

Figure 6.10: Distribution of Futuretrack graduates in employment by total number of employees in the organisation²²

In what sizes of businesses are the Futuretrackers employed?



Source: Futuretrack 2006, Stage 4 graduate employed and self-employed respondents, including those who had gone on to gain postgraduate qualifications (weighted).

Nearly two-thirds of graduates were employed in large organisations, 10 per cent in micro-companies employing less than 10 employees, 27 per cent almost equally divided between small and medium organisations. The majority of employed graduates of Medicine (91 per cent) and of Subjects allied to Medicine (84 per cent), and nearly three-quarters of Engineering & Technologies graduates were employed by large organisations, whereas more than half of graduates in Architecture, building & planning (54 per cent), Creative Arts & Design (56 per cent) and Education (57 per cent) worked for an SME.

In the multivariate analyses conducted for Chapters 3 and 5, it was established that the most significant variables associated with having a graduate job and earning a relatively high salary, taking account of all the variables associated with these outcomes, were job-related variables, subject studied and gender rather than socio-economic variables *per se*. Later in this chapter, the same variables were found to be significantly related to having accessed

²² For this and the analyses that follow 'organisation size' is the total size of the employer by numbers of UK employees (self-reported by Futuretrack respondents), not the establishment size of the organisation at which individual graduates were based (workplace size). Analyses by the latter variable are also being undertaken.

‘exactly the job I wanted’. In the series of preliminary exploratory analyses that follow, we carry out some bivariate analyses between these variables to attempt to unpack some of the interrelated relationships among current jobs, broad industrial and organisation sectors, the proportion of graduates in occupations, gender and subjects studied. We begin by examining the characteristics of graduates employed in the different broad organisational types, and then by broad industry sectors.

Table 6.5 contrasts the different distributions by broad organisational of current occupation the UK graduates’ broad degree subject groups.

Table 6.5: Broad sector of organisational type by broad subject group studied, currently employed UK Stage 4 graduate respondents

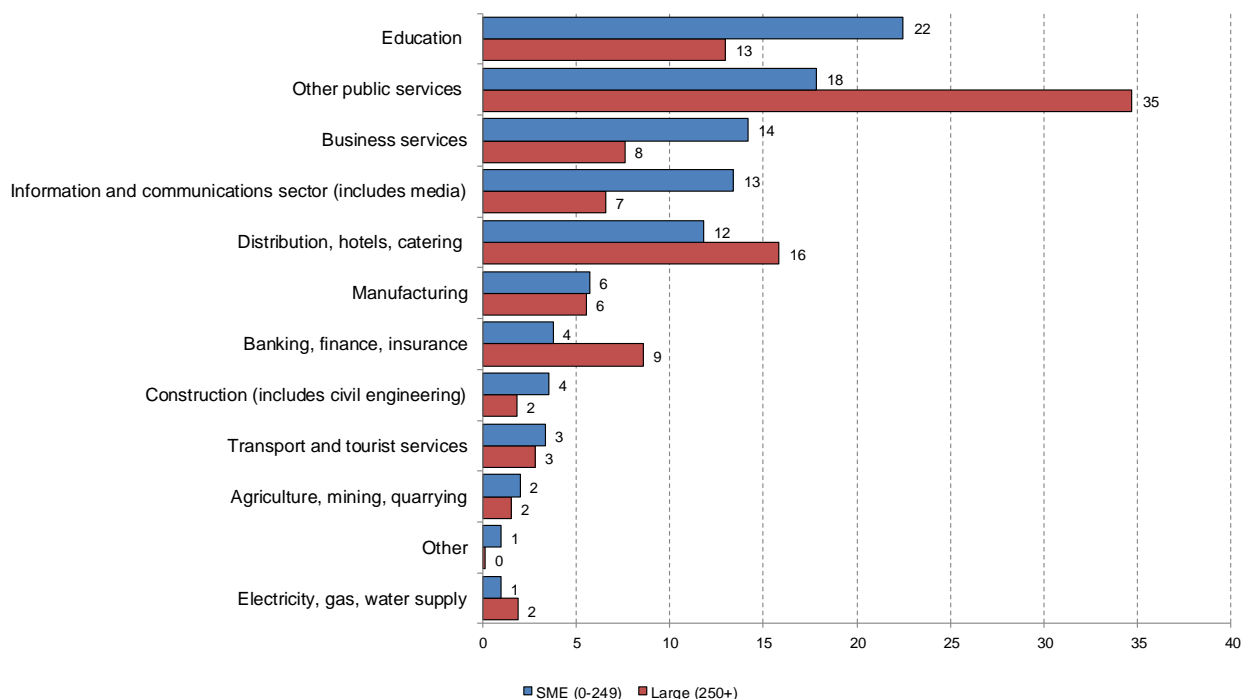
	Public sector (%)	Private sector (%)	Not-for-profit sector (%)	Other (%)
Medicine & Dentistry	99	1		
Subjects allied to Medicine	77	19	3	0
Biology, Vet. Sci, Agriculture & related	33	55	11	1
Physical Sciences	27	67	5	1
Mathematical & Comp Sciences	19	78	3	
Engineering, Technologies	13	84	2	1
Architecture, Build & Plan	19	76	5	
Social Studies	40	44	16	0
Law	16	75	9	
Business & Admin Studies	13	81	5	1
Mass Communication and Documentation	19	74	6	1
Linguistics and Classics	29	60	10	1
Languages	23	72	5	0
Historical & Philosophical Studies	28	57	14	1
Creative Arts & Design	20	70	9	1
Education	73	21	6	0
Interdisciplinary Subjects	26	63	9	1
All graduates in employment	34	58	8	1

Source: Futuretrack 2006 Stage 4 survey, UK graduates currently in employment (weighted)

Table 6.5 shows, not surprisingly, that graduates of Medicine & Dentistry, Subjects allied to Medicine and Education were most likely to be in Public Sector employment, while those in Business & Administration, Engineering & Technologies, Mathematical & Computing Sciences, Architecture, Building & Planning, Law, Mass communication & Documentation, Languages and Creative Arts & Design were most concentrated in the Private Sector. The highest proportion of graduates in the Not-for-Profit sector (between 10 and 16 per cent) studied Social Studies, Historical & Philosophical Studies and Linguistics and Classics. The proportion not classified in any of these is comprised of the small numbers of respondents in each subject group for whom we do not have organisational sector data. The figures that follow showing the distribution of various graduate employees’ characteristics and attributes need to be interpreted with the broad organisational type sectoral distribution in mind.

How did the industry sectors in which the graduates were currently employed vary by organisational size? Figure 6.11 shows this, with the percentage of graduates employed in SMEs in decreasing order.

Figure 6.11: Comparison of the distribution of graduates employed in different sectors, by SMEs and large companies



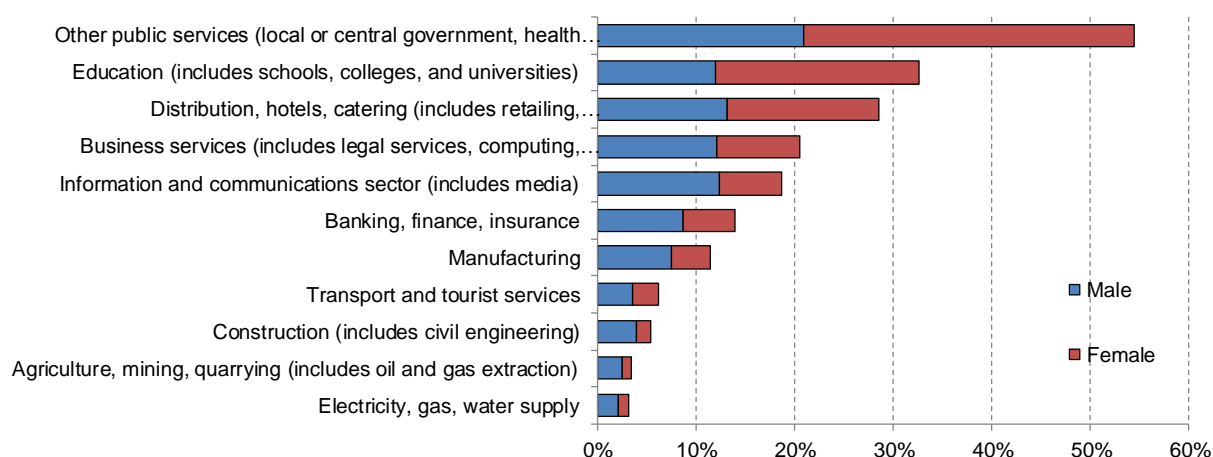
Source: Futuretrack 2006, Futuretrack Stage 4 graduate employed and self-employed respondents, including those who had gone on to gain postgraduate qualifications (weighted).

For example, of the graduates employed in large organisations, 35 per cent worked in Other public services, but only 18 per cent of graduates employed in SMEs worked in that sector. On the other hand, a higher percentage of graduates were employed in SMEs than in large companies in the ICT and in Business services sectors.

We have undertaken preliminary exploration of the relationship of size within this broad SME variable according to the sub-categories identified in Figure 6.10 above for this report, but only some industry sectors are sufficiently substantial to facilitate identification of significant relationships, and the same thing applies to an even greater extent in relation to the size of graduate respondents' main workplaces. Further analyses will be conducted among the full range of relevant variables.

Figure 6.12 shows this industry distribution, from the greatest to the lowest joint incidence, showing clearly the extent to which the distributions of male and female graduates differ by gender, with women more often employed in the three largest areas of graduate employment.

Figure 6.12: Distribution of graduates in employment at the time of survey, showing proportions of males and females in each industry sector



Source: Futuretrack 2006: Stage 4 UK-domiciled graduate respondents in employment (weighted).

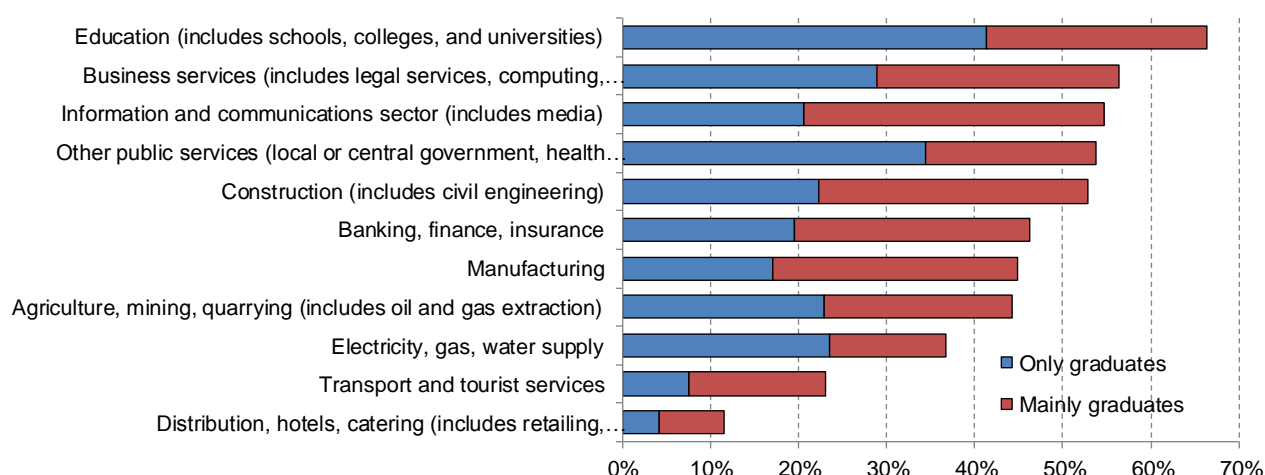
This Futuretrack gender distribution of employed graduates is remarkably similar to the distribution of males and females found for the *Class of '99* respondents (Purcell *et al.* 2005:15, Figure 2.9) in both the different gender divisions of labour contexts and, by and large, the distribution of proportions of male and female graduate populations among the sectors. The two samples are not strictly comparable, as was discussed in earlier chapters, but they are likely to be indicative of the direction of change in the structure of employment opportunities in the intervening period. The biggest changes are:

- the virtual tripling of the proportions of both males and females employed in Distribution, hotels and catering, from less than 5 per cent of both in the case of 1999 graduates 3-4 years after graduation to 13 per cent of males and 15 per cent of female graduates in the Futuretrack sample;
- increases in the proportions of males employed in the Information and Communication sector;
- a substantial decline in the proportions of both males and females in Banking;
- and a 50 per cent reduction in the proportion of males employed in Construction.

The question is, how far do these changes relate to changes in demand in the industries for both graduate and non-graduate labour and how far do they contribute to the growth of graduate under-employment?

In a similar format, Figure 6.13 shows the proportions of graduates who were in jobs which were held only or mainly by graduates in their organisations, by industry sector.

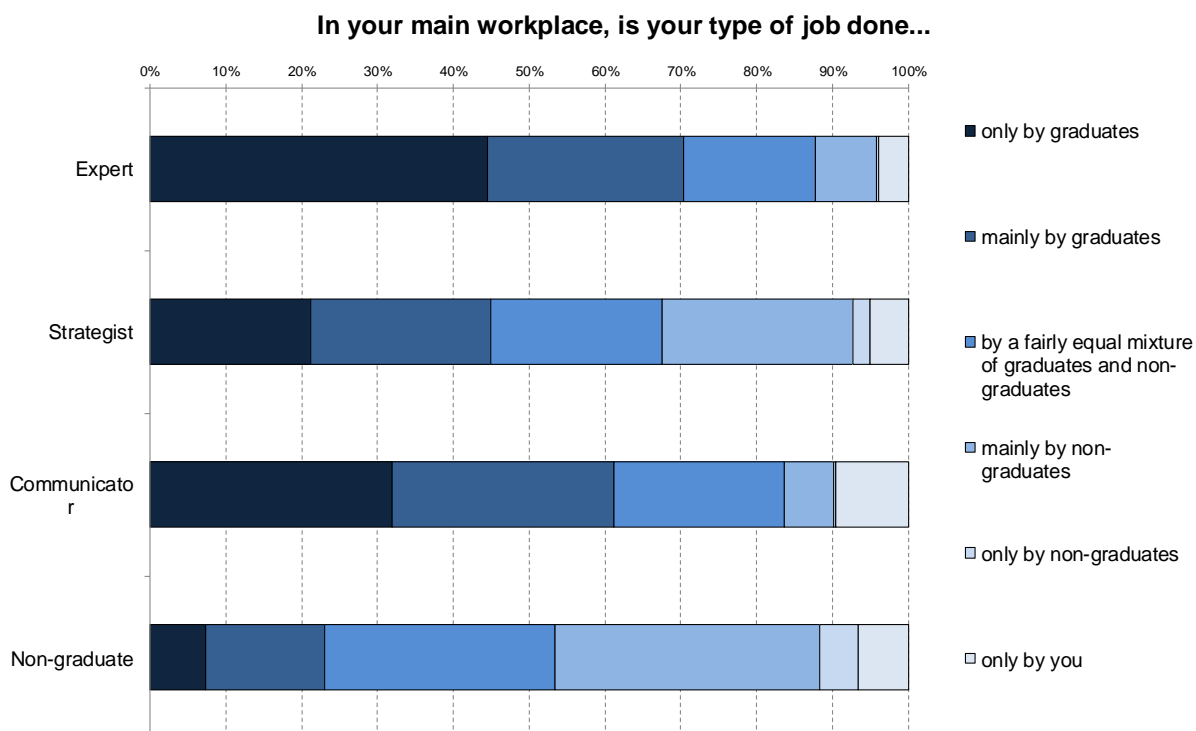
Figure 6.13: Proportions of graduates employed in each industry sector who worked in jobs which were done only or mainly by graduates



Source: *Futuretrack 2006: Stage 4 UK-domiciled graduate respondents in employment (weighted)*

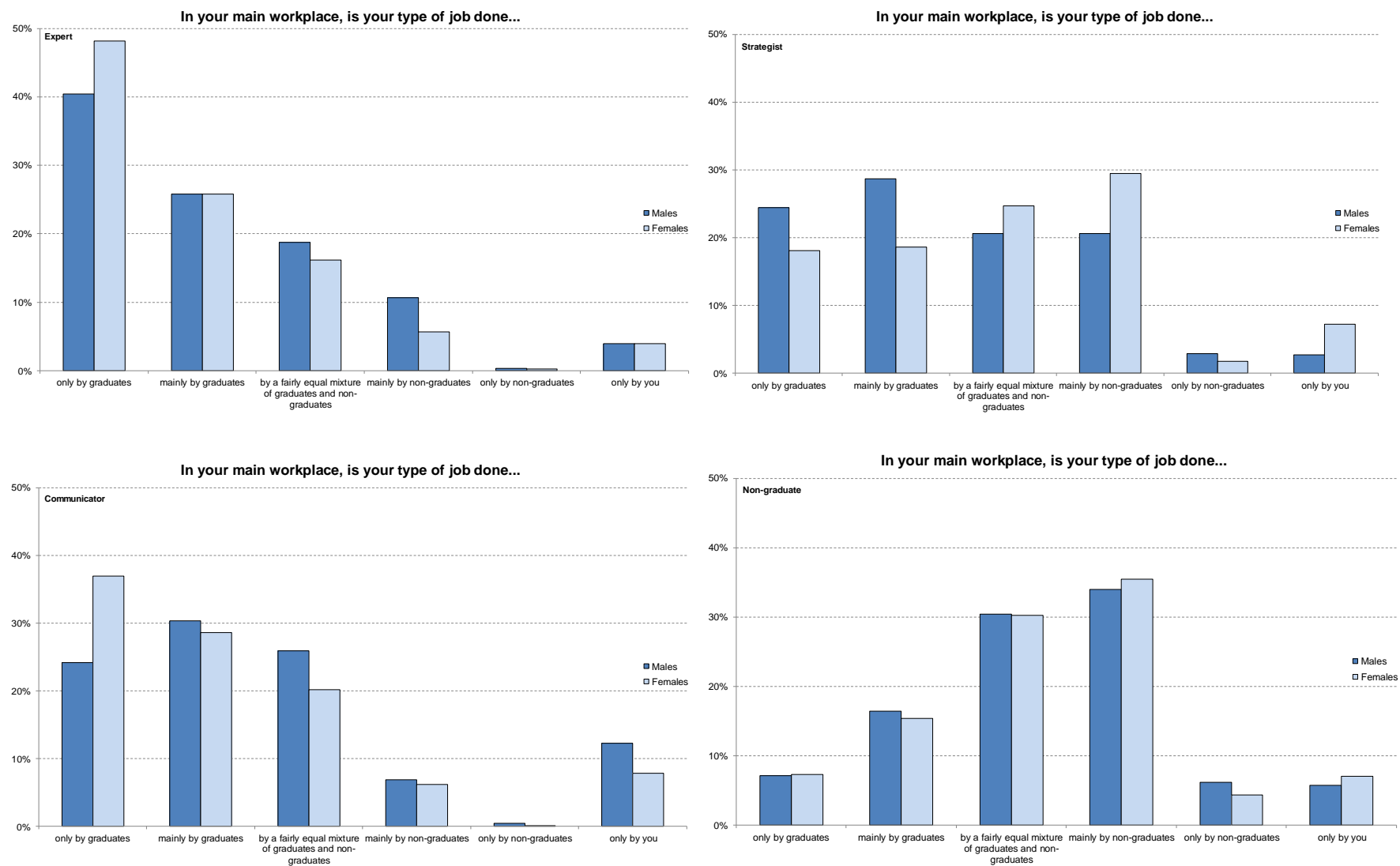
Figure 6.14 reports the responses of graduate survey participants to a question about how far their job in their workplace was done only or mainly by graduates, by approximately equal numbers of graduates and non-graduates, mainly by or only by non-graduates apart from them, or only by them. It can be assumed with a reasonable degree of confidence that respondents in organisations where only graduates did their job were in unequivocally appropriate jobs as far as their educational level of achievement was concerned. On examination of the individual responses and their occupational distribution, we can make the same assumption, with slightly less confidence, in the case of those in jobs mainly done by graduates or only done by them, and that the overwhelming majority of those in jobs where most or all the incumbents were not graduates, were not, as this implies, normally jobs where higher education experience was required, according to the subjective perceptions of many of the graduates working in these jobs. Further research and analysis are required to evaluate the extent to which this reflects evidence of graduates 'growing jobs', employers capitalising on the high quality of the labour available to them, or simply skills mismatch.

Figure 6.14 All employed Stage 4 graduates according to the proportion of people in their type of job in their workplace who were graduates, by SOC(HE)2010 job categories



Source: Futuretrack 2006: Stage 4 UK-domiciled graduate respondents in employment (weighted)

Figure 6.15 which follows shows the different extents to which male and female graduates had been able to access the different categories of graduate jobs. As far as the Expert jobs requiring knowledge, skills and credentials were concerned, women appear to have been more successful in accessing these, whereas men were somewhat more likely to be working in graduate posts among the smaller numbers employed in Strategist jobs. In Communication jobs that employed only graduates, women again appear to have opted for and obtained these, and there is no significant difference by gender in the distribution of non-graduate jobs on this dimension.

Figure 6.15: Distributions of UK graduates in employment according to SOC(HE)2010 occupational category

Source: Futuretrack 2006, Stage 4 survey, UK-domiciled graduate respondents in employment (weighted)

As has been discussed in previous chapters, it is particularly important to take into account specific job and attitude-related variables in consideration of length of undergraduate course and, on the basis of this, length of time in the labour market since graduating. All of the UK-domiciled respondents included in the analyses in this part of the chapter have graduated but, by definition, those on the longest courses have had least time to integrate into appropriate occupational roles and as would be expected, were progressively less likely than those who completed three year courses in 2009 to be in permanent or open-ended graduate jobs at the time of the survey, and more likely to be in both fixed-term or probationary contracts - which is what we find in Table 6.6.

Table 6.6: Contractual basis of current main job by length of course

Contractual basis of current main job	3-year course	4-year course	Course lasting more than 4 years	Total
Permanent or open-ended contract	67%	63%	49%	64%
Fixed-term contract	17%	19%	28%	19%
Probationary period prior to confirmation	4%	4%	10%	5%
Self-employed	5%	4%	2%	5%
Temporary, through an agency	3%	3%	3%	3%
Other temporary or casual	4%	5%	7%	5%
Other	1%	1%	1%	1%
Total	100%	100%	100%	100%

Source: Futuretrack 2006: Stage 4 UK-domiciled graduate respondents in employment (weighted)

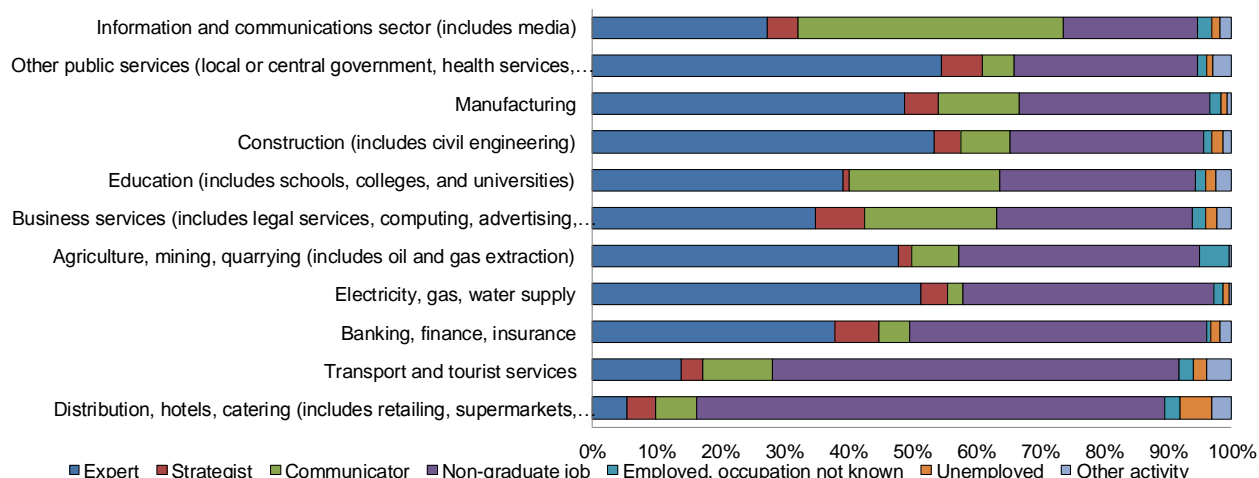
Table 6.7 shows the contractual basis of the graduates' current jobs by category of HEI attended. As in Table 6.6, the differences revealed here also reflect the inclusion of those who had most recently entered the labour market. Furthermore, it reflects two additional aspects: many-of those on fixed-term and probationary contracts were graduates with specialist expert skills, which includes those leaving longer expert and communication specialist courses geared towards client-focussed or traditional fixed-contract work (which includes academic-based early research posts), who tended to be satisfied with their current jobs; and (as is the case for those defining themselves as self-employed), those at the other end of the graduate 'marketability' scale, who have failed to achieve the labour market integration to which they aspired, and were less likely to be similarly satisfied.

Table 6.7: Contractual basis of current main job by HE access:

Contractual basis of current main job	Highest tariff university	High tariff university	Medium tariff university	Lower tariff university	Specialist HE college	Total
Permanent or open-ended contract	60%	64%	68%	67%	51%	64%
Fixed-term contract	24%	19%	13%	14%	16%	18%
Probationary period prior to confirmation	5%	5%	4%	5%	6%	5%
Self-employed	4%	4%	5%	7%	18%	5%
Temporary, through an agency	2%	3%	3%	3%	2%	3%
Other temporary or casual	3%	4%	6%	4%	6%	5%
Other	1%	1%	1%	1%	1%	1%

Source: Futuretrack 2006: Stage 4 UK-domiciled graduate respondents in employment (weighted)

Having conducted the explorations above, the patterns revealed in Figure 6.16 below make sense. We would expect a larger proportion of graduates in jobs where their HE-acquired knowledge and skills would be used to be found in ICT, Education and Business Services, and we would expect a smaller number of graduates in Strategist posts to be in more often found in Business Services, Banking, finance & insurance or Other public service that include central and local government, and government agencies and other Public sector agencies. Sectors with the highest proportions of non-graduate employment are also plausible, particularly Distribution and Transport & tourism services. We clearly see, though, evidence of one of our main findings: graduate employment in non-graduate jobs is currently extensive across the full industry sector spectrum.

Figure 6.16: Industry sector of current main employer by SOC (HE) 2010

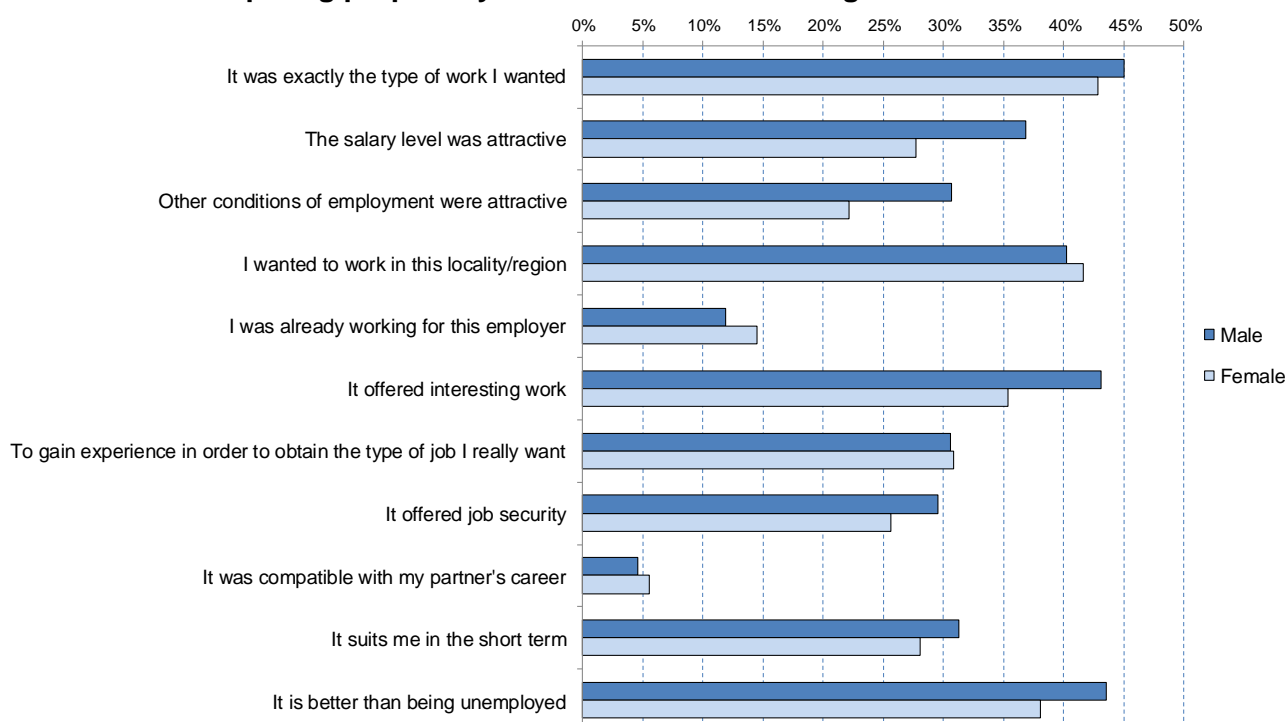
Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted).

Reasons for acceptance of current job

We asked respondents whose main activity was employment or self-employment their reasons for taking their current job. These are shown in Figure 6.17, which reveals that males were somewhat more likely to have provided both positive responses, reinforcing the findings in the multivariate analyses conducted in this report earlier, and to give the most negative 'better than being unemployed' response. Women's responses were generally less positive, and there is some indication that they were more likely to give the passive or other-directed reasons that they were already working for the employer, wanted to work in the locality or region (nearly always their current region of domicile) and that the job was

compatible with their partner's career, but in all these cases, the reported differences between women and men are very small.

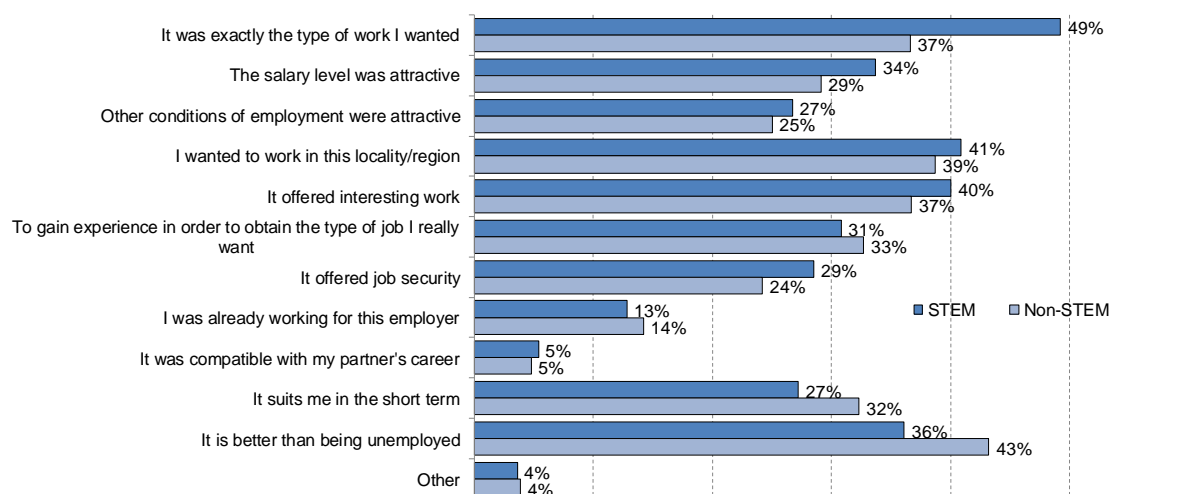
Figure 6.17: Reasons for accepting current job, by UK employed graduates, comparing propensity of males and females to give each reason



Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted).

If we compare these responses according to whether respondents had studied subjects classified as having a substantial STEM or numeracy-based HE knowledge and skills component, we see bigger differences in responses to the extreme optional reasons offered. At the most positive extreme: 'It was exactly the work I wanted', there is a 12 per cent difference between the STEM and non-STEM respondents, and on the job security and attractive salary options, the differences were also clear. Conversely, on the reasons likely to reflect negativity, the non-STEM respondents were substantially more likely than the STEM graduates to have opted for 'It is better than being unemployed' or 'It suits me in the short term', as shown in Figure 6.18.

Figure 6.18: Reasons for accepting current job, comparing graduates with STEM subject degrees and non-STEM subjects



Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted)

Did Futuretrack participants achieve the type of work they wanted?

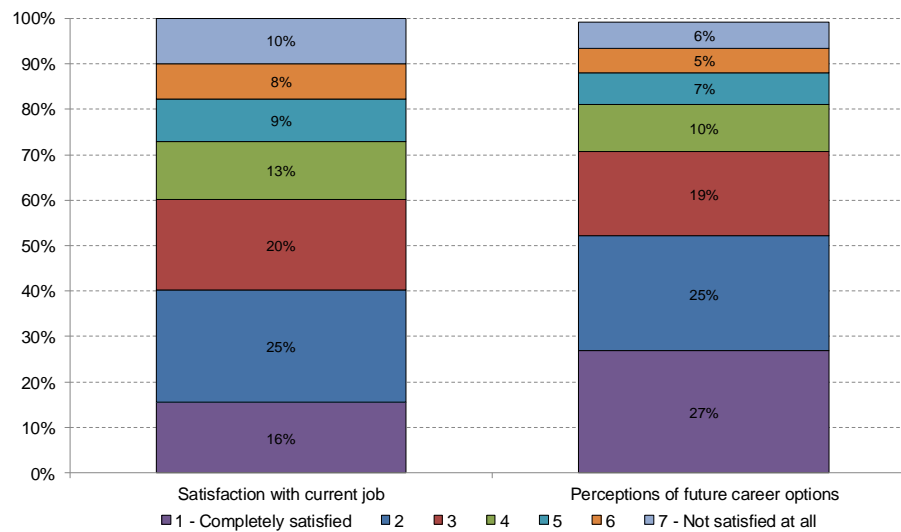
Of all the employed graduates, 29 per cent stated that their current job was exactly the type of work they wanted. Obviously, many factors determine whether graduates had found the appropriate kind of employment. A detailed multivariate analysis showed that the most important factors associated with the current job being 'exactly the type of work I wanted' relate to the nature of the job itself. These factors include higher earnings, beneficial contractual status and type of occupation (being in a graduate job).

While this might seem self-evident, the interesting feature of this analysis is the nature of the other factors which are associated with this statement from respondents. Controlling for these aspects of job quality, those who studied Subjects allied to Medicine and Education remain significantly more likely to agree with the statement. Graduates who studied Social Studies or Law remain significantly less likely to agree with the statement. In terms of ethnic background, Black and Asian (in this order) graduates are less likely to agree with statement and those with good degrees are more likely to agree. Those who had no debts were also more likely to state that they were in exactly the type of work they wanted, suggesting that debt does have an effect on choice of jobs. Further detail of the statistical modelling which yields these results is shown in Appendix A6.1

UK-domiciled graduates' satisfaction with current job and career prospects

We asked all the UK-domiciled employed graduates to rate their job satisfaction and the appropriateness of their job for somebody with their qualifications and skills, on 7 point scales ranging from 1-7 where 1 meant respectively, 'Completely satisfied' to 7 'Not satisfied at all', and 1 'Ideal' to 7, meaning 'Not at all appropriate'. The responses, illustrated in Figure 6.19, show a remarkably positive overall response to both, particularly on perceptions of future career options.

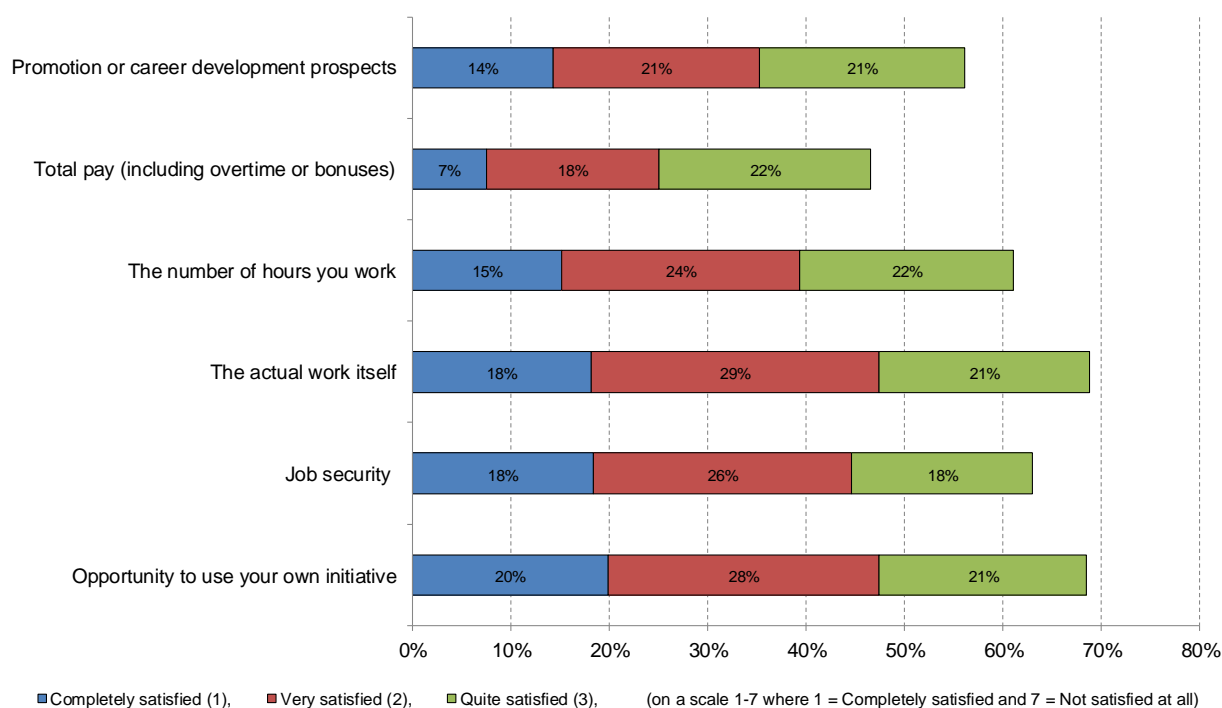
Figure 6.19: Satisfaction with current job and perceptions of future career options, all UK-domiciled graduates



Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted).

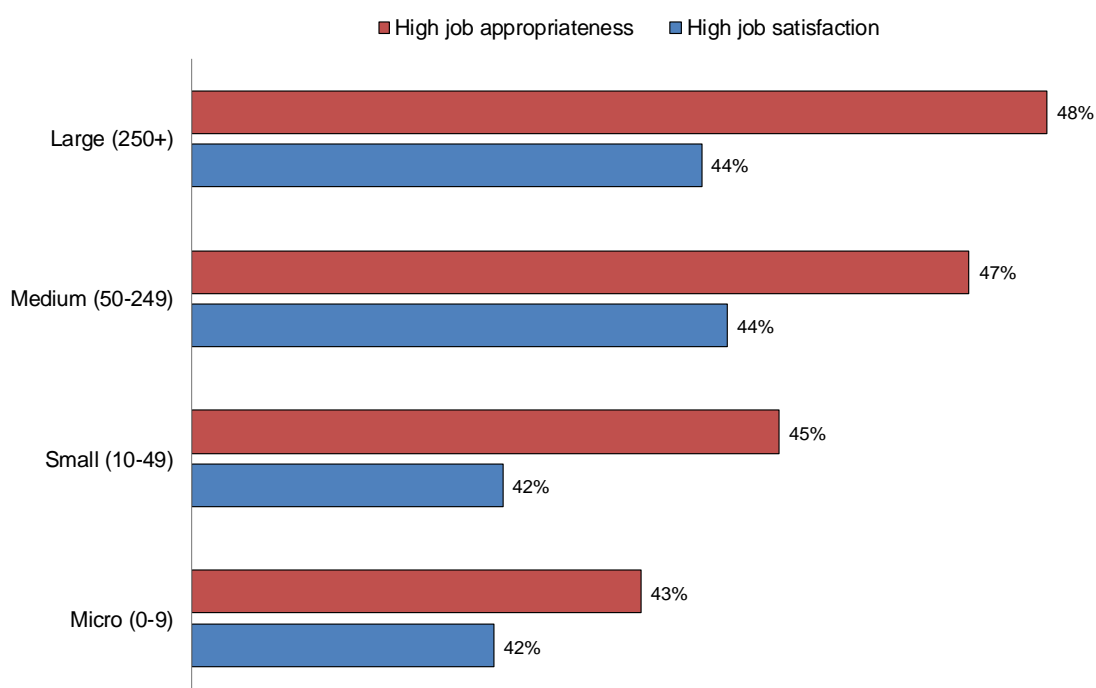
When we examine the response at a more detailed level, by aspects of the current job, we find that the graduates have largely maintained the values and aspirations that they held at Stage 3 when asked about the characteristics that considered important in the jobs they were applying for or sought. These values were very similar to those identified by previous cohorts of graduates. Like the graduates included in the *Class of '99* survey when respondents were asked about their current jobs, these Futuretrack Stage 4 survey findings and those provided at Stage 3 the aspects about which respondents were most positive were the opportunity to use initiative, the job itself and, to a greater extent for the Futuretrack respondents at Stage 4 (perhaps reflecting the current competitive graduate labour market), job security and hours of work. This is shown in Figure 6.20.

Figure 6.20: How satisfied were the UK-domiciled graduates with their current jobs?



Source: Futuretrack 2006: Stage 4 survey, UK-domiciled graduates (weighted)

Figure 6.21: Proportions of UK-domiciled respondents in employment scoring high (or 2) on job appropriateness and job satisfaction scales by organisation size

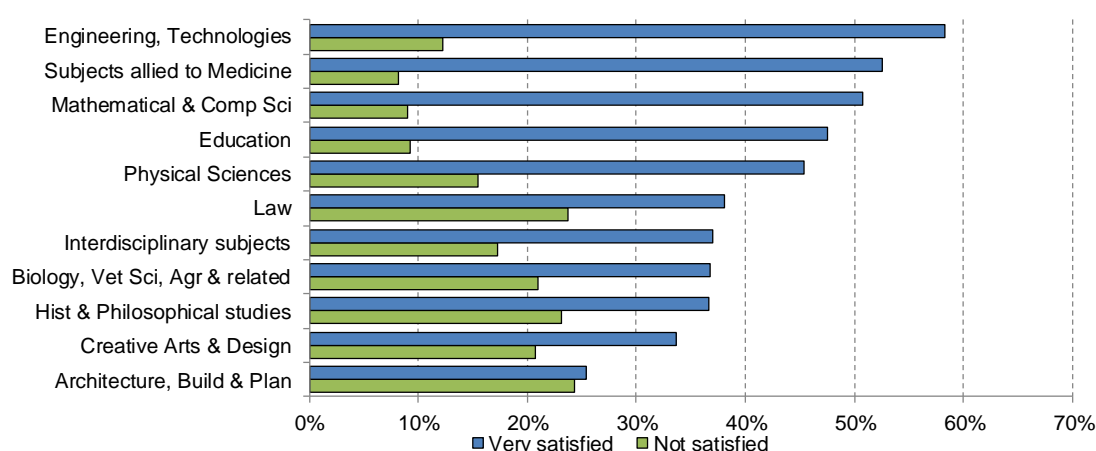


Source: Futuretrack 2006: Stage 4 survey, UK-domiciled graduates (weighted)

A simple t-test (significance test) reveals that although there is no statistically significant difference between job satisfaction in SMEs and in Large organisations, the difference for job appropriateness is statistically significant, i.e. job appropriateness is likely to be higher in large companies than in SMEs.

There were substantial differences in the extent to which the graduate respondents were likely to have classified themselves as satisfied or unsatisfied with their current jobs. Figure 6.22 shows the distribution of selected large-population subjects with very different academic profiles and career options based on their subject-related knowledge. For this comparison, the extreme responses of 1 or 2 to the 7-point satisfaction scale that ranged from '1 = Completely satisfied' to '7 = Not satisfied at all' were grouped. Those who selected 1 or 2 on the scale were classified as 'very satisfied' and those giving the negative scores of 6 and 7 were classified as 'Not satisfied'.

Figure 6.22: Selected subjects showing the extent to which satisfaction with current job varied across the subject and discipline range



Source: Futuretrack 2006: Combined Stages 1-4 dataset; Stage 4 UK-domiciled graduates; data (weighted)

We see from this that many of the graduates who had studied directly professional vocational subjects or those with numeracy-developing expertise and high level skills were more likely to be satisfied and less likely to be dissatisfied with their jobs than those whose courses were less likely to have done either, but the relatively lower incidences of satisfaction and higher incidences of dissatisfaction among the diverse subjects towards the bottom of Figure 6.22 clearly reflect the greater likelihoods, shown in Figures 6.8 and 6.9 above, of significant students who had studied courses within these broad groups being in a non-graduate job.

Did people who hoped to work in a job related to their degree subject at Stage 3 actually use their subject knowledge or skills by Stage 4?

Is it the case that those who planned to gain employment in an area related to their undergraduate degree at Stage 3 used their skills and knowledge in their current jobs at Stage 4 to a greater extent than those who had opted for alternatives at Stage 3?

At Stage 3 we asked: 'What do you hope to do in the year after you graduate (excluding vacation employment between degrees)?', with the first option being 'Obtain employment related to longer-term career plans'. Other options for this question included becoming self-employed, obtaining temporary employment, undertaking further study or training and travelling. Of the Stage 4 respondents who responded at Stage 3, 46 per cent had chosen

the first category. Of those, just under nine out of ten claimed to be using the skills they had obtained in HE, and three-quarters said that they used the knowledge they acquired during their undergraduate degree in their current main job. A simple correlation analysis between the responses at the two stages supports this, suggesting that those respondents who planned to obtain employment related to their undergraduate degree in Stage 3 were indeed more likely to use their skills and knowledge in their jobs.

However, confidence about achieving these plans was also an important factor. The correlation between having high confidence and wanting to obtain relevant employment was very small (0.04), but having high confidence and using skills or using knowledge resulted in a much higher correlation (0.15 and 0.13 respectively). When controlled for both plans after graduation and confidence in achieving these plans, the likelihood of using the skills and knowledge obtained during one's undergraduate degree in the main current job roughly doubles. The opportunity to conduct further exploration between these more qualitative and evaluative attitudinal and motivational responses and the 'harder' activity history and more easily measurable outcomes is one of the key strengths of the Futuretrack dataset.

Summary

In this chapter we looked at the outcomes of UK graduates at the time of the Stage 4 survey: the subjects which led to full-time employment or further study; accesses to opportunity; qualifications, skills and demand for graduate labour; the significance of the subject studied in relation to knowledge and skills; the organisations and industries where Stage 4 graduates worked; and the views of the respondents about why they accepted their current job, whether they achieved the type of work they hoped to, their satisfaction so far with their current job, and their perceptions of their longer-term career prospects

Subjects with the highest proportions of graduates in employment were Medicine & Dentistry, Education, Business & Administrative Studies, and Subjects Allied to Medicine. Subjects with the highest proportions of graduates still in full-time study at the Stage 4 survey were Physical sciences, followed by Biology, Veterinary Sciences, Agriculture & related subjects and Languages. The effect of subject studied on current activity type remains significant when controlling for key demographic and socio-economic variables. Graduates who studied Medicine & Dentistry were least likely to be unemployed, while those who studied Historical and Philosophical Studies were more than twice as likely to be unemployed. Being from a non-white ethnic group or having at least one parent who had a degree increased the likelihood of being in further study relative to being in employment. Graduates in Medicine & Dentistry, Subjects Allied to Medicine, Education, Engineering & Technologies were most likely to have entered graduate jobs early in their careers. Those least likely to have entered a graduate job had studied Arts, Humanities, Languages and Interdisciplinary subjects, and to a lesser extent Social Studies and some areas of the Natural Studies. There is clear evidence of the impact of the recession with increased proportions of graduates finding it harder to achieve a rapid integration into appropriate occupations compared to earlier cohorts of graduates. This was most noticeable among graduates from Architecture, Building and Planning, Law, Mathematics & Computer sciences, and Education subjects.

