



Unemployed and overqualified?

Graduates in the UK labour market

Beth Foley and Ian Brinkley



**THE WORK
FOUNDATION**
PART OF LANCASTER UNIVERSITY

About us

Through its rigorous research programmes targeting organisations, cities, regions and economies, now and for future trends; The Work Foundation is a leading provider of analysis, evaluation, policy advice and know-how in the UK and beyond.

The Work Foundation addresses the fundamental question of what Good Work means: this is a complex and evolving concept. Good Work for all by necessity encapsulates the importance of productivity and skills needs, the consequences of technological innovation, and of good working practices. The impact of local economic development, of potential disrupters to work from wider-economic governmental and societal pressures, as well as the business-needs of different types of organisations can all influence our understanding of what makes work good. Central to the concept of Good Work is how these and other factors impact on the well-being of the individual whether in employment or seeking to enter the workforce.

For further details, please visit www.theworkfoundation.com.

Acknowledgements

We would like to thank our research sponsors – Barclays, Trust for London and Impetus-PEF – for funding the project and for providing us with insight, advice and support.



Executive summary

The UK has experienced a rapid expansion in its graduate population, coinciding with the transformation to a labour market which places a premium on higher level skills. Autumn 2014 saw an additional 30,000 university places opened up to students in England, meaning that – for the first time – new UK student numbers exceeded half a million. By next academic year, the cap on student numbers will be lifted entirely, placing no limit on the number of places universities are able to offer. This rapid expansion in student numbers forms part of an ongoing trend. The percentage of graduates in the UK's population has increased steadily over the last twenty years and now boasts the third highest graduation rate in the OECD – a figure of 55 per cent of young people and behind only Iceland and Poland.

Yet the speed and scale of this transformation from a university degree as the preserve of a small, professional elite to a mass higher education system has inevitably raised some concerns. In the UK, these have been exacerbated by events in recent years. In 2012, tuition fees for English universities rose to up to £9,000 per year, meaning few graduates will leave university with a debt of less than £40,000. This significant increase to the cost of study occurred alongside a period of prolonged economic downturn, making the labour market transitions of students to graduate employment more challenging.

This has contributed to the general impression that there are problems in the graduate labour market.¹ Recent debates can be broadly separated into questions of supply and demand and those on quality and equality of access. Debates around supply and demand largely come down to the question: are we producing too many graduates? By this logic, the explosion in graduate numbers has left supply outstripping demand, creating increased unemployment rates amongst the graduate population; displacing those with lower skill levels as graduates increasingly move into non-graduate roles; and reducing the graduate wage premium, so often used to justify the rising costs now shouldered by students.

On the other hand, the debate about quality and equality of access is broader. It focuses instead on the wider question of whether the graduate jobs market is fair and effective. Are we seeing efficient matching between supply and demand in graduate roles? Are all degrees equipping graduates with the skills they need for graduate employment and the information to make their labour market decisions? Are graduate jobs therefore accessible to all graduates?

In this report we review what has been happening to the graduate labour market in the recovery and which areas should be of concern to policy makers. In so doing, we argue that – broadly – the first set of concerns about supply and demand is of less concern than the second. Reviewing current data and future predictions at the macro level, we see little evidence of high rates of graduate unemployment or a reducing wage premium. Indeed, an increase in graduate numbers looks set to reflect future growth in demand.

There is nonetheless evidence of both over-qualification in some parts of the labour market, and some evidence of skills mis-match. The graduate jobs market is not operating as effectively as it could. Certain groups, such as students from ethnic minority backgrounds, continue to see higher rates of unemployment. There is also a significant question about the roughly 30% of graduates who fail to access a graduate job, even several years after graduation. This figure has been persistent since long before the recent recession and is therefore likely to reflect a structural issue. Given overall figures do not suggest falling demand for graduate skills or a reduced wage premium, the problem here appears to be one of mismatch between graduate skills and graduate jobs. We investigate what is driving these mismatches and how they can be countered.

¹ G. Paton "Graduate Unemployment Hits 15 Year High" in The Daily Telegraph, 26th January 2011.

Tackling these issues will require action coordinated across a number of areas, including careers advice before and during higher education, vocational education and work experience, action by employers and action by government. We argue that:

- Careers IAG offered to potential HE students in schools and colleges should focus on ensuring pupils have **access to the most relevant information when making their choices**. This should include the full range of options available, including vocational; potential routes to graduate employment; the careers options open to graduates in that subject; and earnings prospects.
- HE careers services should focus on **reaching out to those students who are less likely to possess the informal networks and 'cultural capital'** likely to increase their chances in the job market. Services offered to these students while at university could include mentoring or other support services offering the chance to expand their networks and take part in a range of extra-curricular activities.
- **When considering the potential of vocational qualifications to provide a route into HE, at present those courses offering a combination of vocational and academic options appear most effective.** These routes should be further developed and young people on vocational pathways hoping to enter HE given clear information about these options. There should also be an ongoing focus on the quality of the general education components of existing apprenticeships and expanded access to advanced and higher level apprenticeships.
- **HEIs should increase their focus on students' work experience options** and on the university's relationships with employers. This is likely to be particularly important for students from less advantaged backgrounds or disadvantaged groups, who may lack the funds and connections to undertake this independently.
- **Employers should be encouraged to take a more pro-active stance to their relationship with HEIs.** This could include greater involvement in accreditation and quality control. It could also include mentoring and/or work experience opportunities for potential applicants from less advantaged or non-traditional backgrounds. Employers' graduate recruitment practices should also be reviewed to ensure they are as open to non-traditional or disadvantaged applicants as possible.
- **Government should focus on ensuring assessment of quality in HE encompasses employment prospects, and identify a better use of data to monitor supply and demand.** While **internships** are likely to have an ongoing role in the graduate labour market, there is also a need to raise awareness amongst employers and young people on their legal status.

Some young people may think the only option for aspiration and progression in the labour market is to get a degree. The creation of a complementary high quality non-academic education and training system, building on the commitment to create larger scale apprenticeships and the recent training levy, will give more young people a genuine choice about which offers the best route for them.

Table of Contents

Executive summary	3
1 Introduction	7
2 Supply and demand in the graduate labour market	11
3 Mismatches in the graduate labour market	17
4 Policy implications & recommendations	29
Figure 1: Unemployment rates (%), 1992-2013	12
Figure 2: Unemployment amongst 25-29 year old graduates across the EU in 2014	12
Figure 3: Graduate wage premia across the OECD in 2012	13
Figure 4: Present discounted value of college relative to high school degree net of tuition, 1965- 2008 (College/high school difference, 2009 dollars)	14
Figure 5: Percentage point difference from the sector-adjusted average for proportion moving into employment or further study, split by POLAR3	18
Figure 6: Unemployment amongst full-time, first-degree graduates, 3 years after completion (%)	19
Figure 7: Percentage of graduates working in non-graduate roles, 2001-2013	21
Figure 8: Percentage point difference from the sector-adjusted average for proportion into graduate job or further study, split by POLAR3 quintile	22
Figure 9: Percentage point difference from the sector-adjusted average for proportion moving into graduate job or further study, split by ethnic group	23
Figure 10: How graduates described the significance of their degree in gaining their current employment	24
Figure 11: Percentage of UK graduates in employment working in SOC 'Professional' occupations three years after graduation, by subject studied	25
Figure 12: Average earnings growth of 2008/9 graduates in full-time employment, by subject area	26



1 Introduction

The Work Foundation's 'Missing Million' research programme focuses on the UK's persistent problem of youth unemployment. The numbers of young people out of work, although beginning to rise in the early 2000s, increased dramatically following the financial crisis and recession of 2008.² Rising levels of unemployment affected all sectors of the youth labour market, with even the most qualified young people finding the transition from education to work challenging. The phenomenon of graduate unemployment was increasingly highlighted in the media as evidence of the extent of the problem.³ It also raised questions, given the rapid increases in the numbers of young people going to university and the fees they pay to do so, whether the issues were a symptom of 'oversupply' in the graduate labour market.

This debate has recently been fuelled by the publication of a report by the CIPD⁴ which estimated that about 60 per cent of graduates were in "non-graduate" jobs compared with only 10 per cent of German graduates. The report also suggested that in many occupations graduates were moving into there was no difference between graduates and non-graduates in terms of the influence over the job. The report suggested that the UK might therefore have excessive investment in some higher education courses relative to other parts of the higher and further education system which might offer a better social return.

As the report fully acknowledges, these are tricky areas to measure accurately. Defining what is and what is not a graduate job is like trying to hit a moving target. Surveys often rely on individuals to say whether they think they are over-qualified or over-skilled for their job, and responses are generally thought to be biased upwards. Different surveys can produce different results, even if they generally point in the same direction. Moreover, there is frequent confusion between qualifications and skills, although they are quite different concepts.

The most up to date estimates for over-qualification and skill mis-matches come from the OECD. These confirm that the UK has a serious over-qualification problem, with about 30 per cent of the workforce as a whole saying they are overqualified. This is one of the highest rates in the OECD, although other countries such as Germany also have relatively high rates at 23 per cent. The OECD has produced the most robust estimate of skill mis-matches. This puts the UK about mid-table compared with those OECD countries for which we have comparable estimates and with a similar rate to Germany when adding together the share of the workforce which is over-skilled and the share of the workforce that is under-skilled.

² Lee et al Short Term Crisis, Long Term Problem? Addressing the youth employment challenge (London: The Work Foundation, 2012), p.7.

³ H. Kesvani, "Nearly 40% of graduates still hunting for jobs six months after leaving university" The Independent, 18th February 2014: <http://www.independent.co.uk/student/news/nearly-40-of-graduates-still-hunting-for-jobs-six-months-after-leaving-university-9135958.html>

⁴http://www.cipd.co.uk/publicpolicy/policy-reports/overqualification-skills-mismatch-graduate-labour-market.aspx?utm_medium=email&utm_source=cipd&utm_campaign=cipdupdate&utm_term=333717&utm_content=190815-3151-3068---20150819085238-The%20report

In this report we conclude that there is not yet compelling evidence of a significant mismatch in the overall supply and demand for graduate labour; the UK's transition to a post-industrial labour market has seen a corresponding increase in demand for knowledge workers.⁵

However, we share the conclusion of the CIPD report that not all is well in the graduate labour market. Indeed, the evidence suggests there are other, more fine-grained mismatches – particularly in the numbers of graduates entering non-graduate occupations and the fact that a degree-level qualification does not appear sufficient to overcome the labour market disadvantages faced by certain groups within the graduate population.

The paper begins by setting the scene on the trends defining the graduate labour market. It then turns to the two main strands of critique levelled at the expansion of mass higher education and assesses their merits. Finally it concludes with some potential ways forward and recommendations for both business and government.

Trends in the graduate labour market

The shift from an elite to a mass system of higher education has been taking place for some time, both in the UK and in the wider industrialised world. It has coincided with a transformation from labour markets built on a broad base of often low-skilled jobs to one in which technological development and the decline of heavy industry has placed knowledge and higher-level skills at a premium. As the semi-skilled jobs which once dominated manufacturing economies have fallen away, a gap has opened between those possessing higher-level skills capable of accessing secure, high-wage jobs, and low-skilled or unqualified workers, who are increasingly confined to insecure and poorly-paid roles offering little chance for progression. This polarising shift has been dubbed the rise of an 'hourglass' economy; with trends of growth at the top and bottom set to continue, high-level qualifications are viewed as an increasingly important means of accessing good quality employment.⁶ Uptake has grown rapidly as a result.

OECD estimates for the industrialised economies, graduation rates have increased from 20 per cent of young people to 39 per cent between 1995 and 2011

In the UK, this shift has been one actively promoted by successive governments. From the Robbins Report of the early 1960s, the push has been to expand participation in higher education as part of the country's bid to increase its competitiveness in an increasingly globalised and knowledge-based economy. New universities have been created and existing institutions permitted to expand according to demand. The resulting increase in numbers of university places, combined with growing disparities in pay and progression prospects at the upper and lower ends of the labour market, have encouraged more and more young people to apply to university. The international reputation of UK universities is high, so that a significant share of

graduates is EU and non-EU students, some of whom will return overseas. By 2014, the proportion of graduates in the UK population reached 40 per cent.

