



Taught Postgraduate Employability and Employer Engagement: Masters with a purpose

For Universities UK

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Acknowledgments

We would like to thank all the colleagues in institutions and businesses who responded to our requests for information.

We have been unable to include all examples of 'best practice' here and fully acknowledge that there is a tremendous range of excellent work taking place across the sector. We hope the examples we have included will stimulate yet more thinking and innovation.

We are grateful to the members of the steering group who provided on-going support and feedback on the reporting of findings.

Executive summary

The aim of this study has been to address the information gap around employer engagement with postgraduate taught (PGT) provision. Specifically,

- the extent to which universities are already collaborating with employers in course design and delivery
- the value that employers place on PGT level skills
- current perceptions of the value of PGT skills
- identification of gaps in information and possible areas for improvement.

Graduates of postgraduate taught programmes make an important contribution to the UK economy and society. To fully realise the benefits of postgraduate study, it is important both that postgraduates are employable and able to market their talents to employers, but also that employers recognise the benefits that employing postgraduates can bring.

This study aims to raise awareness of the employment outcomes of taught postgraduates (focusing on taught Masters courses), to highlight good examples of universities and employers collaborating on taught Masters provision, and to discuss the attitudes of a selection of employers on the value they see in taught Masters qualifications. The study is based on analysis of available data and consultations with universities and employers.

Whilst findings are likely to be of interest to HE policy makers and stakeholders, this report is primarily targeted at institutions, whose staff are well-placed to continue to develop the effective collaborative relationships with businesses shown here.

Issues and themes

We conclude that,

1. There is clear evidence that university-business collaboration in relation to PGT courses is **diverse and flourishing** demonstrating the strong economic value of this provision. Examples included in this study illustrate strong, sustainable relationships between institutions and employers that indicate engagement at a variety of levels of institutional life. There is need to extend and develop good practice in collaborative working within and between institutions.
2. Employers' requirements for Masters level qualifications are linked to their requirements for **specific skills, abilities and knowledge**. Employers emphasise the value of practical, work-related experience during Masters courses. There is some evidence that a Masters qualification as a supplement to an undergraduate degree, does not compensate for a lack of practical skills and experiences.
3. Most employers do not distinguish between first and Masters degree holders in recruitment or reward arrangements; yet some recruit explicitly for those holding a particular Masters level qualification. This apparent contradiction in recruitment practices reflects both **historical subject-career trajectories** and the specificity of employers' needs. The former is often associated with the policies and practices of professional bodies and the latter, with skills shortages and gaps at organisational level.

4. Whilst this leads us to conclude that there is **no discrete labour market** for Masters graduates overall, there are subjects domains (particularly within sciences, technology, engineering and mathematics) for which the typical post-Masters trajectory provides access to occupations that are unlikely to be available to those without a Masters. Nonetheless, the employment prospects for PGT graduates are good and better than for undergraduates with generally higher rates of employment at six months following qualification.
5. The UK labour market for Masters graduates may differ from those in other countries where there is a discrete Masters labour market. As international students form a large part of the postgraduate population in the UK, higher education practice and **students' expectations** depend to some extent on non-educational policy-making; for example, recent changes introduced by the UK Border Agency.
6. Employers who do not specifically recruit for Masters graduates are less aware of the added value of Masters degree learning and there is a need for institutions (and graduates) to be able to understand and **articulate their value** to employers. Those who do specifically recruit Masters graduates are aware that the qualification also develops stronger (generic) analytical and problem-solving skills than undergraduate degrees.
7. The employability of those graduating from taught postgraduate (PGT) courses is differentiated by subject of study, mode of attendance, age group and gender. Differential outcomes do not form consistent patterns; this requires institutions to develop a clear understanding of **PGT outcomes** at course level.
8. The case studies of university-business collaboration reveal that institutions respond flexibly to the needs of businesses and achieve effective communication mechanisms. However, the needs of business and the demands of the labour market are not static and institutions are required to **continually update** their understanding of the way the labour market operates and the effect this may have on outcomes of particular courses. Anticipating changes in the labour market for PGT is problematic for both institutions and businesses; nonetheless, observation of trends can be inferred by using available datasets such as the Destinations of Leavers from Higher Education (DLHE).
9. Motivation to study for a PGT qualification immediately following a first degree is strong amongst those who attended a high/highest entry tariff institution on a full-time basis, and appears to have a dual goal of continuing studies alongside preparation for future employment. Intention to **progress to PGT** as declared in the final year of an undergraduate degree may not be a reliable indicator of propensity to actually do so.
10. Generic (non-vocationally specific) Masters courses may be more difficult for students to derive employability benefits in the short term. Providing opportunities for students to **network with employers** and genuinely understand how their higher level learning can be channelled and used remains an issue.

Recommendations for success

We conclude that the following factors characterise positive engagement with employers and businesses; we recommend that:

Institutions should prioritise:

1. Provision of single purpose, niche, Masters **designed and targeted** at a pre-defined group of students in association with a single employer or employer group.
2. Developing a subject-centred Masters which is **of value** to a particular industry, sector or profession.
3. Developing a balanced **partnership** with committed employers comprising a rich mix of activities in which employers can participate.
4. Working to identify **employers' real needs**, and allowing a shared agenda to evolve that may include a range of forms of engagement.
5. Positioning Masters qualifications as entry to a profession and making available the opportunity **to convert from** an unrelated first degree.
6. Encouraging the development of 'light touch' informal networks of academic staff and professionals/practitioners centred (but not exclusively) on alumni.
7. Encouraging student-employer networking that **facilitates the transition** from university to working life.