Some graduates had more career route options than others, depending on whether they could afford to spend time in unpaid work experience or felt able to wait for an appropriate vacancy, felt forced to take whatever job they could or to choose or have no option but to be unemployed. There are no significant differences in the rates of non-graduate employment or unemployment among graduates from different socio-economic backgrounds but there were differences in the likelihood of participation in other activities, which included unpaid work, travel and postgraduate study, indicating that graduates from relatively socially advantaged backgrounds were more likely to have been able to take advantage of these

opportunities. Graduates from the highest tariff universities were most likely to have obtained Expert occupations or graduate occupations as a whole. Graduates from the medium tariff universities and specialist HEIs demonstrated a similar propensity to low-tariff university graduates to be in non-graduate jobs or unemployed. Full-time students who entered university at a relatively young age were more likely than older students to be engaged in non-paid work activities and to have postponed or failed to access graduate jobs.

Respondents were asked about the extent to which they had developed different skills on their course. Fewer graduates thought that they had developed entrepreneurial skills or numerical skills very much, or to some extent, on their courses, but the discrepancies between development and use among those in employment were relatively low in both cases compared to more 'academically' based skills and soft skills. The good news, perhaps, is that those skills most in demand – spoken communication, team-working numeracy and entrepreneurial skills – may have been developed more on courses; and those least demanded – research skills – developed less. The skills of spoken communication, team-working and ability to manage time were less likely to have been explicitly developed across the full spectrum of subjects, and required in virtually all employment contexts. A shortfall in the extent to which graduates had acquired, or had been given sufficient opportunity to develop numerical skills was one of the most frequent reasons cited for dissatisfaction cited by STEM subject graduates who were unhappy with their choice of course. However, high proportions of graduates claimed to be using the knowledge and skills they had acquired as students in their current occupations. Graduates value jobs which offer interesting and challenging work and continual skills development and, in the current economic climate, are likely to be attracted by those that provide them with useful experience of employment and opportunity to create evidence of employability skills, even in jobs which do not require or recognise their qualifications.

Around three-quarters of graduates thought they possessed all the skills employers were looking for when recruiting for the type of job they wanted, but just over three fifths believed they were using these skills in their jobs. A higher proportion of STEM and other numerate subject group graduates thought this than those from Arts subjects, the least likely group. In terms of employment, graduates in Medicine and related subjects, Engineering and Mathematics and computing graduates were among the most likely to have accessed graduate employment. Graduates from the other main vocationally-orientated subject, Education, were the second most likely. Overall graduates from the broad area of Natural sciences were least likely to have done so. There are wide variations in the proportion of graduates in expert graduate jobs. The highest proportions are those who studied Nursing and Pharmacology with those from the Engineering sub-groups also more often employed in expert graduate jobs. The proportion of graduates either unemployed or in non-graduate jobs was much higher for graduates in Biology, Mathematics and Physical and terrestrial geography and Architecture, and especially so for those who studied Sports Science and Agriculture.

Nearly two-thirds of graduates were employed in large organisations, 10 per cent in micro-companies with less than 10 employees, 27 per cent were almost equally divided between small and medium organisations. The great majority of graduates of Medicine and allied subjects, and three quarters of Engineering and Technologies graduates were employed in large organisations. In contrast, over half of graduates in Architecture, building and planning, Creative Arts and Design, and Education worked for an SME. Graduates in Medicine and Dentistry and allied subjects, and Education were most likely to be in public sector employment. Ten per cent or more of graduates in Social Studies, Historical and Philosophical Studies, and Linguistics and Classics were employed in the Not-for-Profit sector. Overall 58 per cent of graduates worked in the private sector. Over half of graduates in the education, business services, information and communication, local and national

government and the construction sectors worked in jobs which were done only, or mainly, by graduates. This was true for only just over 10 per cent of graduates with jobs in distribution, hotels and catering, and around a quarter of those with jobs in transport and tourism. The majority of graduates with jobs in manufacturing were in occupations where the majority of the job-holders were not graduates. Graduate employment in non-graduate jobs is currently extensive across the full industry sector spectrum. In terms of the types of graduate jobs 70 per cent of 'experts' worked in wholly or mainly graduate-staffed occupations. This was true for around two thirds of 'communicators' and just less than half of 'strategists'. Two thirds of graduates in employment had a permanent or open-ended contract and a further fifth were on a fixed term contract. Eight per cent were agency workers or had temporary or casual work. Five per cent were self-employed. This rose to 18 per cent for graduates from specialist HE colleges which tend to offer longer expert and communication courses designed as preparation for client-focussed work.

There were clear differences between STEM graduates and those from non-STEM courses in terms of why they had accepted their current jobs. STEM graduates were more likely to say the job was 'exactly the type of work I wanted' while non-STEM graduates more often said the job they did was 'better than being unemployed' or that 'it suits me in the short term'. Overall 29 per cent said that their current job was exactly the type of work they wanted. Graduates who studied Subjects Allied to Medicine and Education were more likely to be in a job they wanted, while those who studied Social Studies or Law remain significantly less likely to agree with this. Black and Asian graduates are less likely to agree that they are in a job with the sort of work they really wanted. Graduates with good degrees and those with no debts were more likely to be in the job they wanted. This implies that level of debt influences job choice.

Sixty per cent of graduates in employment were satisfied with their job, scoring 1, 2, or 3 on a 7 point satisfaction scale. Ten per cent were very dissatisfied. Satisfaction with future career options was even higher with over 70 per cent saying they were satisfied. These are remarkably positive responses. The characteristics our respondents thought were important in jobs remained largely unchanged with the opportunity to use initiative and the job itself being frequently cited. The Stage 4 graduates did give greater emphasis than earlier surveys to job security and hours of work, which may reflect the current situation in the graduate labour market. In terms of the subjects studied at university over 40 per cent of those with Engineering and Technologies, Subjects Allied to Medicine, Mathematical and Computing Science, Education and Physical Sciences degrees were very satisfied with their current job. The least satisfied, with over 20 per cent saying they were not satisfied with their current job were graduates in Law, Biology and associated subjects, Historical and Philosophical studies, Creative Arts and Design, and Architecture, Building and Planning.

Comparing the career planning activities of Stage 3 respondents while still at university with the career and work outcomes achieved at Stage 4 reveals that of those who had hoped to obtain employment related to longer-term career plans (some 46 per cent had said this) almost nine tenths said that they now in a job which used the skills developed in HE and three quarters said they were using knowledge acquired in their studies. Those who planned to get a job related to their undergraduate studies were indeed more likely to use the skills and knowledge obtained. Those who felt confident, while still studying, that they could find a job allowing them to use the skills and knowledge obtained were even more likely to do so in practice.

CHAPTER 7

Learning to earn, earning to learn the impact of employment and work experience during study and unpaid work after graduation

Introduction

This chapter explores the outcomes of the Futuretrack graduates in relation to the growth of student employment, particularly during their degree courses, and to undertaking unpaid work during their studies and after graduation. Changes in funding arrangements for UK students shifted responsibility for HE investment from government to individual learners and their families, in particular, the introduction of variable tuition fees and repayable student loans for those who were deemed to be able to afford to contribute to the cost of their HE. For this cohort of graduates there were means-tested grants to enable students from lower, under-represented socio-economic backgrounds to enter HE, based on the assumption that previously excluded members of the population would be enabled to gain the long-term benefits of HE without being hampered by the burden of debt after graduation. However eligibility for these grants was set at a relatively low level and the amounts involved only covered basic costs incurred. The impact of debt on graduate outcomes is addressed in Chapter 4 of this report. We found in the earlier stages of the survey that access to funding had played a role in determining whether students took paid employment during their courses and whether they had time for other activities, confirming previous analyses that increased financial pressure and higher levels of debt, particularly since the changes in HE funding arrangements introduced at the beginning of the 1990s had fostered an increase in the proportions of students taking on paid work in parallel with their course-work during term (Humphrey, 2006; Callender and Wilkinson, 2003; Metcalf, 2003).

This chapter investigates the impact of work experience during study on early career outcomes, opportunities and reward. First, different types of work experience and its impact on current employment are analysed: structured work experience, projects with employers, paid and unpaid placements and internships, voluntary and unpaid work (related and unrelated to career aspirations), and paid work undertaken predominantly to earn. Second, this chapter disaggregates the category of unpaid work according to when it was undertaken: during the undergraduate course only, both during the undergraduate course and after graduation, and after graduation only, to show how different types of unpaid work have affected graduates' current labour market position.

Work experience during study

Students as part of the flexible workforce: economic restructuring, occupational change and student employment

When Ford *et al.* (1995) conducted their study of student paid work in four universities, only 30 per cent of students had any form of paid work, but there was clear evidence that employers had identified students as a useful and flexible source of part-time labour who normally possessed above average interpersonal skills and the capacity to learn jobs quickly (Hutson, 1990). As the pressure to participate in paid work during term has grown, it has increasingly been seen by students and employers alike as a useful opportunity (Atfield *et al.*, 2011). The market in student part-time and temporary work, long established in some industries and in vacation months, has expanded considerably, involving commercial and

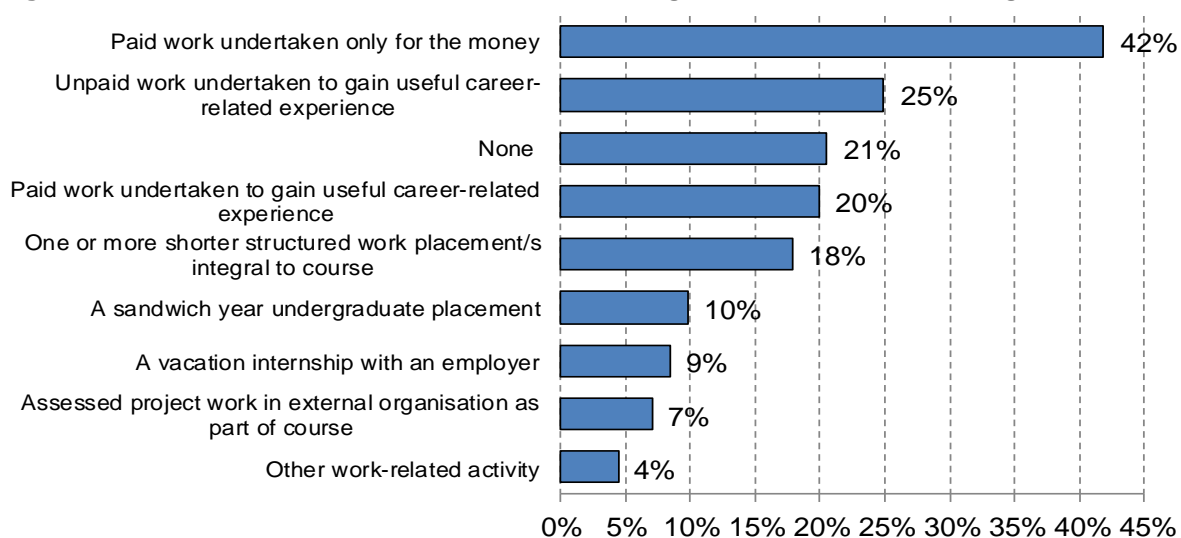
public sector intermediary services work²³. Between 1998-1999 and 2002-2004 the proportion of students in paid work increased from 47 per cent to 58 per cent as debt associated with higher education participation rose after the introduction of student loans (Callender and Kemp, 2000; Callender and Wilkinson, 2003). The Student Income and Expenditure Survey in 2004 found that 56 per cent of all full-time students had undertaken paid work at some point during the academic year while the more recent 2007/08 survey somewhat surprisingly showed that this figure had decreased to 53 per cent of students in 2007/08 (Johnson *et al.* 2009). Smaller scale surveys of students at a 1992 university (Hunt *et al.*, 2004) and an old Scottish one (Carney *et al.*, 2005) had found rates of 49 per cent and 50 per cent respectively a few years earlier.

As has been shown in previous Futuretrack reports and working papers, most students undertake some form of work experience during their time at university (see, for example, the working paper on paid work and debt from Stage 3 of the survey (Purcell and Elias, 2010). The findings from Stage 4 make it possible to analyse the impact of work experience on graduates' current labour market situation.

Incidence of work experience among graduates

Almost four fifths of the Futuretrack graduate respondents undertook some type of work experience during their studies. The types of work experience are presented in detail in Figure 7.1 below (some respondents did more than one kind of work experience). While 42 per cent said that they undertook paid work only for the money, 45 per cent said that they did either paid or unpaid work to gain useful career-related experience. For 28 per cent of respondents work experience was part of their course, either as a sandwich placement or a shorter structured placement, which highlights the importance of degree programmes incorporating links with industry into their course design for students' opportunities to experience work.

Figure 7.1: Students' reasons for undertaking work experience during their course



Source: Futuretrack Stage 4, all UK domiciled graduates (weighted) who have an undergraduate degree and are no longer in full time study only.

²³ See <http://www.justjobs4students.co.uk> and http://www.gradsouthwest.com/cms/ShowPage/Home_page/Student_Zone/pleLjbX1

The incidence of work experience during the undergraduate course according to the type of HEI (see Purcell, Elias and Atfield, 2009 for classification) is shown in Table 7.1. Respondents who did vacation internships predominantly attended Highest or High tariff universities, whereas those who did paid work or unpaid work were more evenly distributed among the different types of HEI. A higher proportion of graduates who did a sandwich year placement or a shorter structured work placement attended medium tariff universities than other types of HEI.

Table 7.1: Incidence of work experience during course and internships after graduation according to type of HEI attended

	A sandwich year u/g placement	Shorter structured work placements integral to course	Assessed project work in external org as part of course	A vacation internship with an employer	Paid work to gain career- related experience	Paid work undertaken only for the money	Unpaid work to gain career- related experience	Other work- related activity	No paid or unpaid work in HE	In paid internship after graduation	In unpaid internship after graduation
Highest tariff university	7%	14%	6%	17%	24%	50%	27%	1%	17%	1%	2%
High tariff university	11%	15%	5%	7%	18%	47%	22%	1%	22%	1%	1%
Medium tariff university	14%	24%	9%	3%	16%	35%	23%	1%	22%	1%	1%
Lower tariff university	5%	27%	8%	3%	20%	35%	25%	2%	23%	1%	1%
General HE college	1%	27%	11%	1%	25%	32%	25%	4%	26%		1%
Specialist HE college	11%	26%	15%	8%	27%	43%	39%	1%	17%	1%	3%

Source: Futuretrack Stage 4, all UK domiciled graduates (weighted).

Table 7.2: Incidence of work experience during course and internships after graduation according to broad subject studied

	A sandwich year u/g placement	Shorter structured work placements integral to course	Assessed project work in external org as part of course	A vacation internship with an employer	Paid work to gain career- related experience	Paid work undertaken only for the money	Unpaid work to gain career- related experience	Other work- related activity	No paid or unpaid work in HE	In paid internship after graduation	In unpaid internship after graduation
Medicine & Dentistry	1%	55%	13%	5%	16%	28%	32%	1%	16%	0%	
Subjects allied to Medicine	6%	65%	10%	4%	19%	24%	23%	1%	9%	0%	0%
Biology, Vet Sci, Agr & related	9%	12%	6%	4%	19%	50%	30%	2%	21%	1%	1%
Physical Sciences	10%	4%	6%	9%	17%	46%	16%	1%	29%	1%	0%
Mathematical & Comp Sci	25%	4%	5%	7%	18%	35%	9%	1%	29%	1%	0%
Engineering, Technologies	16%	12%	9%	22%	28%	38%	10%	0%	22%	1%	0%
Architecture, Build & Plan	23%	8%	7%	5%	22%	29%	13%	1%	24%	2%	3%
Social Studies	3%	23%	8%	10%	19%	47%	26%	1%	17%	1%	2%
Law	1%	5%	3%	21%	15%	47%	36%	1%	26%	1%	2%
Business & Admin studies	27%	10%	9%	8%	27%	41%	13%	1%	18%	1%	1%
Mass communication & Documentation	3%	28%	11%	4%	22%	44%	49%	3%	13%	1%	1%
Linguistics and Classics	0%	5%	2%	8%	17%	58%	33%	0%	22%	1%	2%
Languages	32%	8%	2%	9%	23%	46%	21%	2%	17%	3%	2%
Hist & Philosophical studies	0%	8%	3%	8%	16%	58%	27%	2%	23%	3%	2%
Creative Arts & Design	4%	16%	10%	5%	20%	37%	33%	2%	27%	1%	2%
Education	2%	63%	13%	1%	18%	32%	31%	2%	5%	0%	0%
Interdisciplinary subjects	11%	8%	6%	9%	19%	50%	25%	1%	23%	1%	3%

Source: Futuretrack Stage 4, all economically-active UK domiciled graduates (weighted).

Tables 7.1 and 7.2 show the incidence of different types of work experience undertaken during HE and paid and unpaid internships after graduation by type of HEI and broad subject studied. As Table 7.1 shows, work experience and other types of formal placements and assessed project work as part of a graduate's undergraduate course are a more common feature of study at HEIs outside the highest tariff group. Conversely, graduates from highest tariff HEIs were more likely than those of other types of HEI to have taken part in paid or unpaid work which was not a recognised part of their studies, although they are also the most likely to have undertaken no paid or unpaid work while in HE.

The provision of work placements and other work-based learning as part of undergraduate courses varied greatly by subject type. It was lowest amongst graduates of Linguistics and Classics and Historical and Philosophical Studies, and highest amongst three of the most vocational subject groups: Medicine and Dentistry; Subjects allied to Medicine; and Education. Graduates of these three subject groups were amongst the four least likely to say that they had undertaken no paid or unpaid work while in HE. The position of the fourth subject group, Mass Communication and Documentation graduates, illustrate an issue which has been of growing concern to policy makers. Almost half of the Mass Communication and Documentation graduates had undertaken unpaid work during their studies with the aim of gaining useful career related experience. The extent to which unpaid work appears to be a prerequisite for some industries and jobs, and the consequent issues relating to equality of access to these professions is discussed further below. Unpaid work during HE was also a common experience amongst graduates of Linguistics and Classics, Creative Arts and Design and Law.

Graduates of subjects which have been found in previous stages to have a high number of teaching hours (Purcell et al, 2009), including the Physical Sciences, Mathematical and Computational Sciences and Creative Arts and Design, were the least likely to have undertaken any form of paid or unpaid work during their studies.

Impact of work experience on early labour market outcomes

Table 7.3 shows the current labour market status of graduates by the type of work experience they did during their degree. Most are in employment, and very few are currently doing unpaid work (0% due to rounding). However, among respondents who undertook work for career-related experience, those who did unpaid work have a higher proportion who are currently unemployed compared to those who did paid work. See section 7.3 for more detailed analysis on the impact of unpaid work on current labour market situation.

However, Table 7.3 does not give much information about the kind of work that these graduates are doing. Figure 7.4 shows the current activity of the Futuretrack graduates using the SOC(HE)²⁴ classification of graduate jobs and the kinds of work experience they undertook at university (Purcell and Elias, 2012). Expert and Communicator type jobs have the highest proportions of graduates who did structured work placements. The Strategist job type has the highest proportion of respondents who undertook paid work only for the money. On the other hand, the Unpaid work and Unemployed categories have the highest proportions of respondents who did no work experience at all, as well as the lowest proportions of structured work placements. The Non-graduate job category profile sits midway between the Graduate jobs the Unpaid work and the Unemployed categories.

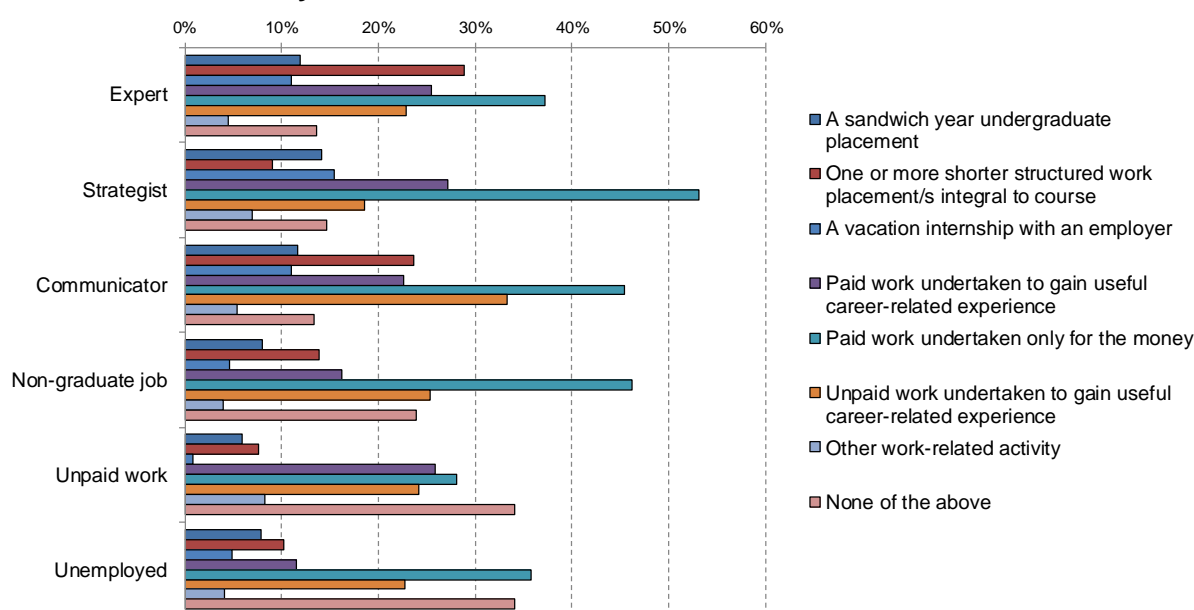
²⁴ See *Analysing the changing graduate labour market – revising SOC(HE)* in Chapter 2 of this report for a detailed explanation of the SOC(HE) classification and the Expert, Strategist and Communicator graduate occupations.

Table 7.3: Incidence of work experience during course by current labour market status

	Employee	Self-employed	Studying	Unemployed and looking for work	Unpaid work
A sandwich year undergraduate placement	7%	0%	1%	1%	0%
One or more shorter structured work placement/s integral to course	14%	1%	1%	1%	0%
A vacation internship with an employer	6%	0%	2%	1%	0%
Paid work undertaken to gain useful career-related experience	14%	1%	3%	1%	0%
Paid work undertaken only for the money	30%	2%	6%	4%	0%
Unpaid work undertaken to gain useful career-related experience	17%	2%	4%	3%	0%
Other work-related activity	3%	0%	1%	0%	0%
None of the above	12%	1%	3%	4%	0%

Source: Futuretrack Stage 4, all UK domiciled graduates (weighted).

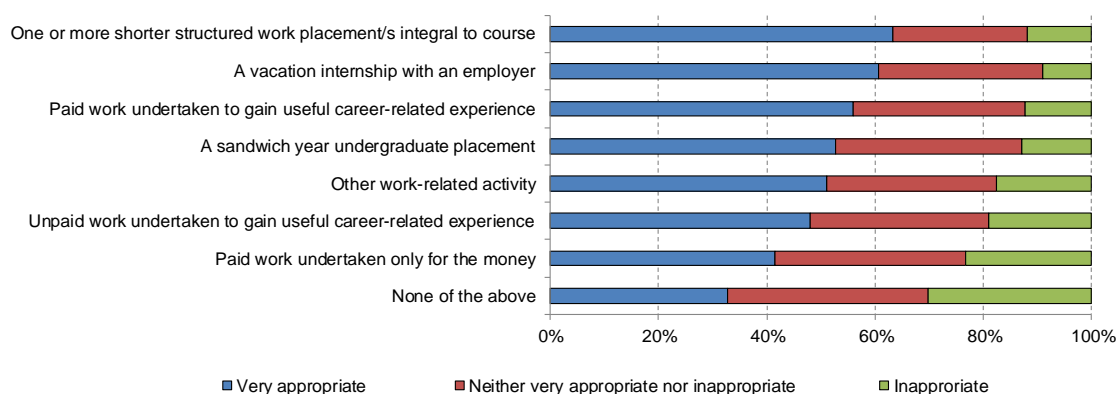
The majority of respondents who did structured work placements are employed within the Education or Other public services sector (which includes the health services), which is consistent with the finding that students from Education and Medicine courses were more likely to have done such placements than students from other courses. Graduates who did paid work only for the money were currently more likely to be employed in Distribution, hotels and catering, Education and Other public services. Graduates who did sandwich placements are relatively evenly distributed among the industry sectors. See Appendix Table 7A.1 for more detail.

Figure 7.2: Reasons for undertaking work experience by current activity at the time of survey

Source: Futuretrack Stage 4, all UK domiciled graduates (weighted).

The importance of undertaking some kind of work experience during the respondents' degrees has important implications for the degree to which the graduates believe their current job is appropriate for someone with their level of skills and qualifications. Those who did any kind of work experience were more likely to say that they felt their job was very appropriate for them, as shown in Figure 7.3. However, those who did work placements integral to the course, a vacation internship or paid work for career experience had a higher proportion of respondents who felt that their job was very appropriate compared to those who did unpaid work for career experience or those who undertook paid work only for the money. The respondents who did no work experience at all also had the highest proportion who felt that their job was inappropriate for them, but as shown in Figure 7.2 they were more likely to be in Non-graduate jobs or unpaid work.

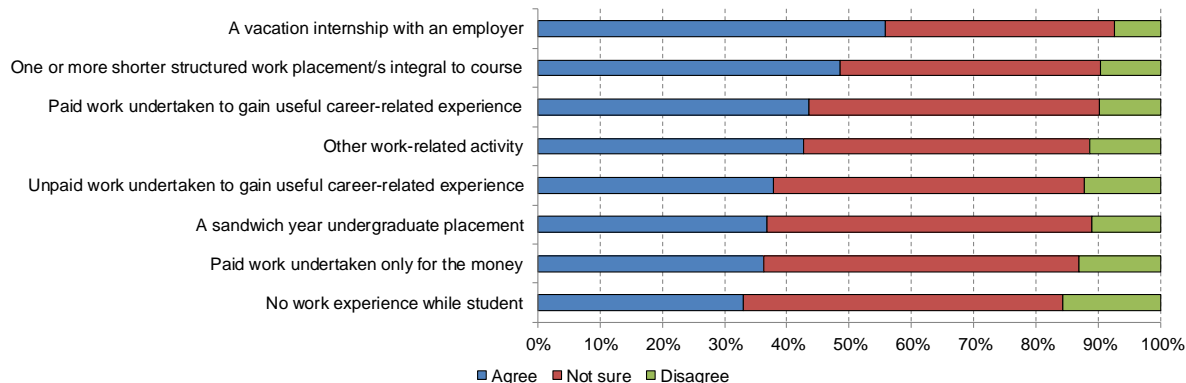
Figure 7.3: Extent to which graduates believed that their current job was appropriate for someone with their skills and qualifications



Source: Futuretrack Stage 4, all UK domiciled graduates (weighted).

Similarly, Figure 7.4 shows that respondents who did no work experience at all were also least likely to agree that their undergraduate course was good value for money. However, among the different types of work experience, those who did paid work only for the money were less likely to agree that their course was good value for money compared to all other types of work experience. This may reflect the fact that they were less likely to have taken advantage of as many of the extra-curricular activities available to them at their HEIs during their studies, because they had found it necessary to prioritise financially supporting themselves, as was found in earlier stages of the survey.

Figure 7.4: Extent to which graduates believed that their course had been good value for money*, according to work experience as an undergraduate



Source: Futuretrack Stage 4, all UK domiciled graduates (weighted)

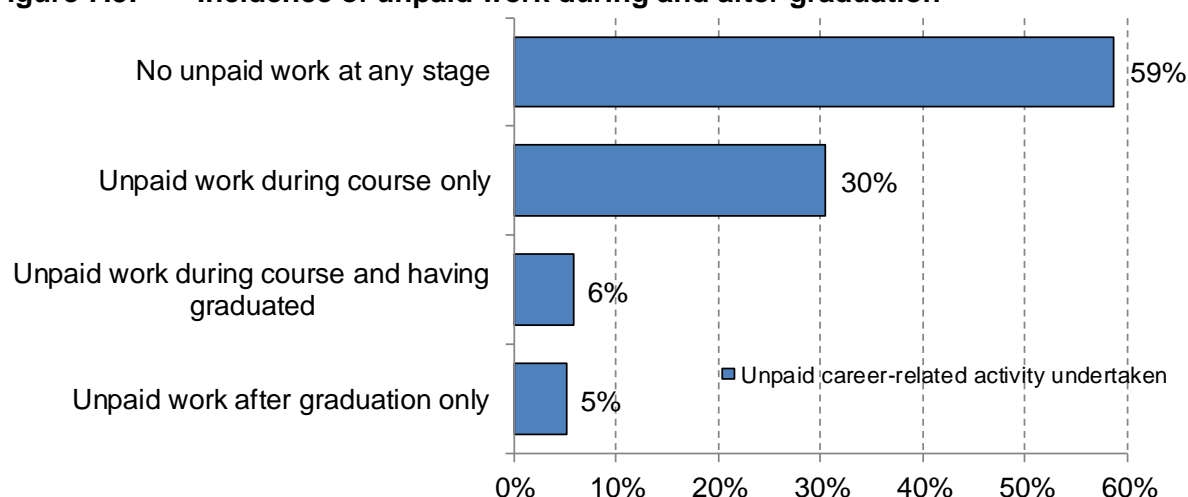
Unpaid work

Unpaid work is undertaken for a variety of reasons, some of which may be in anticipation of the type of paid employment that the graduate wishes to enter and with the intention of influencing entry into an occupation. How does the type of unpaid work affect graduates early career outcomes? There has been very little systematic investigation among the growth of unpaid work experience and internships, as university students and graduates increasingly find themselves encouraged to do any kind of work experience, even if it is unpaid. The following analysis shows that the timing of doing unpaid work, during an undergraduate degree or after graduation, can lead to different early career outcomes for graduates.

The incidence of unpaid work among graduates

Figure 7.5 shows the distribution of the timing of different types of unpaid work. Most graduates did no unpaid work at all, and of those who did undertake it, the majority did so during their undergraduate degree only. A further 6 per cent did unpaid work both during their course and after graduation and 5 per cent after graduation only.

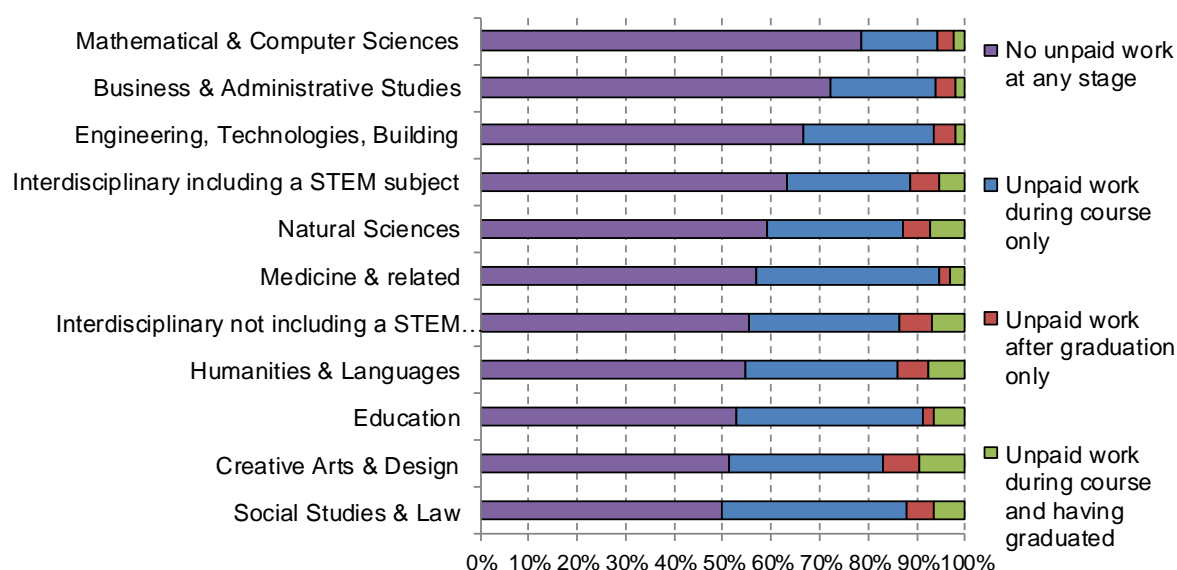
Figure 7.5: Incidence of unpaid work during and after graduation



Source: Futuretrack Stage 4, all UK domiciled economically-active graduates (weighted)

Figure 7.6 shows the incidence of undertaking unpaid work at different times broken down by broad subject groups. The subject group with the lowest incidence of unpaid work is Mathematical and Computer Sciences. Social Studies and Law subjects, Medicine and related, and Education subjects have the highest proportions of respondents who did unpaid work during their degrees. Part of the explanation for this could be that Futuretrack respondents included structured work placements they did during their course as a type of unpaid work experience. Graduates from Creative Arts and Design subjects had the highest proportion of respondents who did unpaid work after graduation only. For interdisciplinary subjects, those which involved a STEM subject were more likely to have done no unpaid work at all, and less likely to have done unpaid work during the degree than those which did not include a STEM subject.

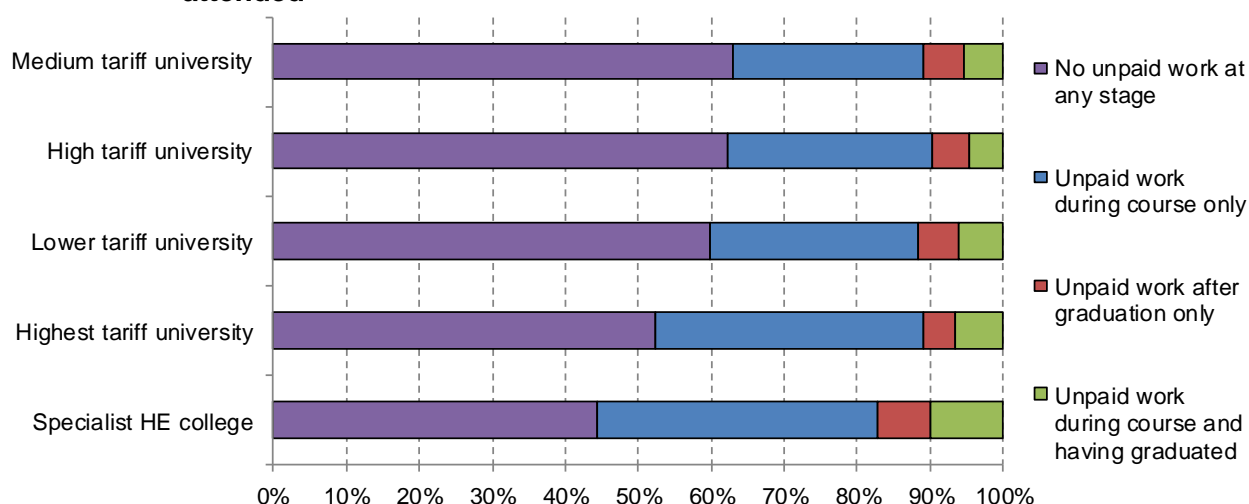
Figure 7.6: Incidence of unpaid work during and after graduation by broad subject studied



Source: Futuretrack Stage 4, all UK domiciled economically-active graduates (weighted)

Figure 7.7 shows the incidence of types of unpaid work by different types of HEI attended. There is not a great deal of difference between the graduates' unpaid work profile who attended High, Medium and Lower tariff universities. However, those who attended Highest tariff universities were most likely to do unpaid work during their course and least likely to do so after graduation. Those who attended Specialist HE colleges were the least likely to do no unpaid work at all, but also the most likely to do so after graduation.

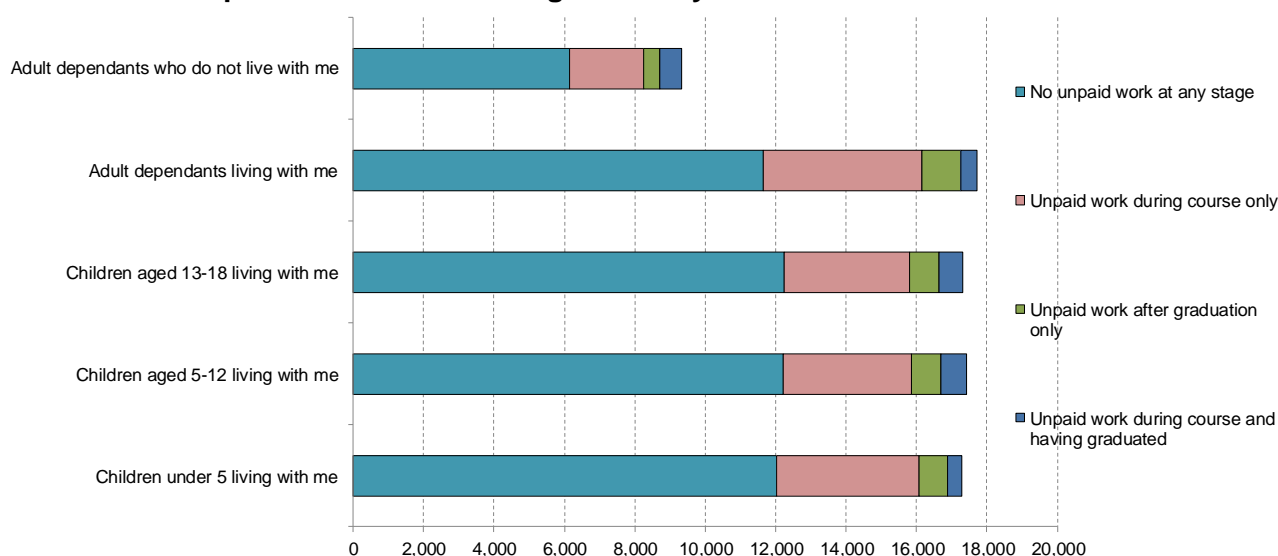
Figure 7.7: Incidence of unpaid work during and after graduation by type of HEI attended



Source: Futuretrack Stage 4, all UK domiciled economically-active graduates (weighted)

Figure 7.8 shows another dimension of the incidence of unpaid work among Futuretrack respondents. Those respondents who have dependants, either adults or children under the age of 18, living with them are more likely to have done unpaid work after graduation only or both during course and after graduation, which, as shown below, is associated with less favourable early labour market outcomes.

Figure 7.8: Incidence of unpaid work during or after graduation by number of dependants at time of Stage 4 survey



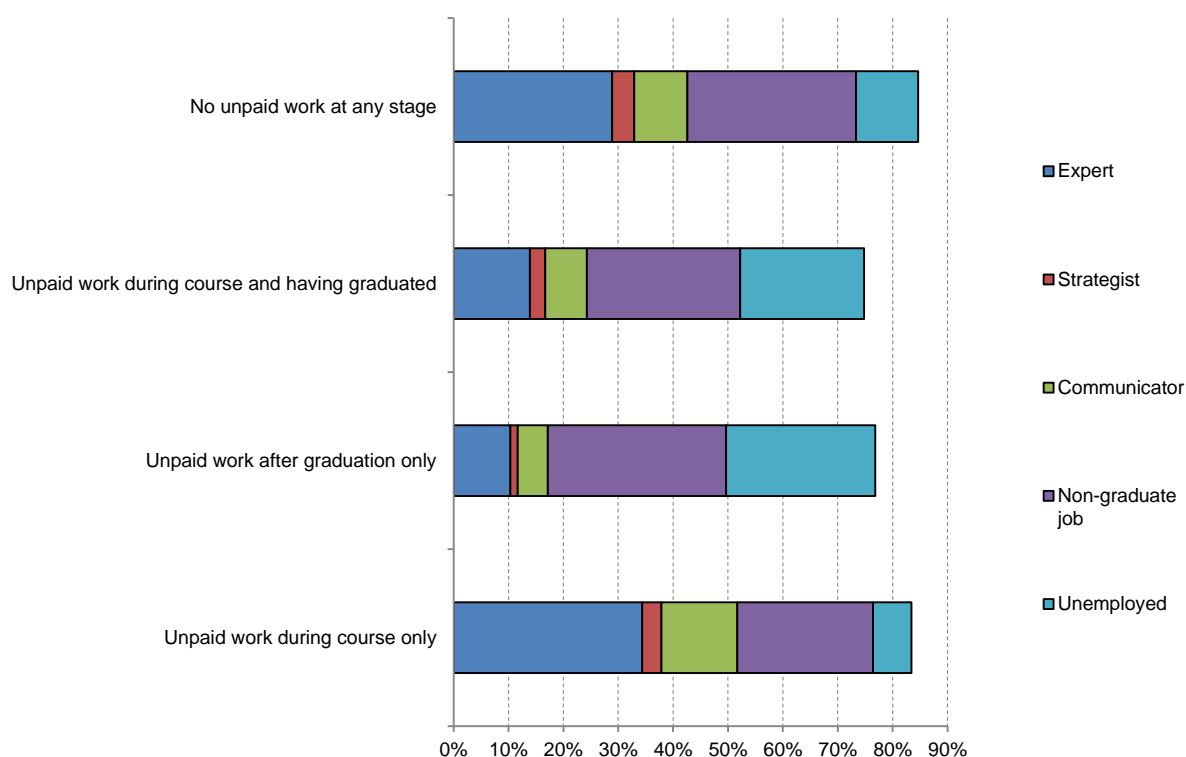
Source: Futuretrack Stage 4, all economically-active UK domiciled graduates (weighted)

Impact of unpaid work on early labour market outcomes

In this section we use multivariate analytical methods to disentangle the ways in which unpaid work is associated with the type of work in which the graduate is currently employed. First, we show the distribution of occupations by SOC(HE) and by sector for the jobs held by graduates at the time of the survey and the distribution of the incidence of unpaid work within these sectors.

Those who did no unpaid work at any stage have a current labour market status profile similar to those who did unpaid work during degree only, apart from that they are less likely to be employed in an Expert class of job and more likely to be unemployed or in a Non-graduate job, as shown in Figure 7.9. Those who did unpaid work both during their course and after graduating have a similar profile to those who did unpaid work after graduation only, both groups have a high likelihood of being unemployed or being in a Non-graduate job. Doing unpaid work after graduation only has the least favourable early labour market outcome for graduates.

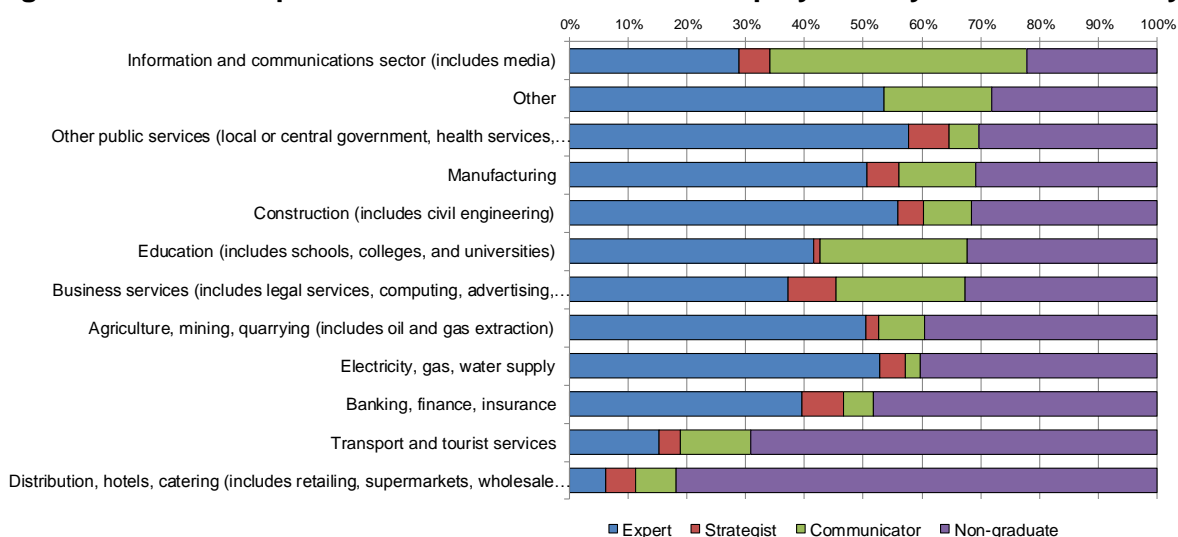
Figure 7.9: Current labour market situation of economically-active graduates by extent to which they had done unpaid work during or after graduation



Source: Futuretrack Stage 4, all economically-active UK domiciled graduates (weighted)

Figure 7.10 reveals the distribution of occupations within sectors, classifying occupations to the revised version of SOC(HE) we use throughout this report. Two sectors which have the highest proportions of non-graduate jobs are Distribution, Hotels and Catering, and Transport and Tourist Services.

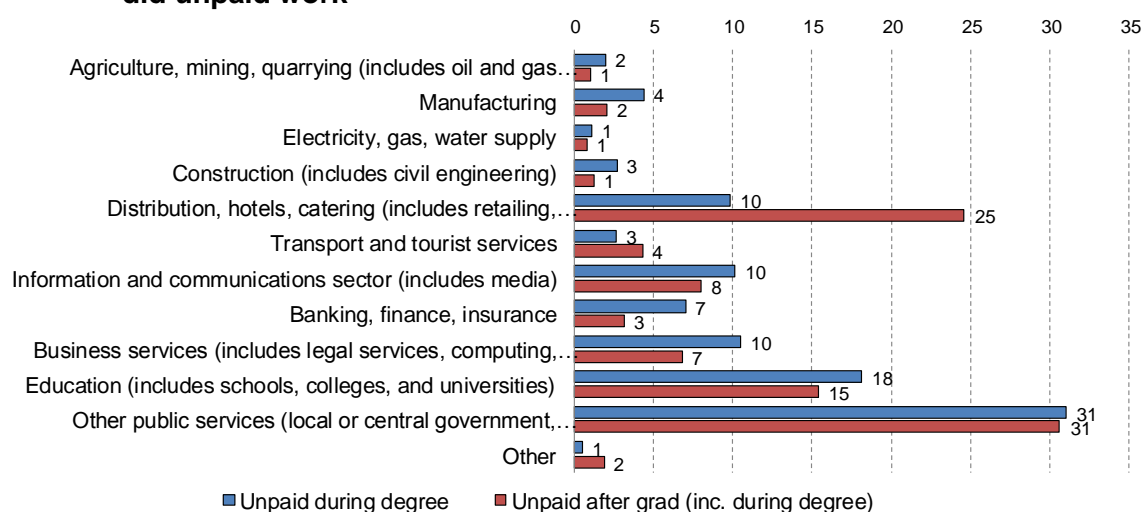
Figure 7.10: Occupational distribution of current employment by sectors of activity



Source: Futuretrack Stage 4, all economically-active UK domiciled graduates (weighted)

In Figure 7.11 the industries in which graduates are employed and when they undertook unpaid work are shown. Those who undertook unpaid work after they graduated were much more likely to be currently employed in the Distribution, Hotels and Catering Sector.

Figure 7.11: Industries in which graduates are currently employed and when they did unpaid work



Source: Futuretrack Stage 4, all economically-active UK domiciled graduates (weighted)

A multinomial logit analysis suggests that doing unpaid work at different stages of the respondents' histories is related to labour market outcomes. In the model the dependent variable is SOC(HE), our new classification of graduate jobs based on SOC 2010. The independent variable of interest is the type of unpaid work undertaken (1 'During course only', 2 'After graduation only', 3 'Both during course and after graduation', and 4 'No unpaid work'). First, the model is run with a standard set of control variables: age, sex, ethnicity, parental higher education experience and socio-economic background (Model 0). Then the unpaid work variable is added using 'No unpaid work' as the reference category (Model 1). Finally, the type of higher education institution, classified by access tariff requirements is also added (Model 2).

Detailed results from this analysis are presented in Appendix Table 7A.2. These show the relative risk ratios, or the odds ratios, of being employed in an Expert, Strategic, or Communicator type of graduate job relative to a Non-graduate job. A value less than one implies that this event is less likely, whereas a value greater than one implies that this event is more likely. Model 2 does fit better than models 1 and 0, as shown by the increase in the pseudo R² and the significant likelihood ratio.

Table 7.4 extracts the significant relationships from this analysis and presents these as the main factors affecting the likelihood of working in one of the three graduate categories of SOC(HE). Being female reduces the odds of being in an Expert or Strategist job, but not in a Communicator job, with women only 60 per cent likely to be employed in those roles relative to a non-graduate job. Older respondents compared to those aged 19-20 in September 2006 were twice as likely to be in an Expert job relative to a non-graduate job. Whether the respondent's parent has a degree was slightly significant in Models 0 and 1 but was no longer significant when HEI types were controlled for in Model 2. Belonging to a routine and manual socioeconomic group relative to managerial and professional group decreased the odds of being employed in Expert and Communicator roles compared to non-graduate jobs, but was not significant for Strategist roles.

Table 7.4 Main factors affecting the likelihood of working in an Expert, Strategic or Communicator type job relative to working in a Non-graduate job (SOC(HE) classifications).