This startling rise, while marked in the UK, is by no means a purely national trend. The past twenty years has also seen a remarkable increase in the global supply of graduates. Just looking at OECD estimates for the industrialised economies, graduation rates have increased from 20 per cent of young people to 39 per cent between 1995 and 2011. More up to date figures for the "EU15" group of European economies from the European Labour Force Survey shows that the total number of graduates in employment has gone up from 29 million to 57 million between 1995 and 2013, a rise of nearly 100 per cent. Total employment increased from 148 million to 172 million, a rise of just 16 per cent. As a result the share of graduates has increased from just under 20 per cent of the EU15 workforce in 1995 to 33 per cent in 2013.

⁵ I. Brinkley, Knowledge Economy Strategy 2020: The Work Foundation submission to the comprehensive spending review, (London: Work Foundation, 2010), p. 6.

⁶ P. Sissons, The Hourglass and the Escalator: Labour market change and mobility, (London: The Work Foundation, 2011).

However, the dramatic nature of this change has been accompanied by ongoing concerns around the graduate labour market. Employers continue to complain that graduates are not 'work-ready' or lack the types of subject backgrounds most in demand; a survey of 635 employers in 2013 found that less than one in five believed graduates were work-ready and the CBI has made regular calls for an increased focus on STEM subjects given employer skill demands in this area.⁷ There have been ongoing concerns voiced that too many young people are being pushed towards higher education when we should be focusing instead on vocational skills.⁸ While the onset of recession in 2008 led to a rise in graduate unemployment and increased difficulties for graduates seeking work to access graduate jobs.

One common reaction to these issues has been the voicing of concerns about the potential gaps between the rapid growth in supply of graduates and actual demand.⁹ The logic in this argument suggests that the challenges affecting the graduate labour market are based on the simple matter of supply of graduates – encouraged by successive governments and the relatively undeveloped nature of vocational options – outstripping demand. This concern will be addressed in the following section.

⁷ CBI, *Engineering our Future: Stepping up the urgency on STEM*, (London: CBI) ;G. Paton, "University leavers lack the essential skills for work, employers warn" in *The Telegraph*, 12.09.13: <http://www.telegraph.co.uk/education/educationnews/10306211/University-leavers-lack-the-essential-skills-for-work-employers-warn.html>

⁸ AAT and CEBR, *University Education: Is this the best route into employment?* (London: AAT and CEBR, 2013).

⁹ See, for example, G. Mason "High Skills Utilisation under Mass Higher Education: Graduate employment in service industries in Britain", *Journal of Education and Work*, 15: 4, 2002."

2 Supply and demand in the graduate labour market

If the overall supply of graduates was indeed outstripping aggregate demand, there would be several likely consequences. The first would be an increase in rates of graduate unemployment, especially amongst the more recent cohorts entering the labour market. The second would be some displacement of less skilled employees, as graduates struggling to enter the labour market were prepared to look for work outside of 'graduate' roles. This, in turn, would lead to a reduction in the additional 'wage premium' that graduates can expect to earn over the course of their working lives. To assess the merits of the claim, we need to assess the evidence.

Unemployment

Much of the concern about graduate unemployment was sparked in the wake of the recession in 2008, when new graduates in the UK and across Europe began to struggle to find work. Between Q2 2008 and Q2 2009, the unemployment rate for recent graduates in the UK rose from 5% to 9%.¹⁰ Some commentators used this rise to question the value of a university degree, and whether increased priority should be placed on vocational alternatives.¹¹

However, it is important to determine whether rising unemployment rates are due to an oversupply of graduates, or whether they are in fact more a function of wider labour market conditions. In most OECD economies unemployment among under 25s, including graduates, sharply increased after 2008, but this is primarily because in most economies it is the young who are hit first by the economic downturn and among the last to experience the benefits of the recovery. It is therefore important to look at the position of young graduates relative to young non-graduates over time; an increase in graduate unemployment relative to non-graduate unemployment might suggest issues of over-supply. Analysis by the Office for National Statistics (ONS)¹² compares UK unemployment rates for recent graduates (defined as someone who left full time education in the last five years of the survey) with non-graduates between the ages of 21 and 30. This reveals there has been no deterioration in the relative unemployment rate among recent graduates compared to their non-graduate counterparts; looking at roughly similar points in the economic cycle between 1992 and 2013 (see Figure 1). In fact, during the most recent downturn, the gap between the unemployment rates of recent graduates and those of non-graduates under the age of 30 has increased, with young non-graduates faring far worse.

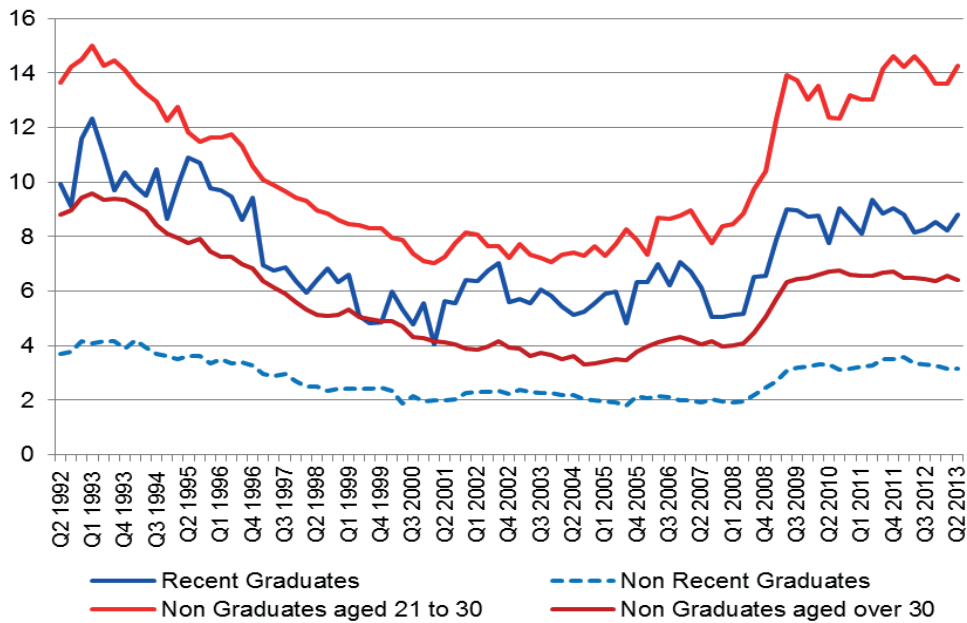
It is also worth distinguishing between the experiences of recent and non-recent graduates in the context of wider labour market conditions. Recent graduates may experience short-term difficulties in their transition to the labour market, but an issue of over-supply would likely show up in unemployment rates for non-recent graduates as well. ONS figures reveal that – as expected – older graduates have consistently lower unemployment rates, but also that the gap between the rates for recent graduates and older graduates is again similar in both 1992 and 2013 (see Figure 1). There has not been a relative deterioration in the position of recent graduates compared with older graduates, as might be expected if we had excess supply after 1996.

¹⁰ ONS, Graduates in the UK Labour Market (London: Office for National Statistics, 2013).

¹¹ AAT and CEBR, University Education: Is this the best route into employment? (London: AAT and CEBR, 2013).

¹² ONS, Graduates in the UK Labour Market (London: Office for National Statistics, 2013).

Figure 1: Unemployment rates (%), 1992-2013

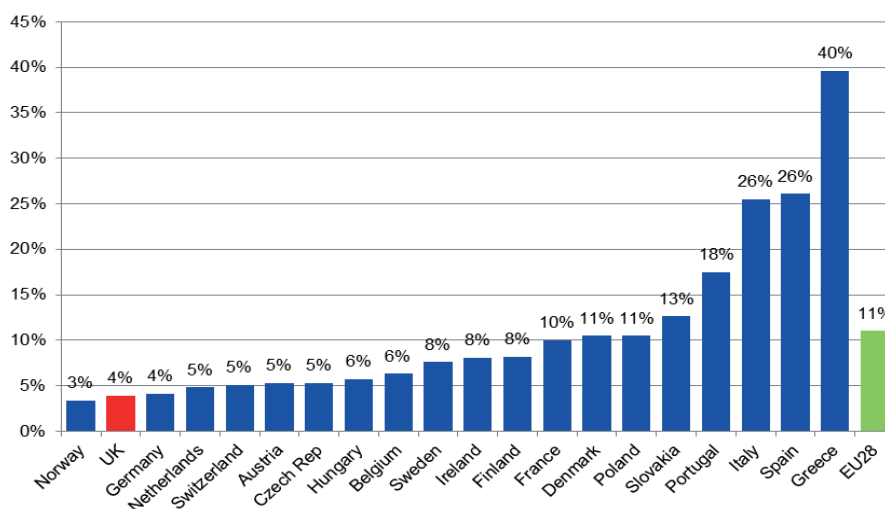


Notes: recent graduates defined by ONS as those who left full time education up to five years before the survey. Older graduates are all those who left full time education more than five years before the survey date.

Source: ONS report, *Graduates in the UK Labour Market 2013*

What's more, while the 2008 recession caused a rise in unemployment rates across the labour market and internationally, in many economies, including the UK, unemployment – even amongst the under 25s – has now started to fall. As Figure 2 indicates, for the UK and several other Northern European economies, the graduate labour market for those in their late 20s in 2014 was close to full employment by 2014¹³, returning towards the very low levels of unemployment experienced before 2008.¹⁴ In 2014 Q1 the graduate unemployment rate in the UK for those between the ages of 25 and 29 was less than 4 per cent, compared with a pre-recession rate of just over 3 per cent. Indeed, the UK rate is the lowest in the EU. Correspondingly, the UK employment rate for graduates between the ages of 25 and 29 in 2014Q1 was just over 88 per cent, one of the highest in Europe. The EU 28 average was 78 per cent.

Figure 2: Unemployment amongst 25-29 year old graduates across the EU in 2014



Note: all figures 2014Q1. Unemployment rates for graduates between the ages of 25 and 29 with ISCED11 levels 5-8 qualifications (short cycle tertiary, bachelor or equivalent, masters or equivalent, or doctoral and equivalent).

Source: Eurostat

¹³ There is no standard definition of full employment, but we have estimated that an ILO unemployment rate of 4 per cent would be consistent with the era of full employment before 1973: <http://www.theworkfoundation.com/blog/1714/What-does-a-Full-Employment-unemployment-rate-look-like>

¹⁴ We focus on the age group 25 to 29 for comparative purposes because in many European economies there are so few graduates under 25 seeking work that there are no reliable unemployment statistics available.

Overall, the evidence on unemployment figures suggests that, while the effects of the 2008 economic downturn across the labour market caused a knock-on increase in graduate unemployment rates, particularly for recent leavers, this is not reflective of a wider problem of oversupply. Despite widespread popular concern at the time¹⁵, the idea of an ongoing increase in graduate unemployment rates as graduate numbers rise has been revealed to be a myth. In fact, unemployment rates for non-recent graduates in the UK are the lowest in the EU and close to full employment and the relative labour market advantages of graduates compared to non-graduates continue to be evident.

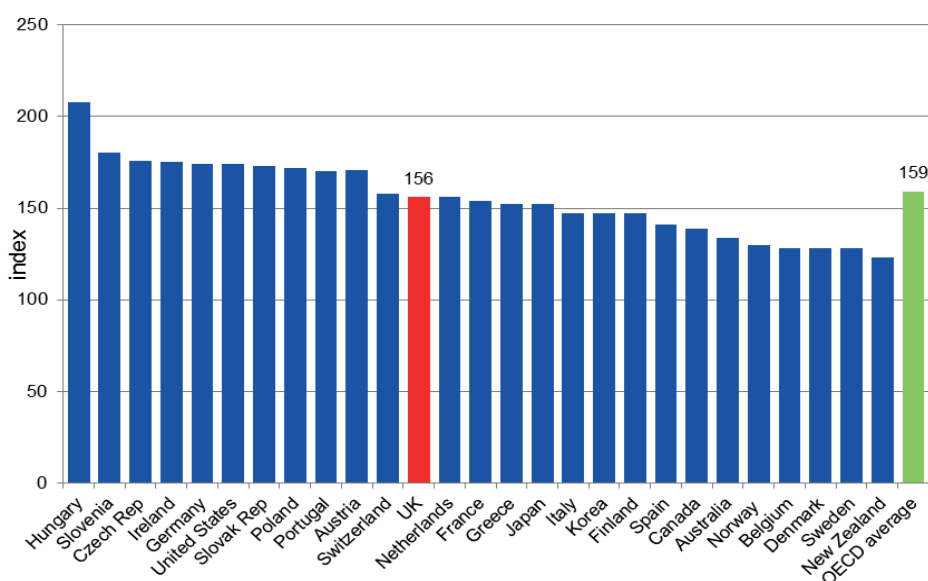
However, the lack of supportive evidence when reviewing unemployment figures is not sufficient to dismiss the oversupply problem altogether. Another alternative is that the problem is masked by employment rates alone and that the real issue is graduates moving into low-quality employment. If this were the case, we might expect to see the graduate employment rate holding up, but the 'wage premium' traditionally earned by graduates falling as they move into less well remunerated professions.