Employers should prioritise:

8. Enabling university staffs to have direct **access to business managers** with opportunities and problems to solve, neutralising the 'gate-keeper' effect of intermediary departments (such as human resources management).
9. The establishment of effective, collaborations with university staffs reflecting **multiple levels** within the organisation (such as production, marketing, training, recruitment)
10. Actively encourage professional bodies and not-for-profit organisations who are able to provide practitioners to support Masters programmes through **professional networking** and other activities.
11. Extending the range of **opportunities for communication** with universities in addition to that aimed at job recruitment; for example, at student induction, and at course design and validation.

Course teams should:

12. Recognise there is need for robust **information about PGT course outcomes** prior to application to courses and access to career advisory services at an early stage.

13. Optimise the use of **alumni** as informal tutors, role models, mentors to widen horizons and scope for action.
14. Make the most of web-based and other sources of information, including social networks, about the **career trajectories and progression** of Masters graduates.
15. Actively share and disseminate good practice within and between institutions. Consider development of **inter-institutional collaborative** arrangements to support industry/sector requirements and counter unproductive competition.
16. Reconsider the balance of specific and generic learning goals within courses and encourage the development of '**sandwich Masters**' that include long or substantive periods of work placement to develop the application of learning in relevant industrial settings.
17. Recognise the centrality of **relationship management** and the time and expertise required to build effective working partnerships.
18. Encourage the sense in students, employers and institutions of Masters courses as '**degrees with a purpose**' rather than an extension of undergraduate learning.

Policy makers in DBIS, UUK and HEFCE should:

19. Commission research and development projects that inform the **evidence base** and ongoing policy thinking in this area, with particular emphasis on progression between undergraduate and postgraduate study.
20. Continue to keep taught postgraduate employability and employer engagement under review and monitor trends and developments; in particular, to examine whether there are changes in **the demand for and supply of** PGT graduates and what drives these.
21. Commission further research into **Masters graduates' career trajectories**; in particular the relationships between subject and mode of study, and work and further study outcomes. This is necessary not only in order to better understand the diversity of outcomes but also to provide accurate information to prospective PGT students and to inform course planning arrangements.

Employer engagement in curriculum design and delivery at Hertfordshire

Every course at the university is developed with input from employers, while research is designed and conducted with the aim of solving business problems and generating new and innovative applications for existing knowledge. The university encourages a constant interchange between businesses, academics and students. Many university staff members spend a proportion of their time working in industry, running their own businesses, keeping their knowledge up to date and help to develop students' business skills.

Introduction and method

The aim of this study has been to address the information gap around employer engagement with postgraduate taught provision. Specifically,

- the extent to which universities are already collaborating with employers in course design and delivery
- the value that employers place on postgraduate level skills
- current perceptions of the value of postgraduate skills
- identification of gaps in information and possible areas for improvement.

The methodology comprised four phases, which is described in the appendix under 'Methodology':

- analysis of available data
- identification of best practice
- survey of selected employers
- developing the report and making recommendations

Every effort was made to ensure that up-to-date data was used. Most of the analyses of employment outcomes is derived from the Destinations of Leavers from HE (DLHE) surveys; due to significant changes to the DLHE data collection, a supplement has been appended under 'Destinations of Leavers from Higher Education (DLHE) survey 2011/12: updates following changes to data collection'.

Due to time and resource constraints, it has not been possible to undertake a full market analysis of employers' demand for and institutions' supply of, taught postgraduates and focus has instead been placed on the mechanisms that facilitate businesses' engagement with courses at local level.

Graduates of postgraduate programmes make an important contribution to the UK economy and society. The specialist higher level skills developed through postgraduate study can bring a range of benefits, both to individuals in their employment and career prospects, but also to employers and the wider economy, particularly as knowledge and higher skills continue to be vital for many areas of growth. To fully realise the benefits of postgraduate study, it is important both that postgraduates are employable and able to market their talents to employers, but also that employers recognise the benefits that employing postgraduates can bring. However, despite a welcome focus on employability skills at undergraduate level, less attention has been given to postgraduate employment outcomes and employer awareness and perceptions of the value of postgraduate study. This study aims to raise awareness of the employment outcomes of taught postgraduates (focusing on taught Masters courses), to highlight good examples of universities and employers collaborating on taught Masters provision, to discuss the attitudes of a selection of employers on the value they see in taught Master's qualifications, to provide evidence upon which institutions may develop their practice and to inform policy development across the HE sector.

Background to the study

The UK HE sector awarded slightly fewer than 168,000 taught postgraduate qualifications in 2012/13 and these postgraduates make a significant and growing contribution to the UK economy and to higher education. Part of the growth in postgraduate higher education has been as the result of increased numbers of students from EU and non-EU countries (Artes,

Ball and Mok, 2008). Attention has to be paid to the actions and consequences of home policy making (e.g. the UK Border Agency) on the attractiveness of the UK for PGT students from overseas, and the development of overseas higher education which may impact on the decisions of global businesses. Much debate about the current need to rebalance the UK economy considers high-level skills to be crucial to creating and sustaining future economic growth, and postgraduate education plays an important role in the skills framework (BERR, 2009). The taught postgraduate sector in the UK has also grown rapidly in recent years, but there are concerns that this may not be sustainable without clear consensus about its public and private benefit (UUK, 2009). The demand for postgraduate taught (PGT) programmes is potentially affected by several factors, including demographic decline amongst the 18-24 year old populations in the UK and Europe, the demand for higher level skills amongst employers and more recently the impact of the new student finance arrangements that came into effect in the autumn of 2012.