Expert	Strategic	Communicator
Being female (-)	Being female (-)	
Managerial and professional parental background	Managerial and professional parental background	Managerial and professional parental background
Being older than 19-20 in September 2006		Non-white ethnic background (-)
Intermediate occupations parental background (-) Routine and manual occupations (-) (relative to managerial & professional parental background)	Intermediate occupations parental background (-) (relative to managerial & professional parental background)	Routine and manual occupations parental background (-) (relative to managerial & professional parental background)
Unpaid work during course only(+) Unpaid work after graduation only (-) Unpaid work during course and having graduated (-) (relative to no unpaid work)	Unpaid work after graduation only (-) (relative to no unpaid work)	Unpaid work during course only(+) Unpaid work after graduation only (-) (relative to no unpaid work)
Highest tariff university (+) High tariff university (+) (relative to Medium tariff university)	Highest tariff university (+) High tariff university (+) Overseas (+) (relative to Medium tariff university)	Highest tariff university Specialist HE college (relative to Medium tariff university)

Source: Futuretrack 2006, Stage 1- Stage 4, Full model (Model 2) variables significant at least at the 5% level. All economically-active UK domiciled graduates.

Indeed, a multinomial logit analysis (Appendix Table 7A.3) shows that undertaking unpaid work after graduation doubles the likelihood of being employed in the Distribution, hotels and catering sector relative to Other public services. On the other hand, undertaking unpaid work only during the undergraduate degree decreases the likelihood of being employed in Distribution and in Transport sectors relative to other public services.

Unpaid work undertaken at different times of the respondents' experiences of university has a varied impact on their current types of jobs. Undertaking unpaid work only during the course compared to doing no unpaid work increases the likelihood of being employed in an Expert or Communicator role by at least one and a half times relative being employed in a non-graduate job. However, undertaking unpaid work after graduation diminishes the odds of being employed in all three types of graduate jobs relative to a non-graduate job and relative to doing no unpaid work at all. Interestingly, doing unpaid work both during the course and after graduation also has a significant diminishing effect for being employed in an Expert role relative to a non-graduate job (the effect is also diminishing but not significant for Strategic and Communicator roles). Finally, as can be expected, having attended a high

tariff university compared to a medium tariff university generally increased the likelihood of being employed in all three types of graduate jobs.

Some of the reasons for the positive contribution of undertaking unpaid work during the undergraduate course but not after graduation towards working in an Expert, Strategist or Communicator role relative to a non-graduate job could be the following. Firstly, the unpaid work variable is composed of unpaid internships and voluntary work in non-profit organisations, with the work being related to the respondents' studies or career plans. It could be that internships, which tend to be completed during university, are more likely than voluntary work to lead to graduate-level jobs in that organisation after the respondent completes their degree. Another explanation could be that it may take longer to arrive at a suitable position in the labour market if one is undertaking unpaid work after graduation (even if some had been undertaken during the degree as well). It could be the case that unpaid work after graduation stops affecting the likelihood of being employed in graduate level jobs (or stops being significant) after more years of experience in the labour market. Another consideration would be to look at the composition of the industry sectors in which respondents who have undertaken unpaid work after graduation are currently employed, as shown in Figure 7.10.

Summary

In the earlier stages of the Futuretrack survey we found that access to funding had played a role in determining whether students took paid employment during their courses. Our findings confirm previous analyses that, since the 1990s in particular, increased financial pressure and higher levels of debt had fostered an increase in the proportions of students taking on paid work in parallel with their course-work during term.

The majority of Futuretrack respondents undertook some type of work experience during their undergraduate degree, including paid work, either for career development reasons or only for the money, vacation internships, sandwich placements and other structured shorter placements as well as unpaid work. Only 21 per cent of graduates did no work experience at all.

Work experience and other types of formal placements and assessed project work as part of a graduate's undergraduate course are a more common feature of study at HEIs outside the highest tariff group. Conversely, graduates from highest tariff HEIs were more likely than those of other types of HEI to have taken part in paid or unpaid work which was not a recognised part of their studies, although they are also the most likely to have undertaken no paid or unpaid work while in HE.

The provision of work placements and other work-based learning as part of undergraduate courses was lowest amongst graduates of Linguistics and Classics and Historical and Philosophical Studies, and highest amongst three of the most vocational subject groups: Medicine and Dentistry; Subjects allied to Medicine; and Education. Graduates of subjects which have a high number of teaching hours, including the Physical Sciences, Mathematical and Computational Sciences and Creative Arts and Design, were the least likely to have undertaken any form of paid or unpaid work during their studies.

Using the revised SOC(HE) classification categories for graduate jobs, Expert and Communicator type jobs have the highest proportions of graduates who did structured work placements. The Strategist job type has the highest proportion of respondents who undertook paid work only for the money. On the other hand, the Unpaid work and Unemployed categories have the highest proportions of respondents who did no work experience at all, as well as the lowest proportions of structured work placements. The Non-

graduate job category profile sits midway between the Graduate jobs the Unpaid work and the Unemployed categories.

Those who did any kind of work experience were more likely to say that they felt their job was very appropriate for someone with their level of skills and qualifications. However, those who did work placements integral to the course, a vacation internship or paid work for career experience had a higher proportion of respondents who felt that their job was very appropriate compared to those who did unpaid work for career experience or those who undertook paid work only for the money. The respondents who did no work experience at all also had the highest proportion who felt that their job was inappropriate for them, but they were also more likely to be in Non-graduate jobs or unpaid work.

There has been very little systematic investigation on the impact of unpaid work experience and internships on career outcomes. Our analysis suggests that the timing of doing unpaid work, during an undergraduate degree or after graduation, can lead to different early career outcomes for graduates.

Most graduates did no unpaid work at all, and of those who did undertake it, the majority did so during their undergraduate degree only. A further 6 per cent did unpaid work both during their course and after graduation, and 5 per cent after graduation only.

The subject group with the lowest incidence of unpaid work is Mathematical and Computer Sciences. Social studies and Law subjects, Medicine and related, and Education subjects have the highest proportions of respondents who did unpaid work during their degrees. Graduates from Creative Arts and Design subjects had the highest proportion of respondents who did unpaid work after graduation only. For interdisciplinary subjects, those which involved a STEM subject were more likely to have done no unpaid work at all, and less likely to have done unpaid work during the degree than those which did not include a STEM subject.

Graduates who attended Highest tariff universities were most likely to do unpaid work during their course and least likely to do so after graduation. Those who attended Specialist HE colleges were the least likely to do no unpaid work at all, but also the most likely to do so after graduation.

Respondents who have dependants, either adults or children under the age of 18, living with them are more likely to have done unpaid work after graduation only or both during course and after graduation.

Unpaid work undertaken at different times of the respondents' experiences of university has a varied impact on their current types of jobs, even when controlling for background characteristics and types of HEI attended. Undertaking unpaid work during the course only compared to doing no unpaid work increases the likelihood of being employed in an Expert or Communicator role by at least one and a half times relative being employed in a non-graduate job.

However, undertaking unpaid work after graduation diminishes the odds of being employed in all three types of graduate jobs relative to a non-graduate job and relative to doing no unpaid work at all. Interestingly, doing unpaid work both during the course and after graduation also has a significant diminishing effect for being employed in an Expert role relative to a non-graduate job (the effect is also diminishing but not significant for Strategic and Communicator roles).

Part of the reason for the above finding could be that graduates who undertook unpaid work after they graduated were much more likely to be currently employed in the Distribution,

hotels and catering industry sector, which also has largest proportion of non-graduate jobs compared to other industry sectors.

CHAPTER 8

Non-academic HE resources available to students: the impact of participation in extra-curricular activities and careers services on access to opportunities

Introduction

It has long been recognised that HE experience is not limited to the academic arena. By focusing on engagement with the non-academic aspects of HE, this chapter examines the ways in which the advantages and disadvantages that students bring with them to HE, in terms of their personal characteristics, prior experiences and knowledge, affect the ability of different categories of students to develop their generic skills and competences. These, in turn, may be related to their potential to access and gain the employment opportunities they aspire to in the increasingly competitive graduate labour market.

We begin by examining the HEI extra-curricular experiences reported by the Futuretrack graduates while they were undergraduates. We then go on to assess whether those who participated in extra-curricular activities had different labour market outcomes than those who did not, and which groups of graduates were more or less likely to have had the opportunities to become involved. Also in this section, the experiences of those graduates who had taken a position of responsibility as an office holder or student representative early in their university careers with those who had not are compared.

The second section looks at an issue that has been shown at previous stages of the longitudinal survey to be related to participation in extra-curricular activities: living at home while studying. It compares the experiences of two different groups of graduates who lived at home while studying: older students who it may be assumed lived in their own home, and younger students, who it is assumed remained in their parental home while studying. The experiences and labour market outcomes of these two groups are compared to those of the graduates who had a more traditional HE experience living away from home.

The third section of the chapter considers the impact of engagement with careers advice services while in HE, looking first at use of the Careers Advice Service at the respondent's HEI and then considering access to alternative sources of careers advice and guidance.

The impact of extra-curricular activities

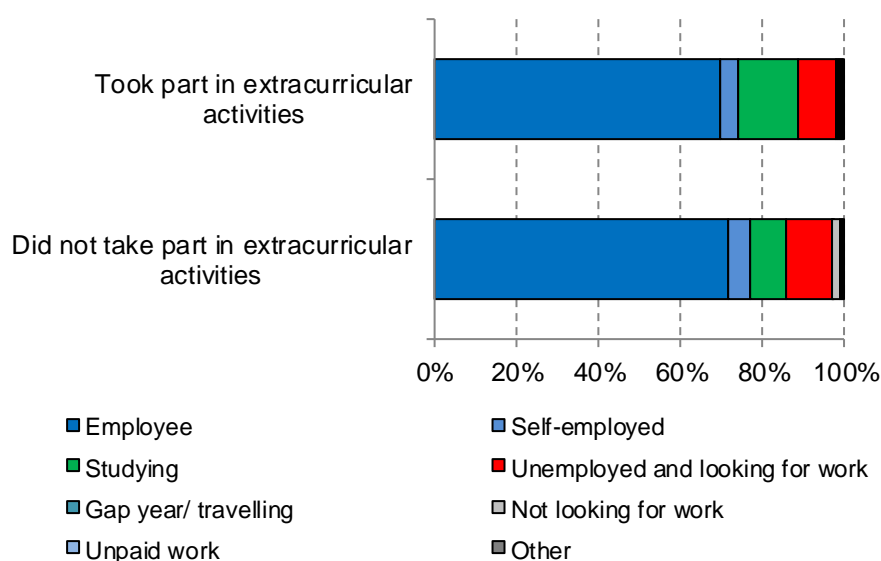
Disengagement from extra-curricular experiences has been found to have far-reaching impacts on students beyond their time in HE (Redmond, 2006). Engagement in extra-curricular activities allows graduates to demonstrate many of the skills and attributes employers are seeking in potential recruits, including leadership and the ability to work in a team. Consequently, Brennan and Shah (2003) noted that engagement in extracurricular activities while in HE is one of the 'intervening factors' which can improve opportunities in the labour market for students who may otherwise be disadvantaged by their social or economic background. However, authors such as Cooke *et al*, 2004; Crozier (2008), Lehmann (2009), Reay *et al* (2009) and Walpole (2003) have noted a tendency for non-traditional students to engage less in extra-curricular activities, choosing to focus particularly on academic achievements, and having little understanding of the importance of extra-curricular activities.

"They have had to focus so intently on achieving academic success in their chosen field that they have foregone wider cultural accomplishments and they are open about their efforts. What they do is work and work extremely hard" (Reay *et al*, 2009:1109)

At the earlier stages of the survey, Futuretrack repeatedly indicated the impact of socio-economic background on engagement in paid work, and longer hours of such work during

term unrelated to coursework, on less advantaged students, and of work related to responsibilities for others and within the community of older mature students that conflicted with their ability to take advantage of extra-curricular opportunities available to students. This was discussed earlier in Chapter 7. Figure 8.1 shows the distribution by main activity at the time of the Stage 4 survey of graduates who took part in extra-curricular activities, showing that those who had done so were not significantly more likely to be in employment than those who did not, but they were slightly less likely to be currently unemployed and more likely to have remained in full-time study after graduating from their undergraduate course (14 per cent compared to 9 per cent).

Figure 8.1: Current activity by whether graduates took part in extra-curricular activities

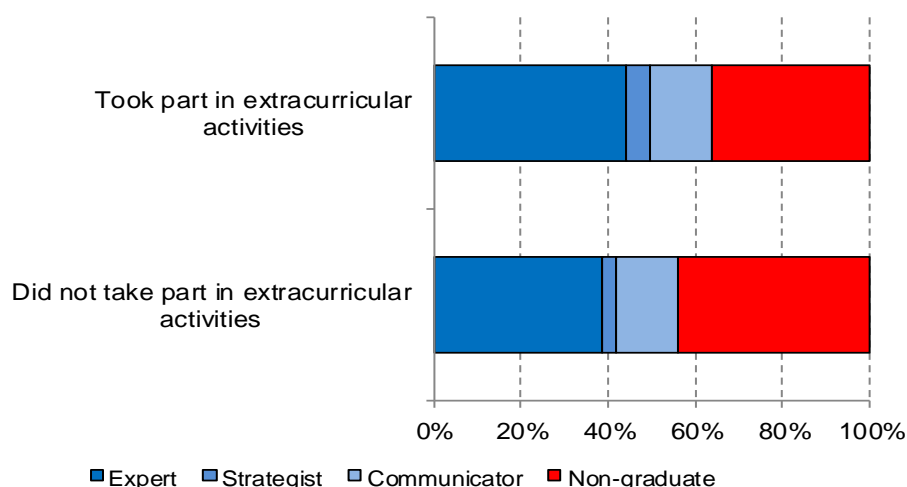


Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 2 and 4 (weighted)

However, Figure 8.2 shows that there is a greater difference when looking at the types of jobs in which the two groups of graduates were currently employed. Graduates who had taken part in extra-curricular activities were more likely than those who had not to be in a graduate job. Of those who took part in extra-curricular activities, 36 per cent were in non-graduate employment, compared to 44 per cent of those who had not. This suggests that, as has been shown in surveys with traditional graduate employers in the past, those currently recruiting for graduate jobs value evidence of such experience, according to information supplied by the respondents, and appear to have used participation in extra-curricular activities as a means of differentiating between applicants with similar academic qualifications.

“It’s all about the extra-curricular items I did such as AIESEC the business organisation for students that got me the career I have today. The degree is just a tick box in the employers checklist; not what they will delve into strongly when it comes to selection” [Business and Administrative Studies, Highest tariff university]

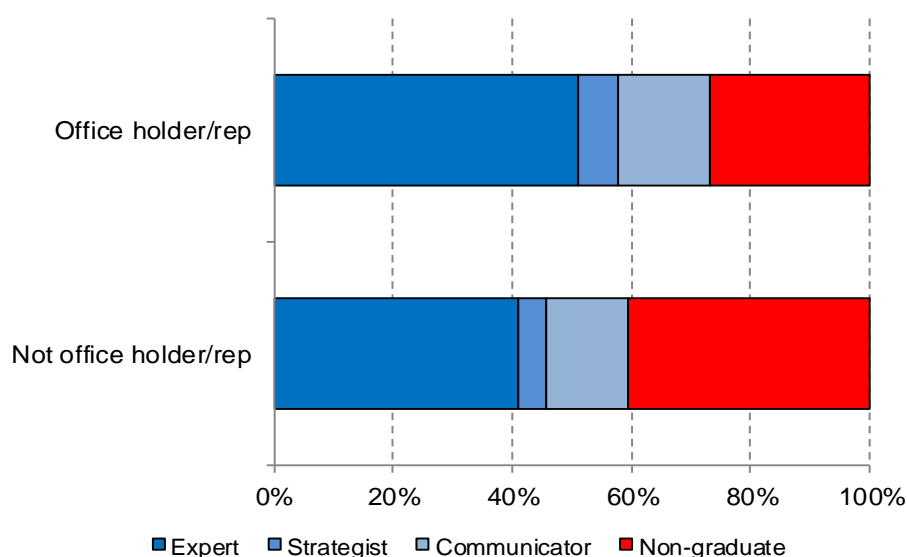
Figure 8.2: SOC(HE)2010 classified occupations of graduates' current jobs, according to extra-curricular participation



Source: Futuretrack combined dataset. UK Graduates currently in employment who participated in both Stages 2 and 4 (weighted)

The value of extra-curricular activities in accessing appropriate employment is further demonstrated when looking at the difference between graduates who, at Stage 2, had been office holders or student representatives, largely as a part of their extra-curricular participation. Over a quarter (27 per cent) of graduates who had been an office holder or student representative were in non-graduate employment, but this compared with 40 per cent of those who had not, shown in Figure 8.3.

Figure 8.3: SOC(HE) group of graduates' current occupation by whether they had been an office holder or student representative



Source: Futuretrack combined dataset. UK Graduates currently in employment who participated in both Stages 2 and 4 (weighted)

Over half of the graduates (52 per cent) who had taken part in extra-curricular activities said their job was done only or mostly by graduates, compared to 45 per cent of those who had not taken part, while more than a quarter (26 per cent) of those who had not taken part in

extra-curricular activities said their job was done mainly or only by non-graduates, compared to 19 per cent for those who had done so. Similarly, 60 per cent of those who had been an office holder or student representative said that their job was done by mostly or only by graduates and only 16 per cent said their job was done mainly or only by non-graduates, compared to 48 per cent and 22 per cent for those who had not been office holders.

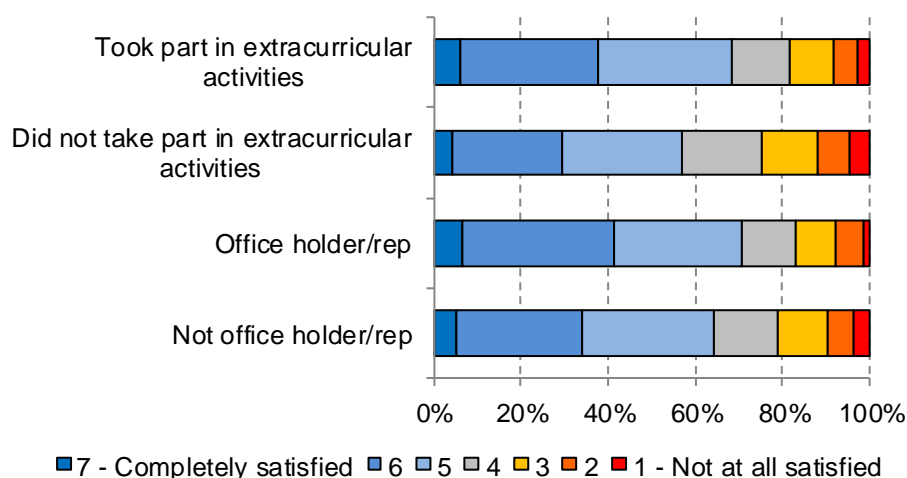
A similar difference can be seen when comparing the salaries of those who participated or did not participate in extra-curricular activities. Half of the graduates (51 per cent) who took part in extra-curricular activities were earning less than £21,000 in their current job while 27 per cent were earning less than £15,000, but conversely, 56 per cent of those who did not take part in extra-curricular activities earned less than £21,000 and 31 per cent earned less than £15,000. As before, the gap is wider when comparing those who had and had not been office holders. Of those who had been office holders, 41 per cent earned less than £21,000 and 21 per cent earned less than £15,000, while 55 per cent of those who had not been office holders earned less than £21,000 and 30 per cent earned less than £15,000 per annum.

A likely consequence of this is that graduates who had taken part in extra-curricular activities were somewhat more likely to have been in a job they thought was appropriate for someone with their skills and qualifications. Of those who had taken part in extra-curricular activities, 64 per cent agreed to some extent (selected 1 to 3 on a 7 point scale) that their job was appropriate, compared to 59 per cent of those who had not taken part. The gap between those who had and had not been office holders was once again greater, at almost ten per cent. Those who had taken part in extra-curricular activities and those who had been office holders were also more likely to be satisfied with their current job. Over two thirds (68 per cent) of those who had taken part in extra-curricular activities agreed to some extent that they were satisfied with their current job, as did 71 per cent of those who had been office holders or student representatives. The comparable figure for those who had not taken part in extra-curricular activities was 64 per cent, and for those who had not been office holders it was 66 per cent.

Graduates who had taken part in extra-curricular activities and those who had been office holders were similarly more confident about their long-term career prospects. Exactly three quarters of those who had been office holders agreed to some extent (*i.e.* had chosen 1 to 3 on a 7 point scale) that they were optimistic, as did 70 per cent of those who had taken part in extra-curricular activities while in HE. The comparable proportions were 65 per cent of those who had not been office holders and 59 per cent for those who had not taken part in extra-curricular activities.

Finally, as Figure 8.4 shows, graduates who had taken part in extra-curricular activities while in HE and those who had been an office holder or student representative during that time were more likely to agree that they were satisfied with their lives overall.

Figure 8.4: Satisfaction with life overall by whether graduates had taken part in extra-curricular activities and whether they had been an office holder or student representative



Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 2 and 4 (weighted)

All of these findings, of course, are likely to reflect the confluence of experience of these activities and other characteristics and attributes that affect the propensity to engage in such activities and volunteer or be elected to be an office-holder when they do, as will be discussed below when we compare the socio-demographic characteristics of the relevant sub-groups discussed.

Who participated in extra-curricular activities?

Overall, three quarters (75 per cent) of the graduates who took part in both Stages 2 and 4 had taken part in some kind of extra-curricular activities during their time in HE, while 17 per cent had been an office holder or student representative early in their HE careers, but the range of extra-curricular activities and extent of participation were wide, and the relative significance of different kinds and degrees of participation requires further detailed investigation and analysis.

As has been mentioned, some groups have been identified in previous research as being less likely to participate in extra-curricular activities, either because they feel excluded, do not understand the value of them or, particularly in the case of mature students, lack time – and the findings of this research confirm these patterns. This means graduates with attributes and characteristics associated with social and educational disadvantage that have been associated with labour market disadvantage amplify their relative disadvantages by failing to reap the benefits of the non-academic aspects of HE. Which employer would not be impressed by those at the other extreme with the energy, competence, confidence and ability demonstrated by the respondent below, regardless of age, socio-economic background or type of university attended? But despite the incidence of academic achievement among less traditional students, they exhibit lower incidence of the confidence and extra-curricular activism than traditional socially-advantaged peers.

“Whilst doing my undergrad course (and receiving a first), I still had enough time to learn two martial arts, rock climb, learn Mandarin and work various jobs over my degree” [Professional and Managerial background, Historical and Philosophical Studies, Medium tariff university]

As Table 8.1 shows, among the Futuretrack graduates, relative differences in participation are most evident when looking at the socio-economic class of the graduates and their

parents' participation in HE, but there is a strong association with age in the initial likelihood of participating, with a progressive decline between the youngest and oldest age-groups. Only when looking at ethnicity was the proportion of any group of non-traditional graduates who had participated in extra-curricular activities higher than the proportion of traditional graduates. Graduates from an ethnic minority background were also more likely than White students to have been an office holder, and graduates who were aged between 21 and 25 when they entered HE were more likely than those from other age groups to have been an office holder.

"[My university] was hard to make friends in. It was very far from home and I didn't feel wholly welcome. Many people were "posh" in a way that was discomfiting. The expense of living was great and the standard of accommodation- outside of university- was poor"
[Routine and manual background, Linguistics and Classic, Highest tariff university]

"[My university] was a bit 'upper class' I didn't feel I really fit in or got the true student experience I might have elsewhere" [Intermediate occupational background, Combined studies, Highest tariff university]

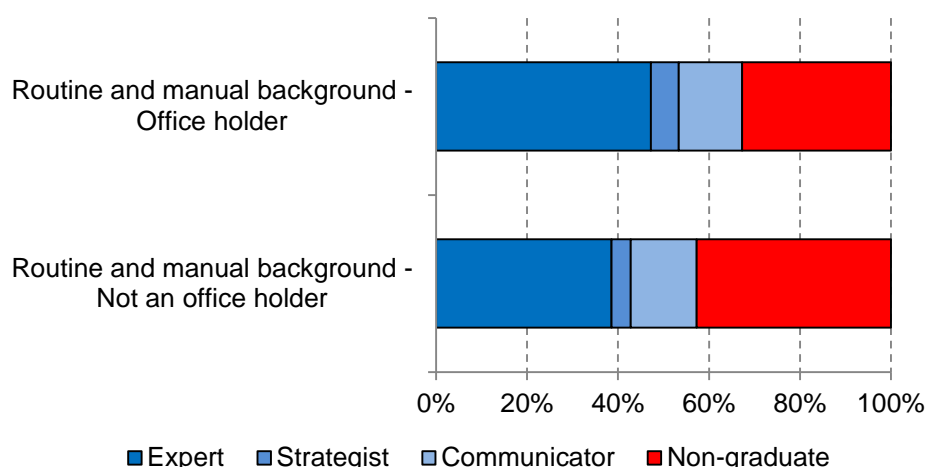
Table 8.1: Participation in extra-curricular activities and office holders by background

	% who participated in extra-curricular activities	% who were an office holder or student representative
Higher managerial or professional background	80	20
Intermediate occupational background	71	15
Routine or manual background	67	12
Both parents have a degree	87	25
One parent has a degree	77	17
Neither parent has a degree	70	15
Age 18 on entry to HE	81	18
Age 19-20	79	17
Age 21-25	68	19
Age 26 and over	58	14
Long-term illness or disability	73	19
No long-term illness or disability	75	17
Male	79	19
Female	72	16
Asian	76	16
Black	83	22
White	75	17

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 2 and 4 (weighted)

An example of the extent to which taking part in extra-curricular activities and being an office holder or student representative while in HE can be seen to have been an advantage is when looking at the current occupations of graduates from a routine and manual background. As Figure 8.5 shows, graduates from a routine and manual background who had been were less likely to be in non-graduate employment than those who had not been an office holder (33 per cent compared to 43 per cent).

Figure 8.5: SOC(HE) group of graduates from a routine and manual background by whether they were an office holder



Source: Futuretrack combined dataset. UK Graduates from a routine and manual background in employment who participated in both Stages 2 and 4 (weighted)

There is, however, no significant difference apparent between graduates from a routine and manual background who had participated in extra-curricular activities and those who had not (42 per cent compared to 43 per cent). Participation in extra-curricular activities also appears to have had a negligible impact on the earnings of graduates from a routine and manual background (56 per cent compared to 54 per cent who had not participated earned less than £21,000 *per annum*), while the comparable proportions for graduates from a routine or manual background who had been an office holder or not were 45 per cent and to 57 per cent: a significant difference. Employer surveys of the skills and attributes they seek in recent graduates consistently list 'leadership potential' as one of their priorities, and this demonstrates that they clearly do take evidence of leadership roles in extra-curricular activities as a positive indicator.

The impact of living at home while studying

Previous Stages have shown that living at home limited the choices students had when deciding where to study, as well as the extent to which students were able to participate in extra-curricular and other activities at their HEI (Purcell *et al*, 2009). This means that it can limit the extent to which students develop the kinds of social networks and social capital which can be helpful in finding a graduate job (Blasko, 2002; Furlong and Cartmel, 2005; Thomas and Jones, 2007).

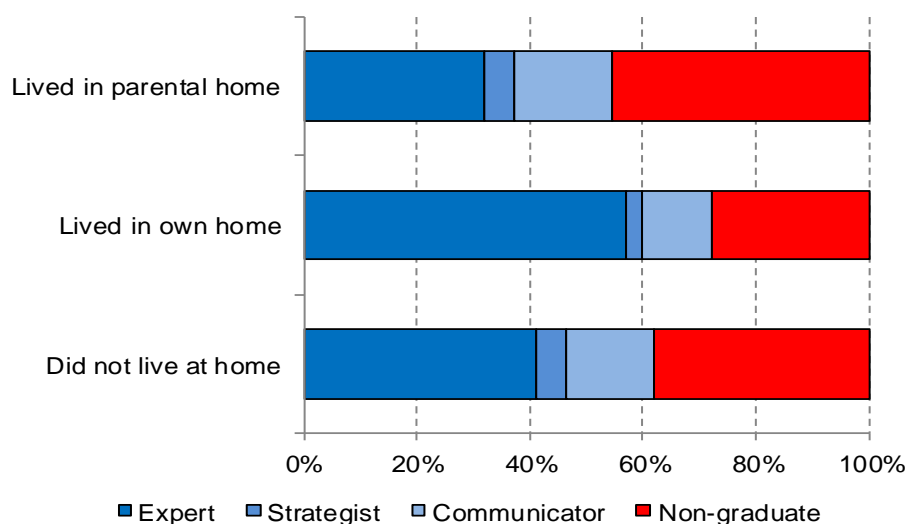
Living at home while in HE can also be indicative of more limited geographical mobility generally, resulting in exclusion from certain types of employment due to a lack of financial resources, family commitments or a general wish to remain in a familiar area.

When comparing those who had lived at home while they studied and those who did not, there was little difference in the likelihood that those from each group would be in employment or in the likelihood that those in employment would be in a graduate job. However, the graduates who had lived at home were not homogenous: rather, there were two distinct groups; those who had lived in their own home when they studied and those who had remained in their parental home. To differentiate between these two groups, an assumption was made that those who were mature students (aged over 21) when they entered HE were living in their own home, while those who entered HE as younger students were living in their parental home. Comparison between these two groups reveals that their HE experiences and labour market outcomes were different, but of course the age difference

between them must also be regarded as a differentiating factor, both positively and negatively, in terms of relative youth, greater maturity and also the likelihood of having less or more responsibility for their own day-to-day welfare and responsibilities to others.

Graduates who had lived in their parental home while they studied were more likely to be in employment, and their situation was broadly similar to that of graduates who had not lived at home. Graduates who had lived in their own home were more likely to not be working, studying or seeking employment. This is because this older group includes those who had retired, and who had often entered HE out of personal interest post-retirement, as well as a larger proportion of respondents who were caring for children. When looking at the type of occupation held by those in work at the time of the survey, as Figure 8.6 shows, graduates who had lived in their parental home while studying again showed a similar pattern to those who had not lived at home while they studied, although they were more likely to be in non-graduate jobs, whereas older graduates who indicated that they were living at home (and we assume that to be an independent home, as a householder or joint-householder or tenant), were much less likely to be in non-graduate employment (28 per cent, compared to 46 per cent who lived in their parental home and 38 per cent of those who did not live at home).

Figure 8.6: SOC(HE)2010 occupational category of employed graduates by accommodation while in HE



Source: Futuretrack combined dataset. UK Graduates in employment who participated in both Stages 3 and 4 (weighted)

A significant proportion of the older graduates who lived in their own homes had had work experience prior to entering HE, and some had been sponsored by their current employer to study. Consequently, this group would be expected to have an advantage in the labour market, albeit one that may be offset to a certain extent by the impact of their age, participation in extra-curricular activities and the impact limited mobility placed on their choice of HEI. It is notable that these older graduates were not significantly more likely to be working in jobs that were only or mainly done by graduates. Of the older students who had lived at home, 55 per cent were working in jobs done only or mainly by other graduates, as were 54 per cent of graduates who had not lived at home while they studied, but a much smaller proportion of graduates who had lived in their parental home when they studied were working in jobs done only or mainly by graduates (42 per cent). Similarly, 27 per cent of this younger group were working in jobs done only or mostly by non-graduates, compared to 19 per cent of those who did not live at home and 16 per cent of those who lived in their own homes. There is evidence that exclusion from various aspects of university life, and from

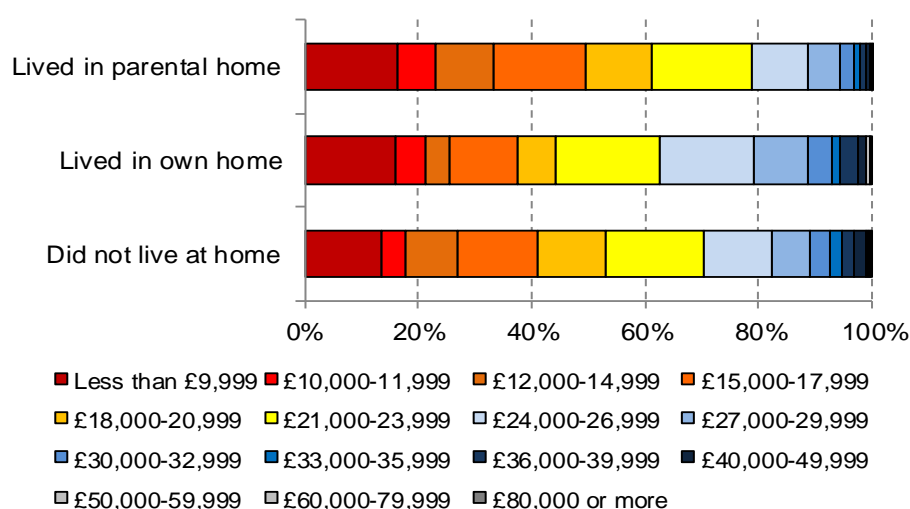
opportunities to mix with other students experienced by these younger students who remained in their parental home while studying, is associated with less advantageous career outcomes as well as a more stressful and less satisfying experience of being a student, as was explored fully in the Stage 2 Futuretrack survey report (Purcell *et al.* 2009: 45-69), where we were able to distinguish between those who, in their first year of full-time study, had lived in a variety of different kinds of student accommodation, those who lived at home with their partners and/or other family members, and those who lived alone in their own home. While it was older students who were most likely to report 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 at the time of the Stage 2 survey. Students living in their own homes were less likely to rate their accommodation as good or adequate in terms of convenience generally and in particular, convenience for their classes. Many travelled long distances to attend their HEI and reported that this meant that they were less able to take part in extra-curricular activities with their student peers. This was echoed most frequently by home-based respondents at Stage 4 who had attended the highest tariff universities. Respondents to the Stage 2 survey who were attending these types of HEI were most likely to report they had access to excellent extra-curricular facilities, and were most likely to have participated in these activities. The two Stage 4 graduates' comments below, when evaluating their HE experience with hindsight, exemplify this.

"I studied close to home and feel it was a mistake as it often isolated me from my peers"
[Linguistics and Classics, High tariff university]

"Those who were living away from home seem to have got more out of studying"
[Engineering and Technologies, Highest tariff university]

The labour market advantage of older students who had lived in their own home can also be seen when looking at the earnings of the different groups in their current job. As Figure 8.7 shows, graduates who had lived in their own home were the least likely age-group to be earning less than £21,000. However, the younger graduates, who it is assumed lived in their parental home, were much more likely to earn less than £21,000 than graduates who did not live at home, who were also likely to be younger when they entered HE. Of this group, 61 per cent were earning less than £21,000 and a third were earning less than £15,000 per annum. This is significantly higher than the proportion of graduates who did not live at home who were earning these figures (53 and 27 per cent respectively)

Figure 8.7: Current earnings by accommodation during HE



Source: Futuretrack combined dataset. UK Graduates in employment who participated in both Stages 3 and 4 (weighted)

As might be expected from what appears to be their less positive transition into the labour market, the younger graduates who had lived at home while studying were less satisfied with their current job and less likely to think that it was suitable for someone with their skills and qualifications than the older comparator group. Of those who it is assumed had lived in their parental home while studying, 64 per cent agreed to some extent that their current job was appropriate for someone with their skills and qualifications²⁵ i.e. they chose 1 to 3 on a 7 point scale, that they were satisfied with their current job, and 56 per cent said agreed to some extent that their job was appropriate.

The more positive labour market experiences of older graduates, whom it is assumed lived in their own home, is reflected in their more positive answers of 69 per cent satisfied to some extent with their current job and 70 per cent considering that their job was appropriate²⁶. However, this group was marginally less positive than the younger home-based graduates about their long-term career prospects and both were significantly less positive than graduates who had not lived at home:

- 58 per cent of the graduates who lived in their own home while studying agreed to a greater or lesser extent that they were optimistic about their long term career prospects;
- 62 per cent of those who lived in their parental home did so; but
- 71 per cent of those who did not live at home while studying were optimistic.

The variations may well reflect other factors which could impinge upon career prospects, notably age, local labour market conditions and class of degree. The proportion of graduates who lived in their parental home who gained a 1st or 2:1 was 70 per cent, five per cent lower than the proportion of graduates who lived in their own home who achieved a similar degree classification, and eight per cent lower than the proportion of graduates who did not live at home while they studied.

Despite these differences in perceptions about their future careers, when the different groups of graduates were asked to assess how satisfied they were with their lives currently, the proportions who agreed that they were, to some extent, satisfied were very similar. There is no difference between the proportions of graduates who did not live at home and those who had lived in their own homes, with two-thirds (67 per cent and 66 per cent respectively) reporting that they were satisfied with their lives overall, and the proportion of the younger graduates assumed to have stayed in their parental homes was, at 63 per cent, only marginally smaller.

Who lived at home while studying?

Overall, 33 per cent of graduates lived at home while they were studying (based on their age when entering HE, 16 per cent are assumed to have lived in their parental home and 17 per cent are assumed to have lived in their parental home). As Table 8.2 shows, there were significant differences when looking at almost all personal characteristics. There was one case where a group of non-traditional students was less likely to live at home than their comparator traditional group – the students with a long-term illness or disability. However, a much higher proportion of this group had lived in their own home when they studied, which is

²⁵ In response to the following question: On a scale of 1-7, where 1 means 'ideal' and 7 means 'very inappropriate', how appropriate do you think your current job is for somebody with your skills and qualifications', they chose 1-3.

²⁶ The comparative proportions reported by those who did not live at home while studying were 67 per cent and 63 per cent respectively.

likely to reflect differences in financial support for those with certain disabilities, as well as the likelihood that this group will enter HE later due to their personal circumstances. There was similarly one case where students from a non-traditional group were less likely to live in their own home than their traditional comparator group. This was Asian students, but a third of Asian students had lived in their parental home while they studied. Asian students were more likely to enter HE directly from secondary education with traditional entry qualifications, and only a very small proportion were mature students when they entered HE, in comparison to Black ethnic minorities, where the average age at entry was significantly higher, as was the likelihood of entry as a non-traditional student with non-standard entry qualifications.

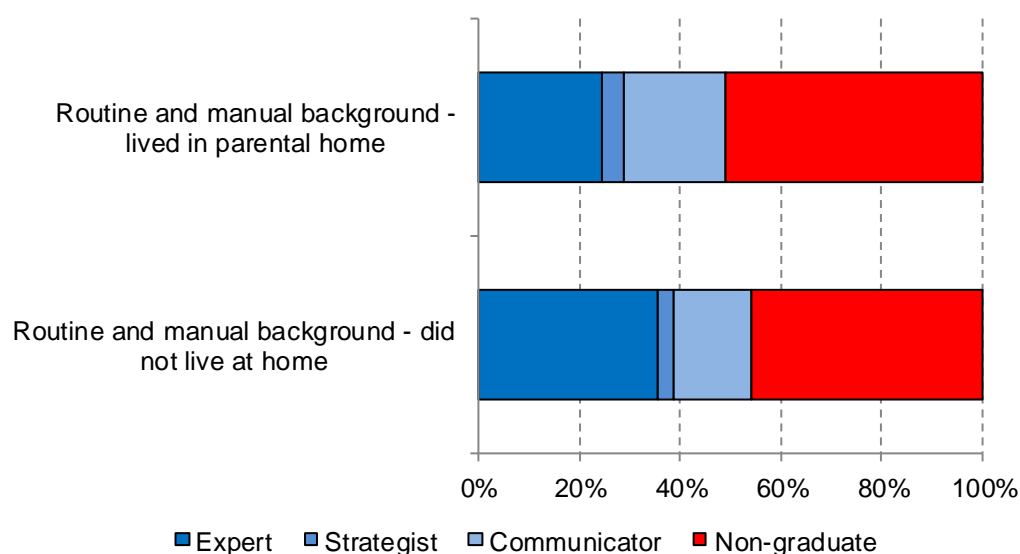
Table 8.2: Proportion of graduates who had lived at home while studying, comparing different socio-economic and demographic characteristics

	% who lived in parental home	% who lived in own home
Higher managerial or professional background	14	12
Intermediate occupational background	17	21
Routine or manual background	22	25
Both parents have a degree	12	6
One parent has a degree	14	13
Neither parent has a degree	19	24
Long-term illness or disability	15	32
No long-term illness or disability	16	16
Male	15	14
Female	17	19
Asian	33	5
Black	21	28
White	15	17
<i>All graduate respondents in this analysis</i>	<i>17</i>	<i>16</i>

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

Figure 8.8 compares the current occupational classification of graduates from a routine and manual background who lived in their parental home while studying and those who lived away from home. As it shows, graduates from a routine and manual background who lived in their parental home while studying were more likely to be in non-graduate employment (51 per cent compared to 46 per cent). They were also much less likely to be employed in an Expert occupation; the one most likely to have been accessed on the basis of possession of the specific knowledge they developed in HE. This may indicate that the students from a routine and manual background who lived in their parental home while they studied face greater restrictions than others when seeking graduate employment, such as lack of geographical mobility due to financial or social constraints and, as discussed in Chapter 7, less likelihood of having been able to take advantage of student or graduate internships with employers and access advantageous work experience. However, there was not a large difference in the earnings of graduates from a routine and manual background who had and had not lived at home, which may indicate that socio-economic background, rather than simply the fact of having lived at home during study, was the more significant variable in this case.

Figure 8.8: SOC(HE) of the current job of graduates from a routine and manual background by type of accommodation while in HE



Source: Futuretrack combined dataset. UK Graduates from a routine and manual background in employment who participated in both Stages 3 and 4 (weighted)

The impact of careers advice

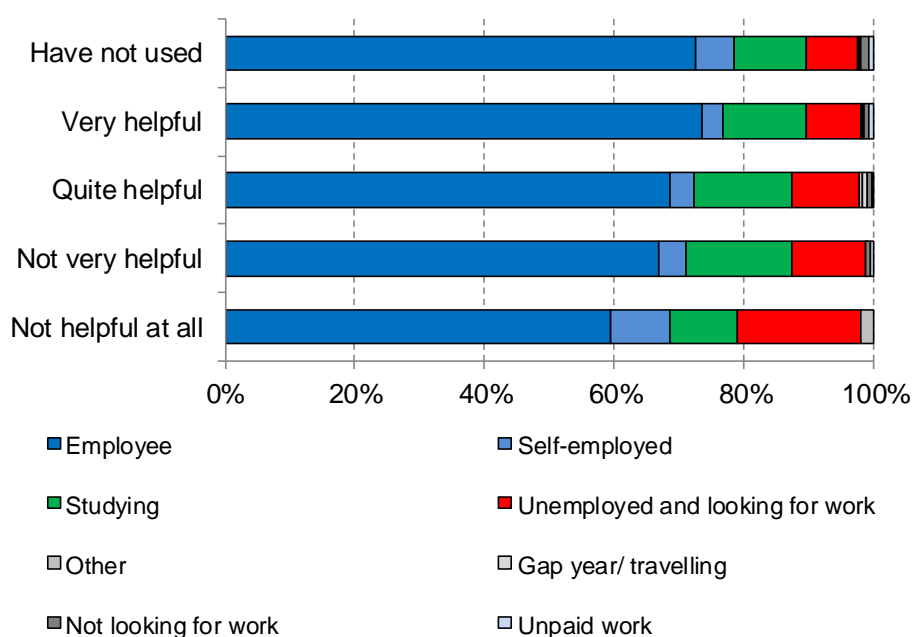
Previous Stages of the Futuretrack study have shown that despite the efforts made by HEIs to encourage students to engage with the advice and guidance available to them, the majority made little or no effort to investigate these resources until well into their HE careers.

Their use of the services was diverse and reported use at the earlier stages of the research revealed that those who had not used them or used them very selectively tended to be polarised between those with a clear idea of what they planned to do at the end of their courses, many of whom were studying on vocational courses with a clear professional objective, and paradoxically, those most likely to lack direction or have expectations of high employability options. This section looks specifically at use of the Careers Advice Services in HEIs. At Stage 3 of the Futuretrack research, when graduates were in their final year in HE, 44 per cent of respondents said they had not used their university careers service. This does not mean they had no careers advice while in HE. Specific departments within an HEI may have offered careers advice, as well as hosting events run by the Careers Service. Additionally, graduates reported seeking explicit career advice and informal guidance and information about potential employment opportunities and how to access them from outside their HEI, from friends and family, prospective employers and external providers of careers guidance. Almost half of the Futuretrack graduates had visited the Careers Service of their HEI and described it as very or quite useful (21 per cent and 26 per cent respectively), while fewer gave explicitly negative reports of it: 7 per cent described the careers advice they had received as 'not very helpful' and only 2 per cent considered it to have been 'not helpful at all'.

The impact of having used the Careers Services is difficult to interpret. As far as those who did so is concerned, those who described the advice they received as 'very helpful', followed by those who described it as 'quite helpful' were more likely to be in employment than those who reported less satisfactory use of the HEI-based services they had access to as students and those who had not used them at all. Reporting of self-employment was not significantly different among those who reported lowest satisfaction with the advice they had received

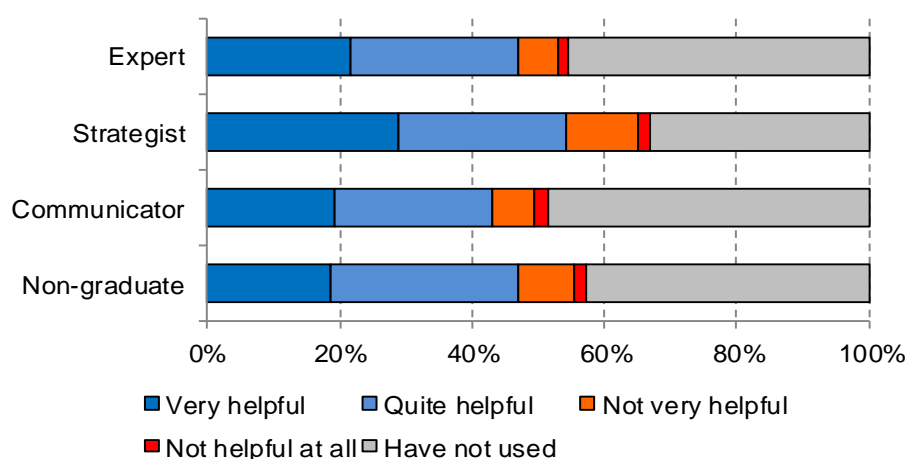
and those who did not use any services. As noted earlier in this report, self-employment is largely concentrated among particular subject groups and a significant proportion of these are studied at specialist HEIs where, on the one hand, students might be assumed to have had clearer discipline-related career objectives in their choice of institutional type, and where access to Careers Services may be both more specialised and more restricted for those who do not have such a career orientation. It may be that this group were simply less in need of advice, having a clearer idea of the career they hoped to pursue and how they would do so, or it may be that they received helpful advice elsewhere. Those who went on to do further courses may have sought information from their careers service or through their academic advisers, where most had access to both sources on campus.

Figure 8.9: Current activity by use of HEI Careers Service



Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

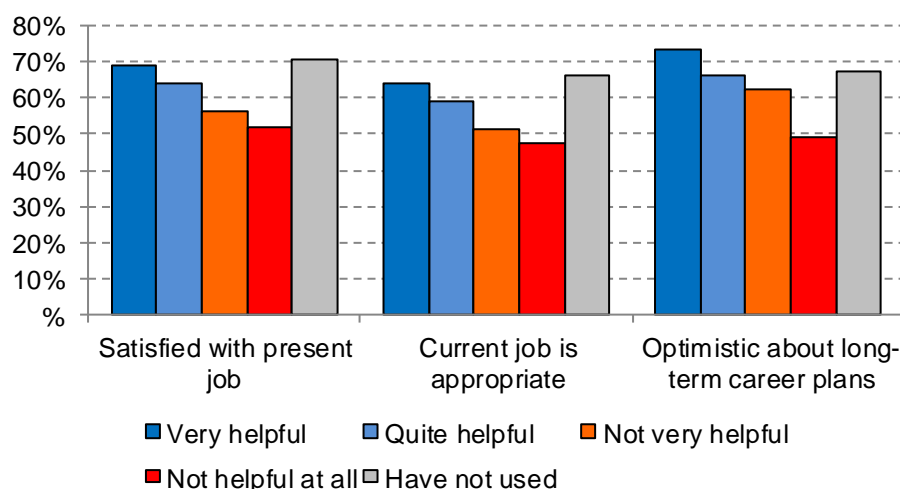
Similarly, looking at the proportions of each group employed in different occupational types shows that of the graduates who had visited their HEI's Careers Service and found it 'very helpful', 34 per cent were currently in non-graduate employment at the time of the survey. This was the smallest proportion of all the groups, but the figure for graduates who had not visited their Careers Advisory Service at all was only marginally higher, at 37 per cent. Of all the graduates employed in non-graduate jobs, 43 per cent had not visited their HEI Career Service, 19 per cent had done so and found it 'very helpful', 29 per cent described it as 'quite helpful', 8 per cent as 'not very helpful' and 2 per cent 'not helpful at all'.