The graduate wage premium

The graduate wage premium refers to the average increase in earnings graduates can expect when compared to their non-graduate counterparts. Oversupply of graduates would lead to a reduction in this figure, as graduates were forced down the rungs of the labour market. However, a look at the national and international evidence does not indicate an erosion of the premium.

Evidence from the OECD shows that graduates continue to command a significant wage advantage over non-graduates in all OECD countries, and in the vast majority this has not changed significantly since 2000. In a few cases it has increased (eg Germany) and in others fallen (eg New Zealand). In the UK, graduates in 2011 had, on average, earnings 57 per cent higher than for non-graduates with an upper secondary education, slightly below the OECD average (see Figure 3). The graduate wage advantage in the UK has not significantly changed since 2000.¹⁶

Figure 3: Graduate wage premia across the OECD in 2012 - earnings for graduates indexed against non-graduates with an upper secondary education = 100



Notes: Belgium, Czech Republic, Finland, Ireland, Canada, , Norway, Portugal and Spain are 2011; Netherlands, Italy, France, are 2010. Figures are for graduates between the ages of 25 and 64.

Source: OECD *Education at a Glance*, 2012, Table A.62a.

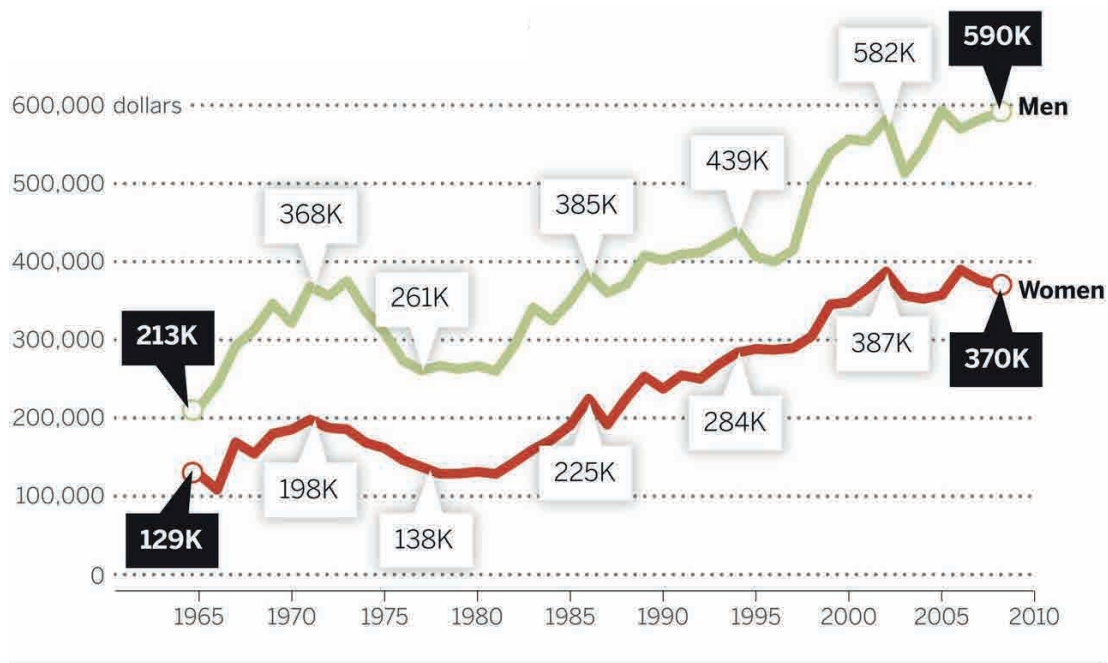
¹⁵ J. Shepherd, "Graduate unemployment figures set to rise by 22,000", The Guardian, 2nd July 2009: <http://www.theguardian.com/education/2009/jul/02/graduate-unemployment-rise-recession-jobs>; BBC News, "Graduate unemployment rises 25%, think tank says", 4th July 2010: <http://www.bbc.co.uk/news/10500124>

¹⁶ OECD, *Education at a Glance 2011: Skills Beyond School*, (Paris: OECD, 2011) p.150

There is a significant body of research which confirms these findings. A recent OECD report concluded that university education in the UK 'remained a good investment' with the career premium for graduates totalling about £155,000 and bringing an extra £80,000 in tax receipts for government.¹⁷ The OECD figures are slightly crude in that they do not control for the various factors other than education that might affect differences in earnings between graduates and non-graduates. In a research paper published by BIS in 2013, Walker and Zhu find that the return to a degree was between 20 and 30 per cent for men and women respectively, and that lifetime earnings measured by net present value was between 30 and 50 per cent for men and women respectively.¹⁸ They also found that a good degree offered a significantly better return than a lower degree, suggesting a good return for student effort. Finally, they compared the returns to education pre and post the expansion of the HE sector in the 1980s and 1990s and found no significant change.

Much the same has been found in the United States. David Autor has recently published a research paper showing the difference in lifetime earnings between those with a college degree and those with just a high school education after taking account of tuition fees between 1965 and 2010.¹⁹ The difference has been substantial and since the early 1980s has increased significantly. This is shown in the reproduced graph below. Moreover, Autor makes the point that in the US the premium has been sensitive to changes in the supply. In the 1960s and 1970s the supply of college educated labour kept pace with demand, so that by 1981 the college-educated graduate earned 48 per cent more than a non-graduate. However, in the 1980s and 1990s supply started to fall behind demand, pushing the college premium to 72 per cent in 1990, 90 per cent by 2000 and 97 per cent by 2005. Rather than too many graduates, the US has not had enough. Autor argues that this in turn has been a major contributor to earnings inequality growth, both in the US and in other OECD economies.

Figure 4: Present discounted value of college relative to high school degree net of tuition, 1965- 2008 (College/high school difference, 2009 dollars)



Source: Autor (2014) Skills, education and the rise of earnings inequality among the other 99 per cent, *Science*, May 2014.

¹⁷ OECD, Education at a Glance: OECD Indicators, (Paris: OECD, 2014).

¹⁸ J. Walker and Y. Zhu, The Impact of University Degrees on the Lifecycle of Earnings: some Further Analysis, BIS Research Paper No. 112, Department for Business, Innovation and Skills (London: HMSO, 2013).

¹⁹ D. Autor (2014) "Skills, education and the rise of earnings inequality among the 'other 99 per cent'", *Science*, 344: 6186, 2014.

The weight of evidence recently led Andreas Schleicher, Director of Education and Skills at the OECD, to conclude that, while he acknowledged ongoing concerns about graduate oversupply in Britain, “it simply hasn’t happened, year after year after year. So far, it seems that the demand for better skills is rising faster than supply”.²⁰ This brings us to the other aspect of the debate: if oversupply does not appear to be an issue, does this tally with trends in demand?

Demand – present and future

If a rapidly increasing supply of graduates is yet to translate into rising graduate unemployment or an eroding wage premium, this would suggest that demand for graduates in the UK labour market remains strong. Indeed, in common with much of the rest of the OECD, employment in the UK has been consistently shifting towards higher skilled occupations. The UKCES’s *Working Futures* shows that, between 1992 and 2012, the share of jobs in the top three occupational categories increased from 34 per cent to 39 per cent of the total.²¹ Latest figures show that by March-May 2014, the share of the top three occupational categories had increased to 44 per cent. Kate Purcell has analysed longer term trends between 1991 and 2009 (using a more refined categorisation of graduate employment) which found that ‘modern’ and ‘traditional’ graduate jobs had grown by between 50 and 60 per cent, and ‘new’ and ‘niche’ graduate jobs by between 30 and 45 per cent. In comparison, non-graduate jobs increased by just over 8 per cent.²²

A recent analysis of the UK Skills Survey of employers looking at changes between 1986 and 2012 noted that the share of jobs employers said needed a degree had increased from just under 10 per cent to 26 per cent, and this share increased at a faster rate between 2006 and 2012. This period also coincided with a significant increase in the graduate population. However, the study concludes that: “*there is no evidence that this change is due to employers changing the requirement in line with the expansion of higher education, whereby new recruits are required to have higher qualifications than are necessary for new recruits to do the job*”. The study noted that three quarters of employers who said a degree was necessary to get a job also said that a degree was necessary to do the job, and this figure had not changed much since 1986. Purcell and Elias²³ surveyed a large number of students who had graduated in 1995 to find out what had happened to them by Winter 2002-2003. They concluded: “*it does not appear that the expansion of higher education has led to the deterioration in opportunities for graduates. There was little evidence of over-supply of graduates or of their widespread failure to get appropriate jobs.*”

Working Futures actually suggests this shift will accelerate over the next decade, with the share of the top three occupations increasing to 48 per cent by 2022, driven by a big rise in corporate managerial, professional, and business service professional jobs. The only other occupational category forecast to increase as a share of the workforce is caring and leisure services. They also forecast that this trend is likely to be roughly matched by an increase in supply; the employed population with qualifications at NVQ Levels 4 and above, which includes first degree holders, but also foundation degrees and other higher and further education qualifications, is predicted to increase to 54 per cent by 2022 (from 40 per cent in 2012). Much of the forecast increase will be in first degrees and their rough equivalent – from 31 per cent in 2012 to 37 per cent.

What will happen to graduate supply in the longer term is hard to say. The demographics suggest it may be challenging to sustain current entry rates from domestic and EU students alone, as the number of 18 to 20 year olds in the population is falling. However, there are some offsetting effects. The same analysis shows that there appears to have been little change in the recruitment of young

²⁰ P. Walker, “UK has more graduates, but without skills and mobility to match”, The Guardian, 9th September 2014: <http://www.theguardian.com/education/2014/sep/09/uk-more-graduates-skills-social-mobility-match-oecd>

²¹ Institute for Employment Research (2014) *Working Futures 2010-2020* <https://www2.warwick.ac.uk/fac/soc/ier/research/wf/>

²² K. Purcell, Trends and patterns in graduate employment and access to career opportunities: what does recent and current research tell us? Presentation to the SRHE Graduate Employability and Employment Network May 2010.

²³ K. Purcell and P. Elias, *Seven Years On: Graduate Careers in a Changing Labour Market*, (London: HECSU, 2004).

graduates to full time courses as a result of the 2010 reforms to graduate funding, suggesting demand has held up despite the increase in student fees²⁴. Moreover, from 2015-16 controls on the recruitment of EU and UK domiciled students have been lifted which may help offset some of the demographic decline if sufficiently qualified young people unable to find places at the moment are able to do so in the future.

Do we have an oversupply problem?

At the aggregate level, the answer is no. In our view the rise in graduate unemployment in most OECD economies is almost all to do with cyclical factors and has very little if anything to do with an over-supply of highly qualified labour. While supply has continued to expand at a rapid rate over the last decade, this has not resulted in a significant increase in graduate unemployment rates relative to non-graduates, nor to change in relative wages. The graduate premium is significant in all OECD economies and has not declined; there is a wealth of national studies, not least in the UK and the US, which confirm these results. Some of this may be due to “signalling” effects, where firms are paying for abilities they think a degree signals rather than knowledge provided by the educational process, but there seems little firm evidence that it is significant. We can also see no reason why there should be a significant change in this aggregate position over the next decade – if anything, the demand for graduate jobs is likely to accelerate over the next decade and it is not fully clear that the future supply of UK based graduates will keep pace.