The Wilson Review¹ identified a need to examine the employability skills of postgraduates in addition to the attention paid to the skills of the undergraduate population; specifically it was proposed that,

The Association of Graduate Recruiters (AGR), CBI and Universities UK (UUK) should undertake research into the skills requirements of UK business of 'taught postgraduate' students to inform universities of business needs in this regard.

Employability issues for postgraduate researchers were addressed in detail by the Roberts Review² of the supply of people with STEM skills to academia, which led to the inception of the UK Grad Programme (now Vitae), but little research attention (BIS, 2010) has been paid to PGT students who comprise the majority of UK postgraduates or to their employability and the general and specific demand for postgraduate taught skills amongst employers.

Many institutions with a significant postgraduate taught cohort engage in and maintain effective business-HE collaboration and provide imaginative employability support for PGT students. However, a more coherent and coordinated approach to identifying why employers engage with postgraduate taught provision is needed to ensure that the sector is able to respond to a challenging environment in the current economic climate. It continues to be necessary to tease out the drivers and forces for change in the PGT landscape and in particular to understand how the postgraduate taught supply chain serves the needs of businesses. Skills shortages and gaps persist; employers report difficulties in recruiting to some key roles (UKCES, 2012), which at the postgraduate level is likely to impact on innovation, research and development.

Although typically taught postgraduate progression is assumed to be that of a first-degree graduate embarking on a Masters qualification straight after graduation, there are many types of taught postgraduate course. For example, 'professional qualifications' includes the most common taught postgraduate qualification, the Postgraduate Certificate in Education (PGCE) as well as four-year Masters (such as the vocational MEng, which is required to become a Chartered engineer). The HESA Student Record data lists 27 different types of

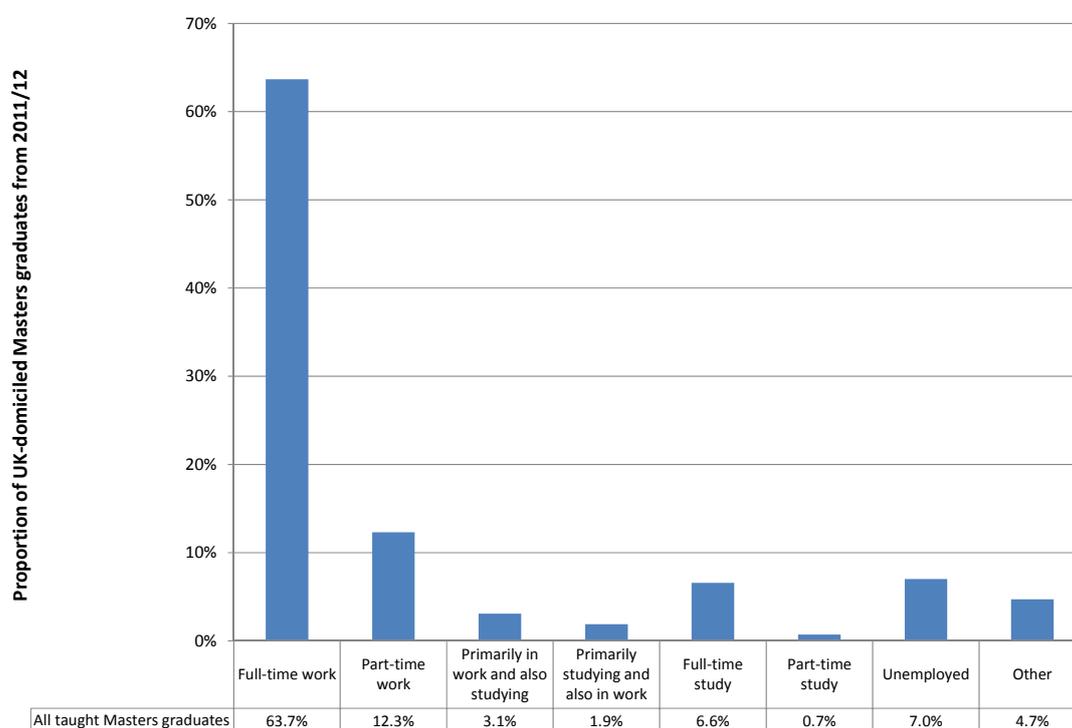
¹ Professor Tim Wilson's Review of Business-University Collaboration, 2012, accessed at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf

² SET for success: the supply of people with science, technology, engineering and mathematics skills, 2002 accessed at http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/set_for_success.htm

taught postgraduate qualification³ along with doctorates *not* obtained primarily through research and dissertation, but which fall outside the scope of this study. A small number of qualifications are not included in the standard HESA Destinations of Leavers from Higher Education (DLHE) population and so destination information cannot be obtained in respect of every taught postgraduate course.

There is relatively little research on the nature of taught postgraduate education (BIS, 2010 *op cit*). Researched evidence tends to focus on taught postgraduates as a homogenous group that have broadly similar outcomes. The danger of this approach is can be illustrated using data for the outcomes of 2011/12 Masters graduates.