Figure 8.10: SOC(HE) of current job of graduates by use of HEI Careers Service

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

Of the graduates who had used their HEI Careers Service while they were in HE, those who said the advice they had received was 'very good' were the most likely to be working in jobs done only or mainly by graduates, and the proportion in this type of work decreases as graduates' perceptions of the usefulness of the advice they received decreases. However, the group that was most likely to be working in a job done only or mostly by other graduates were those who did not visit their Careers Service during their time in HE. Graduates who used the Careers Service and found it very helpful were somewhat less likely than those who did not use the Careers Service at all to be working in a job done mostly or only by non-graduates (17 per cent compared to 19 per cent of those who did not visit the Careers Service). Graduates who visited the Careers Service and found it very helpful were also less likely than those who did not visit it at all to be earning less than £15,000 per year (22 per cent compared to 28 per cent) and to be earning less than £21,000 per year (46 per cent compared to 53 per cent). However, this benefit is realised only by graduates who had found the Careers Service 'very helpful'. Those who found it quite or less helpful were more likely than those who did not use it at all to be in one of the lower salary bands.

When looking at the various measures related to career satisfaction – whether graduates were satisfied with their current job, whether they considered it appropriate for someone with their skills and qualifications, and whether they were optimistic about their long-term career plans, as Figure 8.11 shows, it is again clear that those who visited the Careers Service and received advice they considered helpful were more likely to be satisfied with their careers than those who visited the Careers Service at their HEI and did not find the advice they received helpful. However, those who received advice they considered helpful were not significantly more likely to express satisfaction with their careers than those who did not visit the Careers Service at all during their time in HE.

Figure 8.11: Career satisfaction and optimism by view of helpfulness of HEI Careers Service

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

Similarly, graduates who had used the Careers Service and found it very helpful were the most likely to describe themselves as satisfied to some extent with their life overall (71 per cent), but those who used the Careers Service and found it quite or less helpful were less likely to be satisfied with their lives than those who had not used the Careers Service at all (68 per cent).

Who received 'very helpful' careers advice from their HEI's Careers Service?

It is clear from the preceding section that simply using the Careers Service has not resulted in graduates making a smooth transition into appropriate employment. It is the graduates who, at the end of their final year in HE, thought that the careers advice that they had received from their HEI's Career Service was very helpful who experience the most benefit. This section looks at whether there were differences in the extent to which graduates from traditional and non-traditional backgrounds believed the careers advice they had received to be 'very helpful'.

At Stage 2, when respondents were at the end of their first year in HE, students from a non-traditional background were found to be more likely to have sought careers advice at their HEI than traditional students. By the end of their last year in HE, this situation had changed and, as Table 8.3 shows, it was only in the cases of students with a long-term illness or disability and students from minority ethnic groups where non-traditional students were more likely than their traditional counterparts to have used their HEI's Career Service while they were in HE.

The proportion of each group who used their HEI Careers Service and received 'very helpful' advice shows a less clear picture, with the only significant difference between traditional and non-traditional students appearing to be in the case of ethnicity, with students from a minority ethnic background being much more likely to say that they visited their HEIs Careers Service and received 'very helpful' advice.

Table 8.3: Use of HEI Careers Service by background

	% used HEI Careers Service and received 'very helpful' advice	% did not use HEI Careers Service
Higher managerial or professional background	20	42
Intermediate occupational background	20	44
Routine or manual background	20	44
Both parents have a degree	20	36
One parent has a degree	22	40
Neither parent has a degree	19	46
Age 18 on entry to HE	21	40
Age 19-20	22	41
Age 21-25	18	47
Age 26 and over	17	53
Long-term illness or disability	18	38
No long-term illness or disability	20	43
Male	22	42
Female	19	43
Asian	26	33
Black	31	35
White	20	43
All graduate respondents in this analysis	23	44

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

It has been hypothesised that the graduates who did not visit their HEI's Careers Service received advice and guidance from another source. At the end of their final year in HE, the two resources most used by respondents, in addition to their HEI's Careers Advisory Service, were friends and family and teaching staff in their department.

Table 8.4 shows the proportion of graduates from different backgrounds who used friends and family and teaching staff in their departments for careers advice while they were in HE. It shows that with the exception of those from minority ethnic groups, graduates from a non-traditional background were less likely to have sought careers advice from their friends and family than those from a traditional background. They were also less likely to have sought careers advice from friends and family and found it 'very helpful' (again with the exception of graduates from a minority ethnic background). The picture is more mixed when looking at the proportions of respondents who had sought careers advice from staff in their academic department and found it 'very helpful'.

The smaller proportions of non-traditional students who received careers advice from family and friends and who found this advice useful, the correlation between socio-economic advantage, positive access to such advice and outcomes, echoes the findings at Stage 1 when, as applicants to HE, respondents had reported the careers information, advice and guidance they had had access to prior to making their HEI subject, course and HEI choices. These findings emphasise the role played by social networks developed both before and during HE, and in particular the importance of having social networks which include those with the social and cultural capital to provide useful, relevant advice. Overall, 20 per cent of graduates in non-graduate occupations said that they did not approach family and friends for careers advice, compared to 17 per cent of those in Strategist roles, 18 per cent in

Communicator roles and 24 per cent in Expert roles. However, those in non-graduate jobs were the least likely to say that the advice they had received was 'very helpful'. Of those graduates in non-graduate jobs, 28 per cent said they had sought advice from family and friends and it had been very helpful, compared to 31 per cent in Expert roles, 37 per cent in Communicator roles and 38 per cent in Strategist roles.

Table 8.4: Use of family and friends and department teaching staff for careers advice, by background

	% used friends and family (% used them and found them very helpful)	% used advice from department teaching staff (% used them and found them very helpful)
Higher managerial or professional background	84 (33)	68 (28)
Intermediate occupational background	76 (26)	70 (26)
Routine or manual background	74 (27)	72 (29)
Both parents have a degree	87 (36)	70 (25)
One parent has a degree	85 (31)	67 (28)
Neither parent has a degree	75 (28)	71 (29)
Age 18 on entry to HE	84 (33)	68 (26)
Age 19-20	84 (32)	71 (27)
Age 21-25	74 (26)	74 (33)
Age 26 and over	63 (23)	68 (33)
Long-term illness or disability	73 (27)	70 (33)
No long-term illness or disability	80 (30)	69 (28)
Male	80 (30)	71 (27)
Female	80 (30)	69 (29)
Asian	85 (33)	64 (26)
Black	85 (42)	62 (27)
White	79 (30)	70 (28)

Source: Futuretrack combined dataset. UK Graduates who participated in both Stages 3 and 4 (weighted)

Summary

This chapter has shown that disadvantage in the personal characteristics and experiences graduates brought to higher education has affected participation in activities which had the potential to enable them to reap the rewards of HE when in the labour market.

There is evidence that participation in extra-curricular activities while in HE is associated with positive labour market integration. In particular, graduates who were office holders or student representatives while in HE, indicating experience of leadership and roles of responsibility, had more positive outcomes.

Graduates who took part in extra-curricular activities, and those who were office holders, were less likely to be unemployed, and more likely to be employed in a graduate job. This demonstrates the value employers place on such activities as a means of demonstrating desirable characteristics, such as team work and leadership, and in particular the value placed on these activities by employers recruiting in areas of traditional graduate employment. As increasing proportions of graduates leave HE with a 1st or 2:1 (the traditional requirement for employment in a graduate job), 'added value' in the form of extra-curricular experience, along with work experience, outside academic studies has become an

increasingly important way graduates may set themselves apart from others in their graduating cohort.

Graduates with extra-curricular experience while in HE were less likely to be earning a comparatively low salary, and those with experience of being an office holder or student representative were even less likely.

In part because of their easier transition into the labour market, graduates with extra-curricular experience and those who had been office holders were found to be more positive about their post-graduation careers. They were found to be more likely to agree to some extent that they were satisfied with their current job, to feel it was appropriate for someone with their skills and qualifications and to agree that they were positive about their long-term career prospects.

The findings so far indicate that participation in extra-curricular activities is clearly associated with labour market advantage. Earlier stages of the Futuretrack longitudinal survey and previous research has shown that some groups are less likely, due to a lack of finances, self-confidence or time, to have engage in extra-curricular activities. Among the Futuretrack graduates, socio-economic background appeared to have the closest relationship with whether a respondent had taken part in extra-curricular activities while in HE or been an office holder. Two thirds (67 per cent) of those from a routine and manual background had taken part in extra-curricular activities while in HE, compared to over three quarters (80 per cent) of graduates from a higher managerial or professional background. Similarly, 12 per cent of graduates from a routine and manual background had been an office holder, compared to 20 per cent of graduates from a higher managerial or professional background. A similar pattern was observed when looking at the proportions of each group whose parents had a degree.

When examining the comparative labour market experiences of graduates from a routine and manual background who did and did not have experience of extra-curricular activities in HE and who had and had not been an office holder, it was found that those students who had such experiences in HE were more likely to be in a graduate job. This suggests that participation in these activities can act as an intervening factor in enabling those from less advantaged backgrounds to gain access to similar opportunities to those from more advantaged backgrounds. Consequently, the lower proportions of graduates of graduates from a routine and manual background who have engaged in these activities, and the possibility that this is a result of exclusion based on personal characteristics, demonstrates the extent to which ability to make full use of HE experiences can further reinforce disadvantage, despite having the potential to enable graduates to overcome it.

Furthermore it may be that, as revealed by the multivariate analyses undertaken to explore questions about relativities in earnings and occupational outcomes in earlier chapters of this report, other variables associated with socio-economic background such as type of HEI, subject studied and access to social networks that facilitate labour market entry and achievement may be more important than socio-economic background *per se*. Further detailed analysis is required and will be undertaken to explore this, and also to investigate the significance of participation in different kinds of extra-curricular activities and the association of these with different groups of students and undergraduate contexts.

Previous Stages of the Futuretrack project have shown that students who lived at home while studying had different HE experiences than those who did not live at home, that living at home played a key role in determining the type of HEI they had access to and graduates who had chosen to study locally or within a relatively close distance to enable them to remain living at their existing homes, tended overall to be less positive about their experience of HE. This appeared to be the case regardless of whether a student lived in an

adult home with or without dependents or remained in their parental home while they studied. However, when examining the impact of having lived at home while studying on transition into the labour market, it was clear that not all groups of students who lived at home had the same experiences. Age was used as a proxy to differentiate graduates who had lived in their own home while they studied (older graduates who were aged 21 and over when they entered HE) and those who remained in their parental home (younger students aged under 21 when they entered HE).

Differentiating between these two groups revealed that students who lived in their own home appeared to be somewhat advantaged in the labour market, being more likely to be in employment, more likely to be in a graduate job, more satisfied with their current job and more likely to think that their job was appropriate for someone with their skills and qualifications. In part this is likely to be because of their greater labour market experience prior to, and sometimes during, HE. However, they were also found to be less likely to be positive about their long-term career prospects, which is likely to reflect their age and the amount of time they have to develop their careers.

Younger students, who it was assumed remained in their parental home when they indicated that they lived at home while they studied, were found to be the most likely to be working in a non-graduate job, the most likely to be earning less than £15,000 per annum, to be least likely to say they were satisfied to some extent with their current job and to agree to some extent that their job was appropriate for someone with their skills and qualifications and to be less likely to agree that they were positive about their long-term career prospects. They were also least likely to have achieved a 1st or 2:1 degree. This is an issue for policy makers. As tuition fees for HE rise, it is anticipated that a greater proportion of students will remain in their parental home while they study as a way of saving money.

Graduates from a routine and manual background, those who did not have a parent with a degree, female students and those from minority ethnic groups were all more likely to remain in their parental home while they were studying. With the exception of Asian students, graduates from all the non-traditional groups were also more likely than their more traditional comparator groups to live in their own home while they studied.

Comparison of graduates from a routine and manual background who remained in their parental home while they studied and those who left showed that those who left were less likely to be in non-graduate jobs.

The proportion of graduates who had visited their HEI Careers Advice Service while they were in HE was surprisingly low. At the end of their final year in HE, 44 per cent of graduates said that they had not visited their HEI Careers Service. When looking at the different labour market experiences of those who had and had not visited their Careers Service when in HE, the benefits, in terms of the proportions who were in graduate employment, were unclear, as those who had not visited their Careers Service were approximately as likely as those who had to be in a graduate job, and to be positive about their job.

A clearer difference was seen when considering graduates' perception of the value of the advice they had received. This showed that graduates who, at the end of their final year, before they had completed their transition into the labour market, thought that the advice they had received had been very helpful were the most likely of those who had received advice to be in graduate employment, although those who had not visited their Careers Service were even more likely. Those who had found their advice very helpful were slightly less likely to be working in a job that was done mostly or only by non-graduates and were the most optimistic about their long-term career plans.

There was similarly no clear picture when examining access to very helpful advice from HEI Careers Services. However, the relatively small proportion of graduates who used their HEI's Careers Advice Service indicated that graduates had sought careers advice elsewhere. The two most common sources for this advice were friends and family and department teaching staff, and it was in access to these resources that the impact of disadvantage became clearer. This was particularly the case when looking at the access of students from disadvantaged backgrounds to advice from their friends and family. Access to helpful advice from friends and family indicates that an individual has access to social networks comprised, at least in part, of individuals with knowledge and experience of the types of employment or further training the student aspired to enter. Access to these types of networks can be as a result of relationships which pre-exist HE or which are developed during a student's time in HE. When students come from a background where individuals with suitable knowledge and experience are relatively rare, networking in HE becomes increasingly important. However, as previous sections have shown, students from less traditional backgrounds are often limited in the extent to which they are able and/or willing to engage in networking with other students and in particular with those who have higher levels of social and cultural capital. Consequently, these more excluded students lack the resources to find graduate employment that their more advantaged peers possess, and as a result are more likely to become excluded graduates, working in non-graduate employment and not realising the social and economic benefits of HE.

The less positive labour market experience of graduates who did not take part in extra-curricular activities, who remained in their parental home when they studied, and who did not develop the kinds of social networks that provided them with helpful careers advice, and the extent to which such an activities are more likely amongst particular disadvantaged groups presents a challenge to the prevailing notion that HE participation is a vehicle for social mobility and reducing the impact of prior disadvantage. It instead suggests that there is a real possibility that prior disadvantage is further entrenched by the very different HE experiences of those from more and less advantaged backgrounds.

CHAPTER 9

Reflections on the benefits of HE. Would UK Futuretrack graduates make the same choices again?

Introduction

The longitudinal nature of the Futuretrack project means that changes in respondents' evaluations of the value and benefits of their HE experience can be examined. Of particular relevance is the extent to which changes have occurred as respondents have graduated and, in many cases, entered the labour market.

This chapter looks firstly at the changes that have occurred in respondents' evaluations of the extent to which different aspects of their higher education experience give them an advantage in the labour market. In particular, the subject they studied, their HEI and the skills they gained in HE are discussed with reference to the extent they are perceived to be beneficial when looking for the types of employment respondents were interested in entering in the short term. Were graduates correct about the factors that they anticipated would enable them to make a successful transition into the labour market? What have been the experiences of those graduates whose views have changed since they began seeking employment?

Following this, the chapter discusses changes in respondents' subjective satisfaction with their HE experience: whether, with hindsight, they consider that their course was good value for money; and whether, if they were starting again, they would choose to do the same thing again or change their course, HEI or even decide not to enter HE at all.

Finally in this chapter, the longer-term aspirations and values of the respondents are considered. Has the reality of entering the labour market, particularly at a time of recession, had an impact on how Futuretrack cohort see their futures?

Subject advantage

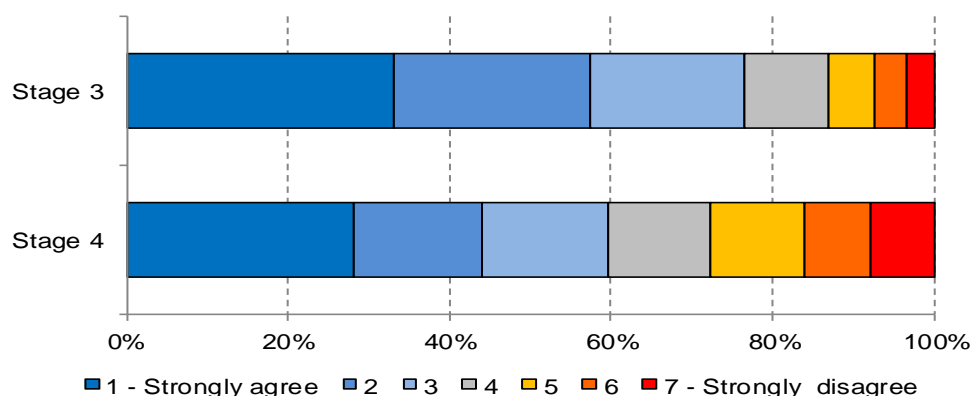
Respondents were asked in Stages 3 and 4 of the Futuretrack survey to what extent they agreed with the statement 'The undergraduate subject I studied has been an advantage in looking for employment' (Stage 4) and 'The subject I studied is an advantage in looking for employment' (Stage 3). While there has been a fall in the proportion of graduates who think their degree subject has been an advantage, the overall picture is still relatively positive, with the majority of respondents believing that their subject has been advantageous to some extent.

As Figure 9.1 shows, overall, the proportion of respondents who agreed to some extent (selected 1 to 3 on a 7 point scale) that their subject had been an advantage has fallen, from 77 per cent to 60 per cent, while the proportion of respondents who disagreed to some extent that their subject they studied has been an advantage more than doubled, from 13 per cent in Stage 3 to 28 per cent in Stage 4.

Several respondents commented that it was their impression that employers were much less interested in the subject they had studied than in the class of degree they achieved.

"It doesn't matter what subject is studied as long as the student gets a 2.1 degree as that is ALL graduate employers look for. The only time that employers need specified degrees is for specialised employment -medicine, engineering and accounting" [Business and Administrative Studies, Highest tariff university]

Figure 9.1: Responses to the statement ‘The undergraduate subject I studied has been an advantage in looking for employment’

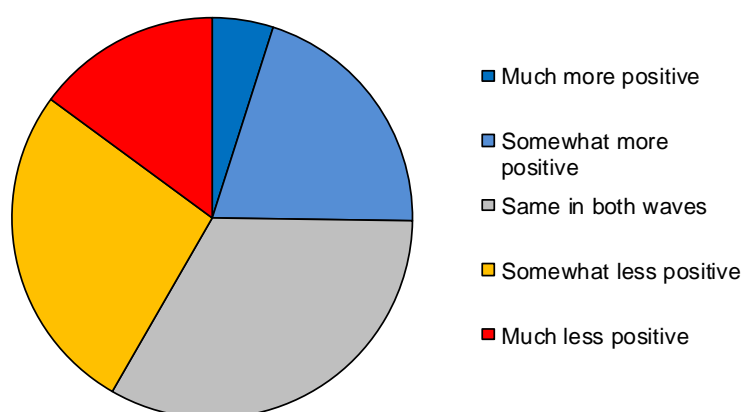


Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

However, it must be remembered that for many graduates, the purpose of entering HE goes beyond simply increasing their employability. Various surveys (see, for example, Lexmond and Bradley, 2010) have found that in addition to seeing HE as an investment for the future, graduates value it for the wider social and intellectual experiences it can provide. Analysis of Stage 1 data, collected when students were applying to enter HE, showed clearly that when deciding on their course of study, a large proportion of students chose to focus on subjects they enjoyed, were good at, or found worthwhile in some other way, rather than making decisions purely based on how well they perceived a subject to prepare them for future employment (see Purcell *et al.*, 2006).

Looking at the individual level shows the extent to which individual graduates have changed their opinion about whether their subject provided them with an advantage. As Figure 9.2 shows, a quarter of respondents were more positive in Stage 4 about the advantage their subject gave them, but 42 per cent had become less positive, and almost 15 per cent had become very much less likely to say that their subject was an advantage.

Figure 9.2: Change between Stages 3 and Stage 4 ‘The undergraduate subject I studied has been an advantage in looking for employment’



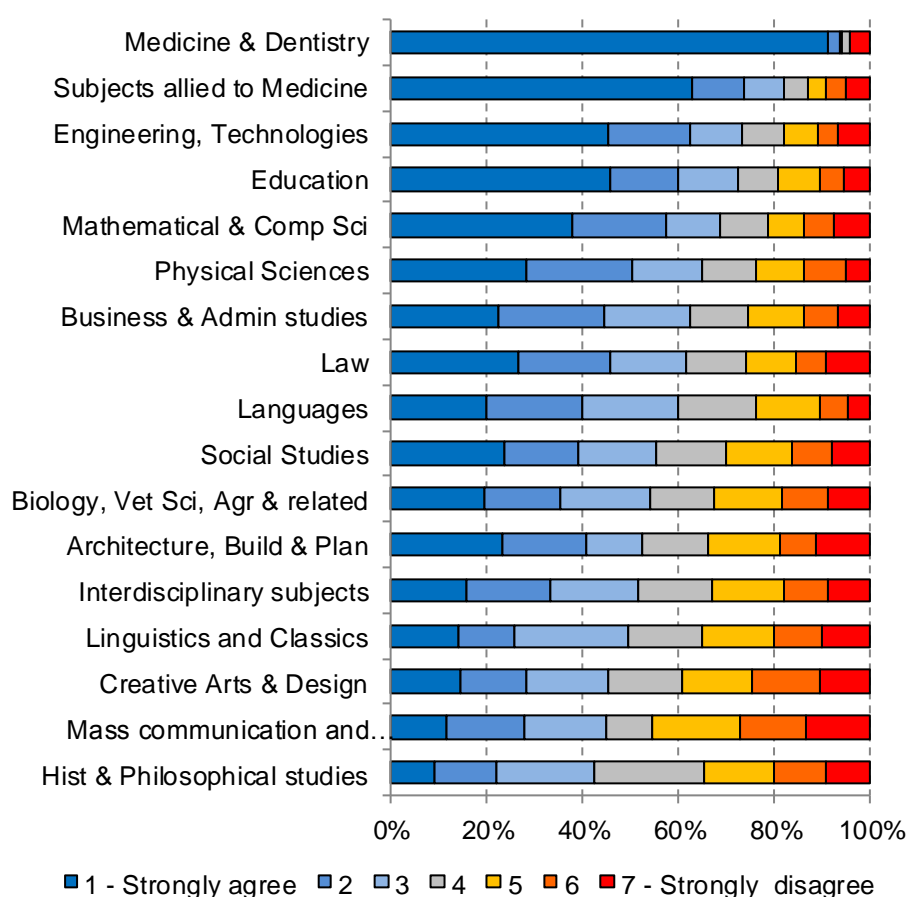
Much more or less positive is defined as a change of at least three points on the seven point scale. Somewhat more or less positive is defined as a change of at least 1 point on the seven point scale.

Source: Futuretrack 2006 combined dataset: UK graduates who responded to both Stages 3 and 4 (weighted).

Respondents who had become less positive about the extent to which their subject was an advantage in looking for employment were much more likely to be dissatisfied with their current employment, their long-term career prospects and their skills development, indicating that they were a group with an overall more negative experience of entering the labour market.

As would be expected, the proportion of graduates agreeing that their subject has been an advantage in looking for employment varies by subject, as does the proportion of respondents in each subject group who changed their opinion about the extent to which their subject has been an advantage. Figure 9.3 shows the responses of graduates from each subject group to the statement 'The undergraduate subject I studied has been an advantage in looking for employment'. As the Figure shows, graduates from STEM disciplines and more vocational subject areas are the most likely to believe that the subject they studied is, in itself, an advantage in looking for employment. The Medicine and Dentistry group is small and composed almost entirely of graduates from clearly vocational subjects – those training to be Doctors or Dentists.

Figure 9.3: Response to the statement 'The undergraduate subject I studied has been an advantage in looking for employment' by subject group



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

At the other end of the scale, the subject groups with the lowest proportions of respondents agreeing that their subject had been an advantage are primarily Arts subjects. It is interesting to note the somewhat anomalous position of the Biology, Veterinary Science, Agriculture and related subjects group, which has a smaller proportion of respondents agreeing that their subject was an advantage than not only the other STEM subject groups,

but also the Languages and Social Sciences subject groups. Respondents with degrees in Biology indicated that there were particular issues related to the lack of specialism in pure Biology degrees.

“With the job market as it is it would be better to have a specified vocational degree that propels you into a specific line of work, i.e. Physiotherapy as opposed to a generic Biology degree that is broadly applicable but doesn’t make you stand out” [Biology, Highest Tariff University]

Despite having the largest proportions of graduates believing that their subject had been an advantage in looking for employment, the groups that show the biggest fall in the proportion of respondents saying their subject had been an advantage include three STEM subject groups (Mathematical and Computer Sciences -26 (from 91 per cent to 69 per cent), Biology, Veterinary Science Agriculture and Related -21 (from 75 per cent to 54 per cent), and Physical Sciences -21 (from 86 per cent to 65 per cent)). Other subject groups where the proportion of graduates agreeing that their subject has been an advantage fell by over 20 per cent were:

- Architecture Building and Planning (small group) -32 (from 84 per cent to 52 per cent);
- Law -30 (from 92 per cent to 62 per cent);
- Communication and Documentation -25 (from 70 to 45 per cent);
- Business and Administrative Studies -22 (from 85 per cent to 63 per cent);
- Languages -21 (from 81 per cent to 60 per cent).

The Mass Communication and Documentation group shows one of the largest falls in the proportion of respondents saying that their subject was to some extent an advantage in finding employment while also being one of the groups that was least likely to agree that their subject was an advantage. This broad subject group contains graduates from some largely vocational subjects, including journalism, which may highlight particular issues for graduates anticipating finding employment in the media sector.

Subject groups having a large proportion of graduates agreeing that their subject has been an advantage in looking for employment also, as Figure 9.4 shows, have higher proportions of graduates employed in jobs which required a qualification in a particular subject, while conversely, subject groups with a lower proportion of graduates agreeing that their subject was an advantage have higher proportions of graduates employed in jobs where an undergraduate degree in any subject was required.

The relatively low proportions of graduates with degrees in Law or Languages subjects who are in jobs requiring a degree in a specific subject is somewhat surprising, given both the relatively high proportions of graduates in these subjects who believed that their degree subject had been an advantage in looking for employment. Some languages graduates in the Futuretrack sample noted that while employers valued language skills, they preferred graduates to have combined language study with other subjects which provided graduates with a broader skills base:

“Employers don’t just want people with linguistic abilities, they are looking for people with a degree in something else + languages” [Languages, High tariff university]

“I would choose a subject such as Management or Economics which provides better opportunities for employment after graduation. I would then study a language as a part of my degree, for instance taking one class in French, instead of making it the main focus of my degree” [Languages, Highest tariff university]

Graduates of subjects in the Law group were the least likely (excluding the small Medicine and Dentistry group) to have become more positive about the impact of their subject on their

employment prospects. Just 14 per cent of this group had become more positive, while 54 per cent had become less positive (the second largest proportion after graduates in Architecture, Building and Planning with 58 per cent). A fall in the number of training contracts and jobs in the field of Law may account for this.

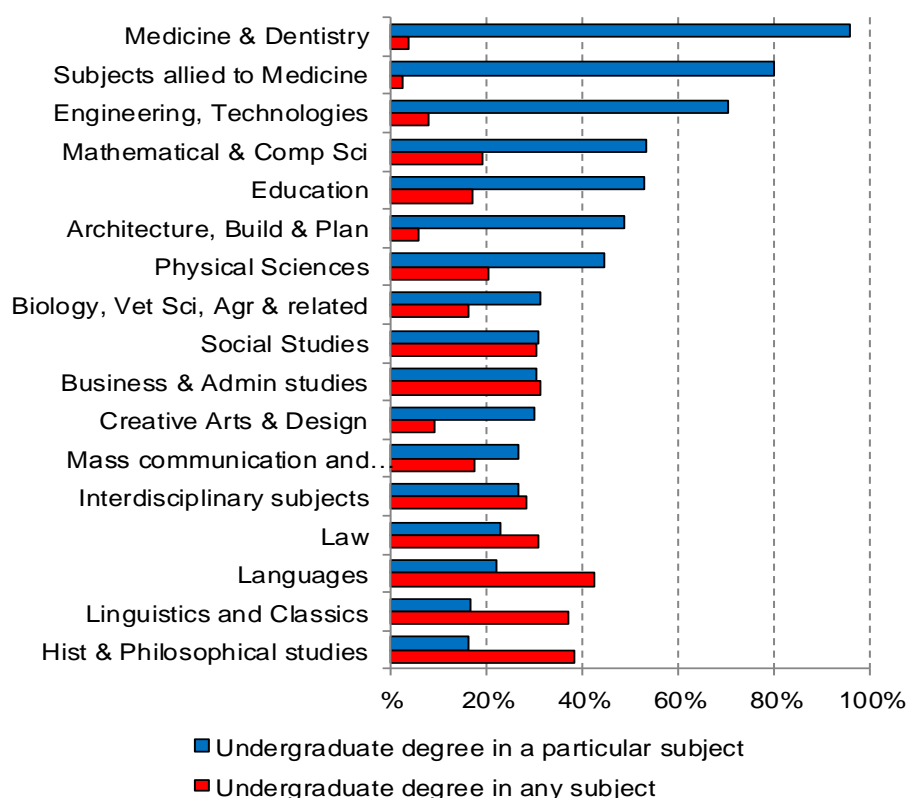
“There is no value in doing a law degree anymore as firms tend to prefer non-law graduates” [Law, Highest tariff university]

“Law firms seem to prefer people who study something OTHER than law at university level” [Law, Highest tariff university]

“I studied law at undergraduate level, which is oversubscribed. Employers complain about candidates lacking character and individuality. I fully agree. Law students lose their social skills and individuality due to the workload and the time spent in the library as opposed to developing their soft skills. Employers prefer to take on candidates who did not study law at undergraduate level” [Law, High tariff university]

“I really enjoyed being at [my university], but having applied for jobs since completing undergraduate and postgraduate courses it is an almost impossible profession to get into unless you know somebody” [Law, Highest tariff university]

Figure 9.4: Qualifications required for current job by subject group

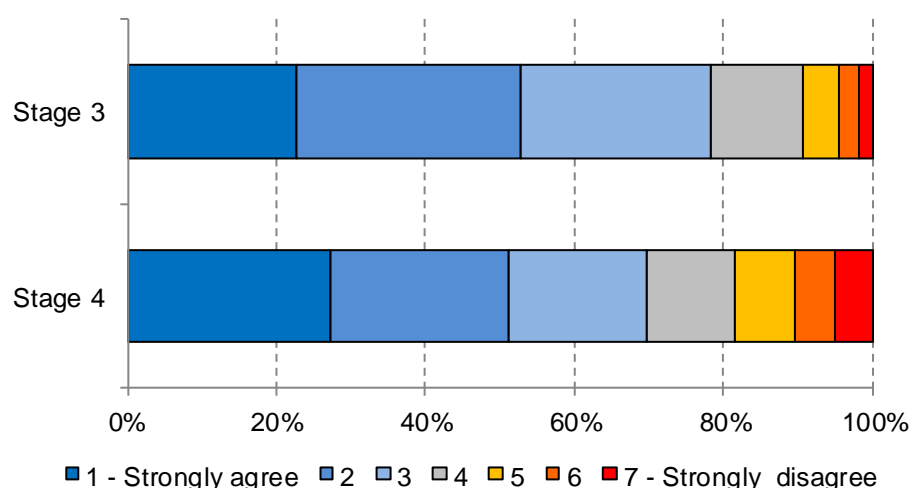


Source: Futuretrack 2006 combined dataset: UK graduates currently in employment (weighted)

Skills advantage

Graduates were similarly asked in Stages 3 and 4 whether they believed the skills they had developed on their undergraduate course had made them more employable. Again, overall the picture is a positive one, with the majority of respondents believing that the skills they had developed had made them more employable. Figure 9.5 shows that in comparison to graduates' assessments of the advantage conferred by their subject, the difference between graduates' assessments of the impact of their skills on their employability at Stages 3 and 4 was smaller.

Figure 9.5: Responses to the statement 'The skills I developed on my undergraduate course made me more employable'



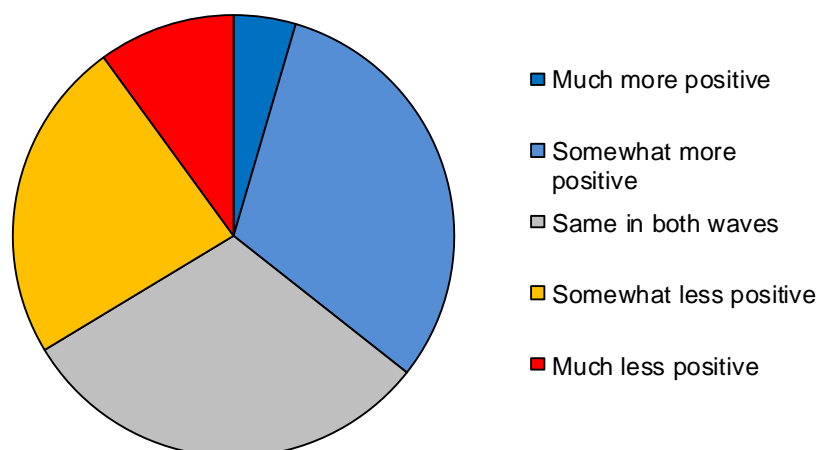
Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

Overall, the proportion of graduates agreeing that the skills they had developed on their undergraduate course had made them more employable fell from 78 per cent in Stage 3 to 70 per cent in Stage 4. Interestingly, the proportion of graduates strongly agreeing that the skills they developed on their undergraduate course made them more employable was higher in Stage 4, with 27 per cent of graduates selecting this option on the seven point scale, compared to 23 per cent in Stage 3. Nonetheless, the proportion of respondents who disagreed that the skills they developed on their undergraduate course made them more employable almost doubled, from 9 per cent in Stage 3 to 18 per cent in Stage 4.

Figure 9.6 shows the proportions of respondents who became more or less positive about the impact of the skills they had developed.

More than a third (36 per cent) had become more positive about the impact on their employability of the skills they had developed on their undergraduate course, while a slightly smaller proportion, 34 per cent, had become less likely to agree with that the skills they had developed made them more employable.

Figure 9.6: 'The skills I developed on my undergraduate course made me more employable' - Change between Stages 3 and Stage 4



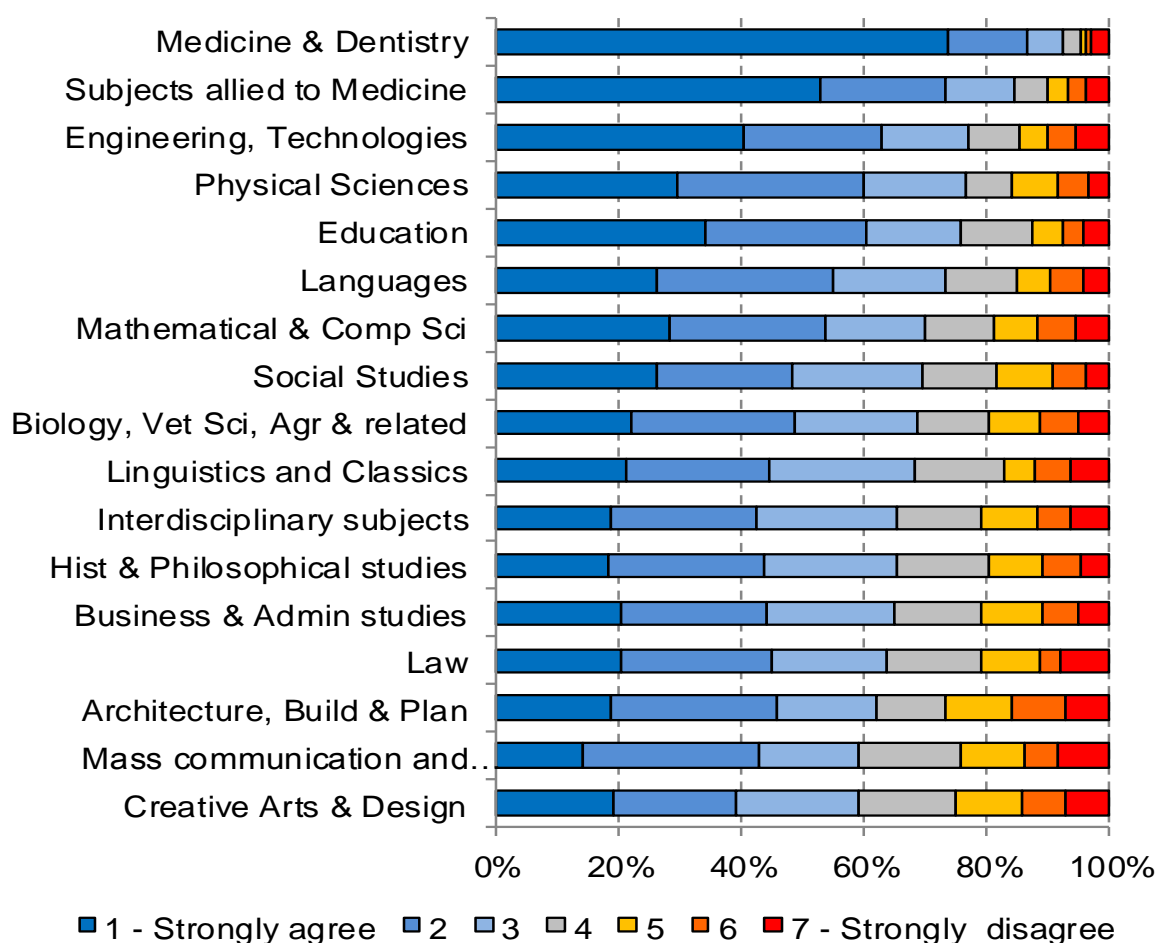
Much more or less positive is defined as a change of at least three points on the seven point scale. Somewhat more or less positive is defined as a change of at least 1 point on the seven point scale.

Source: Futuretrack 2006 combined dataset: UK graduates who responded to both Stages 3 and 4 (weighted).

Studying different subjects will enable students to develop different skills, and consequently, it would be expected that graduates from different subject groups would have different opinions on the extent to which the skills they developed on their undergraduate course had made them more employable. Figure 9.7 shows the responses of graduates of different subject groups to the statement 'The skills I developed on my undergraduate course made me more employable'. As the Figure shows, the groups with a large proportion of graduates agreeing that the skills they developed on their undergraduate course made them more employable are predominantly the same subjects which had a large proportion of respondents agreeing that their subject was an advantage. It is notable that the difference between the subject groups is smaller when graduates were asked to assess the benefit of their skills than when they were asked to assess the benefit of their subject.

The subject groups where the proportion agreeing that the skills they had developed on their undergraduate course had made them more employable fell by more than 10 per cent between Stage 3 and Stage 4 were: Architecture, Building and Planning; Law; Business and Administrative Studies; Mass Communications and Documentation; and Creative Arts and Design. For some of these graduates, it may be the case that there is less demand for the skills they have developed due to stagnation in the careers which they anticipated their degree would qualify them for. A report by High Fliers Research (2012) found that the Media and Law were amongst the sectors of the economy that had the biggest falls in the number of graduates recruited, and demand for Architects has also been hit by the recession. Furthermore, it has been shown in previous chapters that those who aim to find employment in fields such as journalism, PR and some of the creative industries, face additional barriers to entry, including the need to undertake paid or unpaid internships post-graduation, that are likely to have a limiting effect on the extent to which the development of skills, in itself, results in greater employability.

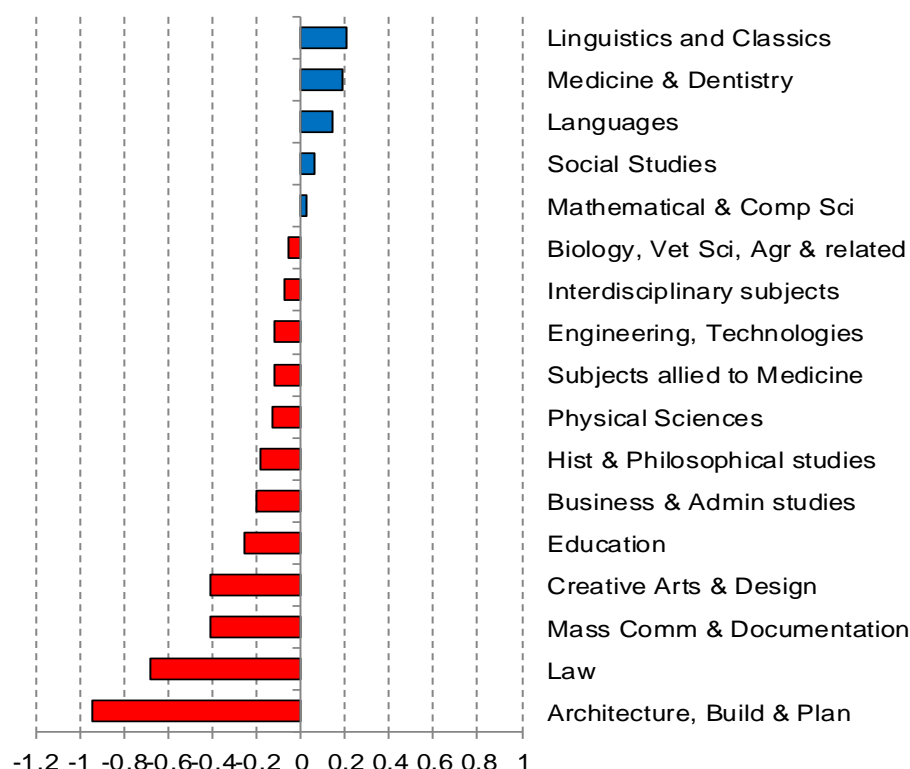
Figure 9.7: Responses to the statement ‘The skills I developed on my undergraduate course made me more employable’ by subject group



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

In contrast to graduates assessment of the benefit of their subject, where no subject group showed an overall increase in the proportions of respondents who had become more positive about the impact of their subject on their employment prospects, as Figure 9.8 shows, there were five subject groups where the average score given by graduates on the seven point scale was more positive at Stage 4 than at Stage 3 when looking at their perceptions of the impact of the skills they had developed.

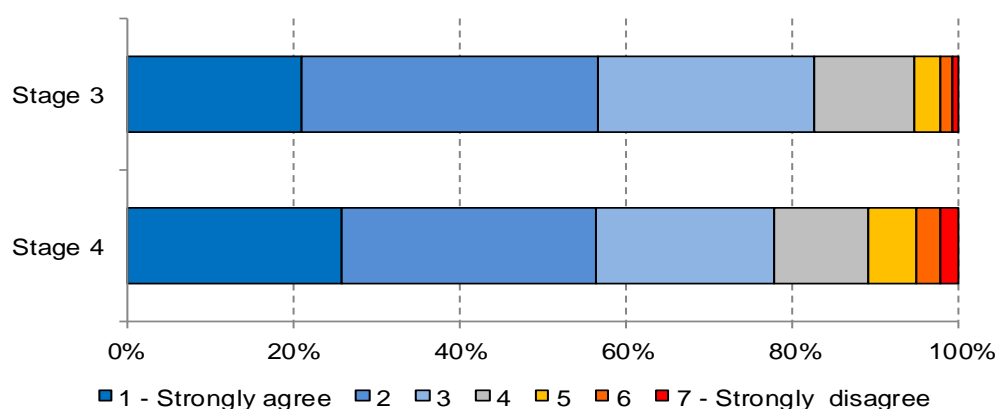
Figure 9.8: Change on a seven point scale to responses to the statement ‘The skills I developed on my undergraduate course made me more employable’



Source: Futuretrack 2006 combined dataset: UK graduates who responded to both Stage 3 and 4 (weighted)

Given that respondents have become only slightly less positive about the impact of the skills they developed on their undergraduate course on their employability, it would be expected that their perceptions of the extent to which they had the skills employers were looking for when recruiting for the types of employment they wanted would also only be slightly less positive. Figure 9.9 shows that this is the case, with only around five per cent difference between the overall responses in Stages 3 and 4.

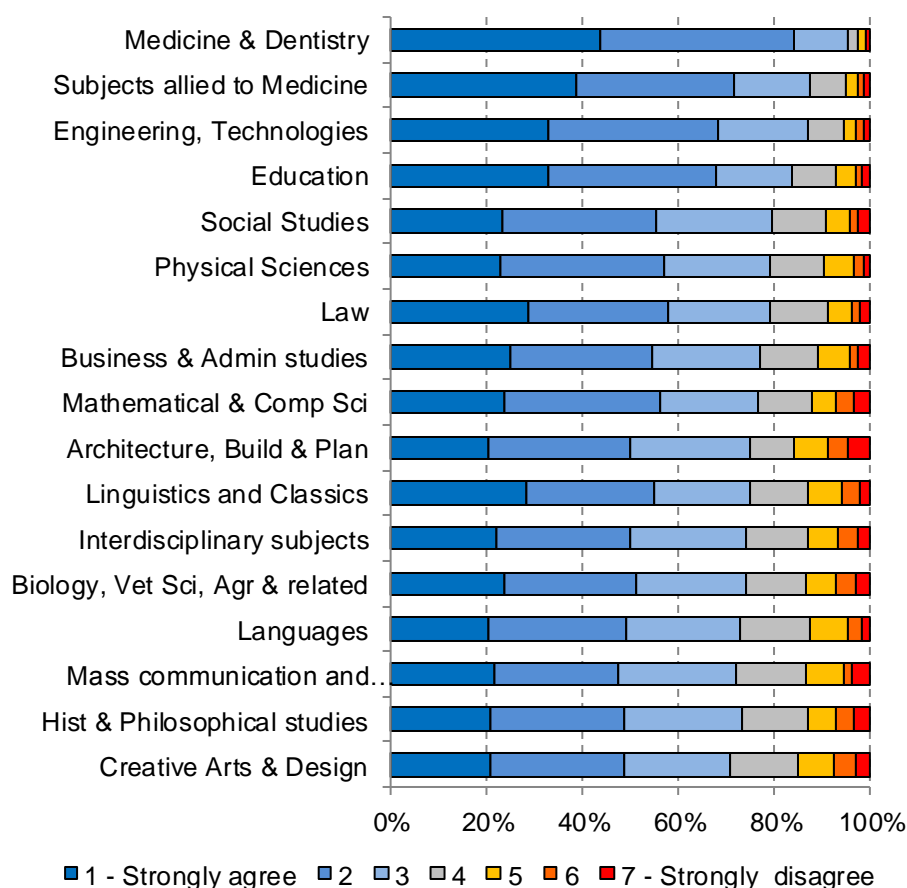
Figure 9.9: Responses to the statement ‘I have the skills employers are likely to be looking for when recruiting for the kind of jobs I want’



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

Figure 9.10 shows that there was relatively little diversity between the different subject groups, despite the different types of skills graduates of different disciplines will have developed. This suggests that to a large extent, graduates from a range of disciplines consider themselves to be adequately prepared for entering the labour market, and that there is largely a good match between the skills graduates have developed and the types of employment they are interested in.