It would however be wrong to conclude that the graduate labour market is functioning entirely effectively. While aggregate level figures do not reveal major discrepancies between supply and demand, at the micro level the picture is less clear-cut. Indeed, there appears to be certain pockets of mismatch, with some groups of graduates losing out. Unemployment, while generally low, can still be an issue for certain graduates. More significantly, the question of the *types* of jobs graduates move into poses a greater challenge. Evidence suggests a significant minority of graduates are entering – and in some cases remaining in – what would traditionally be viewed as non-graduate occupations. This is combined with ongoing reports from employers that they are not always able to fill all of their graduate vacancies.²⁵

Although masked by the aggregate figures on graduate wage premia, it appears that the pay-offs to a degree are unevenly distributed. This may also be linked to the subject studied and the quality of the degree; certain subjects may now be experiencing excess demand and others some over-supply, with corresponding effects on wage premia. The following section will explore some of the micro-level problems and mismatches in the graduate labour market in more detail.

²⁴ This is not true for part time courses (primarily non-bachelor courses such as certificates) where there has been a major decline.

²⁵ AGR, “AGR Summer Survey: Graduate job vacancies predicted to rise by 17%”, 22/07/14: <http://www.agr.org.uk/Press-Releases/agr-summer-survey-graduate-job-vacancies-predicted-to-rise-by-17-#.U-nYwVdCxT0>

3 Mismatches in the graduate labour market

Evidence taken at the macro-level suggests the graduate labour market in the UK is functioning fairly effectively; a rapidly increasing supply of graduates is being more or less matched by growth in demand and, as a result, the wage premium that a graduate can expect to attract has not been eroded. However, the aggregate data masks problems at the micro-level, which higher education institutions, policymakers and students themselves should be aware of. The evidence on these is explored in more detail below.

Unemployment

On the face of it, as discussed in the previous chapter, much of the concern that arose about mass graduate unemployment in the wake of the recession in 2008 appears to have been misplaced. While groups across the labour market saw a knock-on increase in unemployment rates, this was not a disproportionate issue for graduates. Nevertheless, despite a recovery in recent years, it is also important to note that the job market has always been a tougher place for the young, and that this also applies in some respects to graduates. The ONS data tells us that even if the unemployment rate for recent graduates goes back to its pre-recession level – and we have no reason to think that it will not – it will still be between 5 and 7 per cent.²⁶ This means that a significant minority of graduates will struggle, especially those in labour markets where demand for graduates is weak or who experience some other form of disadvantage.

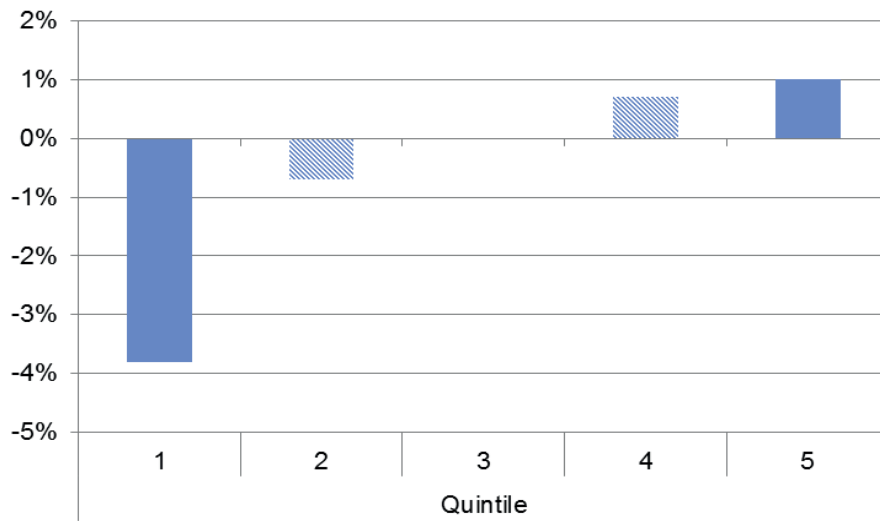
A recent study by HEFCE confirmed this issue in relative unemployment rates. This examined individualised student records from the academic years 2001-2 to 2006-7, charting their degree outcomes and progress six months after graduation.²⁷ It revealed that students who came from areas with low HE participation rates, male students, students from certain ethnic minority groups and those from institutions with low average tariff scores were all significantly less likely to have moved into employment or further study six months after graduating, when compared to sector-adjusted averages.²⁸

²⁶ ONS (2013) Graduates in the Labour Market <http://www.ons.gov.uk/ons/rel/lmac/graduates-in-the-labour-market/2013/rpt---graduates-in-the-uk-labour-market-2013.html>

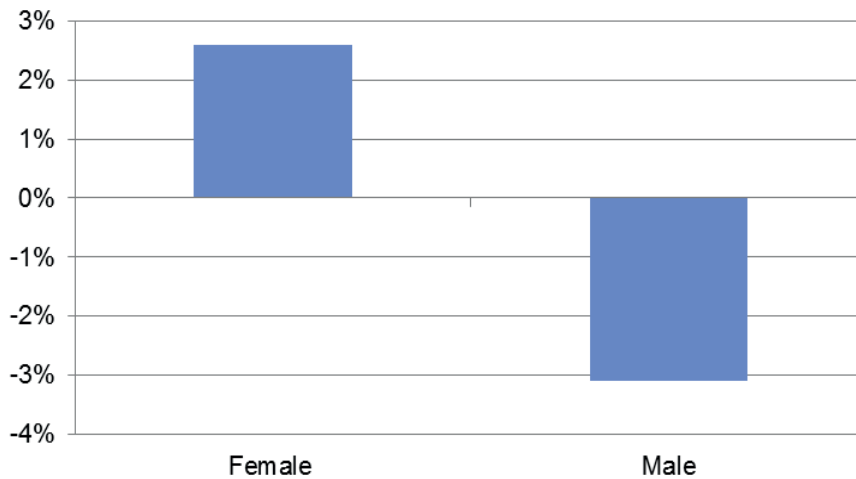
²⁷ HEFCE, Higher Education and Beyond: Outcomes from full-time first degree study, (London: HEFCE), 2013.

²⁸ HEFCE, Higher Education and Beyond: Outcomes from full-time first degree study, (London: HEFCE), 2013, pp. 15-30.

Figure 5: Percentage point difference from the sector-adjusted average for proportion moving into employment or further study, split by POLAR3



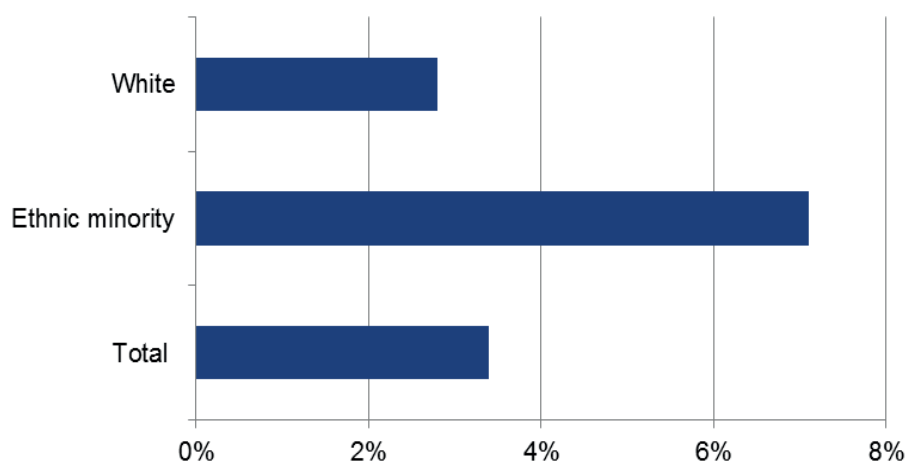
Percentage point difference from the sector-adjusted average for proportion moving into employment or further study, split by sex



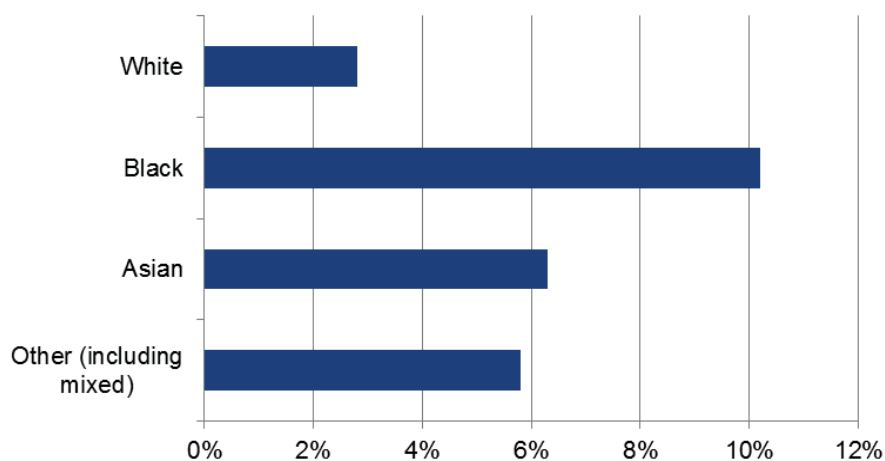
Source: HEFCE, 2013. Note: Shaded bars indicate difference was not statistically significant. Sector-adjusted averages take account of a student’s entry qualifications, subject of study, sex and ethnicity. Data for cohort beginning their degree in 2006/7.

The better news is that longitudinal data reveals many of the early problems with graduates’ transition to the labour market appear to resolve over time; unemployment rates for graduates in their late 20s drop to between 3 and 4 per cent. However, again, there may be some ongoing issues for certain groups. The gap for ethnic minority students, for example, continues to be evident even three years after graduation, as illustrated in Figure 7 below.

Figure 6: Unemployment amongst full-time, first-degree graduates, 3 years after completion (%)



Unemployment amongst full-time, first-degree graduates, 3 years after completion (%)



Source: HESA Longitudinal

The employment penalty for ethnic minority graduates is also evident when institutional differences are controlled for. In a study focused solely on graduates from the elite, Russell Group, universities, Lessard-Phillips et al found that ethnic minority graduates from these institutions continued to be more likely than their white counterparts to experience unemployment during their first few years in the labour market.²⁹ Interestingly, they found the difference to be largely driven by ethnic minority graduates failing to take up non-graduate employment; while a similar proportion of white and ethnic minority graduates secured graduate jobs, the difference in relative unemployment rates was linked to white students' greater propensity to move into non-graduate work.³⁰ Investigating the reasons underlying these types of tendencies will be vital for careers and other support services engaging with graduates from disadvantaged or non-traditional backgrounds.

In many respects, these figures may also be more reflective of wider labour market inequalities, rather than suggesting particular issues related to the graduate workforce; for example, poorer labour market outcomes for ethnic minorities is a widely acknowledged problem and likely to encompass issues related to socioeconomic status, immigration and discrimination.³¹ Nevertheless, for policymakers and HE professionals, the failure of a degree-level education to help these groups bridge the disadvantages they are likely to face in the labour market is a challenge which must urgently be addressed.

²⁹ L. Lessard-Phillips et al, *When Education Isn't Enough*, (London: Runnymede Trust, 2014) p. 4.

³⁰ L. Lessard-Phillips et al, *When Education Isn't Enough*, (London: Runnymede Trust, 2014) p. 4.

³¹ Cabinet Office, *Ethnic Minorities and the Labour Market: Final Report* (London: The Strategy Unit, 2003).

'Graduate' jobs

Even if the unemployment problem for graduates is fairly limited in its scope, there is a potentially greater matching issue in the graduate labour market. This is related to the *type* of jobs graduates move into. Studies have typically distinguished between 'graduate' and 'non-graduate' jobs; graduate roles are those which require degree-level skills to perform and are generally paid in excess of non-graduate positions. Research has taken a number of different approaches to defining this distinction. One is to draw on surveys of individuals who are asked whether they think that their current job requires a degree, or employers who are asked a similar question about the share of their jobs they consider needs a degree. However, this approach has the drawback of self-reporting bias, as respondents may over- or under-estimate job content and skill demands.

A second approach is to define certain jobs as "graduate" based on skill-based occupational codes in the official statistics.³² Many commentators have tended to refer to the top three occupational categories as being "graduate" (managers, professionals and associate and technical occupations). This is however a fairly crude approximation. In 2013 about 83 per cent of professionals across the EU were also graduates (the figure for the UK was slightly lower, at 80 per cent). But the figures for managers was much lower (54 per cent across the EU, 51 per cent in the UK), and was less than half of all those in associate and technical jobs (39 per cent across the EU, 44 per cent in the UK). So there are clearly large numbers of jobs in these categories held by non-graduates and therefore it is likely that a significant share of jobs will not require a degree.