Figure 1: Outcomes, after six months, for UK-domiciled Masters graduates from 2011/12

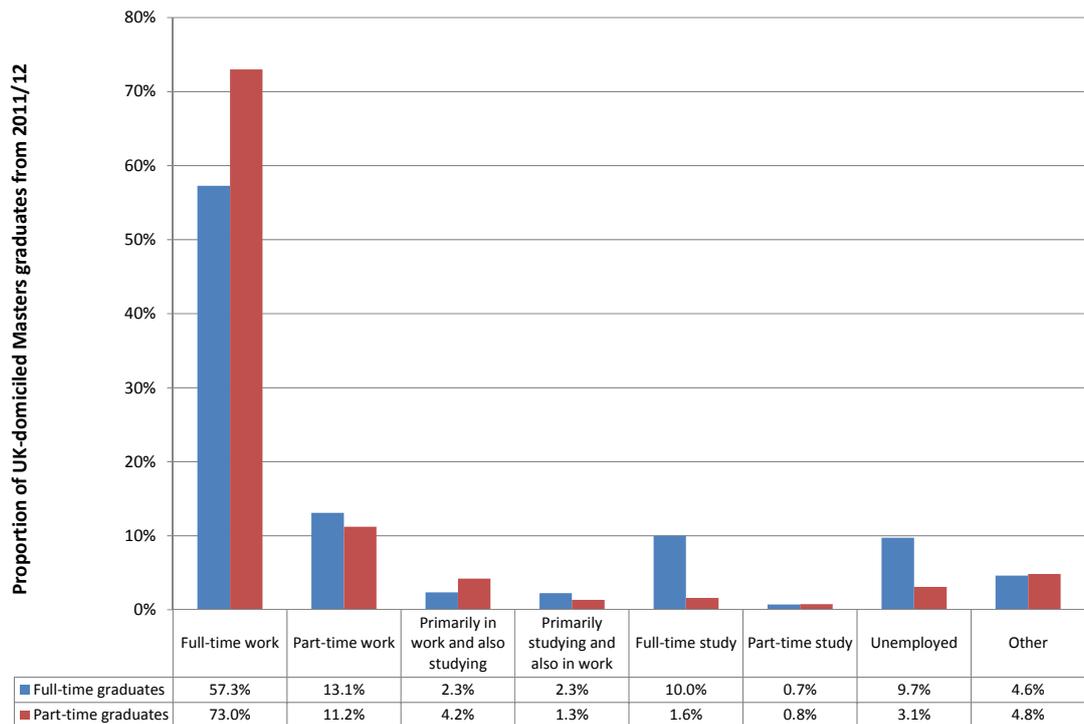


Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N=40355

At Figure 1 unemployment rates are higher than pre-recession but comfortably below the first-degree unemployment rate of 8.5 per cent. Most Masters graduates obtain work and there is a strong progression into further study (largely doctoral degrees) and work combined with further study. But as we know this is not a homogenous group, a simple analysis may not adequately examine employability progression. Figure 2 reveals additional insight when mode of study is included.

Figure 2: Outcomes, after six months, for UK-domiciled Masters graduates from 2011/12, by mode of study

³ See data for Student Record field 'COURSEAIM': http://www.hesa.ac.uk/component/option,com_studrec/task,show_file/Itemid,233/mnl,12051/href,a%5E_%5ECOURSEAIM.html/



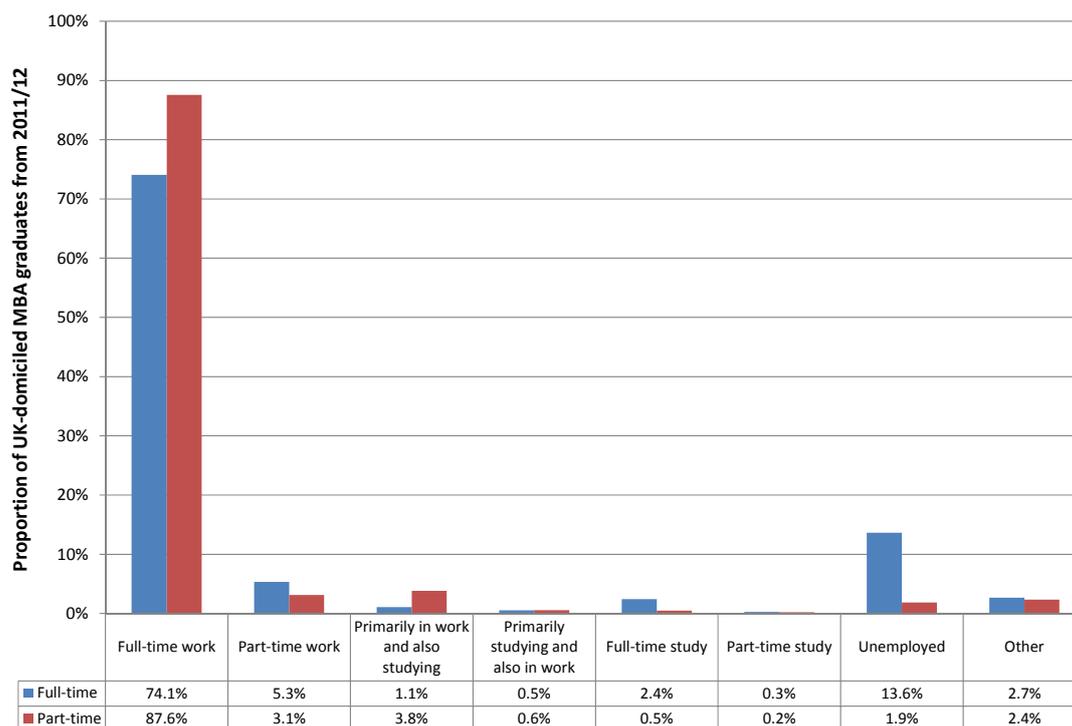
Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N=40355

Just over 40 per cent of the 2011/12 graduating cohort studied on a part-time basis and when the full- and part-time populations are separated, we see very different outcomes. Part-time graduates, largely mature students with an established employment history fare well in the jobs market. Higher employment and lower unemployment rates characterise part-time postgraduate outcomes. However full-time postgraduates (the majority of whom enjoy positive outcomes) have an unemployment rate above that for first-degree graduates.