Figure 9.10: Responses to the statement ‘I have the skills employers are likely to be looking for when recruiting for the kind of jobs I want’ by subject group



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

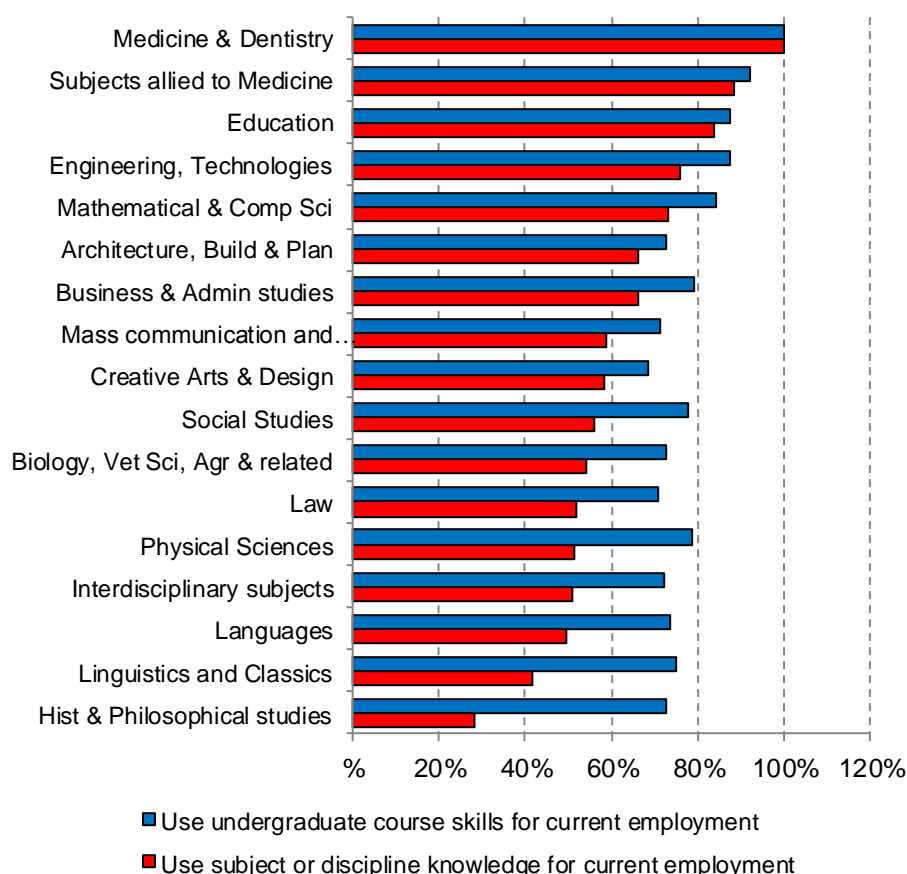
One issue of concern is that this belief by graduates that they have all the skills employers are looking for is at odds with findings from various studies of employer evaluations of the skills graduates have to offer (see, for example, Gillinson and O'Leary, 2006; Association of Graduate Recruiters, 2009; Confederation of British Industry 2010; Youth Enterprise, 2011; British Chambers of Commerce, 2011). These studies suggest that the lack of appropriate skills amongst graduates is so acute that even at a time of recession and 'over-supply' of graduates, many employers are failing to meet their graduate recruitment targets because they cannot find suitably skilled candidates. This issue is discussed further in Chapter 7.

As would be expected, graduates who strongly agreed that they had all the skills employers were looking for were the most likely to be using their subject or disciplinary knowledge in their current job and to be using the skills they had developed on their undergraduate course.

The differences between the proportion of graduates who believed their subject had been an advantage in looking for employment and the proportion who believed the skills they had developed on their undergraduate course were an advantage highlights the importance of the distinction made by authors such as Green and McIntosh (2002) between skills and qualifications. Analysis of Stage 3 data (Atfield and Purcell, 2010) showed that there was a group of six subjects with a STEM or vocational focus (Mathematical and Computational Sciences, Business and Administrative Studies, Law, Education, Engineering and Technologies and Physical Sciences) whose graduates were more likely to agree that their subject was an advantage in looking for employment than to agree that the skills they had developed on their undergraduate course were an advantage. In Stage 4, there were just two subject groups (plus Medicine and Dentistry which was excluded from the Stage 3 analysis) where this was the case: Mathematical and Computational Sciences and Subjects allied to Medicine. This suggests that graduates have found that employers are placing much greater emphasis on their skills than on the subject they studied, and the high proportion of respondents agreeing that they have the skills employers look paints a positive picture of the extent to which graduates are prepared for the labour market.

A similar pattern can be seen in Figure 9.11 which shows the proportion of respondents from each subject group who said that they used their undergraduate course skills in their current job and the proportion who said they used their subject or discipline knowledge.

Figure 9.11: Use of subject or discipline knowledge and undergraduate course skills by subject group



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

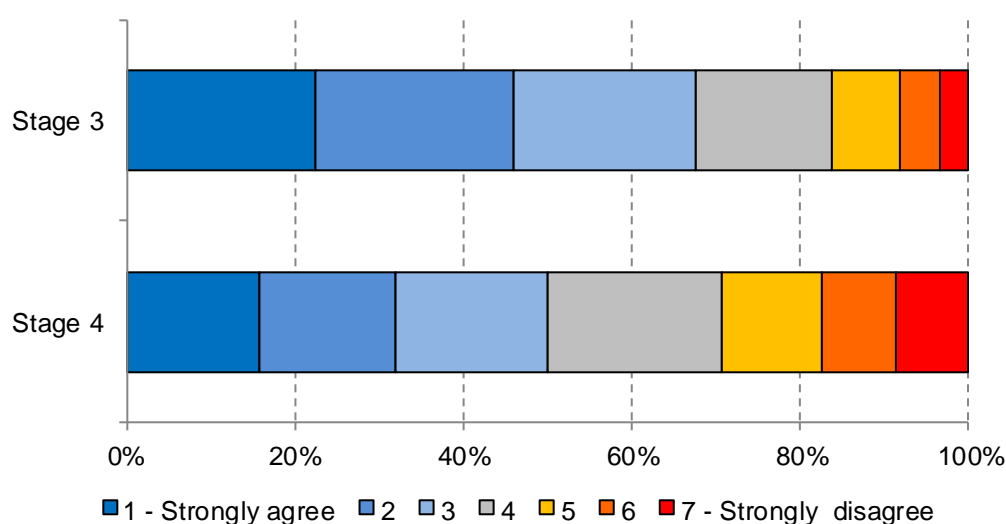
As might be expected, there is a clear relationship between agreement with the statement 'I have all the skills employers are looking for when recruiting for the kind of jobs I want' and

graduates use of the skills they developed on their undergraduate course in their current job. Amongst those who strongly agreed they had all the skills employers were looking for, 89 per cent were using the skills they developed on their undergraduate course in their current job, and this falls steadily to just 38 per cent of those who strongly disagreed that they had the skills employers were looking for.

HEI advantage

Graduates were similarly asked to what extent they agreed that their HEI had been an advantage in looking for employment. Figure 9.13 shows that the pattern in responses was much more similar to that seen when looking at graduates' evaluation of the benefit of the subject of their undergraduate degree than in the pattern of their responses to questions that asked them to evaluate the impact of their skills, with a relatively large fall between Stages 3 and 4 in the proportion of respondents agreeing with the statement.

Figure 9.12: Responses to the statement 'The university I attended for my undergraduate course has been an advantage in looking for employment'



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

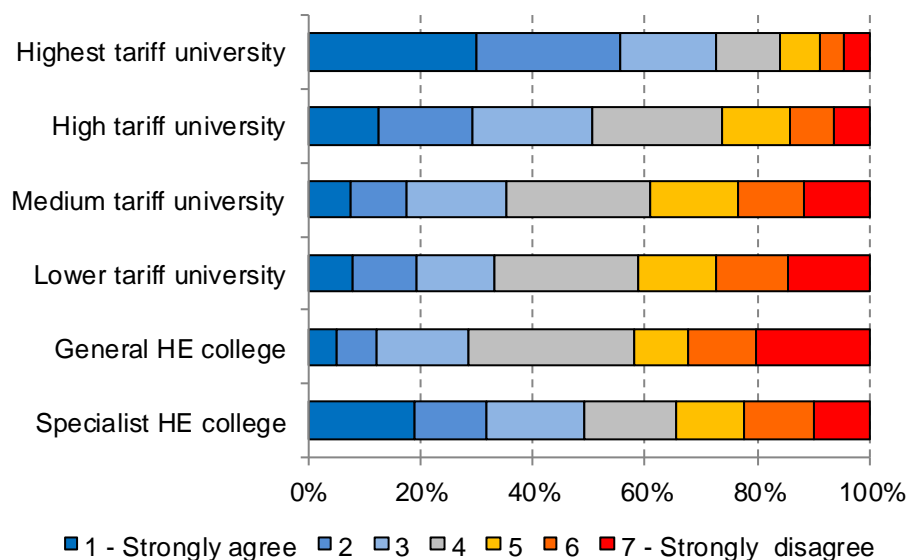
Overall, the proportion of graduates who agreed that the university they attended for their undergraduate course had been an advantage in looking for employment fell from 67.6 per cent in Stage 3 to 50 per cent in Stage 4.

As would be expected, graduates of the highest tariff HEIs were the most likely to believe that their university was an advantage, and the proportion agreeing falls as the tariff points for entry to HEIs of each type falls. The similarity in the proportions agreeing that their HEI has been an advantage in the medium and lower tariff groups reflects, to some extent, findings from studies of employer recruitment, which suggest that employers tend to focus their recruitment on only a relatively small number of 'top' universities, and consequently, all HEIs outside this group share a similar disadvantage. Research by High Fliers Research (2012) found that 60 of the top 100 employers focus their recruitment on 15 or fewer HEIs.

"If the university does not have 'Russell Group' status, your degree does not appear to be worth much even if it is a 1st" [Biology, Veterinary Science and Agriculture, Medium tariff university]

“When applying to graduate schemes and other prestigious employers, the ranking or the reputation of the university seems quite important. Especially when employers are running careers fairs at specific ‘target’ universities” [Business and Administrative Studies, Lower tariff university]

Figure 9.13: The university I attended for my undergraduate course has been an advantage in looking for employment by HEI type



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

“In a recession it's all about the brand of university regardless of the quality of the course/academics” [Interdisciplinary Subjects, Highest tariff university]

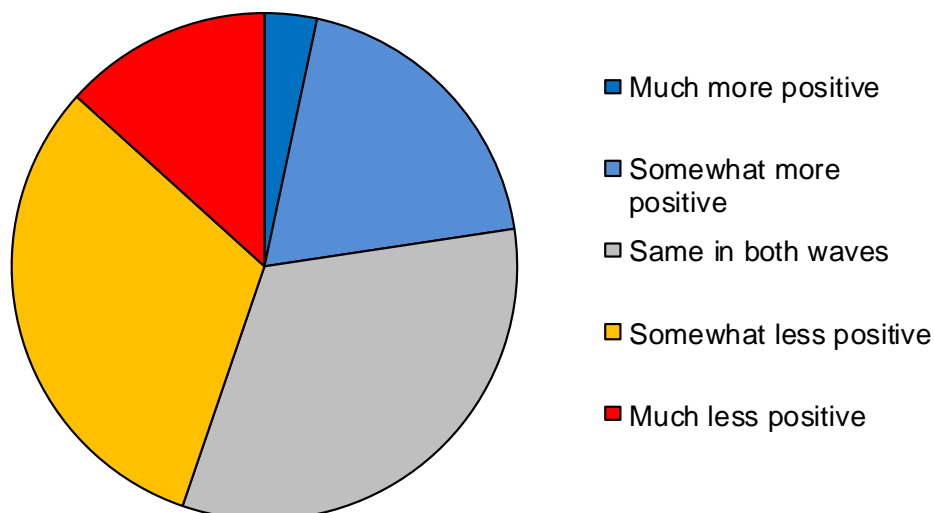
“My University is not recognised as a ‘red brick’ University and has therefore placed me at a disadvantage in my chosen career path” [Law, Lower tariff university]

“I get the impression that my university isn't as well regarded as others in the country. Despite the fact I received first class honours, I can't help but feel that a similar degree at a more prestigious university would increase my employability” [Mathematical and Computer Science, Medium tariff university]

“As it was an ex-Poly University, I found that many employers would give preference to other applicants from red brick and Oxbridge Universities. I think the main reason for this is because they don't know much about the University, they tend to favour those that they know. This is despite attaining first class honours. I was frequently told my careers advisors that this would be a hindrance to my getting a training contract” [Interdisciplinary subjects, Lower tariff HEI]

At the individual level, as Figure 9.14 shows, the proportion of respondents who had become less positive about the impact of their HEI is relatively large (45 per cent).

Figure 9.14: ‘The university I attended for my undergraduate course has been an advantage in looking for employment’ - Change between Stages 3 and Stage 4

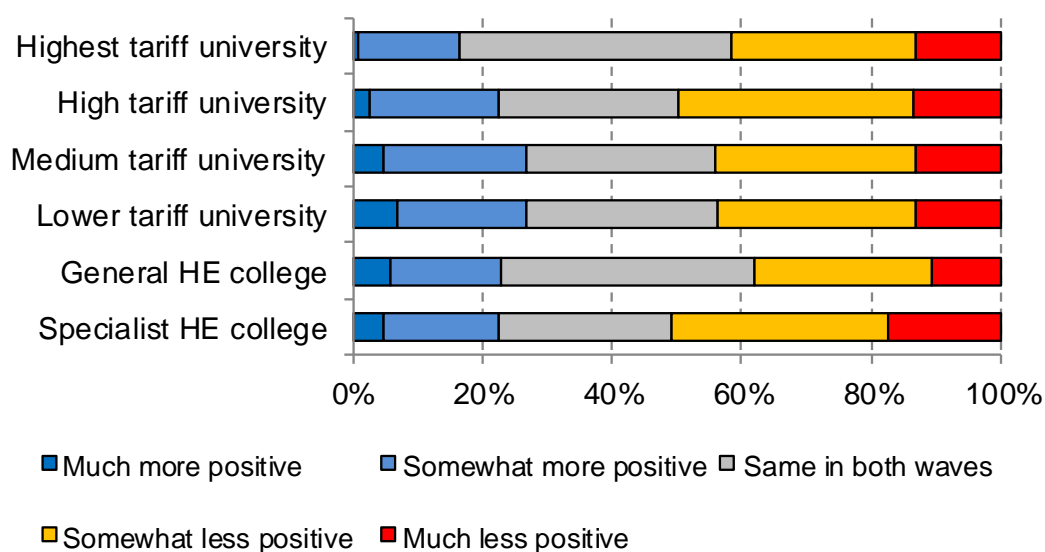


Much more or less positive is defined as a change of at least three points on the seven point scale. Somewhat more or less positive is defined as a change of at least 1 point on the seven point scale.

Source: Futuretrack 2006 combined dataset: UK graduates who responded to both Stages 3 and 4 (weighted).

It is interesting to note that there is relatively little difference in the proportions of graduates from different HEI types who have become more or less positive about the impact of their university on their employment prospects. Although there are instances of graduates in the Futuretrack sample saying that they had made a mistake in attending a lower or medium tariff HEI when they had the option to attend a higher tariff HEI, overall the similarity in proportions in each group suggests that students were not unaware, in making their choice of HEI, that lower tariff institutions would provide less of an advantage in the labour market.

Figure 9.15: The university I attended for my undergraduate course has been an advantage in looking for employment



Much more or less positive is defined as a change of at least three points on the seven point scale. Somewhat more or less positive is defined as a change of at least 1 point on the seven point scale.

Source: Futuretrack 2006 combined dataset: UK graduates who responded to both Stages 3 and 4 (weighted).

Graduating from a highest tariff HEI appears not only to give respondents a direct advantage in seeking employment but graduates of these institutions also appear to be more positive about the benefits of the skills they have developed on their undergraduate courses and the advantage of the subject they studied. They are also notably the group that was least likely to change their perception of the advantage different aspects of their HE experience gave them in seeking employment. This suggests that students at these institutions were more knowledgeable about the labour market and what employers were likely to value prior to their graduation, which is likely to reflect both the background of graduates at different types of HEI as well as the careers and other resources available to them during their time as students.

Evaluations of the higher education experience

Respondents were asked two questions to assess their overall satisfaction with their HE experience: Whether their course was good value for money, and whether they would, with hindsight, choose to study the same course again. Figure 9.16 shows how their perceptions of the value for money of their course changed. It is clear that there are two criteria by which students and graduates judged whether their course represented good value for money. First, the extent to which they perceived the contact hours and other support they received from HEI staff to be appropriate

"[The university] had very unsatisfactory teaching hours (i.e. too little contact hours for the fees charged). [The] cost of living on campus is too high" [Languages, Highest tariff university]

"My course was too crowded with around 250 students. Therefore I didn't feel I got the interaction with my tutors I should have for the tuition paid" [Business and Administrative Studies, Highest tariff university]

"The course was too large (500 people) and the teaching suffered as a result. I had no direct educational support and teaching was very variable and of poor quality" [Medicine and Dentistry, Highest tariff university]

Second, whether their degree has given them a monetary or other advantage in the labour market which either exceeds the amount they paid in fees and other costs or which is greater than the rewards they know or expect those without degrees to experience.

"My course, although interesting, has not helped me in any way to start a career. I am currently in a job that I could have got without going to University" [Social Studies, High tariff university]

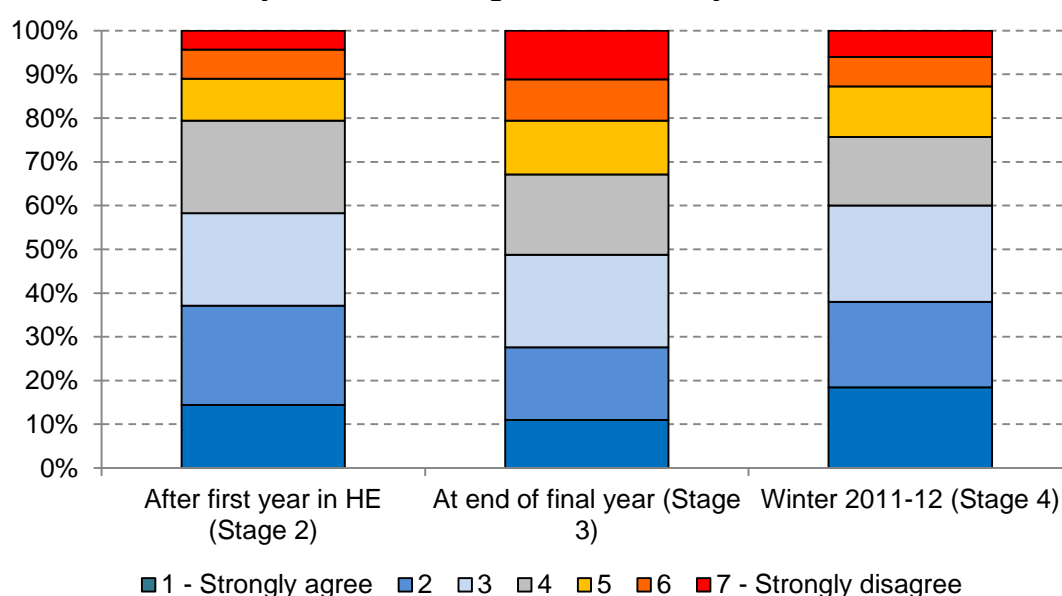
"I would choose to study Physiotherapy, or Economics. Something that would provide a more specific career path post university. At the new fees of £9000 per year Psychology would not be value for money and would not provide a strong enough career path to justify the investment" [Biology, Veterinary Science and Agriculture, Highest tariff university]

"With current fees I couldn't justify taking an arts degree and would choose something vocational... Which is a shame!" [Languages, Highest tariff university]

Responses at Stages 2 are more likely to reflect the first criteria, while those at Stages 3 and 4 are likely to reflect a mix of the two.

The course I did at the time did not teach us the essentials we needed to learn to get into the industry we wanted to get into [...] It taught us some very basic things and the rest was self-taught. It also didn't let us take a path into what industry we wanted to go to. If I had known I would need to learn so much on my own I could have just stayed at home for 3 years and done the same thing, there is plenty of tutorials online that cost no money or very little money and teach to a much higher standard" [Creative Arts and Design, Medium tariff university]

Figure 9.16: Changing perceptions of extent to which course was good value for money at different stages of the survey



Source: Futuretrack 2006 combined dataset: UK respondents to each Stage (weighted)

Figure 9.16 shows that the proportion of respondents who agreed to some extent that their course was good value for money was lowest at Stage 3. This may reflect the anxiety many respondents experienced when their next steps were uncertain and while they were largely aware of the costs they had incurred during their time in HE they were unsure of what benefits it may provide.

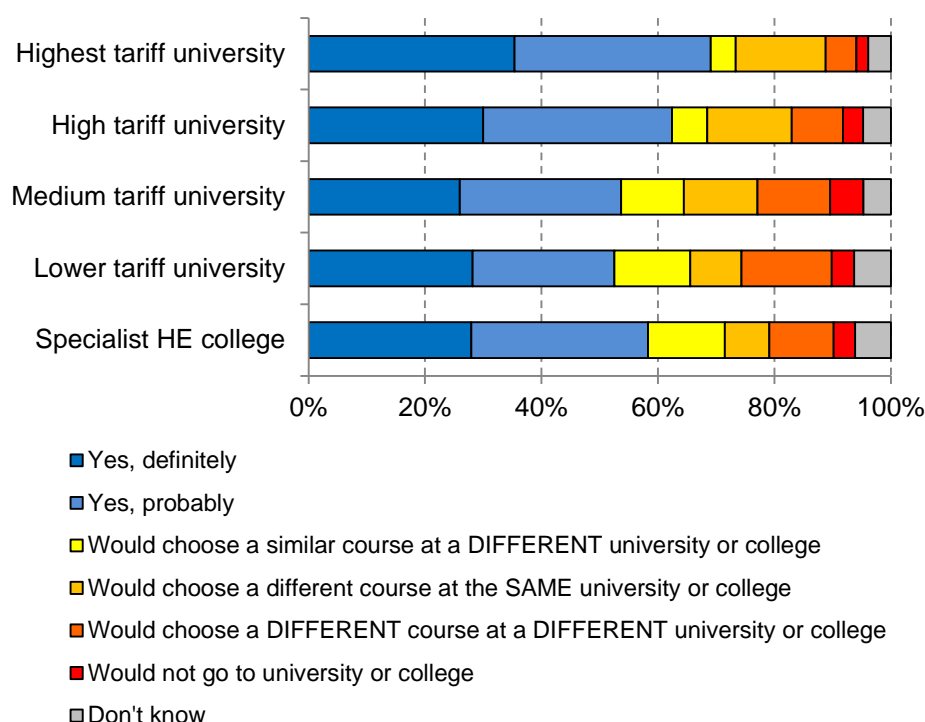
Respondents were also asked in Stages 3 and 4 whether, with hindsight, they would make the same decisions about HE again. At Stage 3, 70 per cent said they definitely or probably would choose the same thing again, 16 per cent said they would choose a similar course but not the one they chose and 9 per cent said they would choose something completely different. By Stage 4, the proportion saying they would definitely or probably choose the same thing again had fallen to 60 per cent. Of the remaining respondents, 13 per cent said they would choose a different course at the same university or college, *i.e.* they would change the HEI they studied at, 8 per cent said they would choose a similar course at a different university or college, *i.e.* they would change their course, 10 per cent said they would choose a different course at a different university or college, *i.e.* they would change both their subject of study and their course, and 4 per cent said they would not enter HE at all.

These figures are broadly similar to those found by HESA's survey of graduates in 2006, which found that 69 per cent of graduates would not change their subject and 75 per cent would not change their HE institution and by a CIPD survey in the same year which found that one third of respondents would choose a different course if starting again (CIPD, 2006). Despite the fears expressed by some of the Futuretrack cohort about the impact of the recession on their employment prospects and the changes they may have made as a result, it appears that overall the proportion of respondents who are generally satisfied with the decisions they have made has remained relatively stable.

Reasons for choosing a different HEI

The two most common reasons graduates gave for wanting to change their HEI were lack of prestige of the institution and the effect they perceived this had on their employment prospects, and issues related to the quality of the teaching they received. As Figure 9.17 shows, it is graduates of medium and lower tariff HEIs who were the most likely to say that they would change their HEI, and they were most likely to say that this was for reasons of perceived prestige.

Figure 9.17: Responses to the statement ‘With hindsight, if starting again, would you choose the same undergraduate course?’ by HEI type



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

It is clear that some respondents did not have the tariff points necessary to go to a higher tariff university, but there were several respondents who noted that they did have this option, but had been unaware of the influence the type of HEI they attended would have on their subsequent career options.

“The weight of emphasis placed upon the university you choose is distinctly more important than I realised at the time” [Business and Administrative Studies, Medium tariff university]

“[My university] is not a top 10 UK University; bearing in mind I had A grades at A Level I could have opted for a better University with a better student experience” [Law, Lower tariff university]

“Employers only seem to take a real interest in what you studied if you have a red-brick or Oxbridge on your CV. Otherwise I would definitely choose the course I studied, and university I studied with again” [Interdisciplinary subjects, Lower tariff HEI]

However, this concern with how employers viewed different HEIs was not confined to graduates of medium and lower tariff HEIs:

“I loved my choice of degree AND university. However, unfortunately it would have been easier to get a job after graduation if I had been to Oxbridge (I had AAA at A Level). This is a sad reflection on our society” [Social Studies, Highest tariff HEI]

“While [my university] has great teaching staff, the reputation of the university did not reflect the quality of my A-Levels. If I were choosing again I should have chosen a Russell Group University” [Interdisciplinary subjects, High tariff university]

“When I applied, I didn't fully appreciate the weighting that employers place on which particular university someone has graduated from. This was one reason that I chose to

do a Masters degree - so that I have an university with a better reputation on my CV"
[Mathematical and Computer Sciences, High tariff HEI]

There were also differences between the HEI types when looking at graduates who said they would change their HEI due to the quality of teaching or support. Although there were issues with particular courses at highest and high tariff HEIs, graduates of lower, and some medium, tariff HEIs were more likely to note that their HEI lacked appropriate resources, for example, to be able them to spend significant time doing laboratory based work or to use up-to-date equipment:

"I enjoyed parts of the course, and I think certain aspects of it, and the fact that I have a degree has definitely helped my employability, however the university's resources are fairly poor as are their extracurricular and social activities, so the overall experience and the benefits you get from it and severely hindered" [Interdisciplinary subjects, Lower tariff university]

They were also more likely to say they lacked careers guidance and adequate preparation for finding employment:

"I enjoyed my course and I did well at it [but] very few of the lecturers would go to any trouble to help you, unless you asked them more than once, work was occasionally lost and there was very little set up in terms of social clubs and trips. [...] I have since visited friends in other universities only to be taken aback by the friendliness of the staff, the helpful emails sent about possible scholarships etc. Universities where they actually want to help you learn, and to make your experience a great one. [My university] was not that kind of university" [Languages, Lower tariff university]

"Although they pride themselves on their graduate employment rate [...] My university] made absolutely no effort in helping us search for employment and I was quite shocked at how little they seemed to care once we graduated" [Law, Medium tariff university]

"The careers service should have emphasized how difficult it would be getting work after you have graduated and explained that a degree isn't enough to get you a job any more, you need work experience i.e. voluntary work, internships, it is good to do this while at university" [Social Studies, Lower tariff university]

Graduates from high and highest tariff HEIs were more likely to say that teaching and support had been disappointing because their HEI was not interested in teaching undergraduate students.

"Although overall I loved [the city], the actual University has a few downfalls. In particular, at no point did I feel much support on my course - I never had a personal or academic tutor. The impression from most of the academic staff that the department's focus was on research and that the teaching was the means to fund that, and definitely not a priority. I don't regret going to [my university], but think I may have had a more pleasurable experience at a different University" [Biology, Veterinary Science and Agriculture, Highest tariff university]

"Because my University lecturers did not care about the students; teaching and assessment was extremely poor; went to University passionate about my subjects, and came away totally disillusioned and fed-up" [Interdisciplinary subjects, Highest tariff university]

Reasons for choosing a different subject

The most frequently mentioned reason graduates gave for, with hindsight, choosing to study a different subject was that they had found or perceived that employment prospects associated with their subject were poor and they would have chosen something they thought would lead to better employment prospects. This was the most common reason given by graduates from all subject groups except Engineering and Mathematical and Computer Sciences who were more likely to say they would choose something that they found more interesting or which fitted their strengths.

"[If starting again, I would choose] Geology - I chose a course that I thought would give me a professional career direction and structure opposed to a pure subject. Should have gone for what I enjoyed rather than what would give me more career options"
[Engineering, Highest tariff university]

This echoes the findings of the Chartered Institute of Personnel and Development (CIPD) in 2006, who found that of the respondents who would choose a different course, most would opt for something more scientific / technical, a business-based course or a professional qualification.

Figure 9.18 shows whether graduates in each subject group would choose the same undergraduate course again. The employment related reasons graduates gave for choosing a different course fell into three groups. First, there were reasons related to careers clarity, with graduates expressing a wish that they had chosen a more vocational subject which had a more clearly defined career path:

"[I would choose] business/accounting/teaching/nursing - something that would make me 'something' when I graduated" [Interdisciplinary subjects, High tariff university]

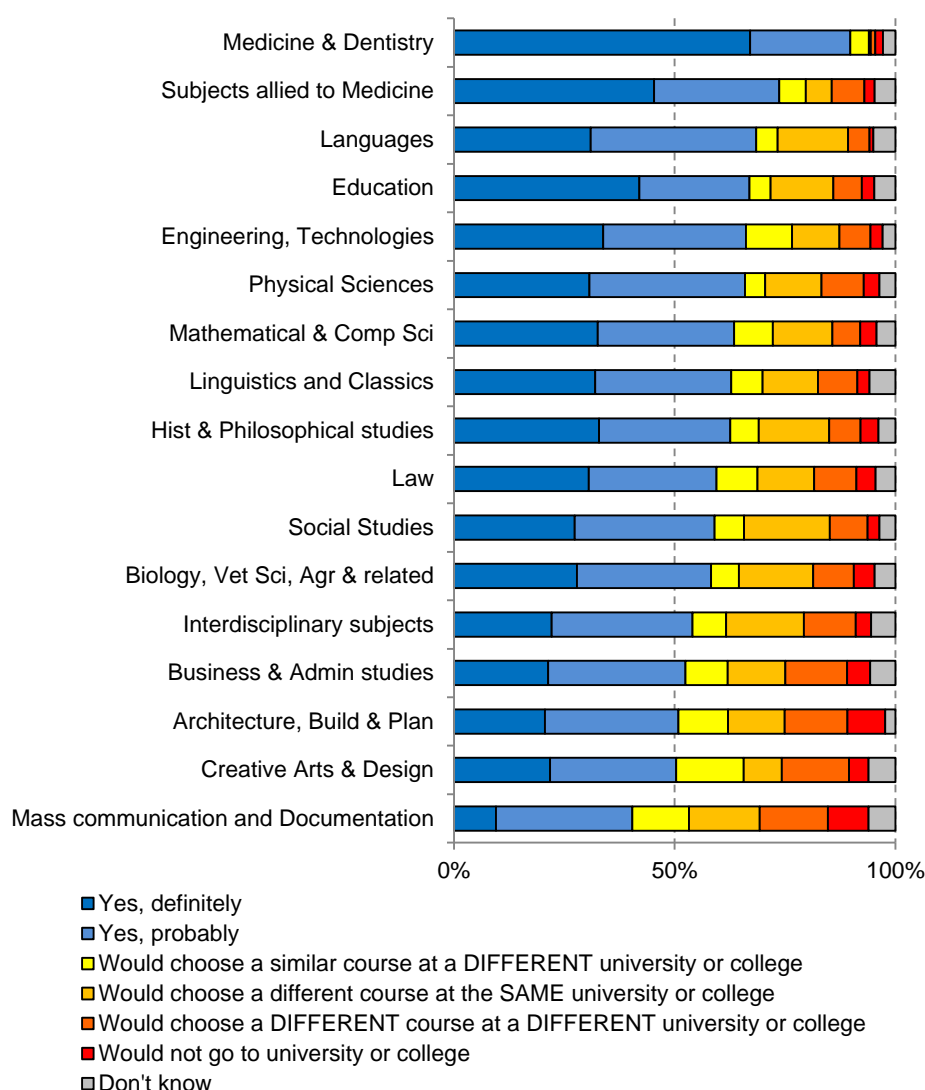
"I would go for something a bit more specialised so that I have a clearer career path in front of me. When I applied, however, I knew much less about what it was that I wanted to do for a job" [Historical and Philosophical studies, Highest tariff university]

Second, there were reasons related to demand for the skills particular subjects developed:

"Something more explicitly vocational where the skills learnt were specific to a type of job, e.g. medicine, law, marine biology, French. Geography gave you 'transferable skills' that arguably most people can argue they possess from non-educational experience, e.g. communication skills, team working, analytical. It is important to be trained in vocation-specific skills, so that competition is lessened in the job market for you, as an employer is specifically looking for those with your knowledge. Few graduate roles look or ask specifically for Geography related disciplines" [Social Studies, Highest tariff university]

"Either a business related discipline or a modern foreign language, as these would have provided me with more relevant skills for employment - studying politics opens no doors" [Social Studies, Highest tariff university]

Figure 9.18: Responses to the statement ‘With hindsight, if starting again, would you choose the same undergraduate course?’ by broad subject group



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

Finally, some graduates stated that they would choose to study something that they perceived to be generally in demand in the labour market or ‘recession-proof’:

“I would have chosen Engineering or a more mathematically orientated course. Since graduating it has become evident to me that a degree in such courses offers the most likely path to immediate employment” [Languages, Highest tariff university]

“Marketing because everyone who did that course found a well-paid job very quickly” [Interdisciplinary subjects, Medium tariff university]

“Accounting, recession proof” [Creative Arts and Design, Medium tariff university]

Although several also noted that it was easy to talk with hindsight, but at the time they chose their subject, they simply had not anticipated that the recession would have such an impact on the employment prospects associated with their subject choice:

“Something more likely to improve employment prospects. Most likely Graphic Design, Web Design or Information Technology. Retrospectively, however, this is very easy to

say whereas at the time I applied the creative industry was going strong and there was no recession to worry about. Like many others, I would have needed a crystal ball to make a properly informed decision” [Creative Arts and Design, Medium tariff university]

In contrast to these employment-related reasons, the second most frequently mentioned reason for wanting, with hindsight, to have studied a different subject was a desire to study something more interesting or appropriate to the graduate’s skills, regardless of its impact on their employment prospects.

“English - I made a completely wrong choice and studied a course I wasn’t passionate about or suited for” [Physical Sciences, Highest tariff university]

“Would have preferred to study a subject which is of more interest instead of employability” [Social Studies, High tariff university]

“When attending graduate recruitment fairs most employers want people who have done degrees in things such as accountancy and engineering. I’m not sure I would have undertaken one of those degrees at university as they do not interest me, however, in hindsight I possibly would have done a joint honours. Possibly geography and Egyptology. Not certain it would make me any more employable, but it sounds interesting!” [Social Studies, High tariff university]

Reasons for not entering HE

A small proportion of respondents (4 per cent) said that, with hindsight, they would not choose to enter HE. This is a similar proportion to that found by CIPD in 2006, but a smaller proportion than studies undertaken since the recession have found. Lexmond and Bradley’s 2010 study put the proportion of graduates who regret going to university at one in six, while a Total jobs survey in 2011 discovered that almost a quarter (24 per cent) of recent graduates would not recommend HE to A Level students.

Of those who chose this option, the most common reason given was that their qualification gave them no advantage in finding a job (40 per cent of those who would not enter HE). An additional very small proportion (4 per cent) thought that their qualification was actually a disadvantage in the labour market as it made them over-qualified, and 16 per cent mentioned a lack of graduate jobs due to the recession.

Approximately a third of graduates who said they would not go into HE thought that they could or should have learnt similar or more useful skills outside HE or in the workplace, and 16 per cent noted that their HE experience had not provided them with work experience, which was valuable in the labour market.

A third of those who said they would not enter HE cited financial reasons, either because it had burdened them with debt or they thought that HE did not represent good value for money.

The impact of degree class on satisfaction with higher education choice

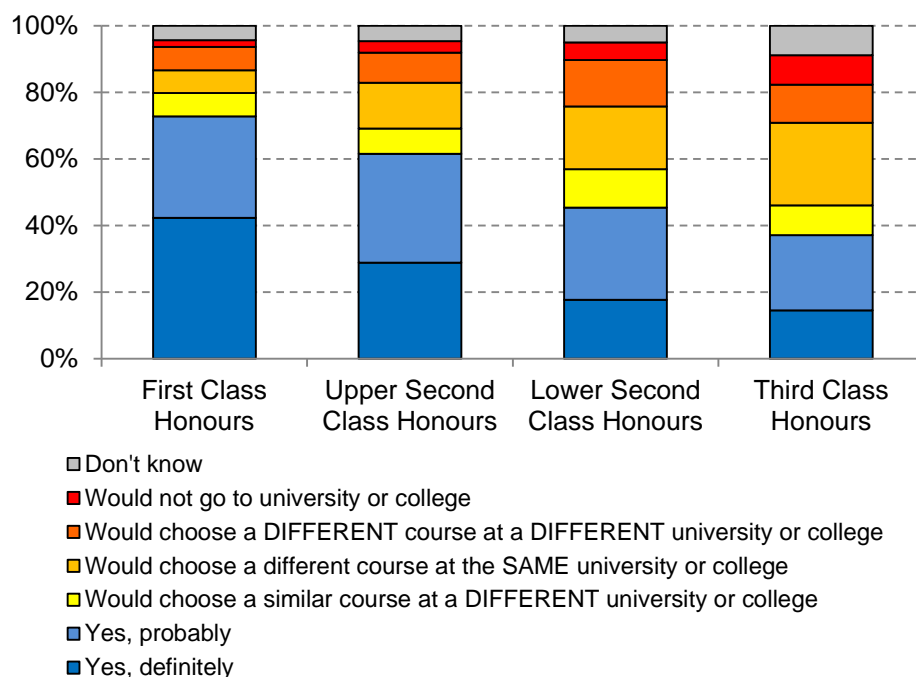
Choosing a different subject or HEI in order to achieve a higher grade was mentioned by several Futuretrack respondents, particularly those studying STEM subjects and those at highest tariff HEIs. Some respondents thought that employers placed greater emphasis on class of degree than on the subject the degree was in, skills developed or the awarding institution.

“[I would choose to study] History - It was what I originally wanted to do and their course is a lot less intense than physical sciences. In addition many more high marked degrees are given out – it’s easier” [Physical Sciences, Highest tariff university]

“The physics course at [my university] is notoriously more difficult than the physics course at other universities. I may have been able to achieve a higher class degree at another university” [Physical Sciences, Highest tariff university]

CIPD (2006) suggest that, as those with lower grades are more likely to be in jobs which do not require a degree, this indicates that graduates place a high value on higher education as an experience in itself, rather than simply as a means of gaining a qualification that they will use in the job market.

Figure 9.19: Responses to the statement ‘With hindsight, if starting again, would you choose the same undergraduate course?’ by class of degree

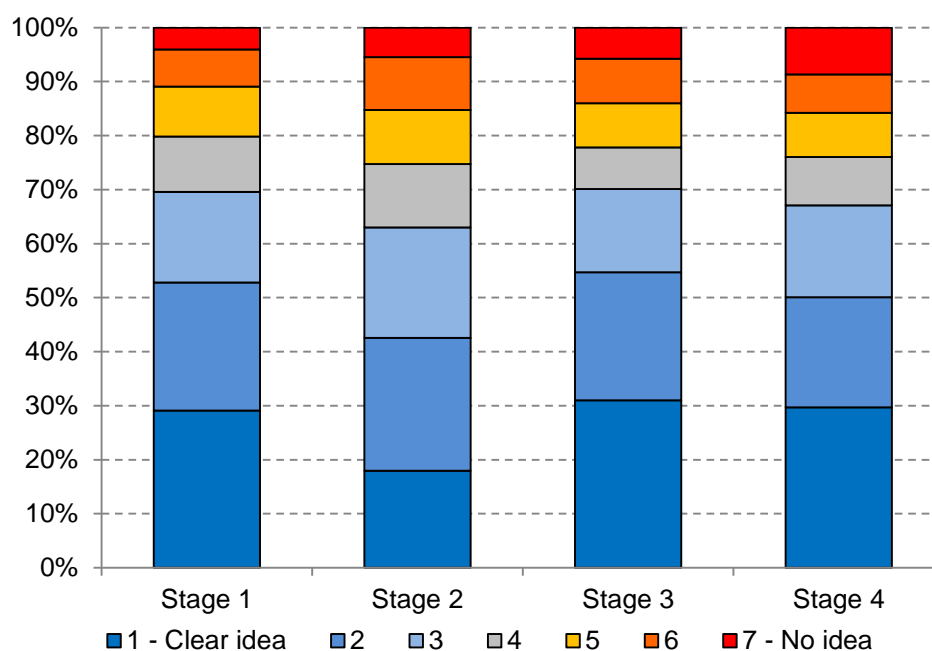


Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

Long-term career plans

Finally, this section looks at the extent to which graduates' long-term career plans have changed as they have proceeded through HE and many have entered employment. Respondents were asked in all four Stages of the Futuretrack survey whether they had a clear idea about the occupation they hoped to enter (either after they graduated in earlier Stages or in five years' time in later Stages). As Figure 9.20 shows, with the exception of Stage 2, when a smaller proportion of respondents agreed that they had a clear idea, the proportions agreeing and disagreeing in each Stage have been surprisingly consistent. Many respondents stated in Stage 1 that they saw their time in HE as a way to clarify their career ideas, and it would be expected that graduates would have a clearer idea about their future careers once they have entered the labour market. It may be the case that rather than the anticipated decline in the proportions who are unclear about the future, this consistency has been caused by recession and associated uncertainty about how opportunities may arise in the labour market in the future.

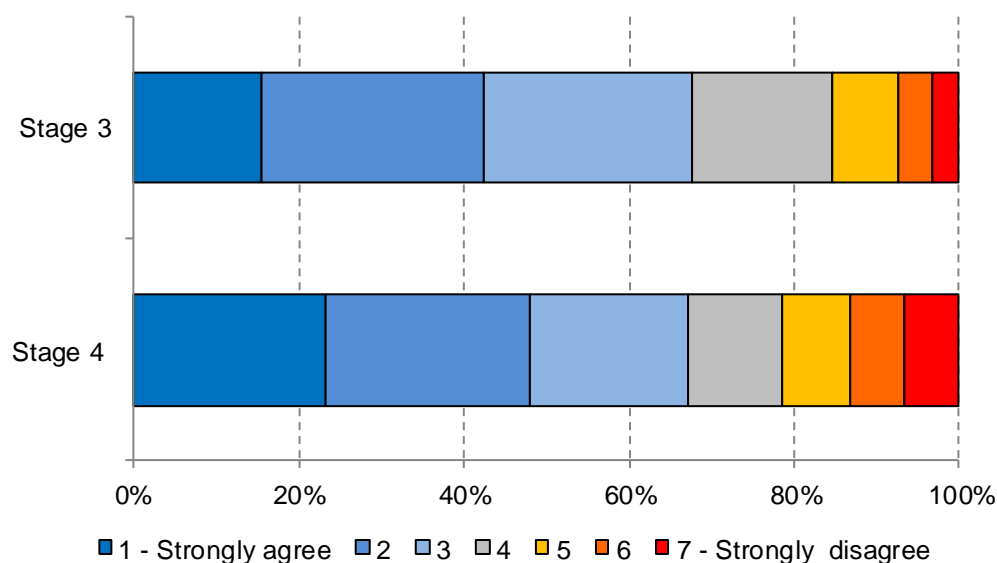
Figure 9.20: Responses in each Stage to the statement ‘I have a clear idea about the occupation I hope to have in 5 years’ time and the qualifications required to do so’



Source: Futuretrack 2006 combined dataset: UK respondents to each Stage (weighted)

This concern about how graduating into a restricted labour market with fewer opportunities for graduate employment may affect graduates' long-term careers is also reflected in the growth in the proportion of graduates who said that they were not optimistic about their long-term career prospects, as Figure 9.21 shows. Between Stages 3 and 4, the proportion of graduates who agree at least to some extent (selected 1 to 3 on the 7 point scale) that they were optimistic about their long-term career plans has remained approximately the same, with increases in the proportions indicating that they strongly agree with the statement. However, there has also been an increase in the proportion at the opposite end of the scale – those who disagreed that they were optimistic. The proportion of graduates who said they were not optimistic (chose 5 to 7 on the 7 point scale) increased from 16 per cent in Stage 3 to 21 in Stage 4. The proportion of graduates who strongly disagreed that they were optimistic about their long-term career prospects more than doubled, from 3 per cent in Stage 3 to 7 per cent in Stage 4.

Figure 9.21: Response to the statement ‘I am optimistic about my long-term career prospects’



Source: Futuretrack 2006 combined dataset: UK graduates (weighted)

Summary

Between Stage 3, when respondents were in their final year in HE, and Stage 4, between 1 and 3 years post-graduation, graduates had become less likely to agree that their subject, skills they had developed in higher education, and higher education institution were likely to be or had been an advantage to them in looking for employment.

The proportion of graduates who believed their degree subject had been an advantage to some extent fell from 77 per cent to 60 per cent. The proportion who believed their HEI had been an advantage from 68 per cent to 50 per cent, and the proportion who believed the skills they had developed on their course had made them more employable fell from 78 to 70 per cent.

Graduates with degrees in STEM and vocational subjects were the most likely to believe their subject had been an advantage, while graduates in Arts subjects were the least likely. Large falls in the proportion of graduates agreeing that their subject was an advantage were seen amongst those subjects associated with professions that have been worst hit by the recession, as well as amongst the STEM group as a whole.

Similarly, graduates with degrees in STEM and vocational subjects were the most likely to believe the skills they had developed on their course had made them more employable. Particular issues for graduates in Law, Architecture and media and PR-related subjects who hoped to go into employment using their subject skills were identified due to both over-supply and lack of demand in these areas.

While in Stage 3, students of six subject groups were more likely to believe the subject they studied was an advantage than the skills they developed were, this number had fallen to just two subject groups in Stage 4. Graduates of all subject groups were more likely to say that they were using their undergraduate course skills in their current job than that they were using their subject knowledge.

As was expected, graduates from the highest tariff HEIs were the most likely to believe that their HEI had been an advantage in looking for employment, with those from lowest tariff HEIs least likely.

Graduates' opinions about the extent to which their course offered good value for money are based on both the quality of the teaching and support they received and on the returns on having a degree that they had experienced or anticipated experiencing in the labour market. At Stage 4, approximately 60 per cent of graduates agreed to some extent that their degree had been good value for money and approximately a quarter disagreed to some extent.

The proportion of respondents who said that with hindsight they would definitely or probably study the same course again fell by approximately 10 per cent, from 70 to 60 per cent, between Stages 3 and 4. Choosing a different course was more frequently mentioned than choosing a different HEI.

Reasons given by graduates who would choose a different HEI were focussed on a perceived lack of prestige of their actual HEI and the impact respondents thought this had on their employment prospects, and on unsatisfactory teaching and/or resources.

Graduates who said that with hindsight they would change their subject predominantly said they would change to something that they thought would give them more of an advantage in the labour market – usually something more specialised, vocational or technical, with a more clearly defined career path. A small minority took the opposite view, and said that they would choose to something more enjoyable, regardless of the impact it had on their employability. Respondents noted that at the time they applied to enter HE they had not realised how much the opportunities in the labour market would be affected by the recession and consequently, only a small minority thought that they had been badly advised about the implications of their subject and HEI choice.

It would be expected that as respondents became nearer to entering the labour market, their clarity about their future careers would increase. However, this has not been the case. Graduating into a recession and uncertainty about the long-term impact this will have on their careers may have resulted in a significant minority of respondents feeling unclear about their future career and lacking in optimism about their long-term career prospects. However, overall, graduates retain an optimism about their future – approximately two thirds agree that they are optimistic about their long-term career prospects, and just 4 per cent would choose not to go into HE again.

CHAPTER 10

Graduates who studied as international students, exploring the experiences, outcomes and evaluations of EU and other international graduates

Introduction

This chapter deals with the experiences the Futuretrack graduates who had studied as international students and draws some comparisons between their early career experiences and attitudes and those of UK home students. International students cover a broad spectrum, however, and their responses need to be classified to some extent according to nationality and the extent of their experience of international study, in addition to the key variables used throughout this report and other educational and demographic characteristics. The Futuretrack dataset allows us to distinguish the following categories of student and graduate international experience, during and after their HE studies:

- (1) International students who study in the UK are separately classified as European or other international students in order to determine the level of tuition fees they are required to pay²⁷. International and other European degree mobile students were inwardly mobile to the UK for the entire course of study. Of all graduates, 11 per cent were classified as other Europeans and 6 per cent have come to the UK from countries further afield.
- (2) A very small number (59) of Futuretrack students with UK citizenship did the same thing in reverse, going abroad for their entire undergraduate programme, and the experiences and attitudes of these outwardly-mobile students (and as far as possible, their HE and subsequent career transition experiences will also be investigated), along with the early career mobility of UK-domiciled graduates who migrated to work after completing their degrees.
- (3) Additionally, Futuretrack allows us to identify 314 students who had planned to study full-time in the UK and thus had applied to HE through UCAS but did not start their UK based course. Where these applicants continued to participate in Futuretrack, their responses have been included and are discussed where feasible in this chapter.