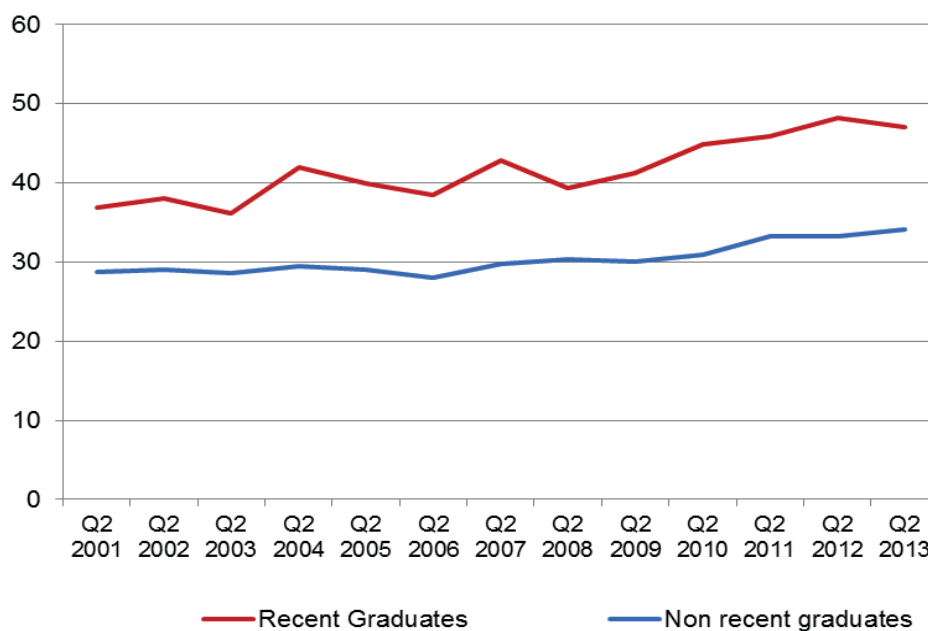
Taking all these factors together, it is clearly hard to fix precise boundaries to the graduate labour market or closely define a group of specific occupations and activities as 'graduate'. One problem is that job content and boundaries are constantly changing in response to the applications of new technologies and emergence of new markets; this is why occupational codes for official statistics have to be revised every decade to keep up to date. In previous work, Purcell and Elias surveyed graduates some years after graduation and provided a categorisation of graduate jobs that in addition to what we might think of as "traditional" such as a civil service policy advisor of secondary school teacher also added "niche" (such as a recruitment consultant); "modern" (journalist) and "new" (regional sales manager). All these jobs required a mix of expertise and strategic and managerial skills, but the modern and traditional types of graduate job put more emphasis on expertise and specialist knowledge and the more recent "niche" and "new" type of graduate jobs put more emphasis on strategic and managerial skills.³³

Using this classification by Purcell and Elias, the ONS tracked the percentage of graduates employed in non-graduate roles between 2001 and 2013. They distinguished between recent graduates (those who had graduated within the previous five years) and non-recent graduates (those who had been out of education more than five years). The results are displayed in Figure 8, below. There is clearly a marked decrease in the share of graduates in non-graduate jobs between recent and older graduates, so it is likely there is some upward mobility over time as graduates build up experience. However, what is striking is that around 30 per cent of non-recent graduates remain in non-graduate roles – and that, while this figure rose slightly following the economic downturn in 2008, it has remained fairly persistent for several years prior. This suggests a longer-term, structural issue for a significant minority of graduates which needs to be considered.

³² A recent example is Elias and Purcell (2013) *Classifying Graduate occupations for the knowledge society*, HECSU Futuretrack Working Paper 5. This is applied in the ONS 2013 analysis of the graduate labour market.

³³ P. Elias and K. Purcell, "Classifying graduate occupations for the knowledge society", Futuretrack: Working Paper 5, 2013.

Figure 7: Percentage of graduates working in non-graduate roles, 2001-2013



Source: ONS

A few studies have looked at the issue of graduates in non-graduate occupations (or 'GRINGOs') in more detail. They point out that, in a fairly buoyant graduate labour market, the split between involuntary and voluntary graduate under-employment is not always clear.³⁴ Some graduates simply continued in their student job, which had the advantages of allowing them to remain close to their social network in the area in which they had studied. Others were concerned by debt, restricted geographical mobility or perceptions of an unpromising labour market.³⁵ Very few saw their employment as part of their longer-term career trajectory, even non-recent graduates. However, these studies also suggest that innovative employers may be able to use the issue to retain these highly-qualified workers. This would involve persuading them that they would be able to build a career from their existing role, perhaps by encouraging their student workers to become their graduate trainees where this is possible. Nevertheless the existence of 'GRINGOs' should be of ongoing concern if the UK is to maximise the skills utilisation of its workforce.

Yet, despite evidence of an issue of under-employment for a minority of graduates, as discussed previously, we have not actually seen a deterioration in the aggregate graduate wage premium. It seems clear that challenges may be of greater significance for some graduates than others and that the rewards of higher education accrue disproportionately to certain groups. The HESA collects more detailed data on non-recent graduates (those who completed their degree three years previously) and it makes sense to focus on this group to identify those graduates for whom non-graduate employment is not simply a springboard into better work.

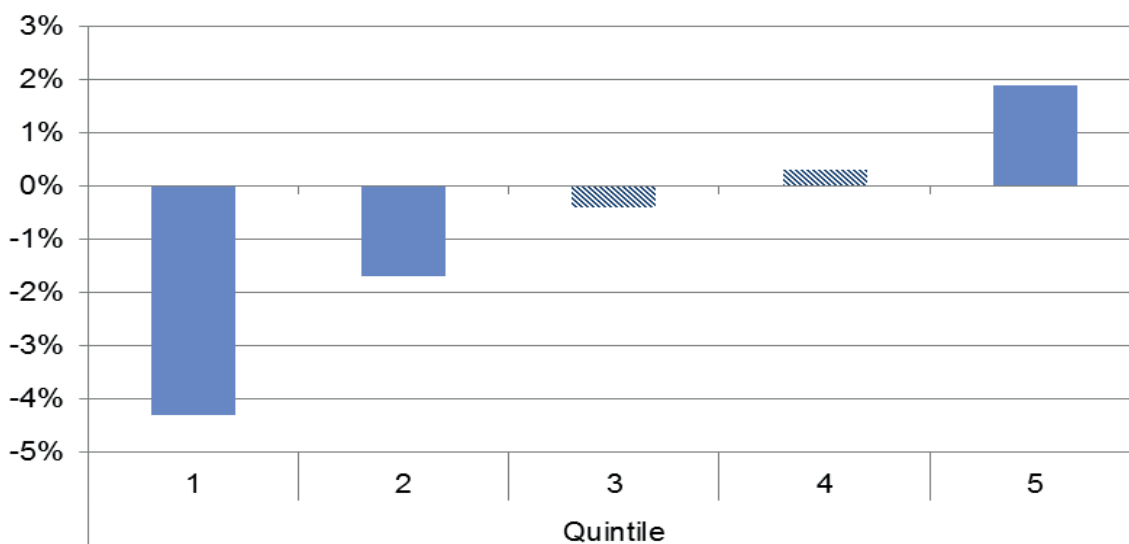
Looking at the demographic characteristics of new graduates, recent analysis of HESA data from graduates who began their studies in 2006/7 reveals more about the discrepancies between groups. Relative levels of socioeconomic disadvantage appear to play an important role. Using the POLAR3 index, which registers relative levels of HE participation in the graduate's home postcode, it is clear that those graduates in the lowest-participation quintile are significantly less likely to move into either further study or a graduate job, while those in the highest quintile are significantly more so. This is also reflected in analysis based on a graduate's earlier schooling; graduates who had

³⁴ T. Scurry and J. Blenkinsop, "Under-employment among recent graduates: a review of the literature" *Personnel Review*, 40: 5, 2011.

³⁵ J. Blenkinsop and T. Scurry: "Hey GRINGO!": the HR challenge of graduates in non-graduate occupations" *Personnel Review*, 36: 4, 2007.

previously attended an independent school were 4.2 percentage points more likely than their sector-adjusted averages to move into a graduate job or further study, while those who had attended a state school were 0.4 percentage points less likely, with both differences statistically significant.³⁶

Figure 8: Percentage point difference from the sector-adjusted average for proportion into graduate job or further study, split by POLAR3 quintile



Source: HEFCE, 2013. Note: Shaded bars indicate difference was not statistically significant. Sector-adjusted averages take account of a student's entry qualifications, subject of study, sex and ethnicity. Data for cohort beginning their degree in 2006/7.

A number of studies have explored the issue further. A recent longitudinal survey of graduates, charting a cohort of students through the process of applying to, moving through and leaving higher education, also highlighted the significance of a student's socioeconomic background. This study recorded parents' educational attainment and professional background and assessed its impact on student outcomes. Using a richer dataset, they identified the extent of participation in extra-curricular activities whilst at university as being an important mediating factor. Those who moved into graduate employment were more likely to have had extra-curricular or office holder experience whilst in HE. In turn, socioeconomic background appeared to be the factor with the closest relationship with a respondent's likelihood of participation in these activities. 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.³⁷

There also appear to be differences in the way in which students from different backgrounds set about finding graduate employment. A study of those completing an undergraduate degree in 2007 at the University of Edinburgh distinguished between students from 'widening participation' categories (those in receipt of bursaries or other hardship-related forms of financial assistance, those with disabilities and those from under-represented ethnic minority groups) and the general graduate population. It found that those in 'widening participation' categories were less likely than

³⁶ HEFCE, Higher Education and Beyond, (London: HEFCE, 2013) p. 38.

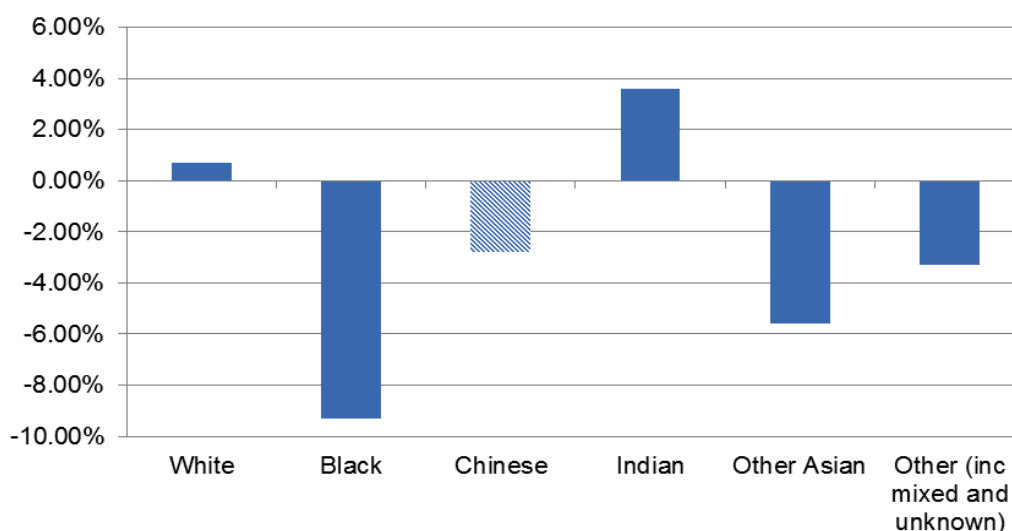
³⁷ Summary Report: Futuretrack Stage 4 – Transitions into employment, further study and other outcomes, p.8: http://www.hecsu.ac.uk/assets/assets/documents/Futuretrack_Stage_4_Summary.pdf

other graduates to make use of institutional careers services and personal contacts and networks, focusing instead on independently monitoring employers' websites and adverts in newspapers.³⁸ This suggests that these types of graduates may not be accessing the same degree of specialist help and insider advice as others in their cohort.