Indeed data from both DLHE and HECSU’s own Futuretrack research suggest that progressing from a first-degree immediately to a taught Masters qualification may not add substantially to employment outcomes for graduates in the current economic circumstances. Further this may imply a mismatch between the some of the ambitions of those who undertake full-time taught postgraduate study and the demand for their skills from employers.

Skills mismatches are highly differentiated by subject of study, as well as industry/sector. Figure 3 below suggests that this may be a particular issue for business schools where around 20 per cent of the MBA cohort studied on a full time basis and postgraduate unemployment amongst full-time MBA graduates is over 13 per cent. These data also indicate questions about the nature of employers’ engagement with postgraduate students (and courses). For example, are there employer preferences for full- or part-time study? Are there established subject-trajectories for which PGT provision is considered necessary or unnecessary?

Figure 3: Outcomes, after six months, for UK-domiciled MBA graduates from 2011/12, by part time and full time mode of study



Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N=1815

Aston University building trust

The customer relations manager (CRM) began his work by gaining an understanding of Aston and its MBA so as to find ways to be helpful. This was an essential first step without which further action would have been fruitless.

He then reviewed the top 20 business related PGT programmes and consulted some 120 employers, both corporates and SMEs, to see what was understood about MBAs. His findings were:

- People were recruiting MBAs and yet couldn't define what an MBA was. There was a basic challenge to enable employers what an MBA programme was about.
- Some companies, including IMI, Deutsche Bank and Halfords, were *afraid* to approach the business school because the hirers themselves had no MBAs.
- Almost all employers surveyed saw all MBAs as the same in content and purpose.
- A common theme amongst employers is that, whilst having an MBA sounds great, the bigger priority is for people to have good practical knowledge. Employers themselves by and large did not have the time to invest in turning people with potential into effective practitioners.
- Academics believe businesses have perfect knowledge about business schools: they don't.
- Trust by the academics in the CRM and his work is essential and needs nurturing.

HESA data on qualifications awarded reveal that 140,080 qualifications were awarded to UK-domiciled postgraduates in the academic year 2011/12. 69,485 were Masters qualifications; 59 per cent were awarded to women (a similar proportion to first-degrees). Forty-seven per cent were awarded to part time students, and 51 per cent of Masters graduates were aged over 30 at graduation; this is a larger proportion than for other degree levels and the contribution of part-time and mature students has a profound effect on provision and employability.

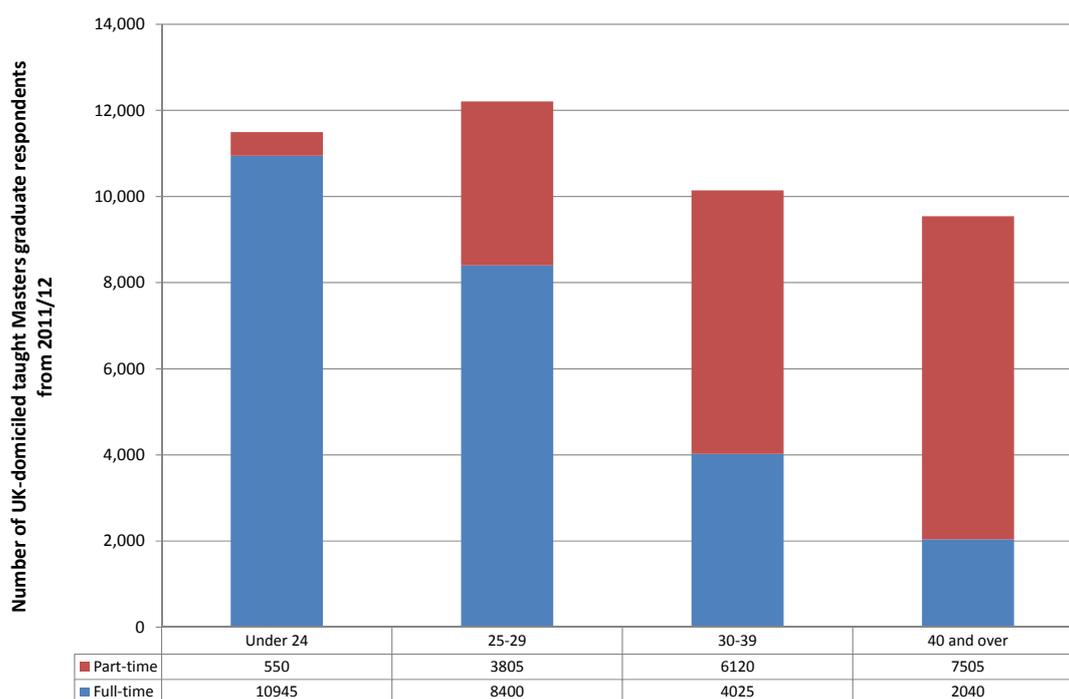
The employment outcomes of taught Masters graduates

In this section we describe the context for the study by referring to postgraduate outcomes as reported in the DLHE survey and the Futuretrack study alongside recent, relevant literature. At its first meeting the steering group affirmed an interest in taught Masters level postgraduate qualifications awarded to UK-domiciled graduates in particular. Throughout the text we also include case studies to illustrate good practice in developing Masters programmes that successfully develop students' employability skills.

Age and mode of study

The career trajectories of those completing taught Masters programmes differ substantially on the basis of student age and mode of study. The charts that follow reveal DLHE outcomes at six months following graduation with a Masters qualification. Figure 4 shows that the distribution of full- and part-time study varied by age amongst DLHE respondents in 2010/11. The achievement of a taught Masters qualification on a part-time basis is relatively and absolutely more likely amongst older students.