The international in-migrant undergraduate student population

International graduates were more likely to be male (other international: 58 per cent, other European 48 per cent, UK: 44 per cent); they were less likely to have graduated from a course lasting three years (other international: 36 per cent, other European: 43 per cent, UK: 46 per cent); and were more likely to have studied at a highest tariff HEI (other international: 36 per cent, other European 30 per cent, UK: 28 per cent). In line with the subject choices analysed in the Stage 2 report, the subject that majority of most other international graduates had graduated from was Engineering and Technology and that most other European graduates Business and Administrative studies.

²⁷ European students include those who have a right of residence in EU countries together with *Iceland, Liechtenstein, Norway, Switzerland and the whole of the island of Cyprus*. Students who are residents of countries from outside these countries are normally classified as non-EU students. Details and exceptions are explained on the UKCISA website (www.ukcisa.org.uk). It is important to be aware that the classification of students used for this chapter is based on their responses regarding their nationalities rather than using the less accurate country as birth (which had been used at previous stages of the Futuretrack analysis).

To what extent did UK-educated European and other international students go on the further study?

From Table 10.1, we can see that the graduates from other European countries who had studied in the UK as undergraduates were considerably more likely to have gone on to study for a postgraduate qualification than UK-domiciled home students, and the other international students reported similar trends

Table 10.1: Proportions of graduates who had completed their undergraduate degrees studies and were no longer studying, and who had had obtained or were currently studying for a postgraduate qualification, by grouped nationality

	Nationality			Total
	UK	Other European	Other international	
Completed undergraduate course, no longer full-time student	73 %	50 %	53 %	70 %
Completed undergraduate course, currently full-time postgraduate	12 %	24 %	25 %	14 %
Completed undergraduate and postgraduate course, no longer full-time student	15 %	26 %	22 %	16 %
	100 %	100 %	100 %	100 %

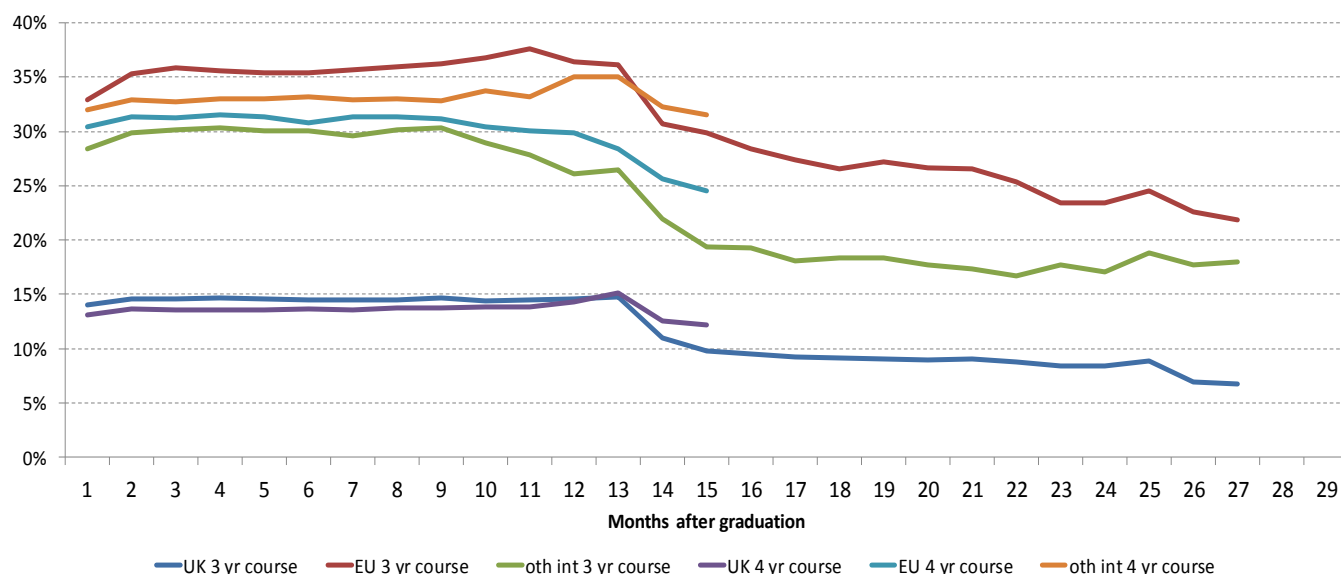
Source: Futuretrack 2006, Stage 4: all graduates (weighted)

Analysing the same distributions according to the location of graduates in Winter 2011-12 as a basis:

- Of all graduates now living in the UK, a European country or another international country, 6 per cent are other European graduates and 3 per cent of the Futuretrack graduates now in the UK came from other international countries;
- Of all Futuretrack graduates now living in a different European country, 27 per cent are from the UK and 9 per cent are from other international countries;
- Looking at all those who, after graduation, moved to a non-European country, 46 per cent were UK nationals and 15 per cent were citizens of other European countries.

Figure 10.1 shows that international students spent more time in further study, on average, than the UK national graduates. After May 2009, the average time spent in further study by international graduates and graduates from other European countries was 13 months and 11 months respectively, compared with 7 months of UK national students graduates who had completed a three year undergraduate course. Figure 10.1 shows differences in the propensity of these different groups to participate in further academic study, *i.e.* in taught Masters' or PhD courses. The relative distributions over the activity histories show that UK three year graduates were least likely to have spent time on further academic studies. Altogether, 82 per cent of UK national graduates did not spend any time after graduation on taught Masters' or PhD courses, which compares to 53 per cent of European and 63 per cent of international graduates.

Figure 10.1: Participation in taught Masters' degree or PhD courses by grouped nationality



Source: *Futuretrack 2006 Stage 4, all graduates (weighted)*

Obviously, these probabilities are related to the greater likelihood that international students will have graduated with first class degrees (31 per cent of international and other European students compared to 21 per cent of UK nationals). However, the proportion of non-UK graduates with a first class degrees engaging in further study was still higher than that of respective UK graduates:

Thirty-two per cent of all other European graduates with a first class degrees reported that they were currently enrolled in full-time postgraduate course and 26 per cent stated that they had already graduated from their postgraduate course. Of all other international graduates who had gained a first class degree, 39 per cent were currently enrolled in full-time postgraduate studies, and 25 per cent had already graduated from their full-time postgraduate course. The corresponding figures for UK national graduates with a first class degree were 21 per cent currently enrolled in full-time postgraduate studies and 14 per cent who had already graduated from their postgraduate courses.

However, the higher proportion of non UK graduates in further study could also indicate a need for additional studies in order to be able to find employment, particularly employment in a different country, and thus point towards a problematic transfer of skills and qualifications gained in the UK. Research has shown that many European employers are still unfamiliar with the new, three-tiered structure of higher education imposed by the Bologna process in 1999 and in some countries there is some evidence that graduates without a Masters' degree have less chances of finding employment (e.g. Marginson and van der Wande 2007).

Enhancing employability by international experience?

In a recent literature review (King, Findlay *et al.* 2010), the relationship between mobility and employability was identified as the missing link in previous research. There is not much evidence for the extent to which international experience adds value for a student, a topic which is difficult to assess given the interrelatedness of other factors relating to mobility and higher education outcomes (Findlay, King *et al.* 2012).

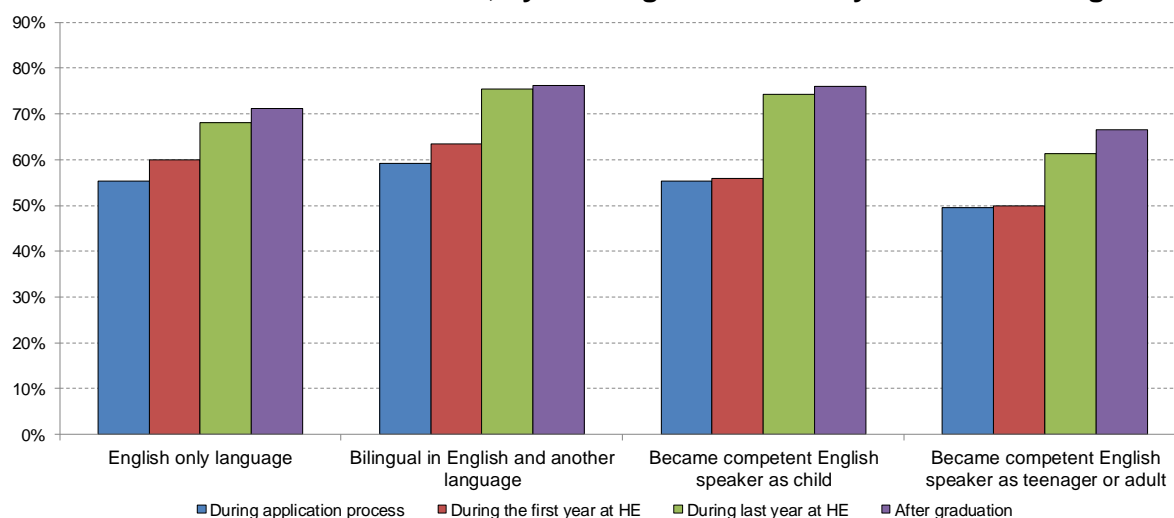
Traditionally, many students study in the UK in order to distinguish themselves from students in their home country, to experience a different culture and gain some cultural awareness and so-called global competences (Behle and Atfield 2012). Also, many international and other European students want to improve their English language skills, and hope to gain an employability advantage due to their international experiences (Crossman and Clarke 2010).

In a publication based on the third stage of Futuretrack data, international students' acquisition of employability skills has been analysed (Behle and Atfield 2012), especially in terms of (English) language proficiency; cultural awareness; and global competences. One result of this analysis was that international (including other European) students differ from UK based students in terms of their ideas of employers' expectations. Students from other overseas countries were more likely to mention communication skills, while students from European countries were much more likely than other groups to have given ability or competence related skills and self-motivation as important skills sought by employers. Interestingly, we found that students from other European countries expected no easier transition from HE to the graduate labour market than UK students, although the picture was slightly different for other overseas students and, of course, most had an additional advantage, along with their subject-knowledge and skills, of being fluent in at least two languages of which one was English.

Developing competence and confidence in using the English language, increasingly the *lingua franca* of the global business world (Bryant *et al.* 2006), has been identified by many authors (e.g. Teichler and Janson 2007; Crossman and Clarke 2010; Bretag 2007; OECD 2011) as one of the key skills that education-led migrants seek to acquire by studying in the UK. Futuretrack data allows us to monitor changes in written and spoken communication skills. As Figures 10.2 and 10.3 show, those who were brought up as bilingual and those who learned English as children were as confident about their spoken communication skills at the outset as monolingual English speakers, and those who had learned English later not far behind, whereas there was a greater disparity between the latter group and the others in written communication skills at the outset, and perceptions of greater improvement as their undergraduate careers progressed.

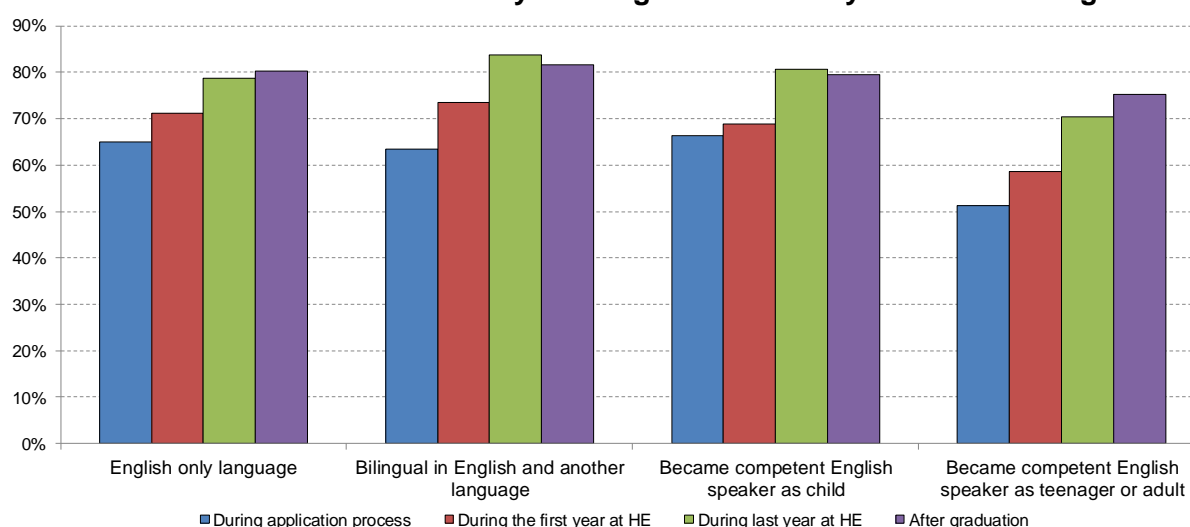
The differences between native speakers and those who became competent English speakers as teenagers or adults were less pronounced in terms of written communication than might have been expected. These are subjective evaluations, and it is not surprising that two thirds of native speakers also stated that their written skills were developed 'a lot' on their HE courses, and 45 per cent evaluated their development of spoken communication skills on their courses similarly. Encouragingly, all groups considered that their communication skills had improved between application and graduation: 69 per cent of graduates who became competent English speakers as teenagers or adults stated that written communication skills were developed 'a lot' on their undergraduate course, while the corresponding figure for spoken communication skills was 55 per cent – probably reflecting greater confidence in their spoken than written English at the outset.

Figure 10.2: Proportion of graduates with very good or excellent spoken communication skills, by the stage at which they had learned English



Source: Futuretrack 2006: all Stage 4 graduates (weighted)

Figure 10.3: Proportion of graduates with very good or excellent written communication skills by the stage at which they had learned English



Source: Futuretrack 2006: all Stage 4 graduates (weighted)

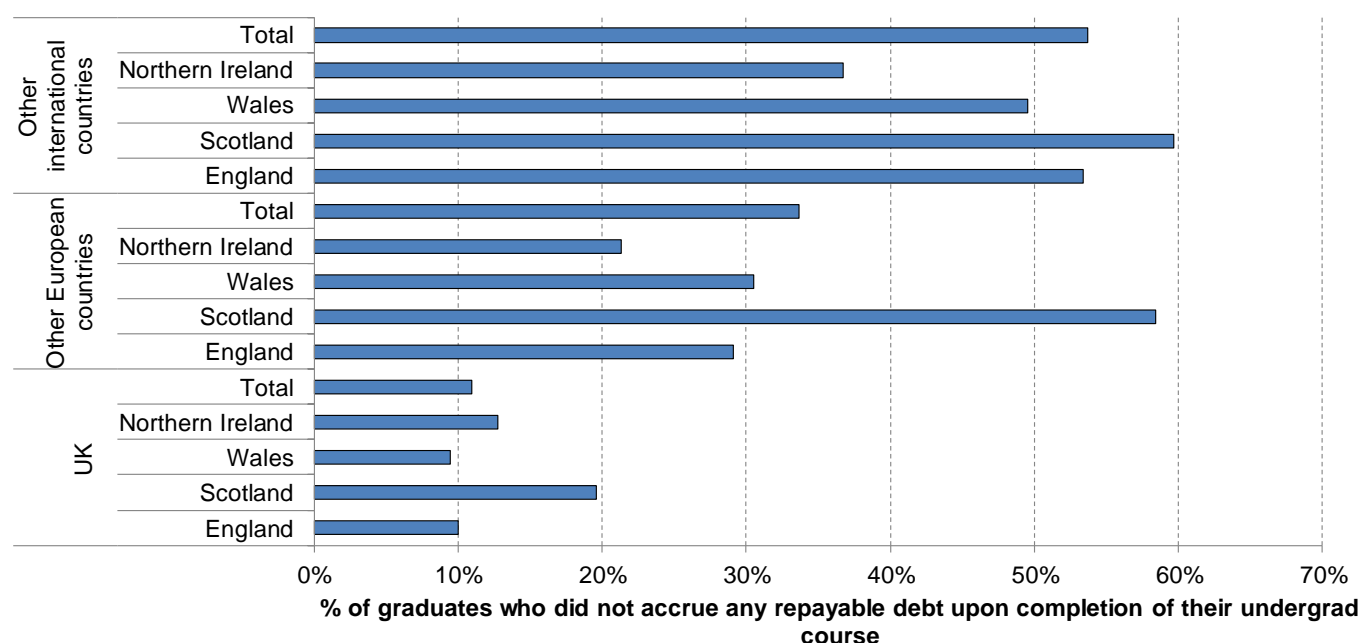
As in the case of UK home students, the development of different areas of skill varied by course and by subject studied, discussed earlier in this report.

How much debt did international graduates accrue during their time in HE?

In the light of increasing fees for students from other European countries studying in England, it is interesting to compare the levels of debt international graduates accrued, compared with UK graduates and graduates from other European countries during their time spent in UK HE. At the outset of the project when Futuretrack accepted applicants started their studies in 2006, the UK government of the time had just introduced top-up fees of annually £3,000 which gradually increased to a maximum of £3,290 in 2011/12. In 2008, the Scottish Parliament abolished tuition fees for all Scottish and other European students

studying in Scotland²⁸, and as a consequence, higher education has been free of charge for these groups since then. As a consequence, all Scottish or other European students who graduated on or after April 2007 did not have to pay the charge whilst students from other parts of the UK studying in Scotland were charged £1,820 *per annum* (£2,895 for medicine). In Wales, HEIs charged the top-up fees, but all Welsh students studying in Wales were given a grant of £1,890 towards fees. As a general rule, all students from local and other European countries are on the same basis, and students from outside the EU pay whatever universities charge²⁹. Compared to UK and other European students, non-European international students' fees are much higher; in 2010-11 institutions charged undergraduates from outside the European Union an average of £10,463 a year in classroom-based subjects and an average of £11,435 for in laboratory-based subjects (Morgan 2010)³⁰. The impact of fees on UK home students and the Scottish abolition of tuition fees can be seen clearly in Figure 10.4, especially for graduates from other European countries.

Figure 10.4: Proportion of graduates who did not accrue any repayable debts upon completion of undergraduate studies, by nationality and HEI country in which they studied.



Source: Futuretrack 2006 Stage 4 all graduates (weighted)

The proportion of graduates from other European countries stating that they did not accrue any repayable debts was higher than for UK national graduates. Of those European graduates who did accrue repayable debts, 8 per cent stated that they had already fully repaid their debts and 36 per cent stated that they had partly done so. Despite the higher tuition fees for non-European international students, more than half of all graduates from other international countries had not accrued any repayable debts upon completion of their course. Of those 46 per cent of other international students with repayable debts, 11 per

²⁸ <http://www.scotland.gov.uk/News/Releases/2008/02/28172530> (accessed 2012-09-19).

²⁹ <http://www.bbc.co.uk/news/education-11515828> (accessed 2012-09-19).

³⁰ For details on the differences between undergraduate fees for home/EU students and for international students see <http://www.guardian.co.uk/education/table/2009/oct/08/undergraduate-international-student-fees>.

cent stated that they had already fully repaid these debts and half of them reported that they had partly repaid their debts. It has been established at earlier stages of the survey, and elsewhere, that inward migrant students are, not surprisingly, likely to have come from more affluent socio-economic backgrounds on average than home students (Findlay *et al.* (2012, King 2002). International students from countries from outside the UK have usually been required to prove that they have enough resources to pay for their course fees and their maintenance, at least for the first year of studying, in order to obtain a Tier 4 (General) student visa³¹.

Location of graduates after graduation

As well as distinguishing students according to their country origin, Futuretrack data also allow us to look at the location of graduates after they had graduated. Despite questions about the transferability of undergraduate degree across different HE and labour market contexts, the level of demand from European and other international HE applicants suggests that a high proportion of UK degree-level qualifications and the quality of undergraduate provision continues to be held in high regard internationally. Excluding some specialist professional and vocational qualifications where legislation or the structure of demand precludes direct integration, possession of excellent HE qualifications, or qualifications in countries where demand is high for graduates, with or without specific vocational skills and knowledge, has enabled UK-educated graduates to access international labour markets. Table 10.2 shows that of all national UK graduates, 2 per cent now live in a different European country and 4 per cent now live in a country further overseas. Other European graduates were most likely to have remained in the UK, or to have moved to another European country, but some had moved further afield. The majority of other international

UK-educated graduates in the Stage 4 had moved back or returned to another non-European location.

Table 10.2: Location of graduates in Winter 2011-12 by grouped nationality

		Location of graduates in Winter 2011-12			Row percentages
		UK	European country	International country	Total
Nationality	UK graduates	94%	2%	4%	100%
	Other European graduates	49%	42%	8%	100%
	Other international graduates	41%	13%	47%	100%
Total		86%	7%	7%	100%

Source: Futuretrack combined dataset, Stage 4 graduates only, weighted

Analysing the same statistics by where Futuretrack graduates were living in the UK in Winter 2011-12, 6 per cent were other European graduates and 3 per cent graduates from other international countries. Of all Futuretrack graduates then based in a different European

³¹ http://www.ukcisa.org.uk/student/info_sheets/immigration_uk.php#does_it_apply (accessed 2012-09-19).

country, 27 per cent were from the UK and 9 per cent from other international countries. Looking at all those who, after graduation, moved to a non-European country, 46 per cent were UK nationals and 15 per cent came from different European countries. The sections that follow provide further detail about these mobile graduates and their reasons for migration.

UK graduates now living in a different country

Of the 75 different countries UK graduates stated as their current location, the most frequently reported locations were (in order) Australia, USA, China, France, Germany and Canada. Most of the UK graduates who had migrated had studied in the UK; only 6 per cent of them had taken their whole course abroad.

About half of the UK students who had completed their undergraduate studies abroad had graduated from universities in the USA, Canada, Australia or New Zealand, many of whom had attended institutions with a high level of prestige internationally. Another popular location for UK students abroad was the Republic of Ireland, mainly at Trinity College Dublin. Education-driven migration of UK students is currently a politically-sensitive issue, informed by limited recent research which is likely to provide little indication of future trends, given funding changes. A few years ago Brooks and Waters (2009) found that many British students had gone abroad because they failed to get into highest or higher tariff UK HEIs and saw study abroad as a 'second chance'. Since the announcement of an increase in tuition fees now introduced, there has been a considerable amount of anecdotal evidence cited in the media (e.g. Collinson 2012³²) about increased outward UK education-led migration in the last year, but the changes were introduced after this cohort of HE undergraduates had made their decisions.

Many of the UK graduates who moved abroad had prior international experience obtained while they were in HE. Eleven per cent of graduates who completed both Stage 3 and 4 of the survey reported having undertaken international study or work experience as part of their course.

Compared to UK graduates who stayed in the UK, those who left the UK were more likely to be male and to come from socially-advantaged backgrounds. A higher proportion than average graduated from the highest tariff universities, and, not surprisingly, a higher proportion had studied languages and interdisciplinary studies, in which very often another subject was studied along with a language. Most of the graduates were working, and/ or studying in the country they currently live in. It is unclear at this stage whether graduates were embarking on some form of working holiday/gap period, or if they migrated with the intention of settling permanently in the country to which they had moved, and the reasons they gave for moving to work in another country were a mixture of positive and negative, as the examples which follow show.

"[it gives me] the opportunity to use my languages"
(Female, Highest Tariff University, Languages, living in Spain)

"I wanted to live in Rome"
(Female, Highest Tariff University, Interdisciplinary subject, living in Italy)

"I could not obtain the job I wanted in the UK"
(Male, Lower Tariff University, Subject allied to Medicine, living in China)

³² <http://www.guardian.co.uk/money/2012/aug/17/save-25000-university-tuition-fee-refugees>

"It widened the market and allowed me to look for work somewhere other than recession ridden England!"

(Female, High Tariff University, Social Studies, living in Spain)

The locations of European and other international students in Winter 2011/12

By the time of the fourth Futuretrack survey, 31 per cent of all European graduates had returned to their country of birth or the country they had applied from to UCAS in 2006³³, 15 per cent lived in a different country, and about half of all European graduates were still living in the UK. The distribution of other international students varies from this pattern only slightly: 41 per cent were living in either their country of birth or the country they had applied from, 16 per cent had moved to a different country and 42 per cent were still within in the UK³⁴. The lower proportion of graduates remaining in the UK could be related to visa regulations.

The following quotes show some of the diverse reasons given by migrants for their current location, and, incidentally, show examples of the trans-nationality of some Futuretrack respondents, as well as illustrating an earlier finding that graduate career decision-making is rarely made as an individual decision designed solely to maximise earnings or personal career development (Purcell and Elias 2009).

"I had to move to Brussels for personal reasons. Although I speak fluent English, French and Greek, Dutch is also a top requirement for finding a job in Belgium. Therefore, I had to accept what I was offered. The job is very satisfactory, but there are no career development plans within this company, nor are the conditions of employment attractive"

(Born in Greece, applied to UCAS from France, Female graduate of Business and Administration studies, now living in Belgium).

"The employer is able to sponsor my work permit visa to stay in the UK"

(Born in China, applied from Singapore, female, interdisciplinary studies, now living in the UK).

"I would like to eventually move back to Ireland so I can gain valuable experience until the situation with jobs improve"

(Born in and applied from the Republic of Ireland, male, subjects allied to Medicine, now living in the UK).

"[I am able to work a] very short distance from home"

(Born in and applied from Portugal, female, languages, now living in Portugal).

"I wanted to travel but didn't have enough money, so it's a good way to travel and earn"

(No information available about country of birth, applied from Austria, Female, social science, now living in China).

³³ We use both the country they applied from and the country of birth as a proxy for their home country. As an example, Turkish children of former guest workers in Germany will get classified as returning to their home country if they now live in either Turkey or Germany; and Japanese graduates who applied from a gap year spend in Australia will be classified as returning to their home country if they were now living in either Japan or Australia.

³⁴ These figures differ slightly from those shown in Table 10.1 as respondents with missing answer in the country of birth or countries of application were excluded from the calculation.

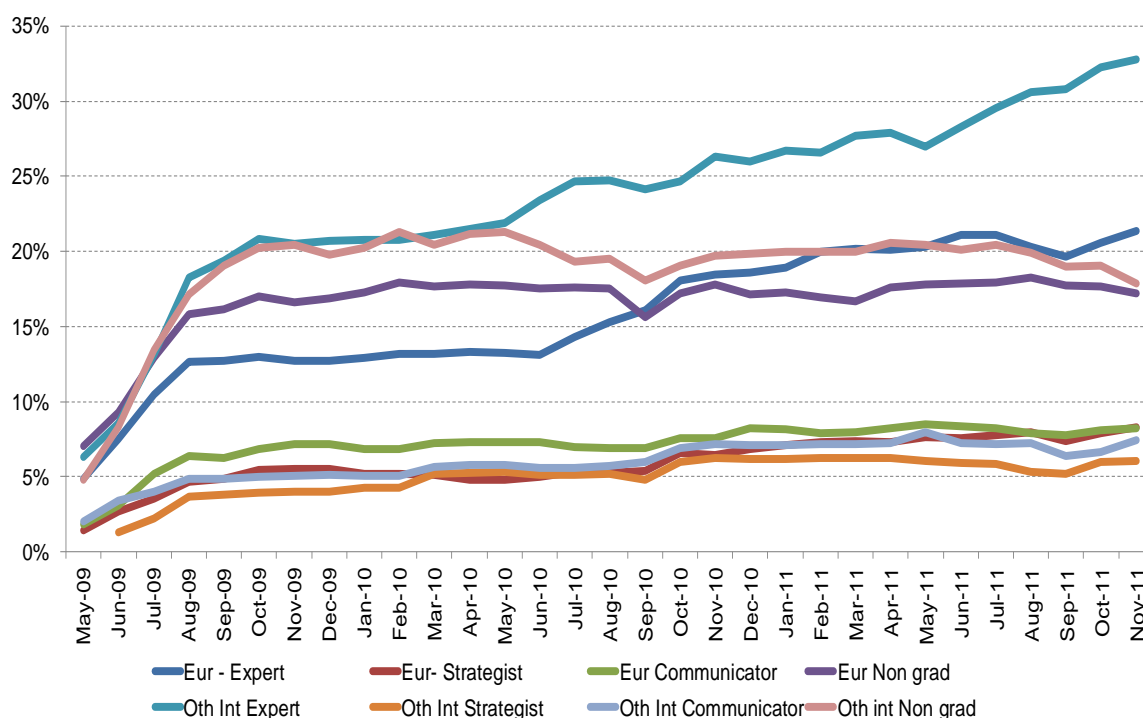
Employment

Using the SOC(HE)2010 classification, Figure 10.5 tracks the comparative patterns of employment of all international graduates who had completed three year UK undergraduate courses, according to the proportions in each of the categories defined as graduate and non-graduate, and distinguishing between International and other European graduates.

The largest proportion of international and other European graduates from three year courses were employed in expert occupations, followed by those employed in non-graduate occupations, as Figure 10.5 shows. On average, all European graduates who worked in an expert occupation had done so for 5 months, plus nearly 4 months in non-graduate occupations, whereas the corresponding experience of other international graduates employed in expert occupations was 6 months, plus only 3 months in non-graduate occupations. For the UK-domiciled graduates in expert occupations, their length of tenure in the latter was similar, but they had spent 7 months in non-graduate occupations. This probably tells us more about the relative affluence and capacity (and perhaps need) to travel rather than work more continuously in jobs where the sole objective is likely to have been earning an income to support themselves.

The relative scale of employment in the three SOC(HE)2010 'graduate categories' reflects the relative proportions of the early career graduates in each of them, but when we aggregate the proportions in graduate occupations in the two different international sub-samples by November 2011, we find that international graduates from outside Europe were significantly more likely to have accessed graduate jobs. The analysis carried out at Stage 3, found that other international students more likely to be males and more likely to be studying Engineering or other STEM subjects, which may contribute to explanation of this pattern. The analysis in Chapter 6 has shown that individuals with these characteristics are more likely to be in graduate employment.

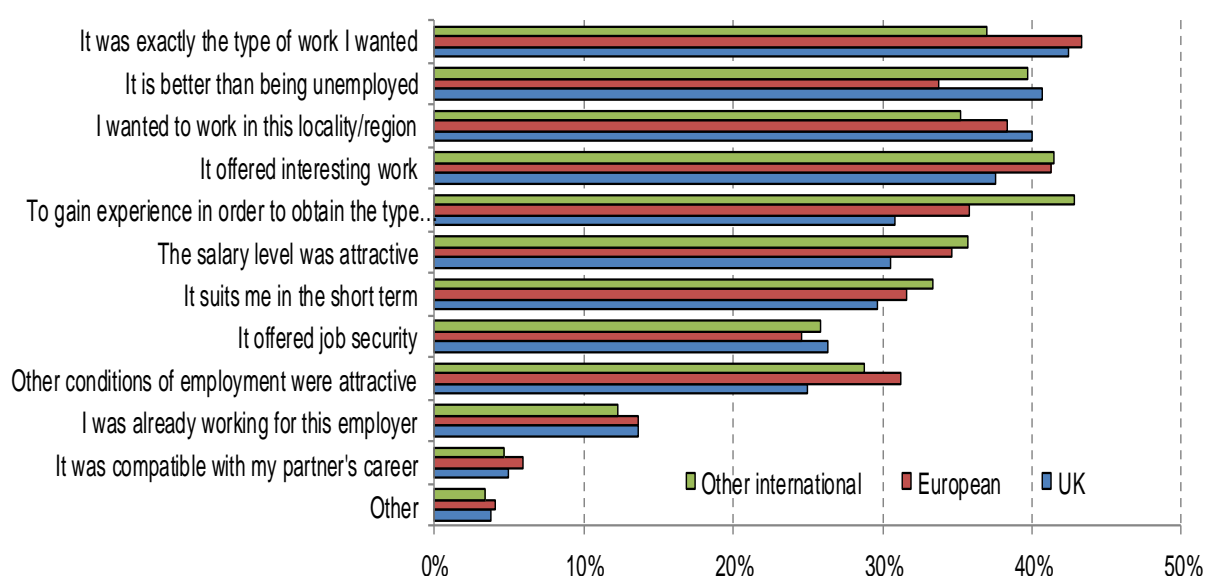
Figure 10.5: Employment of international and other European graduates of three year courses in new SOC (HE) occupation by nationality



Source: Futuretrack combined dataset, EU and other international graduates in employment (weighted)

Graduates were asked why they decided to accept their current main job. Interestingly, compared to UK graduates, the locality or region of employment was less relevant for both European and other international graduates (Figure 10.6). The main reasons for UK and other European graduates was that their current employment was exactly the type of work they wanted whilst for other international graduates, the main reasons for deciding to take on their current job were that they wanted to gain experiences in order to obtain the type of job they really wanted and because it offered interesting work, as Figure 10.6 shows.

Figure 10.6: Why did you decide to take your current main job? By nationality



Source: Futuretrack 2006, Stage 4: all graduates (weighted)

Interestingly, even though the locality or region where they would work was less relevant for other international and European graduates, this was not the case for UK-domiciled graduates who had gone on to work abroad. More than half of all graduates working either in another European country or further afield stated that one of the reasons they had accepted their current job was that they wanted to work in that particular location or region. It is not surprising that gaining international work experience was more important for European and other international graduates: when asked what job characteristics they evaluated as important, 71 per cent of other European graduates and 56 per cent of other international graduates stated that this was very important or important for them (UK graduates: 49 per cent).

With hindsight, were international graduates satisfied with their UK HE experience?

Graduates' ultimate satisfaction with their education gained in the UK can be measured by their responses of whether they would choose the same course or the same HEI again together with their opinions about the value for money of their undergraduate courses. Roughly 70 per cent of international graduates agreed that their course had been good value for money (70 per cent graduates from other European countries, 69 per cent of international graduates) which is significantly higher the proportion of UK national graduates (60 per cent). Table 10.3 shows whether respondents would choose the same undergraduate course again.

Table 10.3: 'With hindsight, would you choose the same undergraduate course...?' by international classification

Response	UK or International Classification as an undergraduate			All graduates in the sample
	UK	European	Other international	
Yes, definitely	31%	29%	31%	31%
Yes, probably	32%	37%	34%	32%
Would choose a similar course at a DIFFERENT university or college	9%	11%	10%	9%
Would choose a different course at the SAME university or college	14%	11%	10%	13%
Would choose a DIFFERENT course at a DIFFERENT university or college	10%	10%	15%	11%
Would not go to university or college	4%	2%	0%	3%
	100%	100%	100%	100%

Source: Futuretrack 2006, Stage 4: all graduates (weighted)

There is remarkably little difference in the responses of the three categories. Most graduates would definitely or probably have chosen the same undergraduate course if they were starting again; the proportions were slightly higher for international graduates (European: 66 per cent, other international 64 per cent). Nevertheless, there were some interesting differences between the two groups of international graduates: non-European international graduates were more likely to state that they would choose a different university or college if they were starting again. However, this may be at least partially explained by some indicative evidence that international graduates understood 'different university or college' not in a national context (*i.e.* would choose a different UK HEI) but in the context of choosing a different country to undertake their undergraduate studies, as the following quotes show:

"I would probably choose a university/college/school in another part of Europe, maybe a more popular school that would enhance my employment options in terms of working around Europe"

(Born and applied from Northern Cyprus, Female, Creative Arts and Design, now living in Northern Cyprus).

"Moving to the UK was a useful experience but I did not enjoy staying in [the town where her chosen HEI was located] and so moved back to the Czech Republic after the first semester. I would choose similar course but not at UK university"

(Born and applied from the Czech Republic, Female, Social Studies, now living in Australia).

"I might have reconsidered pursuing my undergraduate studies in the USA, where there's an emphasis on a broader-based education"

(Born and applied from Singapore, Male, Biology, now living in Singapore). Other reasons which indicated that graduates might be choosing a different country for their undergraduate studies included accumulated debts, as the following quotation shows:

“Cost of attending this course at [this named] University as a foreign student was overwhelming. I have accumulated far more in fees than anticipated and do not foresee being able to surmount my student loan debt”

(Born and applied from the USA, Female, Biology, now living in the UK)

Other graduates criticised the UK focus of their course which had failed to take the different subject-specific knowledge of international students into account.

“...due to their approach of architectural education which is extremely demanding and not accommodative to international students like me who has very, very limited knowledge and skills on the course and the UK culture in general”

(Born and applied from Malaysia, Male, Architecture, Building and Planning, now living in the UK).

Some graduates reported of prejudices and disadvantages due to their status as international students.

“I felt tutors and staff not very helpful and honest. But maybe they just don’t like to help foreigners as others had similar problems”

(Born in Germany, applied from the UK, Male, Creative Arts and Design, now living in Germany).

“... majority of my coursework was assessed on the basis of my nationality and not what I have had actually done”

(Born and applied from Poland, Female, Biology, now living in the UK).

It is difficult to evaluate the accuracy or justice of such claims, many of which are clearly post facto rationalisations in the light of the impact on global labour markets of recession. The negative international feedback was by far outnumbered by positive evaluations and feedback from international graduates, and there is further scope for considerably more detailed analysis of these data. Previously, research on the international transferability of skills and qualifications gained in the UK has been rather scarce (King *et al.* 2010) even though there is some evidence from other countries on difficulties in finding graduate employment after returning to their home country or after moving to a different country (e.g. Lianos *et al.* 2004). Thus, it is not surprising that some international Futuretrack respondents have experienced similar complications after graduating:

“After I started working back in my home country, I realized that other skills such as management and accounting knowledge is more practical and employable”

(Born and applied from Malaysia, Female, Creative Arts and Design, now living in Malaysia).

“I wanted to do diplomatic service for the country I originated, however due to credit crisis this option was not promising much. I believe a different course would have provided more opportunities”

(Born and applied from Lithuania, Male, Social Studies, now living in the UK).

“Law is strictly national and to become a qualified lawyer I would have to stay in the UK and practice there”

(Born and applied from Poland, Female, Law, now living in the Netherlands).

Some of these negative evaluations appear to reflect a disturbing lack of information and guidance that these graduates appear to have had access to as applicants, but some may also simply reflect economic change in the intervening period between application and

graduation, with the challenge that faced UK graduate job-seekers amplified in some of the other international countries hit harder by the global recession.

Interestingly, 14 per cent of those who had originally applied for a course in the UK and then decided to undertake their undergraduate studies elsewhere subsequently have come to the UK for postgraduate studies, of which several were living in the UK at the time of the final Futuretrack Stage.

Summary

In this chapter, the experiences of respondents with international experience of HE were explored, comparing them with UK-domiciled respondents according to their country of origin and their locations during and after their studies. Because some of the un-weighted sub-samples examined are relatively small, qualitative information provided by the respondents has been particularly useful in interpreting these initial findings.

We find evidence of the role international student mobility can play in developing skills that enable graduates to make an appropriate transition into the labour market. The development of communication and English language skills had been identified by many of them as a motivating factor in their decision to study in the UK. For European and other international students the closing of the gap between graduates who had learned English as children or adults and those graduates who were mono-lingual English speakers in terms of their self-rating of their spoken and written communication skills provides a demonstration of the extent to which UK HE experience had enhanced the employability of particular groups of international graduates. More than 65 per cent of non-native speakers of English rated their written and spoken communication skills after graduation as 'very good' or 'excellent' and because of the greater challenges most had faced as undergraduate students learning in a second language, they probably applied more stringent criteria than native speakers.

After graduation, international graduates were more likely than UK nationals to embark on taught Masters and PhD courses. There were various reasons for this. International graduates were more likely to have gained a first class degree, providing them with greater access to post-graduate study opportunities. However, like those of the UK students who did so, a significant proportion had gone on to further study in order to gain a recognised qualification that would give them an advantage in the labour market.

European and other international students were less likely than UK-domiciled graduates to have accrued debts as undergraduates. More than 50 per cent of all international graduates and more than 30 per cent of all other European graduates had not accrued any repayable debts at the time of their graduation. This largely reflects the funding regimes in the countries in which they studied and the relationship between social class and access to international experiences.

Looking at the career destinations of graduates of three year undergraduate courses shows that European and other international graduates were likely to move more quickly into graduate occupations and experienced shorter periods of unemployment. Graduates who were nationals of countries outside Europe were most likely to be employed in a graduate occupation at the time of the Stage 4 survey, which is likely to be related to the types of subjects in which these graduates were concentrated and their relative educational and socio-economic advantages. Students who had come to the UK from non-European countries were more likely than UK students to study STEM subjects. As a consequence, international students were likely to be employed in expert graduate jobs (classified using the SOC(HE)2010 classifications outlined earlier in this report.

Early-career international migration of UK-national graduates is relatively rare. Of all UK-national graduates, 2.4 per cent now live in a different European country and 3.5 per cent

now live in a non-European country. Motivations for moving abroad were diverse, including a desire to use language skills developed while studying or develop greater competence in another language, but difficulties in finding employment in the UK and perceptions that the situation might be easier elsewhere were mentioned frequently.

Despite similar concerns about potential graduate labour market difficulties, the experiences of international graduates were broadly positive and they were as satisfied as UK national graduates with their HE experiences. Nevertheless, the comments provided by international graduates who indicated that with hindsight they would choose to study at a different HEI, very often reflected a wish that they had studied in a different country to the UK. Non-European international graduates reported dissatisfaction about their course fees, the UK-orientation of their courses and difficulties in transferring their skills and qualifications outside the UK context. These comments suggest that the provision of appropriate information, advice and guidance for non-European students may be an issue. Nevertheless, 70 per cent considered that their course had been good value for money and two-thirds stated that they would definitely or probably choose the same undergraduate course again.

CHAPTER 11

Dropping out, opting out; starting again: the comparative experience of those who took alternative routes

Introduction

This chapter focuses on the small number of Futuretrack respondents who applied to enter higher education in 2006 but who did not graduate and were no longer in full-time higher education. This group comprises 8.3 per cent of UK respondents. Of this group, almost two thirds (63 per cent) entered full-time HE but subsequently dropped out, while 37 per cent did not go on to full-time study and had not been a full-time higher education since then. Due to the relatively small sample size, the majority of this chapter compares graduates with non-graduates, rather than differentiating between those who entered HE and dropped out and those who opted out altogether.

Existing research presents a mixed picture of the opportunities available for non-graduates in the labour market. Over recent decades, the UK has developed an 'hour-glass' economy, with the labour market becoming divided between high-paid, largely graduate jobs on the one hand and low-paid, precarious work on the other. The increasing proportion of the population with a degree increases competition at all levels of employment, and there is potential for graduates to 'drive out' non-graduates even from relatively low-paying job sectors. CIPD (2012) note that while there has been an emphasis on increasing participation in higher education, there has not been a similar focus on increasing vocational training. This has resulted in both a lack of opportunity for those without a degree and a generally negative view of vocational education and training (VET). It has become the recourse of those who are regarded as 'not bright enough' or lacking motivation to study for a degree, an option only for 'other people's children', and consequently employers place little value on it. Research by High Fliers Research for CIPD (2012) of the top 100 companies, found that approximately 60 per cent offered no routes into their organisation for non-graduates, and work by Lepper (2012) on the PR sector highlights employers expecting applicants to have a degree or favouring those who do so, even when a degree is not mentioned as a pre-requisite in a job specification.

However, CIPD (2012) also note that this situation is changing and employers are increasingly seeing the value in apprenticeships and other forms of VET. It may be too early for this to have had a real impact on the opportunities available to the non-graduates of the Futuretrack cohort, and it must also be remembered that not all of the non-graduates will have engaged in any vocational training, although even for this group, the situation may be becoming more positive. Research by Adecco (2012) has found that employers are increasingly valuing the work-ethic of school leavers, and one in five employers believe that school-leavers make better workers than graduates, in part because over half have found that graduates have 'unrealistic expectations' of working life. Similarly, a survey by Santander (2011) found that 80 per cent of employers would prefer a non-graduate with three years' work experience over a recent graduate with no work experience.

This chapter outlines the career paths and other experiences of non-graduates, comparing them to those of the graduates in the Futuretrack sample. Have the non-graduates who, in 2006, were in a position to apply to enter HE alongside those who would ultimately graduate seen a gap develop between their achievement and aspirations and those of graduates? How do their career paths and decisions compare to the graduate group? How do this group view their future opportunities, and what impact does not having a degree have on this?

Characteristics of non-graduates

As Table 11.1 shows, with the exception of ethnicity, the non-graduate group has a smaller proportion of respondents who have the characteristics of those who traditionally have become students.

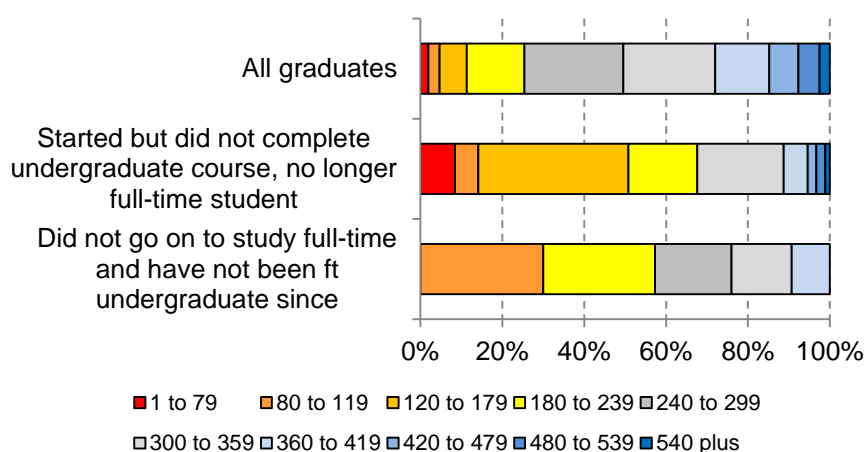
Table 11.1 Characteristics of graduates and non-graduates

	Graduates	Non-graduates
Mature students aged 21-25 when applied	10.0	15.8
Mature students aged 26 and over when applied	13.2	22.9
Both parents have a degree	19.1	11.4
Neither parent has a degree	52.8	59.2
Managerial or professional background	55.8	50.4
Routine or manual background	24.5	28.6
Male	43.4	50.1
White	88.7	90.1

Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

The non-graduate group, as might be expected, were more likely to apply to enter HE with non-standard qualifications, and, as Figure 11.1 shows, to have lower tariff points when they applied.

Figure 11.1: Tariff points of graduates and non-graduates



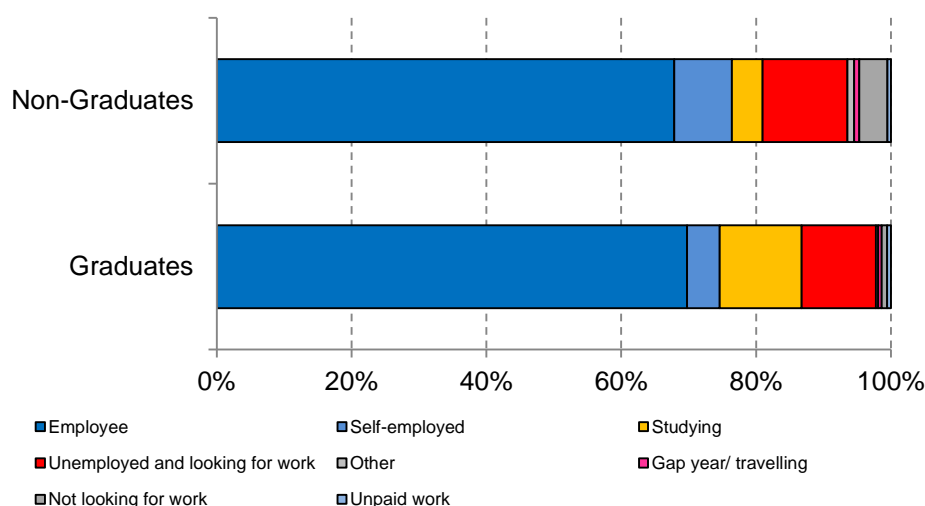
Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

This shows that even at the point at which they were applying to enter HE, the non-graduate group had certain disadvantages and key differences to the graduate group. The following sections look at the extent to which these disadvantages and differences have been exacerbated by experience of non-experience of HE.