The issue of a graduate's specific educational background prior to university has been the subject of further analysis, which all tends to reveal advantages to privately-educated graduates, even when controlling for other relevant factors such as prior educational achievement and institution attended.³⁹ Recent IFS research revealed that privately-educated graduates could still expect a 6% wage premium even when compared to their state school counterparts working in the same occupation.⁴⁰ The exact reasons for this persistent gap have not been fully determined; the authors suggest that a range of unmeasured factors associated with human capital could play a role. These include non-cognitive skills such as confidence and self-esteem, cultural capital that may aid interview performance, better networks, or financial capital allowing access to unpaid internships or a take longer period for job search.⁴¹ Increased awareness of the operation of these kinds of intervening mechanisms is vital for policymakers and HE professionals – particularly when wider access to higher education has so often been lauded as a vital ladder for social mobility.

Graduates from an ethnic minority background also appear to be less likely to move into a graduate job or study, although this varies quite widely between groups. As Figure 10 indicates, while graduates for White and Indian backgrounds were actually more likely to find a graduate job or study, those from other ethnic groups were less likely, particularly graduates from Black backgrounds. These findings are also reflected in the Futuretrack cohort study, with graduates from a White or Asian background found to be more likely to enter graduate employment.⁴²

Figure 9: Percentage point difference from the sector-adjusted average for proportion moving into graduate job or further study, split by ethnic group



Source: HEFCE, 2013. Note: Shaded bars indicate difference was not statistically significant. Sector-adjusted averages take account of a student's entry qualifications, subject of study and sex. Data for cohort beginning their degree in 2006/7.

³⁸ The University of Edinburgh Careers Service, First destinations of graduates from under-represented groups: An analysis of University of Edinburgh Undergraduates, 2004-7, p.21: http://www.docs.sasg.ed.ac.uk/SRA/WP/Widening_Participation_First%20Destinations_Report_2004-2007.pdf

³⁹ C. Crawford and A. Vignoles, Heterogeneity in graduate earnings by socioeconomic background, (London: IFS, 2014); L. Macmillan, C. Tyler and A. Vignoles, Who Gets the Top Jobs? The role of family background and networks in recent graduates' access to high status professions, (London: IoE, 2013).

⁴⁰ C. Crawford and A. Vignoles, Heterogeneity in graduate earnings by socioeconomic background, (London: IFS, 2014)

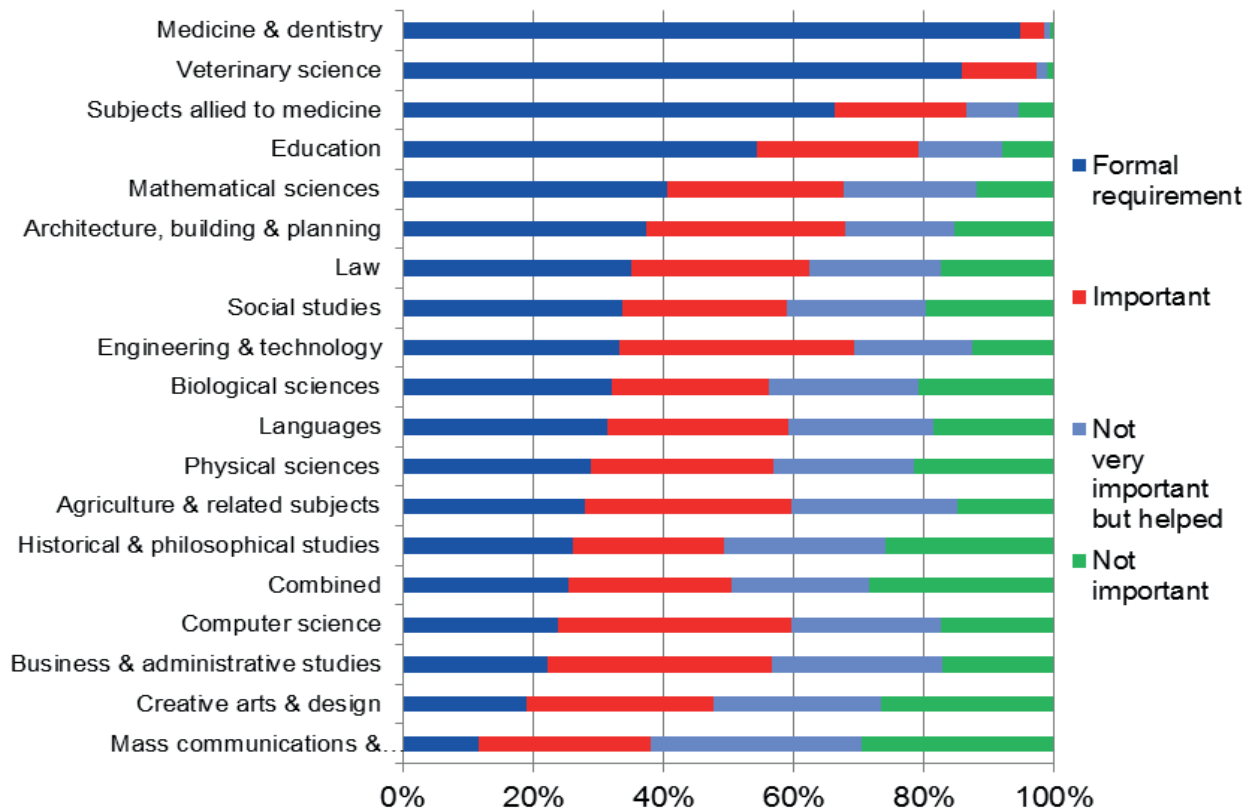
⁴¹ C. Crawford and A. Vignoles, Heterogeneity in graduate earnings by socioeconomic background, (London: IFS, 2014); L. Macmillan, C. Tyler and A. Vignoles, Who Gets the Top Jobs? The role of family background and networks in recent graduates' access to high status professions, (London: IoE, 2013).

⁴² Summary Report: Futuretrack Stage 4 – Transitions into employment, further study and other outcomes, p.8: http://www.hecsu.ac.uk/assets/assets/documents/Futuretrack_Stage_4_Summary.pdf

Looking at the breakdown according to subject studied, it is again clear that there are discrepancies. Unfortunately, changes in the SOC classifications in 2010 mean it is not possible to apply the classification system of Purcell and Elias to the most recent data, so it is worth combining self-reporting measures (whether employees felt their degree was being utilised) and the SOC 'professional' category measures. We can also look at the growth in graduates' earnings.

On self-reporting measures, we can examine the differences between the proportions of graduates who felt their degree was a significant factor in gaining their current position. As Figure 11 indicates, the large majority of those who had studied medical or veterinary-related subjects, education, mathematics, architecture and engineering reported that their degree was either a formal requirement of their current job or had been important to them gaining the role and fewer than 15% felt that their degree had been unimportant. Yet over 29% of those who had studied communications felt their degree was not important to their current job, similarly 28% of those who had studied combined subjects, and 26% of art and design and history or philosophy graduates.

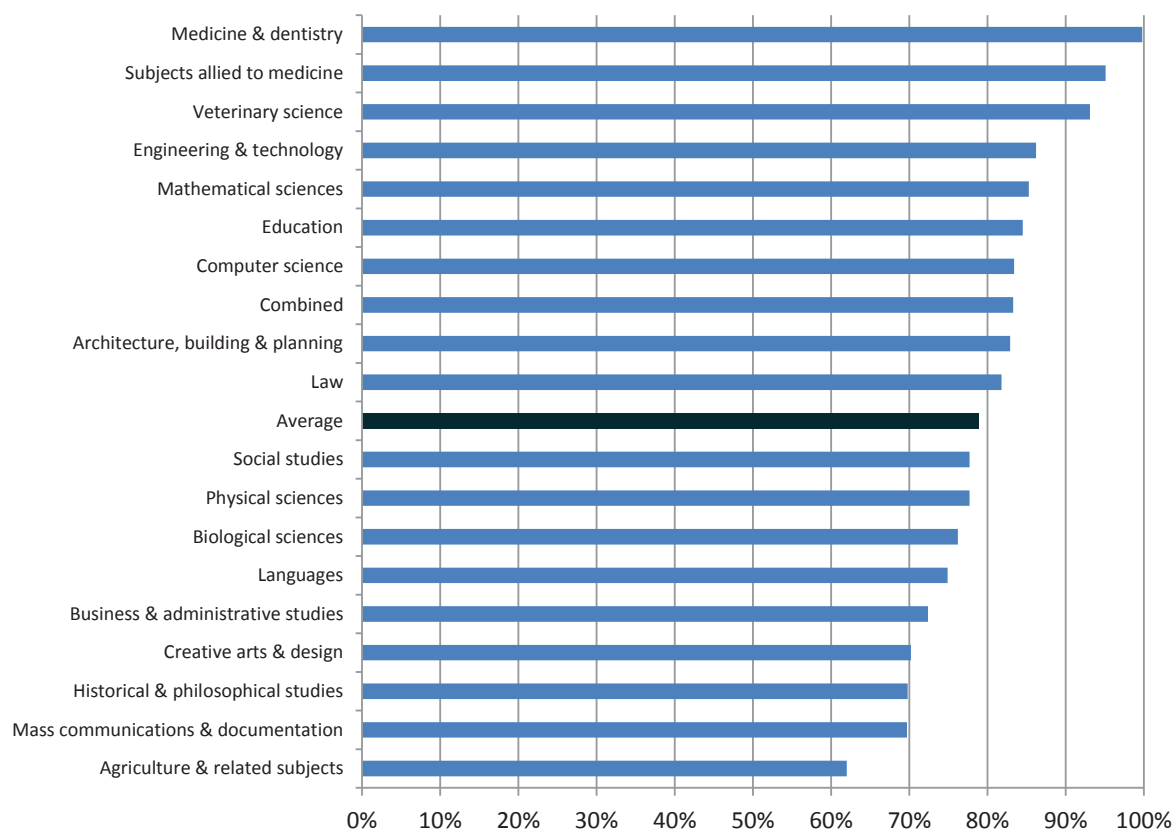
Figure 10: How graduates described the significance of their degree in gaining their current employment



Source: HESA, 2012

Looking at classifications of graduate employment according to SOC codes reveals correlating patterns. Medical, engineering and mathematics graduates are most likely to be employed in occupations classed as 'professional', while graduates of historical and philosophical studies, communications and agriculture-related disciplines are the least likely.

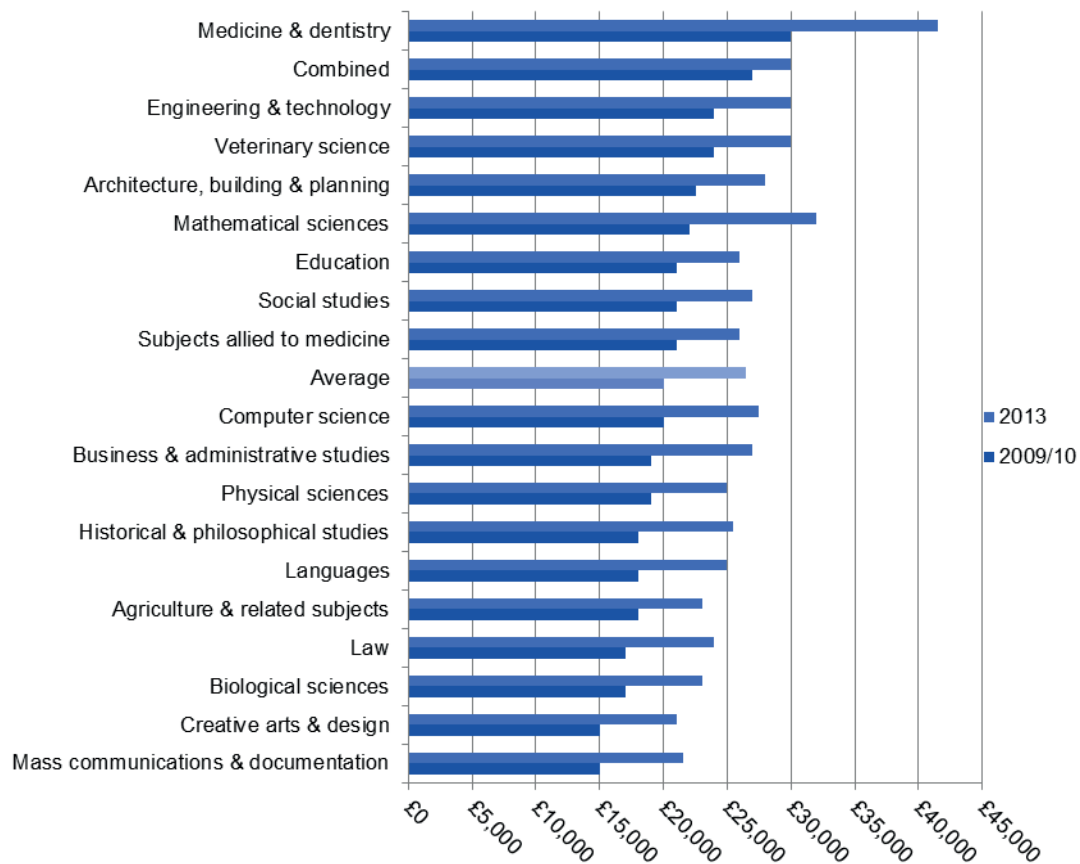
Figure 11: Percentage of UK graduates in employment working inSOC 'Professional' occupations three years after graduation, by subject studied



Source: HESA, 2012

Finally, similar discrepancies are also reflected in graduate earnings data. HESA captures the wage growth graduates experience over the three years following completion; as Figure 13 illustrates, this can vary significantly according to subject studied. Again, subjects related to medicine, engineering, architecture and mathematics reveal starting salaries and wage growth in excess of the average, while art and design and communications graduates experience the lowest earnings.