Figure 4: Award of taught Masters degrees to 2011/12 DLHE respondents by age and mode of study.

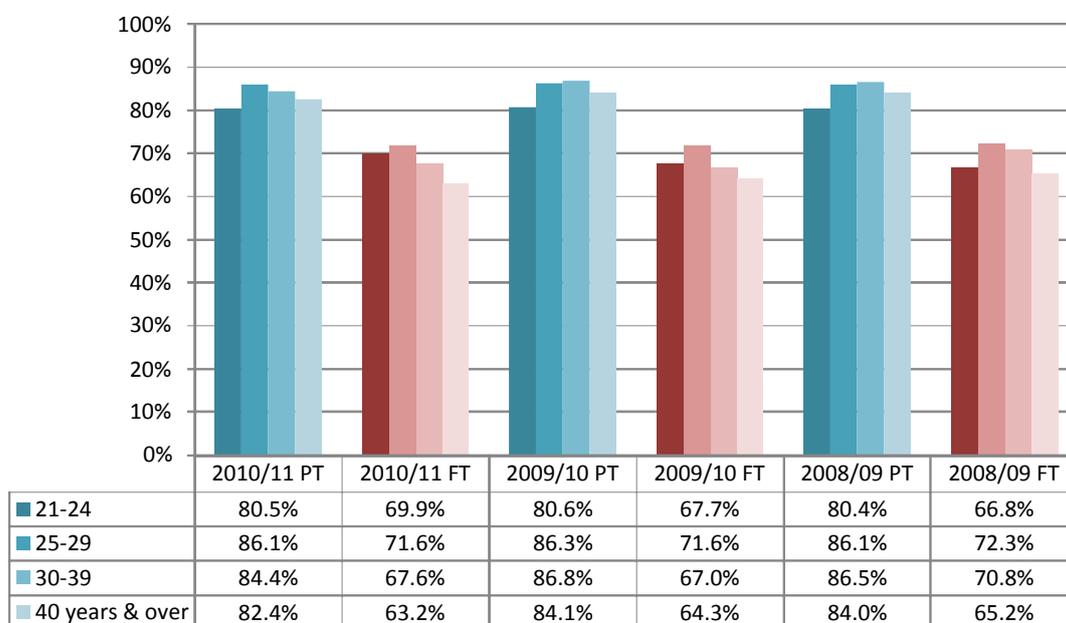


Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N=43390

The age of the students may be less significant than the mode of study in determining employment outcomes; this may reflect the greater likelihood that part-time students are already in employment during Masters programmes and have experience of the labour market on which to draw in their job search. Figure 5 reveals that whilst the pattern of employment outcome amongst Masters qualifiers is relatively stable over recent years there is some indication that older graduates (40 years and over) who studied full-time have been more adversely affected in the post-recession economy; slightly older graduates (25-29

years) do appear to fare as well as their more experienced peers in the 30-39 year age group and rather better than younger graduates.

Figure 5: Employment rates for Masters qualifiers, by age and mode of study in 2008/09, 2009/10 and 2010/11.

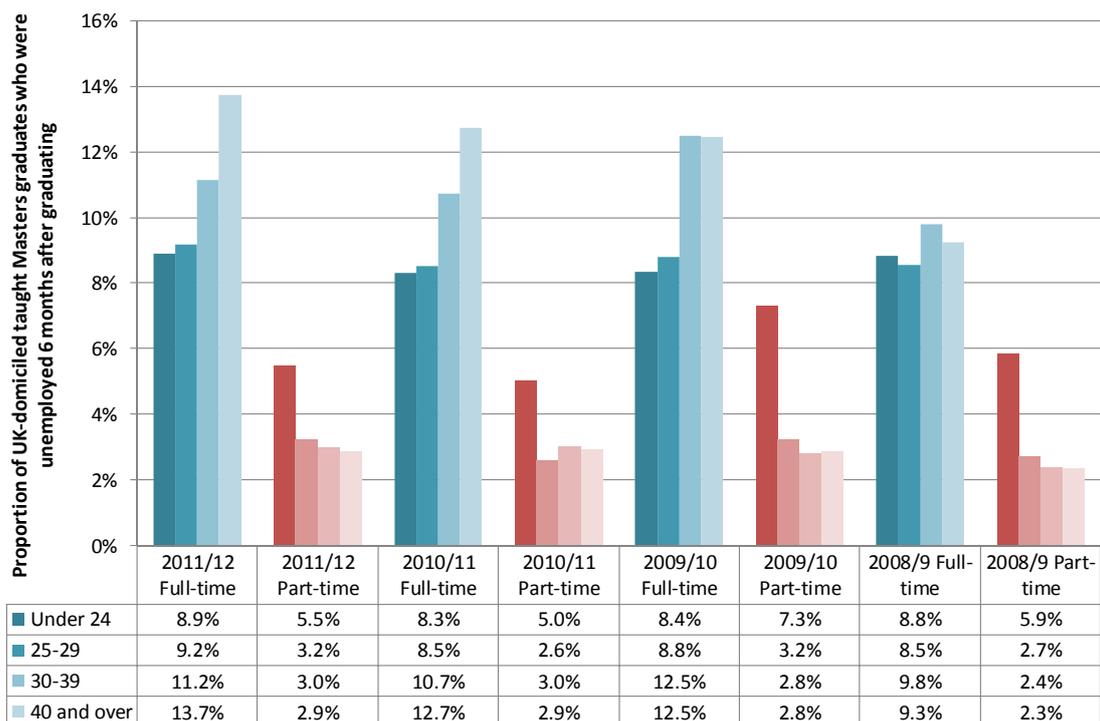


Data comes from HESA Destinations of Leavers of Higher Education Survey 2008/9 to 2010/11