The current situation of non-graduates

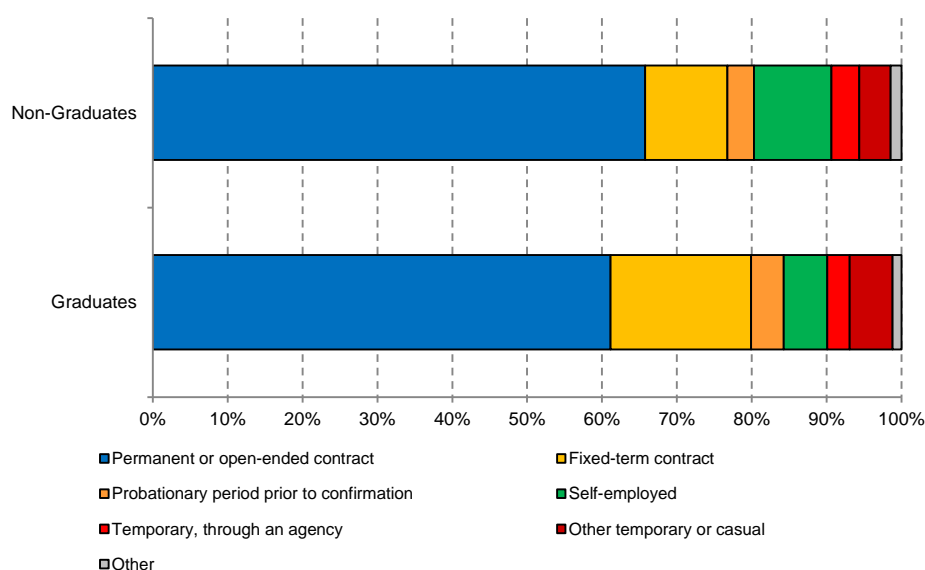
As noted above, a survey by Santander (2011) found that employers would prefer to employ someone with three years' work experience over a recent graduate. It would therefore be expected that non-graduates might be more likely to be currently in employment than graduates in the Futuretrack sample. However, as Figure 11.2 shows, non-graduates were only slightly more likely to be in employment (as their main activity) at the time of the Stage 4 survey and they were slightly more likely to be unemployed and looking for work.

Figure 11.2: Current main activity of graduates and non-graduates



Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

Despite an overall increase in the economy in the proportion of work that is fixed-term or in some other way temporary, particularly at the lower-skilled end of the labour market, the non-graduates in the Futuretrack sample are more likely than the graduates to have a permanent contract, and they are less likely to be on a fixed-term contract. The non-graduates are also more likely to be self-employed, which may simply be because they have had more time to develop the contacts and experience necessary to become self-employed, but may also indicate that amongst the non-graduate group, there are respondents who have taken non-traditional routes into successful careers.

Figure 11.3: Contractual basis of graduates' and non-graduates' current job

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

Non-graduates were slightly less likely than graduates to be employed in the public sector (30 per cent of non-graduates and 32 per cent of graduates in employment), and slightly more likely to be employed in the private sector (58 per cent of non-graduates and 56 per cent of graduates), but the differences are not significant.

When looking at the industrial sector of graduates' and non-graduates' current job, as Table 11.2 shows, relative to graduates, non-graduates were over-represented in industrial sectors which traditionally have a high proportion of low-skilled jobs, particularly: Distribution, hotels and catering, which includes those working in retailing; Transport and tourist services; and, to a certain extent, Construction. Conversely, graduates are more likely than non-graduates to be working in Education and in Business Services.

Table 11.2: Industrial sector of graduates' and non-graduates' current job

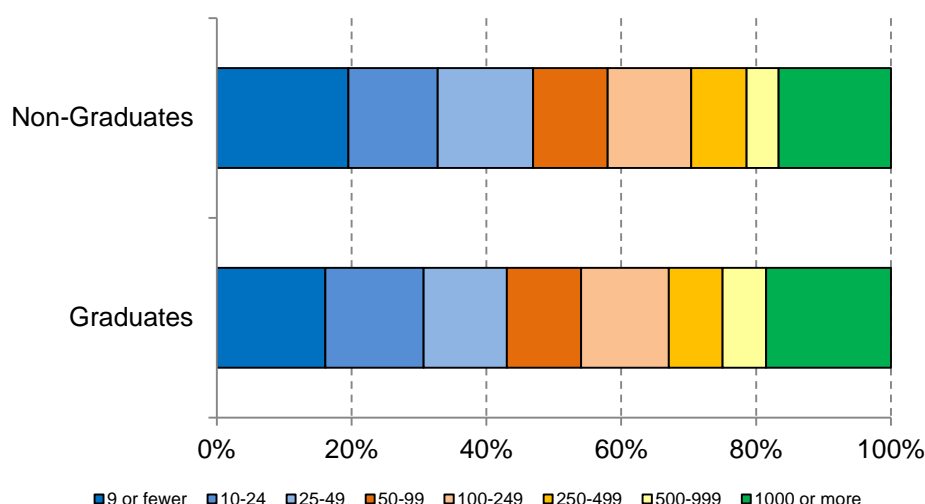
	% of Non-Graduates	% of Graduates
Other public services (local or central government, health services, police, social services)	21.7	21.9
Distribution, hotels, catering (includes retailing, supermarkets, wholesale or retail distribution)	15.8	10.7
Education (includes schools, colleges, and universities)	11.3	16.7
Banking, finance, insurance	7.1	6.1
Information and communications sector (includes media)	5.7	7.5
Transport and tourist services	4.8	2.0
Business services (includes legal services, computing, advertising, public relations, R&D)	4.6	7.2

Construction (includes civil engineering)	4.0	2.3
Manufacturing	3.6	3.3
Electricity, gas, water supply	1.3	1.1
Agriculture, mining, quarrying (includes oil and gas extraction)	0.7	1.4
Other	19.6	19.9

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

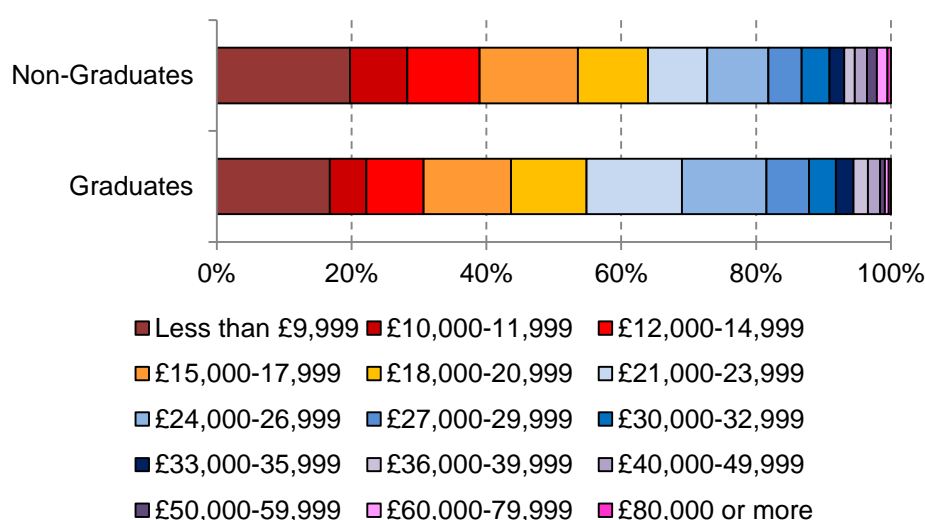
As Figure 11.4 shows, non-graduates were slightly more likely than graduates to be working in small and medium-sized enterprises (SMEs) and micro-businesses, but not to the extent that would appear to confirm the findings of a survey by the SME website DealJungle in 2012. They found that almost two thirds of the SMEs surveyed had hired a graduate, while over three quarters (77 per cent) had hired a non-graduate, and furthermore that 54 per cent of these employers believed that hiring a graduate had been a mistake and six in ten believed that hiring non-graduates represented a better investment than hiring graduates.

Figure 11.4: Size of graduates' and non-graduates' current employer



Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

As Figure 11.5 shows, despite their employment in roughly similar sized organisations, often in the same sector, non-graduates were more likely to be earning lower pay than graduates. More than half of non-graduates reported that they were earning less than £18,000 per year. This represents a closing of the gap experienced by non-graduates and graduates in the pay they received in their first job. Around 7 in 10 non-graduates earned less than £15,000 in their first job, compared to around 45 per cent of graduates.

Figure 11.5: Earnings of graduates and non-graduates in their current job

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

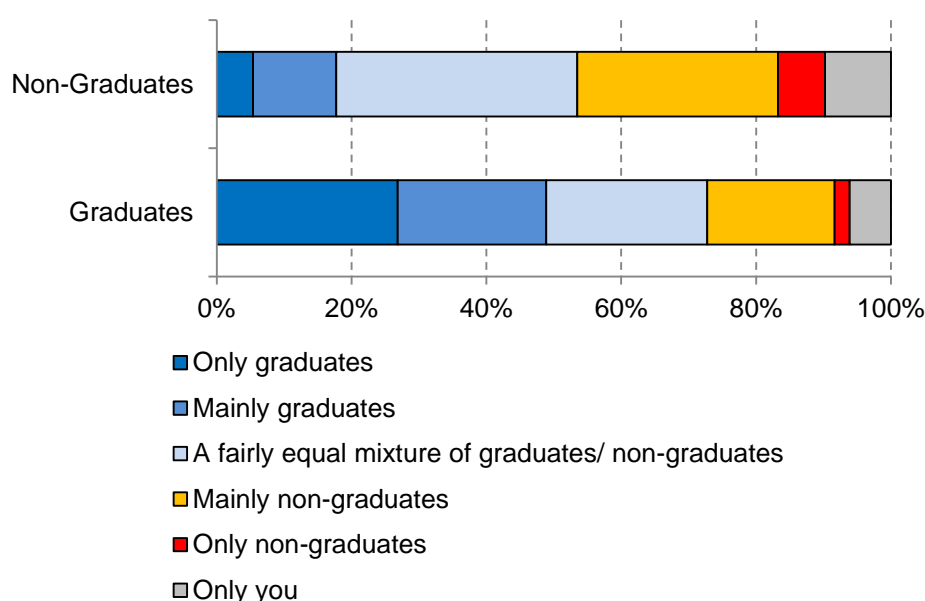
It would be expected that after this initial narrowing, the gap in earnings between graduates and non-graduates will increase. Research by the Office for National Statistics (ONS) (2011) using data from the Labour Force Survey (LFS) adjusted to 2010 levels has shown that earnings of graduates and non-graduates at the age of 22 are roughly similar. However, while earnings for those without a degree rise with each year of age before plateauing at the age of 30 with a peak at the age of 34, earnings for graduates increase faster for each year of age and also continue to increase for longer, levelling off at age 35 and peaking at the age of 51. They estimate that over the past decade, graduates have earned on average £12,000 more per year than non-graduates. Savage (2011) has found similar evidence to suggest that the gap between graduates' and non-graduates' earnings increases over time and that some non-graduates slide down the pay scale as they get older, indicating that non-graduates are 'losing the social mobility battle'.

"Common sense brings in more money than higher education" [Non-graduate who did not enter HE]

Non-graduates in graduate employment

Much of this report has been concerned with the extent to which graduates are employed in non-graduate jobs, but this section examines the opposite case: the extent to which non-graduates have found employment in jobs traditionally regarded as 'graduate jobs'.

Figure 11.6 show that this has been a relatively rare phenomenon. Almost half (49 per cent) of graduates said that their job was done 'only by graduates' or 'mainly by graduates' while just 18 per cent of non-graduates said the same. Conversely, 37 per cent of non-graduates said that their job was 'mostly' or 'only' done by non-graduates, compared to 21 per cent of graduates.

Figure 11.6: Employment of graduates and non-graduates with graduates

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

Age, which to a certain extent can be correlate with experience, was clearly related to the likelihood that a non-graduate would be working in a job that was usually held only or mainly by graduates.

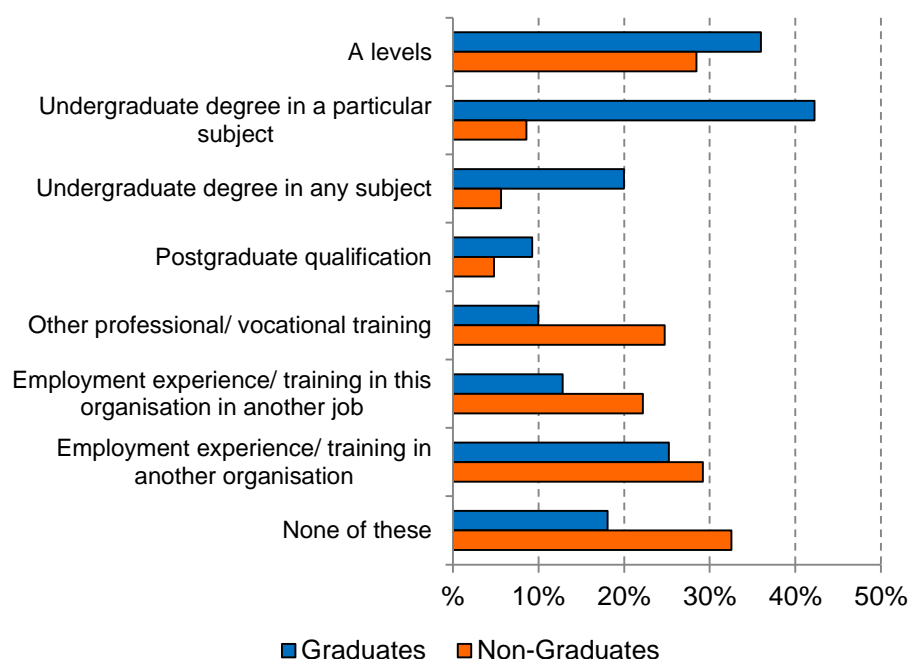
"My decision not go into further education was based on not getting a place at the university I wanted. I now manage a team of thirty people including graduates" [Non-graduate who did not enter HE]

Over a quarter (26 per cent) of non-graduates aged over 26 when they applied to enter HE said they were employed in a job usually held only or mainly by graduates, compared to 11 per cent of those who were 18 or under when they applied to enter HE. When looking at other personal characteristics, it appears that the more in common a non-graduate had with traditional graduates, the more likely they were to be working alongside them. Non-graduates from higher social class backgrounds and with at least one parent with a degree were more likely to be working alongside graduates than those from a routine or manual background or those who did not have at least one parent with a degree.

"Interestingly I am now on a the Government Fast Stream graduate scheme without having a degree as I gained sponsorship from my Department and was able to apply" [Non-graduate who left HE]

The qualifications required for a respondents' current job also give an indication of whether they have moved into a job usually held by a graduate. Almost a third of non-graduates indicated that their job did not require any particular experience or qualifications (defined as at least A Levels), compared to 18 per cent of graduates. As Figure 11.7 shows, 42 per cent of graduates said they were employed in a job that required a degree in any subject, 20 per cent said they were employed in a job that required a degree in a specific subject, and 9 per cent were in employment that required a postgraduate qualification. For non-graduates, these figures were 8 per cent, 6 per cent and 5 per cent respectively.

Figure 11.7: Qualifications required by graduates and non-graduates in their current job



Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

As would be expected, non-graduates were more likely than graduates to be in jobs that required previous employment experience with a different employer or with their current employer, and to be in work that required a professional or vocational training qualification.

Further training and education of non-graduates

The relatively large proportion of the Futuretrack cohort who were in jobs that required some form of professional or vocational training or a degree indicates that there is a group of non-graduates who have continued their education or training, albeit not as full-time HE students. Studying part-time in HE was the preferred option of several respondents, and support from employers appears to be key for those who have followed this, and other different educational paths, as the following anecdotes illustrate:

"I was an A grade student and felt very pressured about university and did intend to go full time. However through doing a gap year I decided I was doing the degree for the wrong reasons-because I felt people expected me to rather than me being passionate about my subject. I did continued volunteer work and was then offered a job by the church which was made specifically for me. They encouraged me to get a degree so I have been studying part time for the past 4 years and will graduate in June. I have thoroughly enjoyed the experience of studying and really strongly believe university is not for everyone, but studying can be. I will still achieve a degree from a good university but without as much debt and with work experience too. I feel this has been a highly beneficial way to study and do feel very lucky that this is how it worked for me. I hope more part time opportunities will become available for people post A levels" [Non-graduate who entered part-time HE]

"I didn't take up a university place and instead took on a trainee accountant job with a training contract specifically to do the ACCA qualification. As an accountant a degree brings no advantages - you would still have to do the ACCA qualification (depending on degree subject there might be some exam exemptions) - and not spending 3 years at university has instead

meant my career has advanced further than peers who went to university before taking up accountancy training contracts (in addition to the exams there is a 3 year practical experience requirement). ACCA has a partnership with [my university] so after I qualified as an accountant I completed an undergraduate degree anyway. I also then completed the CTA (tax) qualification. So I am in actual fact several years ahead of university educated peers in the accountancy field in terms of experience and qualifications - and I still have a degree so am not disadvantaged compared to them in any way whatsoever. Quite the contrary because they are saddled with debts and I am not" [Graduate who entered part-time HE]

"My employer is supporting continuing development. This is one of the primary reasons why I took the job as I am now studying the final year of my degree and they have paid the course fees. I think it would be valuable to be able to find out how many of the part time students are supporting their education themselves" [Non-graduate who entered part-time HE]

"Though I did not go on to study as a full time student, I did go on to study, but on a day release basis whilst in full time employment, graduating after 2 years of study in this format" [Graduate who entered part-time HE]

On-the-job up-skilling has been seen as a way to overcome stagnation of those with lower skill and qualification levels in the low-wage, precarious portion of the labour market (New Economics Foundation, 2012), and it appears that some respondents have developed successful careers through this method:

"Life is not all about going to university full time - although there is a benefit to have degrees available. My personal circumstance at the moment - completed apprenticeship and completing a part-time degree through work" [Non-graduate who entered part-time HE]

"[One reason] I chose to join the Navy was that they offered me a foundation degree as part of my trainings with the ability to top it up to a full bachelors later. This meant that I did not have to pay top up fees" [Non-graduate who entered part-time HE]

However, some in the Futuretrack cohort identified issues they had faced in developing skills that would enable them to take a different career path:

"[I have had] Long periods of unemployment. I have a tele-handler licence and dumper truck licence trying to make myself more attractive to employers. Employers use my skills but do not allow me a driving job long enough to get the second part of the tele-handler licence. I spend most of my time labouring even though I have paid for my own tele-handler training and dumper truck training - £1,800 but cannot get a job using them. My employer does not pay the going rate for the driving but keeps me on labouring rate" [Non-graduate who did not enter HE]

As well as those who have gained educational qualifications outside the full-time HE sector, there were respondents who maintained their aspiration to study full-time in HE at some point. Analysis of the responses of those who at Stage 2 or Stage 3 were not in HE shows that even amongst those who did not at the time have aspirations to enter HE, eventual study as a full or part time student is relatively common (even where they had previously said they definitely would not.)

Table 11.3: Proportion of those who were not in full-time HE at Stages 2 and 3 who had entered HE by Stage 4

	Currently full-time student %	Currently part-time student %
<i>Not in full-time HE in Stage 2</i>		
- Plan to enter full-time HE in the next 1-3 years	16.7	14.7
- Plan to enter full-time HE eventually	4.8	10.4
- Probably do not plan to enter full-time HE	6.8	14.9
- Definitely do not plan to enter full-time HE	21.7	6.5
- Don't know if will enter full-time HE in the future	12.2	7.4
<i>Not in full-time HE in Stage 3</i>		
- Plan to enter full-time HE in the next 1-3 years	23.5	16.7
- Plan to enter full-time HE eventually	9.8	12.0
- Probably do not plan to enter full-time HE	2.3	11.0
- Definitely do not plan to enter full-time HE	2.1	17.1
- Don't know if will enter full-time HE in the future	3.5	13.9

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

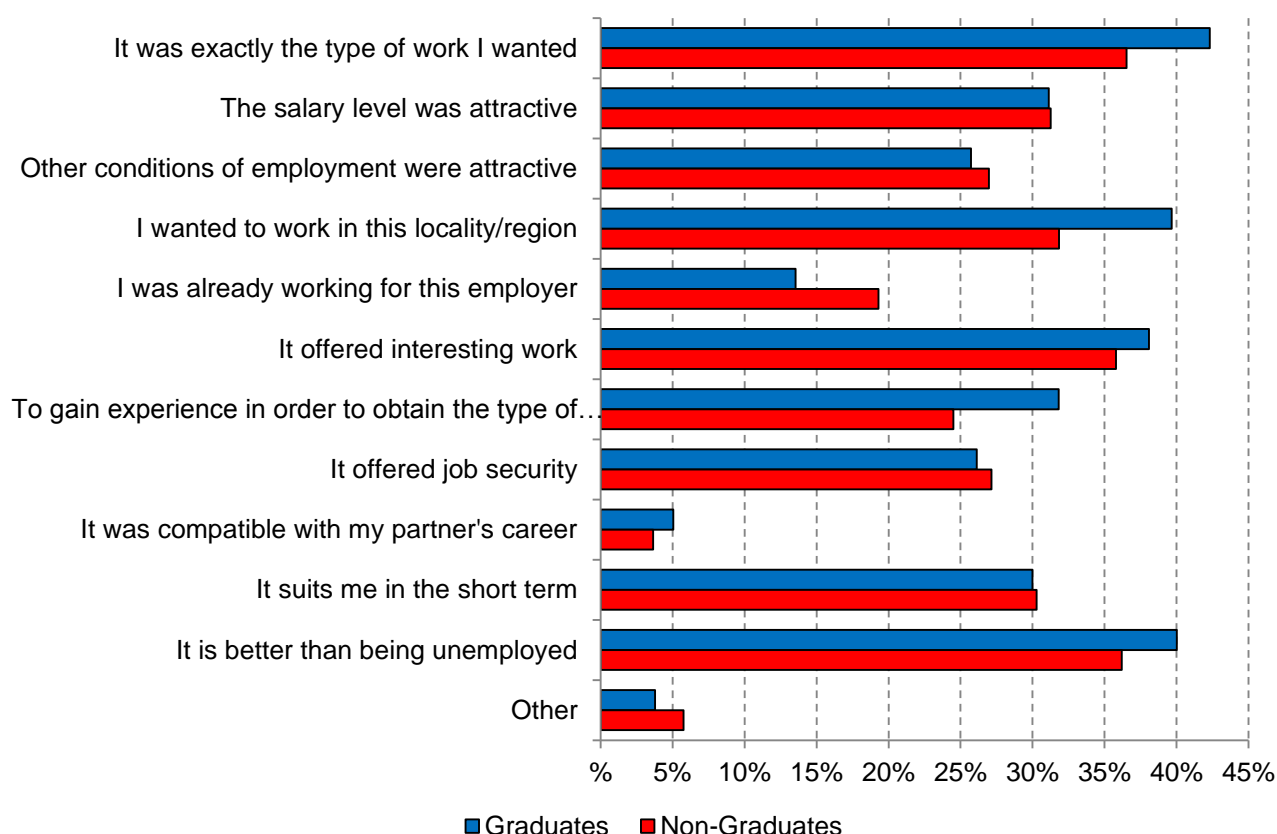
For some respondents, entering HE, either full or part-time was a long-standing ambition, and non-graduates who said that the reason they did not enter HE was because they did not get the grades to do so were the most likely to ultimately undertake some form of further or higher education. For others, plans to enter HE were a result of changing circumstances or a realisation that career progress was less likely without further study.

"applied to be a nurse this year but my maths let me down, am at college doing maths GCSE, if I get a C I will apply to be a nurse next year" [Non-graduate who did not enter HE]

After a few years forging a career without a degree, I have decided to go back to university this year to gain one as I don't believe my career will progress as well without one [Non-graduate who left HE]

Job satisfaction of graduates and non-graduates

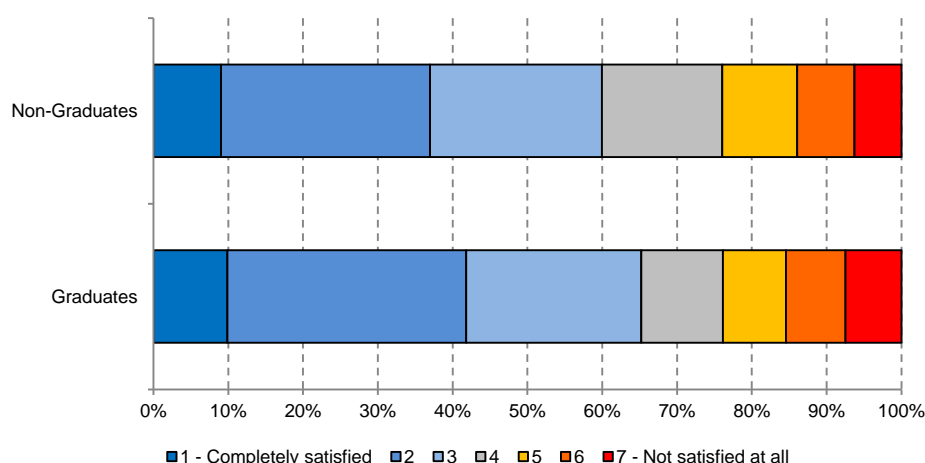
The preceding sections have shown that there are some key differences in the career paths and types of employment undertaken by graduates and non-graduates, but there are also some similarities. This raises the question of how graduates and non-graduates view their career to date and options for the future.

Figure 11.8: Reasons graduates and non-graduates accepted their current job

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

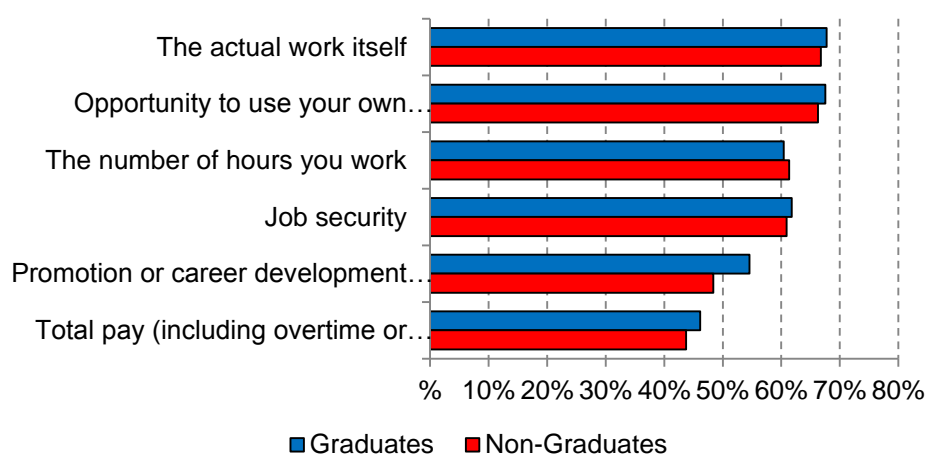
Figure 11.8 shows the reasons respondents took their current job. It shows that graduates were more likely than non-graduates to say that their current job was exactly the type of work they wanted (42 per cent of graduates, 37 per cent of non-graduates). Graduates were also more likely to say that one of the reasons they accepted their current job was that it offered interesting work. Conversely, non-graduates were more likely to say that they were already working for their current employer when they accepted their current job, and were slightly more likely than graduates to mention job security and other conditions of employment as factors in their decision.

Figure 11.9 shows the extent to which graduates and non-graduates were satisfied with their current job. As the Figure shows, 65 per cent of graduates selected 1 to 3 on the 7 point scale, indicating they were mostly satisfied with their current job, compared to 60 per cent of non-graduates. This is a relatively small difference.

Figure 11.9: Job satisfaction of graduates and non-graduates

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

Similarly, Figure 11.10 shows that there was broad similarity between the two groups when looking at the proportions who said they were satisfied (selected 1 to 3 on a 7 point scale) with different aspects of their current job. The area where there was the largest difference between graduates and non-graduates was in the extent to which each group was satisfied with the opportunities for promotion or career development available to them.

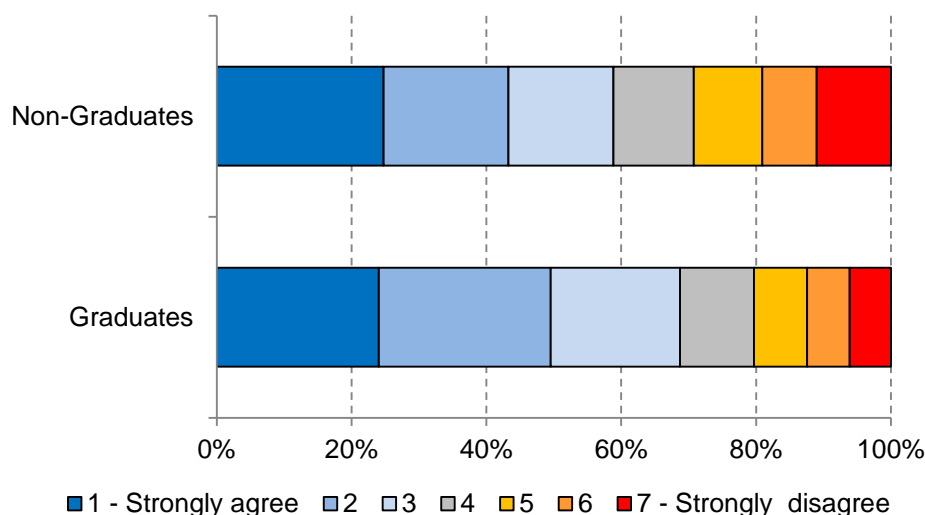
Figure 11.10: Satisfaction of graduates and non-graduates with different aspects of their current job

Source: Futuretrack 2006 combined dataset: UK applicants currently in employment who responded to Stage 4 (weighted)

This difference in how the different groups view their opportunities in the future raises the question of how positive non-graduates and graduates are about their future prospects. As has been noted above, research has shown that while there may be similarities between graduates and non-graduates early in their careers, non-graduates can find themselves left behind as graduates move more quickly and easily up career ladders. This is particularly pertinent at a time of recession, when those with lower skill and qualification levels and in lower skilled work have proved to be more vulnerable to job losses.

Overall, as Figure 11.11 shows, graduates were more likely to agree that they were optimistic about their long-term career prospects (68 per cent of graduates and 58 per cent of non-graduates. Non-graduates were also more likely to disagree with the statement.

Figure 11.11: Responses of graduates and non-graduates to the statement 'I am optimistic about my long-term career prospects'



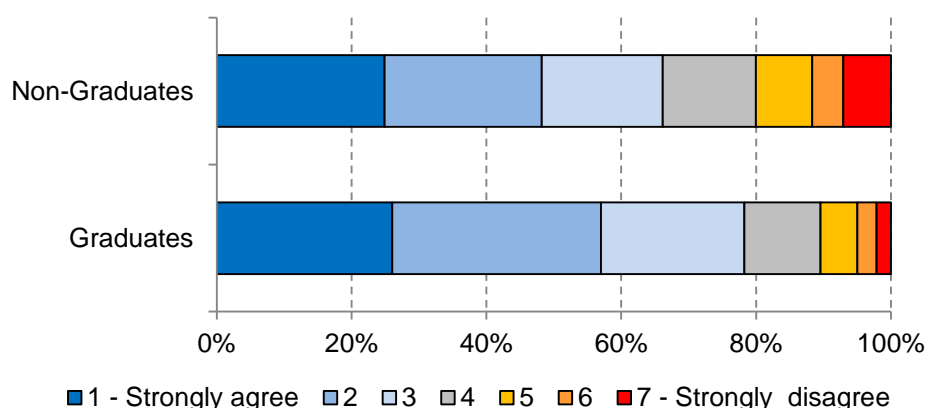
Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

The non-graduates who were most likely to be optimistic about their long-term career prospects were those who were working in jobs that were only or mainly done by graduates.

Similarly, as Figure 11.12 shows, graduates were more likely to agree that they had all the skills employers were looking for when recruiting for the kind of job the respondent wanted.

Over three quarters (78 per cent) of graduates agreed to some extent that they had the skills employers were looking for, compared to under two thirds (65 per cent) of non-graduates.

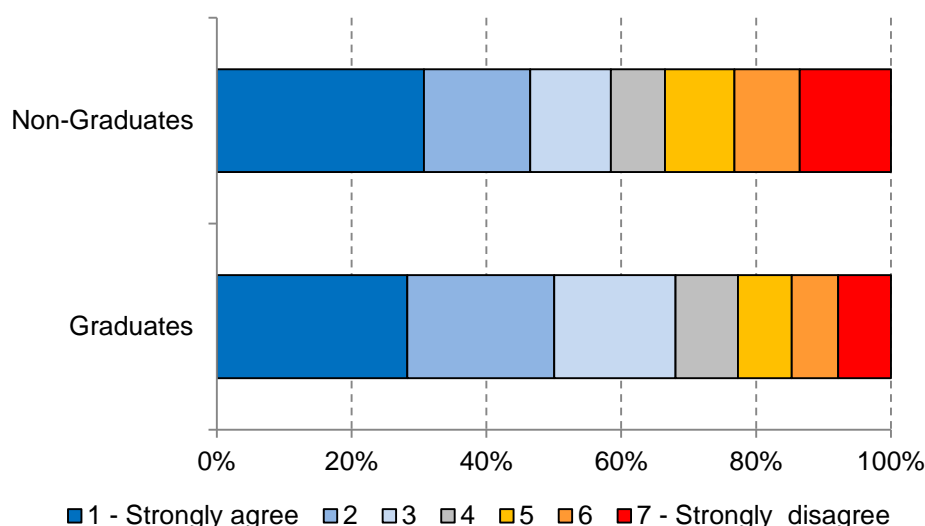
Figure 11.12: Responses of graduates and non-graduates to the statement 'I have the skills employers are likely to be looking for when recruiting for the kind of jobs I want'



Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

It is likely that this lower level of optimism about their long-term career prospects is linked to the smaller proportion on non-graduates who say that they have a clear idea about the occupation they hope to have in five years' time and the qualifications required to do so.

Figure 11.13: Responses of graduates and non-graduates to the statement 'I have a clear idea about the occupation I hope to have in 5 years' time and the qualifications required to do so'

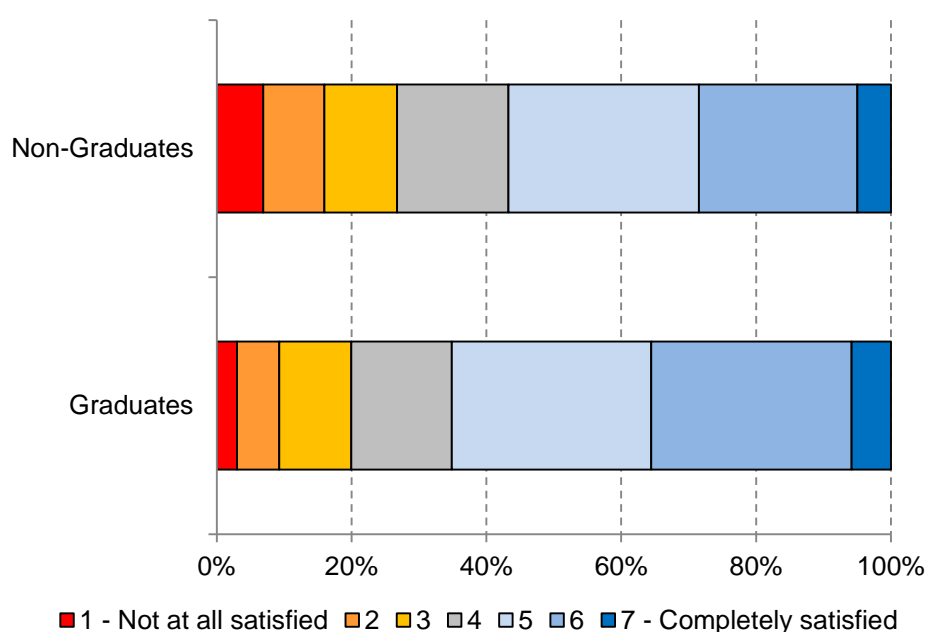


Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

Figure 11.13 shows that the proportion of non-graduates who agreed to some extent (chose 1 to 3 on the 7 point scale) that they had a clear idea was 10 per cent lower than the proportion of graduates giving the same responses (68 per cent of graduates and 58 per cent of non-graduates). Similarly, a third of non-graduates disagreed with the statement, compared to less than a quarter of graduates. Noticeably, 13 per cent of non-graduates said they strongly disagreed that they had a clear idea about the occupation they hoped to have in five years' time and the qualifications required to do so.

The lower level of optimism about long-term career prospects, lack of clarity about their careers in the medium term and smaller proportion of non-graduates agreeing that they have the skills employers are looking for, when compared to the broadly similar level of satisfaction with their current job shown by graduates and non-graduates, point to the legacy of not having a degree being in the longer, rather than short, term. This accords with the research mentioned in this chapter that has shown that those without a degree tend to drift further apart from graduates as their careers progress.

Non-graduates are less likely to come from 'traditional student' backgrounds, and those non-graduates who appear to be the most likely to cross the non-graduate/graduate divide, looking forward to a positive future and developing graduate-like careers are those who most resemble the graduate cohort in terms of their background and experiences. Consequently, there is a danger that HE, while being a driver of social mobility for some, can also exacerbate existing inequalities, and transmit these inequalities through generations. This is a concern from both an economic and social point of view. As Figure 11.14 shows, non-graduates are less likely to be satisfied with their life overall.

Figure 11.14: Graduates' and non-graduates' satisfaction with life overall

Source: Futuretrack 2006 combined dataset: UK applicants who responded to Stage 4 (weighted)

Summary

Non-graduates comprise 8 per cent of the Futuretrack sample in Stage 4. Almost two-thirds of the non-graduates entered HE at some point but subsequently dropped out.

Those who applied to enter HE but who ultimately did not graduate are less likely to be from a traditional student background. They are more likely to come from routine and manual backgrounds, to have parents with no experience of HE, and to be mature students when they applied to enter HE. Although the Futuretrack non-graduates are not representative of all non-graduates, as they applied to enter HE, this difference between the characteristics of graduates and non-graduates raises issues about the greater exclusion of some groups from HE and consequently the extent to which HE can be seen as perpetuating disadvantage rather than promoting social mobility.

Despite being in the labour market for longer, non-graduates were only slightly more likely than graduates to have been in employment at the time of the survey, with most of this difference offset by the proportion of graduates who were still studying at post-graduate level. Non-graduates were more likely to be in permanent employment.

In terms of the current sectors and occupations of current graduates, there was broad similarity in the sectors in which graduates and non-graduates were employed and in the size of their employer. However, there were significant differences in the proportion of each group who were in jobs only or mostly done by graduates.

Non-graduates whose social background was most similar to that of traditional students were the most likely to be employed in jobs mostly or only done by graduates. While having a degree undoubtedly gives graduates an advantage, having characteristics associated with being a graduate, aside from having a degree, cannot be discounted as factors in enabling non-graduates to find graduate-level employment.

The non-graduates in the Futuretrack cohort were earning less in their current job than graduates, and research suggests that they can expect this gap to widen as their careers progress.

Non-graduates who had undertaken further training were positive about the impact it had on their careers. Employer support appears to be key in enabling non-graduates to undertake both vocational education and training and enter HE on a part-time basis.

Satisfaction with their current job was broadly similar amongst graduates and non-graduates. However, non-graduates were less optimistic about their long-term career prospects, less likely to believe they had the skills employers were looking for when recruiting for the kind of job they wanted, and less likely to say that they had a clear idea about what kind of job they wanted to have in five years' time. This suggests that the impact of not having a degree may not be seen relatively early in respondents' careers, but it has longer-term implications which will become evident as the careers of both groups progress.

CHAPTER 12

Conclusion

Graduate cohort studies have a long and varied history in terms of both the methods used to construct them and the information they capture, but their primary purpose is motivated by the same question: what impact does higher education (HE) have on the lives of those who participated? Sometimes the focus within such studies is on earnings and occupations. Does a degree improve one's earning power or open the doors to better jobs than would otherwise be the case? Sometimes the interest is on the impact of HE on later life outcomes – health, wellbeing, partnership. Rarely do such studies engage with graduates to determine how higher education has benefited an individual via the learning experience and the knowledge gained. How has higher education contributed to their perceptions and understanding – their perspectives on world affairs, their appreciation of the arts, their thirst for knowledge and their love of life? While this may not be the primary purpose of higher education for some, these wider benefits have social and economic implications that we should seek to understand.

All cohort studies of graduates suffer from a major weakness in that participation in higher education is a selective process. Selection can work in a direct way, via academic admission requirements. It can also operate in an indirect manner, through parental attitudes, financial support, peer group interests and via those who provide advice and guidance. Apart from this selection bias, which makes it difficult to interpret the impacts of higher education by comparing participants and non-participants, many cohort studies, including those which we undertook at earlier dates (Elias *et al.* 1999; Purcell *et al.* 2005) contacted participants at some period after their graduation. The experiences of higher education recorded in such surveys suffer from 'retrospective bias' – the process whereby a respondent assigns cause and effect to past events where no clear causal relationship exists, and 'remoulds' historical events to be consistent with an interpretation of how they reached their current status.

Futuretrack is a bold attempt to overcome some of these issues. It started by identifying a cohort before entry into higher education had taken place, just after the time of application to HE but before the results of application were known. It has followed applicants over a five year period, collecting information from them at four stages: immediately prior to the result of their application for a place in HE being known; one year later; three years later and with the fourth stage of data collection taking place in the winter of 2011/12. It tracked those who took up their place in higher education as well as those who did not take up a place in 2006. Additionally, and with assistance from the Universities and Colleges Admissions Service (UCAS) we have been able to compare the characteristics of respondents and non-respondents at all stages of the study, allowing us to make broad corrections for response bias that can be identified with these characteristics. While this does not necessarily help unravel the complexities of cause and effect, we are able to understand better the nature of the survey responses we obtained and to consider the effect of response bias. Additionally, the breadth of the study provides insights into the attitudes held by and motivation of students as they pass through higher education and move on to employment, further study or other activities.

This report draws upon the fourth stage of this longitudinal study of people who applied for a full-time place in a UK Higher Education Institution in 2006. The method of data collection at all stages has remained the same. We have used online questionnaires as the sole research instruments. Initial contact at Stage 1 was facilitated with assistance from UCAS, and subsequent monitoring of responses has enabled us to understand the biases that creep into longitudinal studies through attrition and to adjust the pattern of responses accordingly.

The design of the study is particularly complex. A glance at the response structure from the various stages, as shown graphically in Appendix 1, indicates just how complicated a study this has become. However, the focus of this report is on one group in particular, those who responded at Stage 4, had completed an undergraduate degree and were a UK citizen. Chapters 10 and 11 are exceptions. Chapter 10 examines the experiences of non-UK students while Chapter 11 examines the career pathways of those who applied for a full-time place in higher education in 2006 but did not take up that place.

Each chapter of this report contains its own detailed summary. We have presented a summary of the summaries at the front of this report. Here we pick out some of the most interesting findings and attempt to weave these together in a way which provides a rounded picture of the experience of this cohort of applicants to HE. This then enables us to interpret our findings for four groups: employers; future graduates and applicants to HE; those within HE with responsibilities for the preparation of graduates for labour market entry; and for non-graduates.

Who are the Stage 4 respondents?

Almost 9 out of 10 of Stage 4 respondents had completed an undergraduate degree, and a quarter of these had also completed a postgraduate degree or were still in full-time study. Full-time employment was the most likely situation of those who had graduated and were not in full-time study. This was also true for those who had not completed an undergraduate degree, though this group was less optimistic than graduates about their long term career prospects.

When examining the subjects studied by graduates, we note particular patterns that are associated with their characteristics. As is well known, gender continues to play an important role in subject selection, as does social background, particularly for subjects such as Medicine and Dentistry, and Languages. Course length varies by subject and by the country in which the HEI is located. Stage 4 respondents at Scottish universities and those who studied Medicine and Dentistry, Engineering and Languages were most likely to have studied on a four-year undergraduate course. The age of the respondent correlates with the subject studied. Those who undertook an undergraduate course as a mature student were more likely to have pursued a course with a strong vocational element, such as Subjects allied to Medicine and Education.

What pathways do graduates follow?

Chapter 3 explores the detailed activity histories supplied by Stage 4 respondents. We asked respondents to tell us what they had been doing since October 2006, requesting them to provide details of work-related activities and to give additional information about each such activity, whether it was a job, full-time study, self-employment, unemployment or some other activity. For all respondents this yielded a month-by-month profile of their pathway, whether or not they had taken up a place in higher education in October 2006. Unsurprisingly, we find that a significant proportion of *Futuretrack* graduates tell us that they have been unemployed for considerable periods of time, and/or that they were unemployed at the time of the survey. Compared with a graduate cohort study undertaken ten years earlier, a much higher proportion of graduates are now found in non-graduate jobs, with little indication that this proportion has been falling in the months and years following graduation as was observed in earlier cohorts.

Do Futuretrack graduates earn a 'graduate premium'?

In terms of graduate earnings, the information we present here shows a mixed picture. As was found in our comparison between two cohorts graduating in the late 1990s, graduate earnings are falling relative to average earnings. However, the graduate earnings premium

remains positive and significant. But averages can conceal much. Other evidence we have suggests that, for those who can command high earnings, the premium has increased. Towards the lower end of the income distribution, the premium is reducing. This finding fits with the fact that many more jobs that graduates are taking nowadays are jobs which do not necessarily require the skills and knowledge imparted via higher education. Nonetheless, many employers pay more for graduates than for non-graduates in such jobs. An interesting comparison we make is between the earnings of those people who applied for a place in higher education in 2006, but did not take up a place, and those who went on to obtain a degree. Although the applicants who did not go on to graduate have, on average, more labour market experience than the graduates, their earnings are significantly lower than for graduates.

What influences do social background and gender have on graduate choices?

There are certain findings in our study which indicate the continuation of processes which are deep-rooted and appear resistant to change. The most obvious of these is, of course, the pervasive influence of social background. Great care was taken throughout the study to ensure that we have operationalised this concept in the most meaningful way. Based upon the occupations and labour market status of parents when the respondent was 14 years old, we utilise the National Statistics Socio-economic Classification to proxy the opportunities, educational background and cultural environment of respondents at this critical age. We did not expect to see many significant effects of social background in terms of the choices made and outcomes experienced by *Futuretrack* respondents, given that the strongest effect is likely to be upon whether or not a person applies to higher education in the first place. However, the qualifications of applicants, their choice of university, the courses studied, their levels of debt and, crucially their ability to undertake post-graduate study are all linked to socio-economic background, with those whose parents held professional and higher managerial more likely to have better entry qualifications, to be at prestigious universities, to study in subjects likely to lead to better paid jobs and less likely to accumulate large personal debts while studying. We refer to this as the 'cumulative pattern of advantage' which looks set to continue as the leading universities become more selective.

Another pattern we see repeated throughout this study relates to the influence of gender. Patterns of subject choices remain stubbornly gendered even though female participation in higher education has grown more rapidly than for males and, on average, women's entry qualifications surpass those of men. What is harder to understand is the persistence of the gender pay gap among graduates. This remains effectively unchanged from the situation in the 1990s. Certain professions, notably law, remain male dominated and show limited results from any efforts they have made to ensure greater equality of opportunity. Compared with the education sector, female law graduates seeking a professional career in this field should be aware that the profession remains some forty years behind the times with respect to the elimination of gendered career paths.

What can we learn from the experiences of Futuretrack respondents?

Earlier cohort studies, notably those undertaken in 1999 of the *Class of '95* and in 2004 of the *Class of '99*, painted a rosy picture of the graduate labour market. Graduate unemployment was virtually non-existent. Career pathways pointed to continued assimilation of graduates into graduate jobs. Earnings had declined somewhat between the two cohorts relative to average earnings in the economy, but graduates were, on average, receiving pay which represented good return on their investment in higher education. Tuition fees were low and the higher education sector was expanding rapidly.

Ten years on from the last major graduate cohort study, *Futuretrack* provides a sharp contrast in terms of graduate career pathways. Unemployment is no longer insignificant,

affecting more than one in ten of graduates with many experiencing difficulty in finding jobs. For those that did find jobs, there is a much greater likelihood that the job will not be a graduate job. The relative earnings of graduates continue to decline, although compared to suitably qualified non-graduates, a degree still confers an earnings premium. Student debt, incurred through tuition fees and maintenance expenses, has been rising, an ominous sign given that *Futuretrack* graduates do not form part of the high fee regime introduced in England in 2012.

However, it is important to stress that these findings are not indicative of the beginning of a downward spiral, with graduate prospects becoming ever worse as more graduates face difficulties in finding suitable employment following their undergraduate studies. The 'double-dip' recession which commenced with the sharp decline in output in 2008 and has been characterised by 'stop-start' growth over the past four years has undoubtedly contributed to the difficulties that *Futuretrack* graduates have had in finding graduate jobs, or even of finding any suitable work in some instances. Movement of the economy out of recession is likely to be slow, especially as further public sector expenditure cuts are in the pipeline, but the sectors which are set to expand are those which require the high-level skills that many graduates can offer. Finance, information processing, high-tech industries, and the provision of management services are all sectors which will absorb future graduates as output recovers.