Figure 12: Average earnings growth of 2008/9 graduates in full-time employment, by subject area



Source: HESA, 2012

It is thus clear that what you study at degree-level matters. The findings in this data are backed up by those of Walker and Zhu, which show that the returns to education differ significantly between degrees in subjects such as medicine, law, economics and the sciences compared with some arts degrees.⁴³ So we may see a growing divergence in wage premia between graduates in subjects where there is excess demand and graduates in subjects where there may be some over-supply. The returns to education may therefore remain high on average but be unevenly distributed.

There is also some evidence to suggest other mismatches, even in subjects where returns are high and supply has increased as a result. The Association of Graduate Recruiters (AGR) representing large private and public recruiters of graduate labour reports that overall demand is robust, but more companies are finding it harder to fill the vacancies they have. There seems to be a particular problem in advanced manufacturing.⁴⁴ While the need for increased numbers of graduates from STEM subjects (Science, Technology, Engineering and Maths) is a common refrain amongst employers⁴⁵, this again seems to be more nuanced at the micro-level. While the above data suggests good returns in employment and earnings for maths and engineering graduates, those for physical and biological sciences are more questionable; both score below average on earnings and the proportion of leavers who move into 'professional' occupations, even three years after graduation (see Figures 12 and 13, above).

⁴³ I. Walker and Y. Zhu, The Impact of University Degrees on the Lifecycle of Earnings: some Further Analysis, BIS Research Paper No. 112, Department for Business, Innovation and Skills (London: HMSO, 2013).

⁴⁴ AGR, "AGR Summer Survey: Graduate job vacancies predicted to rise by 17%", 22/07/14: <http://www.agr.org.uk/Press-Releases/agr-summer-survey-graduate-job-vacancies-predicted-to-rise-by-17-#.U-nYwVdCxT0>

⁴⁵ IPEM, "Demand for STEM skills outstrips supply": <http://www.ipem.ac.uk/NewsMedia/LatestNews/tabid/200/ctl/NewsItem/mid/901/ld/170/Default.aspx?returnurl=%2FDefault.aspx%3FTabID%3D200&SkinSrc=%2FPortals%2Fdefault%2FSkins%2FIPEM%2FsubPage&ContainerSrc=%2FPortals%2Fdefault%2FContainers%2Fipem%2Fipem-newsItem>

Several other studies have picked up on this issue. In November 2013, the UK Commission for Employment and Skills analysed supply and demand for STEM graduates using the Labour Force Survey. They found that, overall, the core STEM sectors (excluding medicine, dentistry and related subjects) employed about 45 per cent of graduates with degrees in those fields in 2011. But data on core STEM graduates who left university in the same year suggest a shift: only one-third worked in a core STEM job or a core STEM sector or both, compared with 45 per cent of 2001 graduates. The report suggested this drop may in part reflect the rise of less demanding study programmes and the emergence of new subjects, such as sports science, that may not provide graduates with the skills employers want.⁴⁶

The House of Lords Science and Technology Committee also referred to “a mismatch between the STEM graduates and postgraduates that higher education institutes supply and the demand from employers, both in terms of the number of students and the skills and knowledge they acquire.”⁴⁷ The findings highlighted discrepancies in the definition of ‘STEM’ subjects and also a lack of reliable data on supply and demand in the area. The report also points out that the issues with graduates attaining relevant skills extend beyond HE alone and that the uptake and quality of maths teaching in schools is also a vital factor.⁴⁸

The skills graduates acquire, rather than simply the subjects they study, are increasingly recognised to contribute to matching issues in the graduate labour market. An OECD report on international comparisons published in 2014 found that, when comparing the OECD’s own skills tests against qualification levels, only around 25% of graduates in England reached the top attainment levels for literacy. Although this was close to the OECD average, UK graduates were outperformed by other countries; in contrast, 32% of Australians with an HE qualification attained that level, 36% in the Netherlands and 37% in Japan and Finland.⁴⁹ Commenting on the findings, the OECD’s Director of Education and Skills, Andreas Schleicher, noted that, while the UK had a high proportion of people with university or college qualifications, ranking 8th among the 36 countries listed in 2012, the skill levels for graduates remained only average.⁵⁰

When viewing the evidence as a whole, the UK’s graduate labour market remains a slightly mixed picture. On the one hand, many of the concerns raised following the recession that the UK was beginning to suffer from an oversupply of graduates were clearly unfounded. The graduate labour market took a hit, along with all other sectors, during the economic downturn in 2008, but increases in unemployment proved short-term and non-recent graduates continue to experience unemployment rates as low as 3 or 4 per cent – close to full employment. Demand for graduates remains strong and is predicted to continue increasing, even as supply grows rapidly, and the average wage premium a graduate can expect has not been eroded in recent years.

On the other hand, while the headline figures remain positive, there appear to be particular issues at the micro-level, unrelated to fluctuations in the labour market. One is the significant minority of graduates who both enter and remain in ‘non-graduate’ employment. This may be voluntary or involuntary, but has persisted at around 30% of non-recent graduates for more than a decade. Certain graduates, particularly those from less advantaged backgrounds or certain ethnic minorities, appear to particularly struggle in this area. This is a significant problem, given the widely-perceived significance of higher education as an important mechanism to improve social mobility. Another issue is the variable balance between demand and supply between subjects studied. Concerns about a possible oversupply of graduates in the arts and communications fields are reflected in poorer outcomes data. Yet even the message about increasing numbers of STEM graduates should

⁴⁶ H. Else, “Does the UK really need more engineers?” Times Higher Education, 06/03/13.

⁴⁷ House of Lords Select Committee on Science and Technology, Higher Education in Science, Technology, Engineering and Maths (STEM) Subjects (London: HMSO, 2012), p.6. <http://www.publications.parliament.uk/pa/ld201213/ldselect/ldscstech/37/37.pdf>

⁴⁸ House of Lords Select Committee on Science and Technology, Higher Education in Science, Technology, Engineering and Maths (STEM) Subjects (London: HMSO, 2012), p.6.

⁴⁹ OECD, Education at a Glance: OECD Indicators, (Paris: OECD, 2014).

⁵⁰ P. Walker, “UK has more graduates, but without skills and mobility to match”, The Guardian, 9th September 2014: <http://www.theguardian.com/education/2014/sep/09/uk-more-graduates-skills-social-mobility-match-oecd>

be considered with care, with returns to graduates of biological and physical sciences often falling below average. Comparative international evidence suggests some of the issues may be related to the skill levels required by UK universities, which sometimes fail to reach the levels of other industrialised nations. Others may be addressed by better matching between graduates and the expanding sectors within the graduate labour market.

In the final chapter, we will consider the implications of this wider evidence for policy. While we believe the macro-level picture does not suggest immediate cause for concern, much more needs to be done to address the mismatches at the micro-level. This should focus on ensuring the graduate labour market is as fair and accessible as possible, with students offered the necessary information to select appropriate courses and opportunity to apply their skills in later employment, regardless of background.



4 Policy implications & recommendations

The evidence has highlighted a number of issues in the graduate labour market. Most of these are at the micro-level; while supply broadly matches demand in aggregate, particular subsets of the graduate population continue to face obstacles when it comes to securing suitable employment. We believe that developments in a number of areas could help to ensure a fairer and more effective matching process. These areas are: careers advice and guidance, both during and prior to HE; a better integration of vocational options into the HE sphere; a more prominent role for work experience within HE courses; increased engagement between employers and the HE sector; and certain interventions, particularly around quality assurance, on the part of government. These are discussed in more detail below.

Careers advice and guidance

The evidence on mismatches at the micro-level highlighted a number of issues that improved access to high-quality careers advice and guidance for young people could address. With the cost of undergraduate education having risen markedly in the last few years, potential students are likely to be increasingly concerned about their later employment and earnings prospects, particularly in an uncertain labour market. As the evidence indicates, returns on investment can vary considerably by subject studied and subjects frequently perceived to have a high earnings potential, such as law, may not actually be associated with above average earnings – at least in the short term.

Prospective students should also be aware of the full range of options open to them, including those on a vocational path. The decision to shift responsibility for the provision of careers advice to schools in 2012, has given rise to complaints that this has denied many pupils access to specialist advice on vocational options, with most schools more familiar with traditional academic pathways. Students considering HE should be encouraged to think about the implications of their decisions, in light of the full range of options available to them.

Finally, careers IAG provided by HEIs could also play an important role in increasing effective matching in the graduate labour market. This is particularly the case for students from less advantaged backgrounds. The evidence suggests that these students continue to face labour market penalties, potentially linked to their lack of access to wider professional networks or lower levels of non-cognitive, cultural capital, and that they may in fact be less likely to be using HE careers services. They may also be less familiar with alternative routes to graduate employment.⁵¹ Better access to HE careers advice and outreach activities within these services could act as an important tool to help overcome some of these issues, offering additional support to these students where appropriate. On the employer side, strengthening engagement between HEI careers services and smaller or less traditional graduate employers may help to widen graduates' view of their prospective opportunities; although 60% of the UK workforce is employed within SMEs⁵², these organisations are often little engaged in the more traditional graduate jobs market.

⁵¹ See L. Lessard-Phillips et al, *When Education Isn't Enough*, (London: Runnymede Trust, 2014).

⁵² BIS, *Business Population Estimates*, 2012: <https://www.gov.uk/government/statistics/bis-business-population-estimates>

Recommendations: Pre-HE

- Careers IAG offered to potential HE students in schools and colleges should focus on ensuring pupils have **access to the most relevant information when making their choices**. This should include potential routes to graduate employment, the careers options open to graduates in that subject and earnings prospects.
- With complaints that standard HE league tables are not always based on the kind of information most valued by prospective students, there have been efforts to **develop more useful instruments**, such as HEFCE's 'Key Information Sets', based on the measurements students deemed most useful.⁵³ School and college careers services should be **promoting awareness of these kinds of tools** wherever possible.
- It is also important that pupils contemplating HE are aware of the **full range of wider options available**, including vocational courses.

Recommendations: During HE

- HE careers services should focus on **reaching out to those students who are less likely to possess the informal networks and 'cultural capital'** likely to increase their chances in the job market.
- Services offered to these students while at university could include mentoring or other support services, designed to ensure that these students not only achieve the best possible degree outcome, but also gain the **chance to expand their networks and take part in a range of extra-curricular activities** that provide advantages during the application process.
- Advisers should recognise that these students may need **help to fully articulate the benefits of their HE experience in the application process**. They may also need **encouragement to consider the full range of career opportunities** open to them, including those with smaller graduate employers.

Vocational options

One vital, and widely neglected, route into HE comes from those studying vocational courses. The role and status of vocational education for young people has featured extensively in our previous reports from this programme of research.⁵⁴ In the context of the graduate labour market, there are two key challenges for vocational education.