Key: PT = part time; FT = full time

Unemployment appears to much more likely to be experienced by those who studied on a full-time basis, especially amongst those aged 30-39 and 40 years or more and also amongst younger graduates (21-25 years) qualifying from part-time programmes. This tends to confirm the assertion that unemployment is responsive to changes in the (post-recession) labour market although its impact is likely to be differentiated by age. That is, more mature students may be less able to be geographically mobile and younger students may have a relative lack of experience upon which to draw. Data for 2011/12 for this measure, can be found in Appendix 2. These data have not been included in the main text due to changes in the DLHE survey in 2011/12 that make comparisons with previous years invalid.

Figure 6: Unemployment rates for Masters qualifiers by age and mode of study in 2008/09, 2009/10, 2010/11 and 2011/12.



Data comes from HESA Destinations of Leavers of Higher Education Survey 2008/9 to 2011/12

However the progression of Masters graduates into the labour market is highly diverse and we now turn to the apparent impact on outcomes of age in combination with other characteristics. Firstly, we consider the outcomes of young (21–24 years) Masters graduates by subject of study. Typically, younger Masters graduates are less likely to have substantial prior experience of working than older graduates and more likely to have undertaken their postgraduate study immediately or closely following graduation from first degrees. Figure 7 shows that progression into employment, with or without further study, is highest amongst Business & Management and Creative Arts graduates and progression into continuing study is highest amongst graduates of biological and physical sciences. Engineering graduates have one of the highest unemployment rates, mirroring similar issues at undergraduate level. This reflects weakness in the jobs market for new engineering graduates that appears linked to the effect of the recession on construction and manufacturing, and which may not necessarily persist as the economy in general, and engineering in particular, recovers.

Such differences may reflect long-standing traditions and expectations amongst both students and employers of those subject groups but there is also some evidence to suggest that typical career trajectories do change over time.

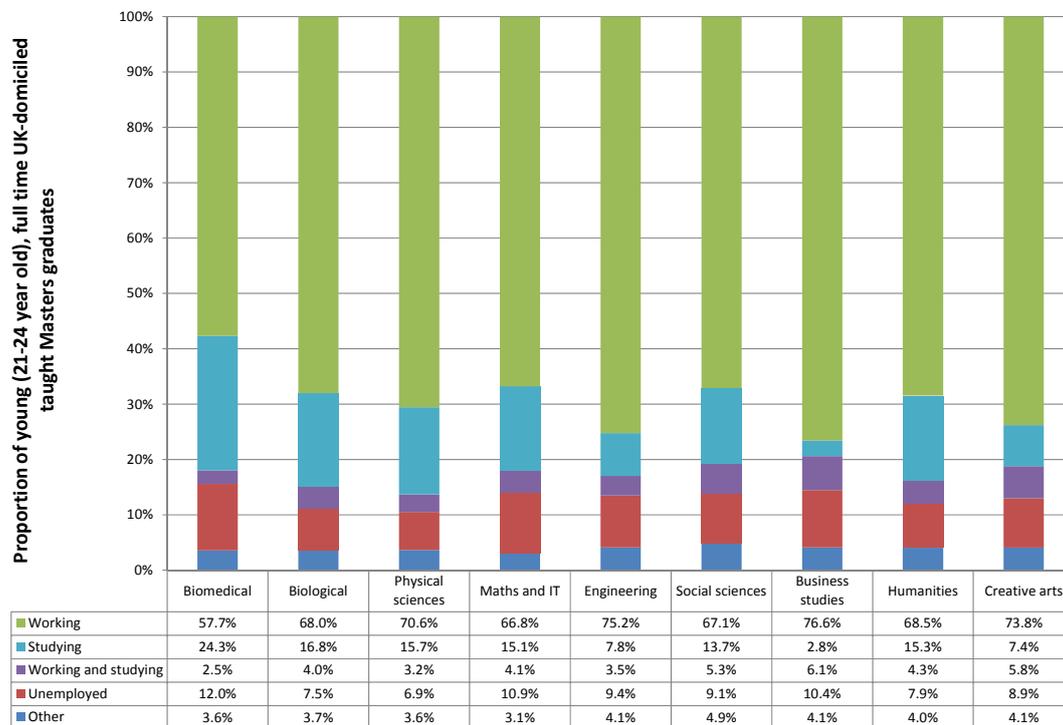
Bursary support for MSc in Aerospace

Working in partnership with the Royal Academy of Engineering, the Royal Aeronautical Society is responsible for awarding up to 500 Aerospace MSc bursaries for tuition fees (of up to £9,500) over the next 3 years. The aims of the scheme are to generate more aerospace Masters-qualified professionals with high level skills who will work in the sector, and to up-skill the existing UK aerospace workforce and reinforce the supply of skilled people with knowledge and expertise in key areas of technology for the future.

The scheme is targeting Mathematics and Physics graduates who might not previously have considered a career in aerospace. There must be evidence of strong motivation and

commitment. The government sees the scheme as a flagship element of a £2bn research commitment to maintain the UK as the second (to the US) in the world in this market. Employer partners include Messier-Bugatti-Dowty who are working with several universities to develop an aerospace MSc. Other employers include, the Aerospace Growth Partnership, BAE Systems, Bombardier Aerospace Belfast, EADS/Airbus, Finmeccanica UK, GKN, MBDA Missile Systems, Rolls Royce and Spirit Aerosystems.