The end of the 'low private cost/high private gain' era of higher education, signalled by the introduction of tuition fees of £8,000 per year or more at over one hundred English universities in 2012 (and at the maximum of £9,000 per year for 72 of them), will impact upon the decision to enter higher education made by some potential students. But much uncertainty attaches to the way in which this will evolve. Some will not wish to be faced with debts which could total over £50,000 upon completion of their degrees, even though a considerable part of this debt would be repaid through future earnings. But some will see little alternative but to take this step, hoping for a better job than they would otherwise gain if they do not enter higher education. Overall though, it is reasonable to hypothesise that the period of graduate expansion in the UK is over, and that the output of graduates into the UK labour market will stabilise in the region of quarter of a million graduates per year.

What are the implications for employers, graduates, non-graduates and higher education institutions?

Over next five years we are likely to see some changes in the behaviour of employers and graduates. These changes will have implications for non-graduates and for higher education institutions.

For employers, those who require high-skilled, technically trained, professionally qualified graduates should find the graduate recruits they are seeking, though many of them will have undertaken postgraduate training to gain relevant qualifications. Earnings prospects for such graduates will remain good, though employers appointing graduates must expect to find that further investments in the training of newly qualified graduate recruits will be required to improve the match between employer expectations, graduate knowledge and skills and high performance in particular employment contexts. Other employers will recruit graduates into areas which are not necessarily graduate jobs, but will derive benefits from the education and possible work experience that such graduates bring to the job. For this group, earnings prospects will be lower than for the former group, though we present evidence in this report which suggests that employers are willing to pay a premium to attract graduates to such jobs, recognising their greater productivity compared with non-graduates.

For higher education institutions, those who choose to go to university in the new high-fee regime in England will have raised expectations of their university education and will expect

to be better prepared for their post-graduation careers than previously. Universities will have to respond to these demands, and take steps to encourage students to engage in activities which could improve their career prospects. The further development of programmes which combine work with study is an obvious route to take, as will be the ramping up of careers advice and guidance across the wide range of labour market opportunities that will arise both at home and abroad. Potential applicants for a place in higher education will have to give careful consideration to the diverse picture of post-graduation activities and outcomes we present in this report. Higher education choices need to be motivated primarily by interests, capabilities and potential. Subject choices are tremendously important in this respect, and it would be foolhardy to ignore completely the implications of these on one's future career pathway. The evidence from the Futuretrack study shows that, as students acquire new knowledge and develop higher levels of skill, this often leads them to reassess their strengths, weaknesses and options. For HE students we recommend that they should be actively encouraged take advantage of the careers services and guidance on offer, or to press for better service where these appear less than adequate. Higher education institutions must respond to such requests given that it is very much in their interests to help effect a smooth transition for their students from undergraduate status to employment or other activities.

To ensure that HE provides a route to greater equality of opportunity, the implications of the Futuretrack evidence are that it is a high priority for all employment and higher education stakeholders to ensure that there is increased investment to provide better access to advice and guidance about the options available, from early secondary education onwards and for potential adult returners. This is an area where policymakers and those who provide higher education need to take the lead. At the other end of the HE process, this responsibility is shared with employers. Much entrenched and dysfunctional social inequality has been dismantled progressively since the early twentieth century and it is incumbent upon this generation of policymakers, educators and employers to continue to question obstacles to social justice, greater efficiency and a better quality of life.

Non-graduates, particularly those who will be sufficiently qualified to take up a place in HE but decide against this route, will find the labour market very competitive. With graduates seeking jobs that they could well perform, their prospects will become more limited. Much depends though, upon how governments respond to this situation. By opening up new vocational pathways into employment, avoiding the high fee regime but providing excellent technical education with related work experience, the UK could see a revival in its flagging further education sector. Other countries have been successful in providing such a 'dual-track' approach through technical/vocational education to sub degree level for some and a higher education degree level education, possibly combined with post-graduate study, for others. This will require a shift in educational policy, but may well prove to be step towards a more balanced growth path for the UK economy.

APPENDIX 1

Technical Appendix

The structure of Futuretrack data: response rates, bias and data weighting procedures

Futuretrack is a multi-stage survey of applicants who made an application for a full-time place in a UK Higher Education Institution (HEI) at the undergraduate level in 2006. The original population sampling frame was created and managed by the Universities and Colleges Admission Service (UCAS) in June 2006.

UCAS recorded a total of 506,304 applicants for an undergraduate place in a UK HEI in 2006. Given that some of these applications were made after the first survey, the survey population for Stage 1 consisted of 427,786 applicants. UCAS subsequently supplied anonymised data for all 506,304 applicants, providing details of subjects applied for, institutions applied to, accepted subject and institution, personal information including age, gender, social background and ethnic origin, educational information (type of school attended and tariff points), and whether the applicant was a home applicant or from overseas.

The Futuretrack datasets

Futuretrack 2006 Stage 1 main survey data

In May-December 2006 in total 121,368 UCAS applicants took part in the first stage of the Futuretrack survey, 82.7 per cent of whom were recorded by UCAS as having accepted a full-time place to commence in 2006. For 5 per cent of the respondents information on whether or not they had been accepted by an HEI is missing.

Futuretrack 2006 Stage 1 short survey data

In addition to the Stage 1 main survey, a supplementary survey of non-responding HE non-participants (known as 'Stage 1 short survey') was developed. The short survey was conducted in December 2006 - February 2007, and 7,590 UCAS applicants took part, most of whom (85 per cent) were recorded by UCAS as not having been accepted for study in 2006 (14.9 per cent unknown).

Futuretrack 2006 Stage 2 data

In June-December 2007 respondents of Stage 1 who had indicated a willingness to participate in future rounds of data collection and who had provided an email address were re-contacted and invited to complete the Stage 2 questionnaire. A total of 49,555 respondents replied to this questionnaire. They were either Stage 1 main survey or short survey participants, or completely new entrants to the study. The 5,497 new entrants were recruited via HE institutions and the project websites from amongst year 2006 UCAS applicants.

Futuretrack 2006 Stage 3.1 data

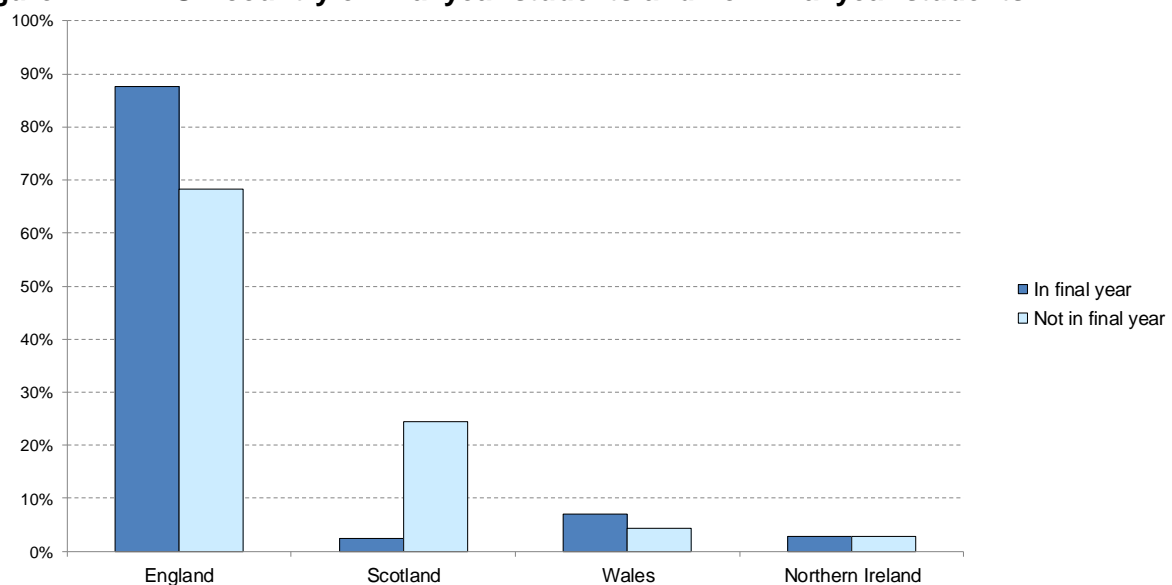
At the end of January 2009 Stage 2 respondents who had provided an email address and were willing to participate in future stages of the survey were re-contacted and invited to complete the Stage 3.1 questionnaire. In addition to Stage 2 participants, new entrants were invited to the study. They were again recruited via HE institutions and the project websites from amongst year 2006 UCAS applicants. The cooperation with Higher Education Funding Council for England (HEFCE) resulted in that eligible students were also targeted in February 2009 via a smart link placed at the end of the National Student Survey (NSS) 2009.

The Stage 3.1 survey ended in July 2009. A total of 24,569 respondents completed the questionnaire, of which 2,512 were new entrants.

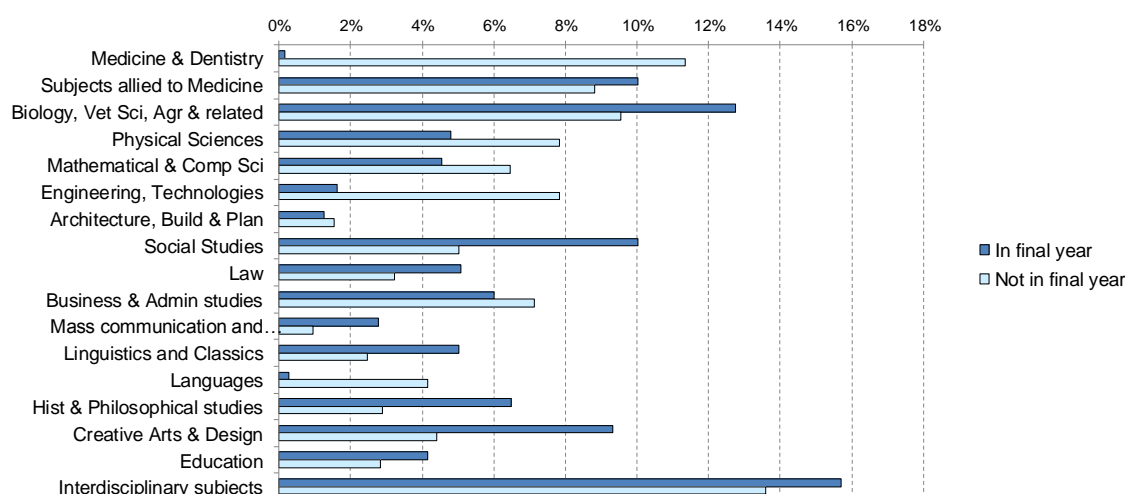
The Stage 3.1 questionnaire was mainly aimed at final year HE students, and students who were not in their final year were asked only a few basic questions. Some undergraduate courses last longer than three years, especially courses at Scottish HE institutions and courses of certain subjects, e.g. Medicine, Engineering and Languages. Looking at the Stage 3.1 unweighted data it appeared that nearly half (45 per cent) of the student respondents were not yet in their final year, and consequently not much data was collected about them. Therefore Stage 3.1 data gave only a partial view of the final year students as certain subject groups and Scottish HE institutions were underrepresented.

Figure F.1 shows the variation between the UK country of final year students and non-final year students, and Figure F.2 shows the variation between the subject groups.

Figure F.1: UK country of final year students and non-final year students



Source: Futuretrack 2006: combined Stages 1-3.1 dataset, Stage 3.1 student respondents, data not weighted

Figure F.2: Subject group of final year students and non-final year students

Source: Futuretrack 2006: combined Stages 1-3.1 dataset, Stage 3.1 student respondents, data not weighted

Futuretrack 2006 Stage 3.2 data

It was deemed necessary to conduct Stage 3.2 survey to include also fourth year finalists. The survey commenced in January 2010, and in total 27,053 Stage 1, Stage 2 or Stage 3.1 respondents who were potentially in their fourth and final year of studies were contacted. The questionnaire was principally the same as in Stage 3.1. As previously, HE institutions were targeting eligible students, and NSS 2010 included a smart link to the Stage 3.2 questionnaire. The Stage 3.2 survey ended in July 2010. A total of 6,360 respondents replied to the questionnaire, of which 744 were new entrants to the study.

Futuretrack 2006 joint Stage 3 data

Data from Stage 3.1 and 3.2 were merged to create a joint Stage 3 dataset which had originally 30,929 records. Altogether 4,375 respondents had participated in both Stage 3.1 and 3.2 and consequently one of their responses was to be removed. As a rule the response that contained less data, which normally was the response from Stage 3.1, was taken away. The final number of records in the joint Stage 3 dataset was 26,554 of which 20,206 originated from Stage 3.1 and 6,348 from Stage 3.2.

Futuretrack 2006 Stage 4 data

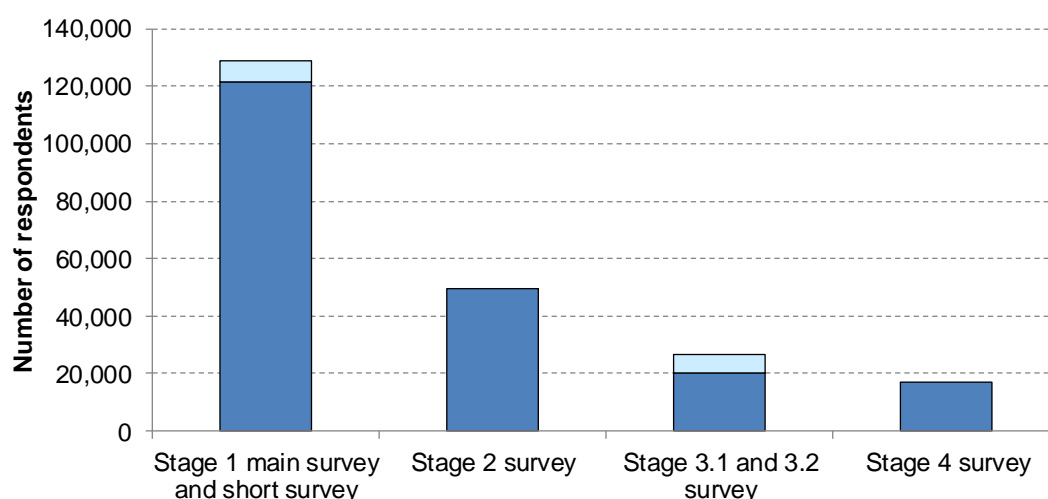
The final stage of the study commenced in November 2011 and ended in February 2012. The invitation to complete the Stage 4 questionnaire was sent to 136,237 Stage 1, 2 or 3 participants who were willing to be contacted. For each person, their most up-to-date email address was used. The contact details originated from different stages as follows: 60.9 per cent from Stage 1 main and short survey, 20.5 per cent from Stage 2 and 18.6 per cent from Stage 3. It should be noted that Stage 1 email addresses were already nearly six years old at the time.

To boost the response rate, HEI Alumni offices and Careers advisers were inviting 2009-10 graduates to take part in the survey. Additionally, several organisations were involved in recruiting potential new entrants using their established connections to graduates and HE careers advisers. These organisations were the Higher Education Careers Services Unit (HECSU) via their *Prospects* and careers advisers' networks and newsletters, the Graduate Recruitment Bureau (GRB), the Association of Graduate Recruiters (AGR), the Council for

Industry and Higher Education (CIHE), the National Union of Students (NUS), Research Councils UK (RCUK), Vitae, *Back on course* and a number of professional associations with large numbers of graduate and undergraduate members. The study was also promoted on several websites, in social media (Facebook, Twitter, LinkedIn, Studentroom) as well as via traditional media. Altogether 17,075 usable responses were received, of which 2,163 were new entrants to the study.

Figure F.3 shows the number of respondents at each stage of the survey.

Figure F.3: Futuretrack survey response numbers



Source: Futuretrack 2006: combined Stages 1-4 dataset, data not weighted

UCAS administrative data

In addition to anonymised data for all UCAS 2006 applicants, administrative data for the Futuretrack participants were obtained from UCAS during Stage 1. 95 per cent of Stage 1 main survey respondents and 85.1 per cent of Stage 1 short survey respondents were linked with UCAS data. The UCAS data consist of age, gender, ethnicity, domicile, socio-economic background, educational qualifications, UCAS applications made, whether accepted to HE and the institution and course where accepted. Additional UCAS administrative data were obtained later showing more detailed information about educational qualifications and domicile. These data are kept separate because of their sensitive nature and they are used only on special arrangements.

The preparation of Stage 4 data

Stage 4 data, joint Stage 3 data, Stage 2 data and the two datasets from Stage 1 were used to create a combined longitudinal dataset, but some preliminary work was necessary to prepare Stage 4 data prior to the merging of data.

As indicated above, Stage 4 data consist of two types of records: responses from participants of earlier stages, and 'generic' data (respondents who were predominantly new to the study in Stage 4). Both sets of responses were merged into a single Stage 4 dataset.

As the general invitations to recruit new entrants could not entirely exclude the participation of ineligible respondents, checks were made to ensure only year 2006 applicants to HE were included in the data. The first question of the questionnaire verified whether the respondent belonged to the target group. Analyses of these responses led to the removal of 1,048 respondents. Blank replies (7) were also removed from the data.

The next task was to find and remove as many duplicates as possible. The survey invitation methodology did not allow duplicate responses, but in the generic part of the survey it was not possible to check whether the participant's response had already been recorded. To remove multiple entries a search for duplicates was performed. The respondents' email addresses, telephone numbers, names, dates of birth and postcodes were used for this purpose, and checks were made that the duplicates were genuine. Altogether 348 duplicate cases were found. Further work led to the removal of 1 duplicate response.

Finally there was the task of finding out whether some of the new entrants were actually respondents of earlier stages. This work entailed making searches using various techniques, and altogether 680 Stage 4 new entrant respondents were linked to their previous record.

The final number of usable Stage 4 responses is 17,075.

Creating a composite longitudinal dataset

All data from Stages 1, 2, 3 and 4 were merged to form a composite longitudinal dataset. Figure F.4 shows schematically the parts of the composite dataset with the number of respondents in each part, opposed to the UCAS administrative dataset.

As it can be seen from Figure F.4 there is a core of 7,554 respondents who have participated in the study at all four stages.

Figure F.4: Outline of the composite dataset

All UCAS applicants (506,304)	Stage 1 main survey (121,368)	Stage 1, 2 (41,794)	Stage 1, 2, 3 (19,363)	Stage 1, 2, 3, 4 (7,332)
				Stage 1, 2, 4 (2,346)
			Stage 1, 3 (1,487)	Stage 1, 3, 4 (303)
				Stage 1, 4 (3,223)
	Stage 1 short survey (7,590)	Short, Stage 2 (2,264)	Short, Stage 2, 3 (743)	Short, Stage 2, 3, 4 (222)
				Short, Stage 2, 4 (127)
			Short, Stage 3 (5)	Short, Stage 4 (167)
		Stage 2 only (5,497)	Stage 2, 3 (1,681)	Stage 2, 3, 4 (420)
				Stage 2, 4 (190)
			Stage 3 only (3,275)	Stage 3, 4 (582)
				Stage 4 only (2,163)

Source: Futuretrack 2006: combined Stages 1-4 dataset, data not weighted. Number of respondents is shown in brackets.

Further considerations regarding Stage 4 data

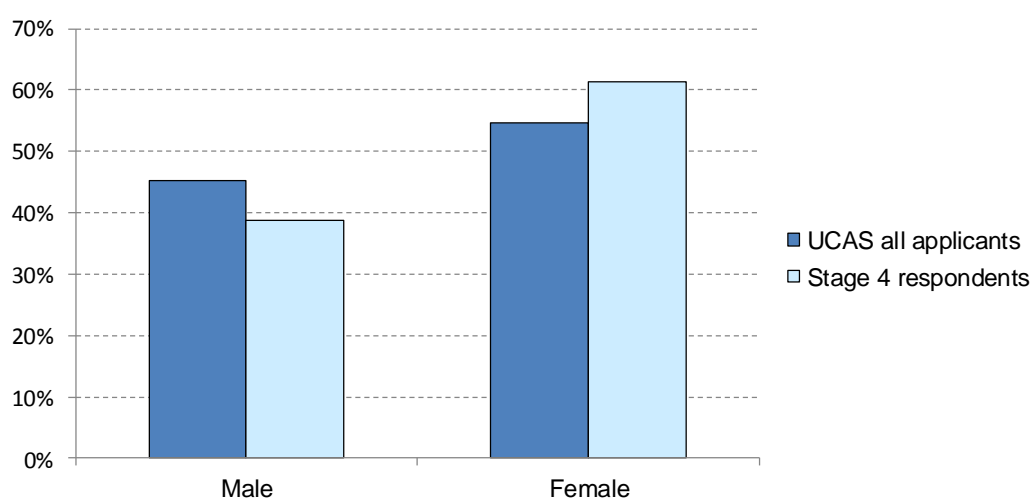
Bias and weights

In Stage 1 of the study, the response bias was investigated using a variety of characteristics of the respondents, *i.e.* gender, age, ethnicity, socio-economic background, region of domicile and tariff points.

A multivariate analysis of response was performed which revealed that gender and tariff points were the two single most important factors which have a significant and systematic influence on the probability of responding to the on-line survey.

In Stage 4 the response bias of these two factors was investigated again. Figures F.5 and F.6 show the gender distribution and tariff point distribution of Stage 4 survey respondents compared with total UCAS applicant population.

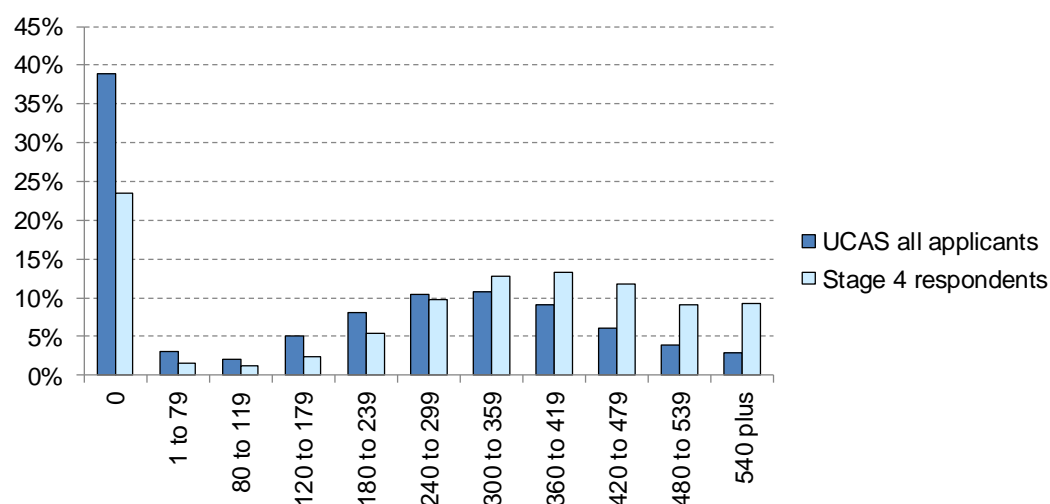
Figure F.5: Gender bias in Futuretrack Stage 4



Source:

UCAS administrative data of all 2006 HE applicants and Futuretrack 2006: combined Stages 1-4 dataset, data not weighted

A population weighting scheme was initially applied to each Stage 4 response, dependent upon the tariff point band and the gender of the respondent. In a proportion of cases (15 per cent) tariff point data from UCAS or from Stage 4 survey were not available for the respondent. For them, as gender information was obtained for every respondent via Stage 4 survey or data from earlier stages, a gender-only based weight was applied. Weights were computed from the UCAS applicant population data. The initial weights that were calculated and applied in Stage 4 are shown in Table T.1.

Figure F.6: Tariff point bias in Futuretrack Stage 4

Source: UCAS administrative data of all 2006 HE applicants and Futuretrack 2006: combined Stages 1-4 dataset, data not weighted

Table T.1: Initial weights applied in Stage 4

Tariff points	Male	Female
0	60.109	42.128
1 to 79	66.862	48.516
80 to 119	58.955	45.020
120 to 179	76.232	51.343
180 to 239	50.671	40.997
240 to 299	37.339	28.158
300 to 359	29.360	22.111
360 to 419	22.864	19.000
420 to 479	17.238	14.250
480 to 539	14.594	11.389
540 plus	9.420	8.786
Total	32.779	27.484

After the initial weights had been applied, a check was performed to see whether a noticeable institutional bias was evident among Stage 4 responses. Using Stage 1 and Stage 4 data, weighted numbers of respondents from each HEI were compared³⁵. For each large³⁶ HE institution, weighted Stage 4 frequency was divided by the weighted Stage 1 frequency to get a ratio. One of the larger HE institutions had a high ratio (2.87), and another had a low ratio (0.46). A balancing weight was applied to the respondents from these two institutions. The balancing weights were obtained by calculating reciprocals of the ratios (1/ratio). Table T.2 shows the balancing weights for the respondents from the overrepresented and the underrepresented institutions, and for any other respondents. The final Stage 4 weights were obtained by multiplying the initial Stage 4 weight by the balancing weight

Table T.2: Balancing weights applied in Stage 4

Respondent status	Balancing weight
Respondent from the overrepresented HE institution	0.348
Respondent from the underrepresented HE institution	2.177
Any other respondent	1.000

Further, a check was made to find out whether there was any evident bias in the subjects studied. Regression analysis showed that respondents from Business Studies were less likely to participate in Futuretrack from the very beginning (Stage 1), and the trend continued in Stage 4. Nevertheless, the weights were not changed as that may have led to further imbalances in the data. The fact that Business students are to some extent underrepresented in Futuretrack should be borne in mind throughout.

³⁵ For Stage 1, accepted institution information was used, weighting the cases with the final Stage 1 weights. For Stage 4, information about the institution where respondent completed an undergraduate degree was used, weighting the cases with the initial Stage 4 weight. Cases where institutional information was not present were excluded.

³⁶ Where Stage 1 weighted number of respondents > 100.

APPENDIX 2:

Tables of multivariate analyses referred to in chapters

Appendix Table A3.1: Multivariate logit: 0 – did not spend any time or up to nine months in non-graduate occupation, 1 – worked in non-graduate occupations for ten months or more

		B	S.E.	Sig.	Exp(B)
Lengths of course	3 years	.299	.049	.000	1.349
	4 years	Reference group			
	5 years and more	-2.069	.151	.000	.126
Age	Under 18	.011	.047	.817	1.011
	19-20	Reference group			
	21-25	-.321	.078	.000	.725
	26 and over	-.504	.082	.000	.604
Gender	Male	-.363	.044	.000	.696
Parental degree	Both parents	-.194	.057	.001	.824
	One parent	Reference group			
	Neither parent	.152	.050	.002	1.164
Ethnicity	White	Reference group			
	Asian	-.341	.080	.000	.711
	Black	-.009	.121	.938	.991
	Other	-.167	.101	.100	.846
HEI access	Highest and high HEIs	-.444	.047	.000	.641
	Middle and low HEI	Reference group			
	Other HEIs	-.572	.089	.000	.564
Subject	Medicine & Dentistry	-18.976	2208.881	.993	.000
	Subjects allied to Medicine	-.745	.123	.000	.475
	Biology, Vet Sci, Agr & related	.675	.104	.000	1.963
	Physical Sciences	.129	.117	.272	1.137
	Mathematical & Comp Sci	Reference group			
	Engineering, Technologies	-.252	.138	.068	.777
	Architecture, Build & Plan	.550	.172	.001	1.733
	Social Studies	.314	.111	.005	1.369
	Law	.401	.130	.002	1.493
	Business & Admin studies	.745	.110	.000	2.107
	Mass communication and Documentation	.434	.163	.008	1.543
	Linguistics and Classics	.729	.125	.000	2.073
	Languages	.010	.162	.949	1.010
	Hist & Philosophical studies	.693	.118	.000	1.999
	Creative Arts & Design	.685	.109	.000	1.984
	Education	-.213	.137	.120	.808
	Interdisciplinary subjects	.502	.101	.000	1.652
Class of degree	First	-.555	.053	.000	.574
	2:1	Reference group			
	2:2	.361	.055	.000	1.435
	Constant	.380	.074	.000	1.462
	-2 Log likelihood		15081.377a		
	Cox & Snell R Square		.128		
	Nagelkerke R Square		.181		

Source: Futuretrack combined data set, UK graduates only. The following not significant variables were removed from the table: missing length of course, missing parental degree and missing subject

Appendix Table A3.2: Multivariate logit: 0 – did not spend any time in Masters’ or Ph.D. Courses, 1 – spend time on Masters’ or Ph.D. courses

		B	S.E.	Sig.	Exp(B)
Lengths of course	3 years	.237	.053	.000	1.267
	4 years	Reference group			
	5 years and more	-.837	.096	.000	.433
	Lengths missing	-.180	.062	.004	.835
	Male	.254	.047	.000	1.289
Parents degrees	Both parents hold degree	.330	.057	.000	1.391
	One parent				
	Neither parent	-.237	.056	.000	.789
Ethnicity	White	Reference group			
	Asian	.302	.082	.000	1.353
	Black	.004	.154	.981	1.004
	Other	.206	.104	.046	1.229
HEI access	Highest and high HEIs	.536	.059	.000	1.709
	Middle and low HEI	Reference group			
	Other HEIs	.574	.105	.000	1.775
Subject	Medicine & Dentistry	-1.570	.430	.000	.208
	Subjects allied to Medicine	-.460	.135	.001	.631
	Biology, Vet Sci, Agr & related	.799	.107	.000	2.224
	Physical Sciences	1.041	.110	.000	2.832
	Mathematical & Comp Sci	Reference group			
	Engineering, Technologies	-.084	.129	.517	.920
	Architecture, Build & Plan	.500	.188	.008	1.648
	Social Studies	.295	.115	.011	1.343
	Law	.087	.144	.545	1.091
	Business & Admin studies	-.177	.131	.177	.838
	Mass communication and Documentation	-.497	.244	.042	.608
	Linguistics and Classics	.397	.132	.003	1.487
	Languages	.657	.145	.000	1.928
	Hist & Philosophical studies	.652	.120	.000	1.918
	Creative Arts & Design	-.351	.131	.007	.704
	Education	-1.038	.231	.000	.354
	Interdisciplinary subjects	.306	.106	.004	1.359
Class of degree	First	.621	.049	.000	1.861
	2:1	Reference group			
	2:2	-.600	.075	.000	.549
	Other class of degree	-.870	.114	.000	.419
	Constant	-2.221	.119	.000	.108
		-2 Log likelihood		13244.079 ^a	
		Cox & Snell R Square		.107	
		Nagelkerke R Square		.170	

Source: Futuretrack combined data set, UK graduates only. In a previous version of this logit model the Socio-economic background was included and proved to be not significant. The following, not significant variables were not shown: missing parent, missing subject.

Appendix Table A3.3: Multivariate logit: 0 – was not unemployed or less than six months, 1 – unemployed for 6 months or more

		B	S.E.	Sig.	Exp(B)
Lengths of course	3 years	.146	.063	.021	1.157
	4 years	Reference group			
	5 years and more	-.089	.099	.366	.915
	Lengths missing	-.206	.072	.005	.814
	Male	.158	.055	.004	1.171
Ethnicity	White	Reference group			
	Asian	.504	.086	.000	1.656
	Black	.683	.126	.000	1.979
	Other	.455	.111	.000	1.577
HEI access	Highest and high HEIs	-.296	.059	.000	.744
	Middle and low HEI	Reference group			
	Other HEIs	-.531	.114	.000	.588
Subject	Medicine & Dentistry	-2.314	.469	.000	.099
	Subjects allied to Medicine	-.704	.150	.000	.495
	Biology, Vet Sci, Agr & related	-.083	.128	.519	.921
	Physical Sciences	.109	.136	.423	1.115
	Mathematical & Comp Sci	Reference group			
	Engineering, Technologies	-.033	.145	.820	.967
	Architecture, Build & Plan	.239	.198	.226	1.270
	Social Studies	-.099	.136	.465	.905
	Law	-.226	.164	.169	.798
	Business & Admin studies	-.303	.141	.032	.738
	Mass communication and Documentation	.151	.201	.452	1.164
	Linguistics and Classics	.227	.158	.150	1.255
	Languages	-.089	.195	.648	.915
	Hist & Philosophical studies	.249	.145	.084	1.283
	Creative Arts & Design	.439	.128	.001	1.551
	Education	-.566	.191	.003	.568
	Interdisciplinary subjects	.058	.121	.633	1.059
	Missing subject	-3.932	.438	.000	.020
Class of degree	First	-1.006	.086	.000	.366
	2:1	-.416	.066	.000	.660
	2:2	Reference group			
	Constant	-1.452	.129	.000	.234
	-2 Log likelihood			10799.653	
	Cox & Snell R Square			.054	
	Nagelkerke R Square			.108	

Source: Futuretrack combined data set, UK graduates only.

Appendix Table A5.1: Earnings of graduates in full-time employment: Class of '99 and Classes of 2009/2010

	Coefficient	t-statistic	Sig.
Constant	9.704	0.037	264.1
Male	0.051	0.007	7.9
<i>Subject studied:</i>			
Arts	-0.075	0.017	-4.3
Humanities	-0.078	0.013	-6.2
Languages	-0.015	0.016	-0.9
Law	0.045	0.018	2.5
Social sciences	Ref.		
Mathematics and Computing	0.057	0.014	3.9
Natural sciences	-0.014	0.012	-1.2
Medicine and related	0.200	0.013	15.1
Engineering	0.029	0.016	1.8
Business Studies	0.045	0.013	3.5
Education	0.068	0.015	4.5
Interdisciplinary	0.006	0.011	0.6
Other vocational.	-0.026	0.018	-1.5
<i>Class of degree obtained:</i>			
First class	Ref.		
Upper second class	-0.051	0.008	-6.0
Lower second class	-0.102	0.010	-10.5
Third class	-0.168	0.019	-8.7
Pass/Diploma/Foundation degree	0.005	0.018	0.3
Ordinary degree	-0.119	0.028	-4.3
Other.	0.022	0.079	0.3
<i>Type of employment contract held:</i>			
Permanent or open-ended contract	Ref.		
Fixed-term contract	-0.042	0.009	-4.9
Probationary period prior to confirmation	-0.097	0.015	-6.6
Self-employed	0.004	0.044	0.1
Temporary, through an agency	-0.190	0.021	-9.0
Other temporary or casual	-0.156	0.025	-6.1
Other	-0.128	0.032	-4.0
Hours per week normally worked in main job	0.009	0.000	25.2
Age (years)	0.004	0.001	5.9
<i>Gender composition at workplace:</i>			
Almost exclusively/ only by men	Ref.		
Mainly by men	0.020	0.014	1.5
By a fairly equal mixture of men and women	-0.055	0.014	-4.1
Mainly by women	-0.096	0.015	-6.5
Almost exclusively/ only by women	-0.145	0.018	-7.9
Only by you	-0.045	0.020	-2.2
<i>Sector in which currently employed:</i>			
Agriculture, mining, quarrying	0.008	0.027	0.3
Manufacturing	-0.054	0.016	-3.3
Electricity, gas, water supply	-0.054	0.026	-2.0

Construction	-0.106	0.020	-5.3
Distribution, hotels, catering	-0.213	0.016	-13.0
Transport and tourist services	-0.115	0.023	-5.1
Information and communications sector	-0.090	0.013	-6.8
Banking, finance, insurance			
Business services	-0.049	0.012	-4.1
Education	-0.148	0.015	-10.0
Other public services	-0.088	0.014	-6.2
Other	-0.109	0.012	-9.4
<i>Type of organisation in which currently employed:</i>			
Public sector	Ref.		
Private sector	0.014	0.011	1.3
Not-for-profit sector.	-0.072	0.014	-5.3
<i>Parental social background:</i>			
Higher managerial and professional occupations	Ref.		
Lower managerial and professional occupations	-0.008	0.004	-2.2
Intermediate occupations	-0.006	0.003	-1.8
Small employers and own account workers	0.001	0.002	0.4
Lower supervisory and technical occupations	-0.004	0.003	-1.7
Semi-routine occupations	-0.001	0.002	-0.4
Routine occupations.	-0.004	0.002	-1.9
<i>Parental education:</i>			
Father has degree	0.009	0.007	1.2
Mother has degree	-0.001	0.007	-0.2
<i>Region in which currently employed</i>			
London	0.210	0.007	29.1
Southeast	0.066	0.009	7.5
N. Ireland	-0.085	0.011	-7.6
<i>Tariff points on entry to HE:</i>			
Not available	-0.044	0.014	-3.1
1 to 79	-0.085	0.027	-3.1
80 to 119	-0.096	0.024	-4.0
120 to 179	-0.081	0.018	-4.6
180 to 239	-0.054	0.015	-3.7
240 to 299	-0.064	0.013	-4.8
300 to 359	-0.040	0.012	-3.2
360 to 419	-0.042	0.013	-3.3
420 to 479	-0.028	0.013	-2.1
480 to 539	-0.017	0.015	-1.1
540 plus.	Ref.		
Reported a disability	-0.062	0.018	-3.4
<i>Occupation held at time of survey:</i>			
Traditional graduate job	0.232	0.010	23.6
Modern graduate job	0.199	0.010	20.1
New graduate job	0.179	0.009	19.8
Niche graduate job	0.152	0.009	16.6
Non graduate job	Ref.		
Cumulative months employed	0.003	0.000	9.4

Respondent was Class of 2009/10 graduate	-0.219	0.010	-22.4
<i>Tariff classification of university attended:</i>			
Highest tariff university	Ref.		
High tariff university	-0.026	0.009	-2.9
Medium tariff university	-0.046	0.009	-5.4
Lower tariff university	-0.037	0.010	-3.6
Specialist HE college	-0.073	0.054	-1.4

Dependent variable is natural logarithm of earnings. Samples consist of UK citizens (inc. dual citizenship) who were graduate completers in the *Class of '99* and Futuretrack (classes of 2009/10) surveys, who gained their degree from one of the 38 HEIs surveyed in the *Class of '99* and were in full-time employment at the time of the surveys.

Adjusted R Square = 0.516. N = 8,676

**Appendix Table A6.1: Logistic Regression: 1 –‘It was exactly the type of work I wanted’ was one reason for taking up current employment
0 – not exactly the job I wanted.**

		Model 1		Model 2		Model 3	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Gender	Male	.004	1.123	.004	1.140	.580	.973
Age	Under 18	.062	1.091	.404	1.042	.196	1.071
	19-20	Reference Group					
	21-25	.000	1.474	.003	1.291	.302	1.099
	26 and over	.000	1.652	.018	1.212	.650	1.041
Socio-Economic Status	Managerial and Professional	.005	1.148	.039	1.112	.718	1.020
	Intermediate	Reference Group					
	Routine and manual	.687	.976	.891	.991	.938	1.005
Ethnicity	White	Reference Group					
	Asian	.023	.825	.000	.719	.000	.664
	Black	.003	.665	.016	.709	.001	.610
	Other	.000	.661	.001	.683	.001	.668
HEI Access group	Highest and high HEIs			.000	1.278	.432	.957
	Middle and low HEI	Reference Group					
	Other HEIs			.043	1.240	.310	1.123
Subject group	Medicine & Dentistry			.000	7.711	.000	2.555
	Subjects allied to Medicine			.000	2.459	.000	1.824
	Biology, Vet Sci, Agr & related			.000	.515	.010	.738
	Physical Sciences			.000	.628	.008	.714
	Mathematical & Comp Sci	Reference Group					
	Engineering, Technologies			.067	1.245	.541	1.082
	Architecture, Build & Plan			.010	.609	.478	.863
	Social Studies			.000	.596	.002	.691
	Law			.000	.490	.001	.612
	Business & Admin Studies			.001	.692	.409	.904
	Mass communication and Documentation			.001	.540	.351	.835
	Linguistics and Classics			.000	.480	.074	.771
	Languages			.000	.428	.010	.648

	Hist & Philosophical studies			.000	.407	.001	.639
	Creative Arts & Design			.000	.551	.871	.980
	Education			.000	1.617	.000	1.679
	Interdisciplinary subjects			.000	.488	.001	.684
Class of degree	First			.000	1.798	.003	1.257
	2:1			.000	1.416	.007	1.201
	2:2	Reference Group					
Contractual status	Permanent					.000	.689
	Fixed term	Reference Group					
	Other contracts					.000	.698
Salary	Less than £14,999					.000	.253
	£15k – 20,999					.000	.527
	£21k - £26,999	Reference Group					
	£27k - £32,999					.036	1.177
	More than £33k					.017	1.250
Debts	No debt					.004	1.244
SOC HE	Expert					.000	1.374
	Communicator	Reference Group					
	Strategist					.000	.612
	Non grad employment					.000	.453
	Constant	.000	.595	.000	.541	.000	1.760
	-2 Log likelihood	14592.420 ^a		13701.219 ^a		12197.712 ^a	
	Cox & Snell R Square	.010		.088		.207	
	Nagelkerke R Square	.013		.119		.278	

Appendix Table A7.1 Incidence of work experience during course reported by Stage 4 respondents in broad industry sectors

Undergraduate work experience ^a	Industry of current main employer											
	Agriculture, mining, quarrying (includes oil and gas extraction)	Manufacturing	Electricity, gas, water supply	Construction (includes civil engineering)	Distribution, hotels, catering (includes retailing, supermarkets, wholesale or retail distribution)	Transport and tourist services	Information and communications sector (includes media)	Banking, finance, insurance	Business services (includes legal services, computing, advertising, public relations, R&D)	Education (includes schools, colleges, and universities)	Other public services (local or central government, health services, police, social services)	Other
A sandwich year undergraduate placement	0%	1%	0%	1%	1%	1%	1%	1%	2%	1%	2%	0%
One or more shorter structured work placement/s integral to course	0%	0%	0%	0%	2%	0%	1%	0%	1%	4%	11%	0%
A vacation internship with an employer	0%	1%	0%	0%	1%	0%	1%	1%	2%	1%	2%	0%
Paid work undertaken to gain useful career-related experience	0%	1%	0%	1%	2%	1%	2%	2%	2%	4%	6%	0%
Paid work undertaken only for the money	1%	2%	1%	1%	7%	2%	4%	3%	5%	7%	10%	0%
Unpaid work undertaken to gain useful career-related experience	0%	1%	0%	1%	3%	1%	3%	1%	2%	5%	8%	0%
Other work-related activity	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	2%	0%
None of the above	0%	1%	0%	0%	4%	0%	2%	1%	2%	3%	4%	0%

Source: Futuretrack Stage 4, all UK domiciled graduates (weighted)

Appendix Table A7.2 **Relative risk ratios (odds ratios) analysing the effect of the type of unpaid work on labour market destination(SOC(HE), Non-graduate job: base category)**

	Model 0			Model 1			Model 2		
Variables	Expert	Strategist	Communicator	Expert	Strategist	Communicator	Expert	Strategist	Communicator
Female	0.628**	0.516**	0.971	0.626**	0.523**	0.951	0.653**	0.551**	0.953
18 and under	1.165*	0.952	0.856*	1.162*	0.956	0.851*	1.035	0.833	0.860+
19-20		Reference group			Reference group			Reference group	
21-25	1.909**	1.029	1.147	1.897**	1.028	1.139	2.098**	1.170	1.134
26 and over	2.539**	0.856	0.968	2.519**	0.840	0.974	2.894**	0.987	0.948
Non-white	1.093	1.139	0.781*	1.084	1.141	0.769*	1.102	1.135	0.760*
Parent has degree	1.116+	1.307*	0.986	1.109+	1.327*	0.964	0.974	1.116	0.948
Managerial and professional occupations		Reference group			Reference group			Reference group	
Intermediate occupations	0.783**	0.692*	0.827*	0.797**	0.700*	0.842+	0.837*	0.747*	0.846+
Routine and manual occupations	0.720**	0.692*	0.642**	0.750**	0.705*	0.674**	0.824**	0.797	0.681**
Unpaid work during course only				1.541**	1.100	1.802**	1.479**	1.025	1.754**
Unpaid work after graduation only				0.316**	0.244**	0.545**	0.311**	0.244**	0.540**
Unpaid work during course and having graduated				0.602**	0.652+	0.905	0.609**	0.656+	0.879
No unpaid work		Reference group			Reference group			Reference group	
Highest tariff university							2.422**	3.284**	1.207*
High tariff university							1.470**	1.669**	0.853+
Medium tariff university		Reference group			Reference group			Reference group	
Lower tariff university							0.808*	1.061	1.255+
General he college							0.535*	0.650	1.203
Specialist he college							0.744+	0.749	1.426*
Overseas							2.130+	6.783**	1.480
Constant	1.212*	0.227**	0.489**	1.114	0.231**	0.418**	0.809*	0.142**	0.399**
Number of jobs (N)	8314			8314			8298		
LR χ^2 (df)	LR χ^2 (24) = 322.52			LR χ^2 (33) = 539.41			LR χ^2 (51) = 880.14		
Prob > χ^2	0.0000			0.0000			0.0000		
Pseudo R ²	0.0165			0.0276			0.0451		

+ p<0.10, * p<0.05, ** p<0.01

Source: Futuretrack 2006 Stage 1 - Stage 4 combined dataset, UK graduates who have at least an undergraduate degree and are no longer in full-time study.

Appendix Table A7.3 **Relative risk ratios (odds ratios) analysing the effect of the type of unpaid work on current employment in different industries in the labour market (Other public services: base category)**

Variables	Agric.	Manuf.	Elec.	Constr.	Distr.	Trans.	ICT.	Bank.	Busin.	Educ.	Other
Female	0.263**	0.315**	0.316**	0.208**	0.728**	0.506**	0.352**	0.352**	0.437**	1.076	0.524+
18 and under	0.975	0.934	1.027	0.935	1.007	1.151	1.002	1.056	1.159	1.111	1.502
19-20	Reference group										
21-25	0.292**	0.308**	0.480+	0.593+	0.337**	0.354**	0.463**	0.308**	0.295**	0.441**	0.956
26 and over	0.319**	0.186**	0.430*	0.297**	0.156**	0.182**	0.206**	0.109**	0.178**	0.510**	2.142
Non-white	0.404*	0.883	0.874	0.912	0.960	0.927	1.023	1.731**	1.187	0.628**	0.253
Parent has degree	0.969	0.850	0.806	0.827	0.942	0.721*	1.082	0.844	0.979	0.866+	1.773
Managerial and professional occupations	Reference group										
Intermediate occupations	0.829	0.973	0.938	0.757	1.053	0.832	0.827	0.918	0.805+	1.064	0.953
Routine and manual occupations	0.758	1.112	0.848	0.767	1.086	0.877	0.738*	0.832	0.743*	0.945	0.482
Unpaid work during course only	0.872	0.560**	0.574**	1.028	0.572**	0.610**	1.003	0.889	0.935	1.012	1.326
Unpaid work after graduation only	0.834	0.376**	0.375	0.283+	2.070**	1.440	1.162	0.347**	0.655+	0.815	4.571**
Unpaid work during course and after graduation	0.180*	0.251**	0.514	0.567	0.898	0.820	0.655*	0.271**	0.443**	0.913	3.290*
No unpaid work	Reference group										
Highest tariff university	1.872*	1.073	1.939**	0.988	0.480**	0.664*	0.915	1.960**	1.629**	1.057	0.410+
High tariff university	2.196**	0.945	1.226	0.976	0.662**	0.612**	0.693**	1.085	1.256*	0.867	0.828
Medium tariff university	Reference group										
Lower tariff university	1.454	1.241	0.929	0.946	1.199	1.143	1.184	0.906	1.157	2.046**	0.672
General he college	0.000	0.444	3.328	0.851	2.044*	2.650+	1.823	1.080	2.229+	1.817+	2.431
Specialist he college	7.272**	2.252**	0.000	0.189	1.152	0.935	2.246**	0.380+	1.109	0.911	1.815
Overseas	9.445**	1.368	0.000	0.000	0.177	2.003	1.381	2.617	0.985	0.592	0.000
Constant	0.132**	0.749+	0.147**	0.363**	1.269+	0.357**	0.909	0.579**	0.741*	0.720**	0.014**
Number of jobs (N)	8649										
LR $\chi^2(187)$	1828.51										
Prob > χ^2	0.0000										
Pseudo R ²	0.0505										

+ p<0.10, * p<0.05, ** p<0.01

Source: Futuretrack 2006 Stage 1 - Stage 4 combined dataset, UK graduates who have at least an undergraduate degree and are no longer in full-time study

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