The first is that of **ensuring that graduate-equivalent vocational options both exist and expand** where appropriate. The quality of vocational education has long been under scrutiny; the recent Wolf Review of Vocational Education highlighted the widespread existence of vocational options which failed to promote progression into either higher level education and training or paid employment in a consistent or an effective way. The report estimated that at least 350,000 young people in a given 16-19 cohort were currently on one of these courses, representing a significant waste of talent and potential.⁵⁵ Ensuring that vocational education provides a better route into higher level education would help to address the UK's relatively low education participation rates post-18.⁵⁶

The vocational route viewed as the best means to fostering this progress and transition is that of the apprenticeship. 'Higher Apprenticeships' are a relatively new development, being apprenticeships specifically designed to be equivalent to a foundation, Bachelor

⁵³ HEFCE, "Unistats and Key Information Sets", November 2013: <http://www.hefce.ac.uk/whatwedo/lt/publicinfo/kis/>

⁵⁴ See K. Jones, *The Road Less Travelled: Improving the apprenticeship pathway for young people*, (London: The Work Foundation, 2013); B. Foley, *Staying Power: Making the raising of the participation age a policy success*, (London: The Work Foundation, 2014); B. Balam and L. Crowley, *Raising Aspirations, Smoothing Transitions* (London: The Work Foundation, 2012).

⁵⁵ A. Wolf Review of Vocational Education: *The Wolf Report*, (London: HMSO, 2011).

⁵⁶ See B. Foley, *Staying Power: Making the raising of the participation age a policy success*, (London: The Work Foundation, 2014).

or Master's degree. Learners on lower level apprenticeships should therefore be able to progress to an HE-equivalent qualification, whilst remaining on the vocational track. However, at present, numbers on Higher Apprenticeship programmes remain low.⁵⁷

The second challenge around vocational education is in **ensuring vocational education can be an effective pathway into higher education**. Analysis of longitudinal datasets from UCAS, HESA and the ILR have indicated that students entering HE from a vocational track were both more likely to be from disadvantaged backgrounds and also to attend lower status HEIs and to drop out before completing their HE course.⁵⁸ Surveys of first-year students who have made the transition from vocational to higher education have revealed that many found the process difficult and complex, particularly the failure of their VET course to adequately prepare them for the expectations of HE, the demands posed by certain aspects of HE courses (such as essays or portfolios) and striking a balance between their coursework, family commitments and external work to finance their studies.⁵⁹

Nevertheless, the proportion of students entering HE with vocational qualifications is increasing, rising from 18 to 25 per cent between 1995 and 2004.⁶⁰ However, it is important to note that this growth is largely based on rising numbers of students *combining* vocational and academic qualifications, increasing from 4 per cent to 14 per cent, while the proportion of students entering HE with vocational qualifications only actually decreased over the same period. What's more, those students combining HE and vocational courses also appeared no less successful in entering and completing HE than those with only academic qualifications.⁶¹ This suggests a need to consider the most effective means for VET to function as a path to HE and ensure that young people are aware of the most effective options.

Recommendations

- When considering the potential of vocational qualifications to provide a route into HE, at present those **courses offering a combination of vocational and academic options appear most effective**. These routes should be further developed and young people on vocational pathways hoping to enter HE given clear information about these options.
- There should be **ongoing focus on the quality of the general education components of existing apprenticeships** to ensure that these provide a suitable route for those wishing to progress to HE or higher apprenticeships. This is a particular problem in growing sectors such as retail. Government should use the 'trailblazers' – employer consortia currently developing new apprenticeship standards in England – to focus on the quality of training and educational content offered by apprenticeships, particularly in the service sector, and their potential as a route to higher learning.⁶²
- More needs to be done to **expand advanced and higher level apprenticeships**. There is a case for government targets for growing the number of apprenticeships to be set at each level.⁶³

⁵⁷ K. Jones, *The Road Less Travelled: Improving the apprenticeship pathway for young people*, (London: The Work Foundation, 2013).

⁵⁸ The Teaching and Learning Research Programme, *Degrees of Success: Learners' transition from vocational education and training to Higher Education*, Research Briefing No.42, 2008: <http://www.tlrp.org/pub/documents/Hayward%20RB%2042%20FINAL.pdf>

⁵⁹ The Teaching and Learning Research Programme, *Degrees of Success: Learners' transition from vocational education and training to Higher Education*, Research Briefing No.42, 2008, p.2-3: <http://www.tlrp.org/pub/documents/Hayward%20RB%2042%20FINAL.pdf>

⁶⁰ The Teaching and Learning Research Programme, *Degrees of Success: Learners' transition from vocational education and training to Higher Education*, Research Briefing No.42, 2008: <http://www.tlrp.org/pub/documents/Hayward%20RB%2042%20FINAL.pdf>

⁶¹ The Teaching and Learning Research Programme, *Degrees of Success: Learners' transition from vocational education and training to Higher Education*, Research Briefing No.42, 2008: <http://www.tlrp.org/pub/documents/Hayward%20RB%2042%20FINAL.pdf>

⁶² K. Jones, *The Road Less Travelled: Improving the apprenticeship pathway for young people*, (London: The Work Foundation, 2013).

⁶³ K. Jones, *The Road Less Travelled: Improving the apprenticeship pathway for young people*, (London: The Work Foundation, 2013).

Work experience

With graduate employability gaining prominence in a tougher labour market, there has been increased discussion of the need for HEIs to develop greater focus on graduates' employability as part of their strategic agenda. With evidence that large numbers of employers do not believe graduates are work-ready, HEIs may need to give much greater consideration to the skills offered by their courses and the extent to which these match the demands of the labour market. Evidence suggests that the *quality* of graduate employment opportunities, rather than basic unemployment rates, is likely to become an increasing issue.

On work experience, one of the issues frequently raised by young graduates is the growing prominence of internships in the graduate labour market. For some sectors, such as media and law, completing an internship is now close to a requirement for those seeking work in the industry; the National Council of Training for Journalists found that 82% of new entrants to journalism had done an internship, of which 92% were unpaid.⁶⁴ Recent research from the Sutton Trust also highlights the extent of the costs involved in undertaking an internship; it found that 31% of graduate interns are unpaid and there are 21,000 unpaid interns working in the UK at any one time. For a single person living in London, a six-month unpaid internship could be expected to cost in excess of £5500.⁶⁵ For many graduates – particularly those from less advantaged backgrounds – taking on the expense of this kind of unpaid work after graduation is not an option.

One possible solution is for HEIs to incorporate work placements as standard aspects of their courses, particularly for those areas where prior experience is now a virtual requirement. Establishing these kinds of practices would also foster stronger relationships between HEIs and employers, encouraging increased focus on employer needs on behalf of universities and better sharing of labour market intelligence.

Recommendations

- **HEIs should increase their focus on students' work experience options** and on the university's relationships with employers. This could include combining an internship element as standard for courses in those disciplines where internships have become a near-compulsory requirement for gaining employment.
- **Work experience is likely to be particularly important for students from less advantaged backgrounds or disadvantaged groups**, who may lack the funds and connections to undertake this independently. Programmes such as **business mentoring for disadvantaged students** could both help to develop their networks and employability skills, and enhance relationships between universities and employers.

Employers

Employers also have their part to play in ensuring an effectively functioning graduate labour market. There are a number of business benefits in ensuring a diverse workforce, particularly in ensuring employers are able to source talent from as wide a pool as possible. However, current evidence suggests graduate job opportunities are less accessible to certain groups, even when controlling for their academic attainment and institution. This suggests that employers may need to better review their recruitment processes, particularly in light of how their practices, consciously or unconsciously, may affect issues of social mobility. Greater employer engagement with HEIs is also likely to improve the situation, both in terms of providing work experience opportunities and labour market information to students, and in ensuring that the courses being offered accord to employers' skills requirements.

⁶⁴ <http://www.publications.parliament.uk/pa/cm201314/cmhansrd/cm140513/debtext/140513-0002.htm>

⁶⁵ The Sutton Trust, Research Brief: Internship or Indenture?, November 2014: <http://www.suttontrust.com/wp-content/uploads/2014/11/Unpaid-Internships.pdf>

Recommendations

- Government has recently commissioned a review to look at the variety of graduate recruitment practices now operating within UK employers.⁶⁶ We argue that this should include **a focus on ensuring that graduate recruitment practices are fair and as open to non-traditional or disadvantaged applicants as possible**. This may include operating 'blind' admissions processes, or taking a more pro-active approach to encouraging applications from non-traditional applicants or institutions.
- **Employers should also be encouraged to take a more pro-active stance to their relationship with HEIs**. This could include greater involvement in accreditation and quality control (see below). It could also include mentoring and/or work experience opportunities for potential applicants from less advantaged or non-traditional backgrounds.

Political priorities

While our evidence does not suggest major problems at the macro-level, this is not to say that government will not play a role in a better-functioning graduate labour market. There are a number of current issues. First, there are ongoing issues with ensuring data are adequate to capture the mechanisms at work in the graduate labour market. There are currently a number of methods in use for assessing both supply and demand in graduate numbers, and also the occupations and roles which constitute the graduate labour market itself. At present, however, there is no agreed set of indicators available to government and HE institutions for monitoring purposes.

The assessment of quality in HE courses and teaching is currently undergoing a period of re-assessment. When considering the quality of courses offered by HEIs, the role of the Quality Assurance Agency (QAA) – which has until now been solely responsible for regulating quality in the HE sector – is being reviewed. In October 2014, HEFCE announced that HE funding bodies were to “seek views on future approaches to the assessment of quality in higher education”, opening up the role traditionally held by the QAA for more competitive bidding. Earlier in the year, HEFCE also announced that it would be cutting its funding to the Higher Education Academy, a body designed to support and encourage teaching excellence in HE. This is likely to generate a period of reflection and debate about the best means to secure ‘quality’ in HE, as well as the entry of new providers into a more competitive market for quality assurance.

Finally, the evidence of this report reflects growing concerns that social mobility considerations should be shifting from widening access to HE, to looking more closely at access to graduate professional careers. This focus has been developed in recent years by the work of the Social Mobility and Child Poverty Commission and the Millburn Reviews (eg Cabinet Office, 2009). These reviews have highlighted neglected areas of diversity monitoring, such as socioeconomic background alongside gender and ethnicity and have also called for more of a focus on the quality of graduate employment outcomes. The role of internships as a means of accessing graduate jobs has been one of the areas identified, particularly the challenges these pose to graduates who may lack wider professional contacts or a source of funding.

Recommendations

- Further work could be undertaken to **identify and agree a set of labour market indicators which would allow HEFCE to monitor the supply and demand of graduates**. The work of Purcell and Elias on developing a better model for categorising graduate jobs could continue to be updated in line with the most recent SOC codes.⁶⁷

⁶⁶ BIS, Understanding Employers' Graduate Recruitment Practices, forthcoming: <http://www.discovery-graduates.com/government-commissions-study-to-look-at-uk-graduate-recruitment-practices/>

⁶⁷ K. Purcell and P. Elias, Seven Years On: Graduate Careers in a Changing Labour Market, (London: HECSU, 2004).

- The **assessment of quality in HE** is currently undergoing a period of review. It is vital that this should be a discussion that **encompasses students' future employment prospects** in its scope. This could include greater employer involvement in standard-setting – some have suggested accreditation of courses by professional bodies as a better means of highlighting high-quality courses.⁶⁸ It could also place greater emphasis on forms of teaching, such as courses involving internships or longer placements, which help their students – particularly those lacking wider networks or financial backing – to develop contacts and employability skills.
- While **internships** are likely to have an ongoing role in the graduate labour market, there is also a need to **raise awareness amongst employers and young people on their legal status**. Only 12 per cent of employers in a recent survey were aware of their legal obligation to pay interns if they could be classed as 'workers'.⁶⁹ As well as awareness-raising, there is also scope for **improved enforcement of the legal rights of interns** around issues such as the National Minimum Wage.

⁶⁸ House of Lords Select Committee on Science and Technology, Higher Education in Science, Technology, Engineering and Maths (STEM) Subjects (London: HMSO, 2012).

⁶⁹ C. Hares, "Why we need a four week limit", InternAware: http://www.internaware.org/blog_four_week_limit



**THE WORK
FOUNDATION**
PART OF LANCASTER UNIVERSITY

December 2015

All rights reserved © The Work Foundation (Lancaster University).
No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form without prior written permission of the publishers.
For more information contact info@theworkfoundation.com.
The Work Foundation Alliance Limited, 21 Palmer Street, London, SW1H 0AD, UK.
Registered Charity No. 1146813.
Registered as a company limited by guarantee No. 7746776.
Registered address: Lancaster University, Bailrigg, Lancaster LA1 4YW, UK.