Figure 7: Outcomes at six months following qualification for young (21–24 years) full time masters graduates in 2011/12 by subject group.



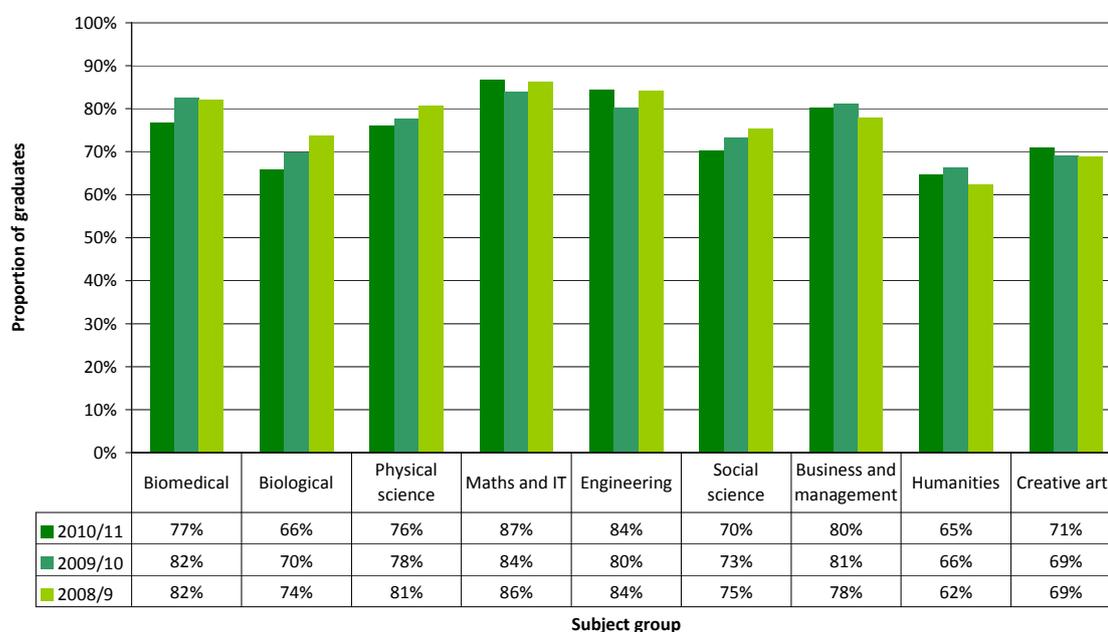
Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12

Type of employment

The nature of occupations entered by graduates is the subject of considerable scrutiny by institutions and funding bodies at undergraduate level and data are now collected that identify whether graduates enter ‘professional/managerial’ occupations (published as part of the Key Information Set). At postgraduate level, we see that young Masters graduates’ chances of being employed in a professional/managerial job are influenced by subject of study (Figure 8 refers). It is interesting to observe that in some subjects the likelihood of professional/managerial employment appears to be falling (e.g. mathematics and IT, engineering) and in others reducing (e.g. biological and physical sciences). Data for 2011/12 for this measure can be found in Appendix 2.

However, it should be borne in mind that substantially more Biologists and Physicists progress to further study. Falls in Social Sciences and Humanities graduates’ ability to obtain professional/managerial job roles is likely to be attributable to changes in the labour market, such as the recent decreases in public sector opportunities, but should also be considered alongside a strong propensity amongst these graduates to continue to further study (Figure 7 refers).

Figure 8: Proportion of young (aged 21–24 years) taught Masters graduates obtaining professional and managerial level employment at six months following graduation in 2008/09, 2009/10 and 2010/11.



Data comes from HESA Destinations of Leavers of Higher Education Survey 2008/09 to 2010/11

Prior to 2012, graduate occupations were classified as traditional (e.g. lawyer), modern (e.g. primary teacher), new (e.g. marketing manager) or niche (e.g. nurse) with non-graduate occupations (e.g. sales assistant) making up the balance. This classification system was known as the Standard Occupational Classification HE or SOC(HE)⁴ and was based on the Standard Occupational Classification system developed in 2000 (known as SOC 2000). Typically, graduate career trajectories include a proportion of non-graduate employment prior to onward progression toward a graduate job over time. Elias and Purcell identified that the movement between non- and graduate-level occupations was relatively stable and could be evidenced over a 20 year period or more. Identifying occupations entered by Masters graduates using the SOC(HE) classification system reveals some recent evidence of an increase in non-graduate and a decrease in traditional and modern employment outcomes (Figure 9 refers); interestingly there is an apparent increase in the number of new graduate occupations taken by Masters graduates in the post-recession period.

Figure 10 shows the same data using a simplified classification system, where SOC 2000 categories 1 to 3 are designated 'professional/managerial level' and those classified 4 and above are designated 'not professional level'. It appears that the change in how occupations are classified accounts for a difference of around one percentage point in the way that non-graduate (below professional/managerial level) jobs are identified.

⁴ Elias, P., and Purcell, K., (2004) 'Seven Years On: graduate careers in a changing labour market' Higher Education Careers Services Unit, Manchester.

Due to the introduction of a new Standard Occupational Classification, SOC(2010) for the 2011/12 DLHE collection⁵, data for occupations are not comparable between 2011/12 and earlier years. In addition, there is no reliable system to code to SOC(HE) from SOC (2010) and thus we can only examine this classification of 'graduate jobs' for data before 2011/12.

⁵ For further information see also, <http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/soc2010-volume-2-the-structure-and-index/index.html>

Figure 9: Types of work entered by taught Masters graduates in 2008/09, 2009/10 and 2010/11 by SOC(HE) and gender.

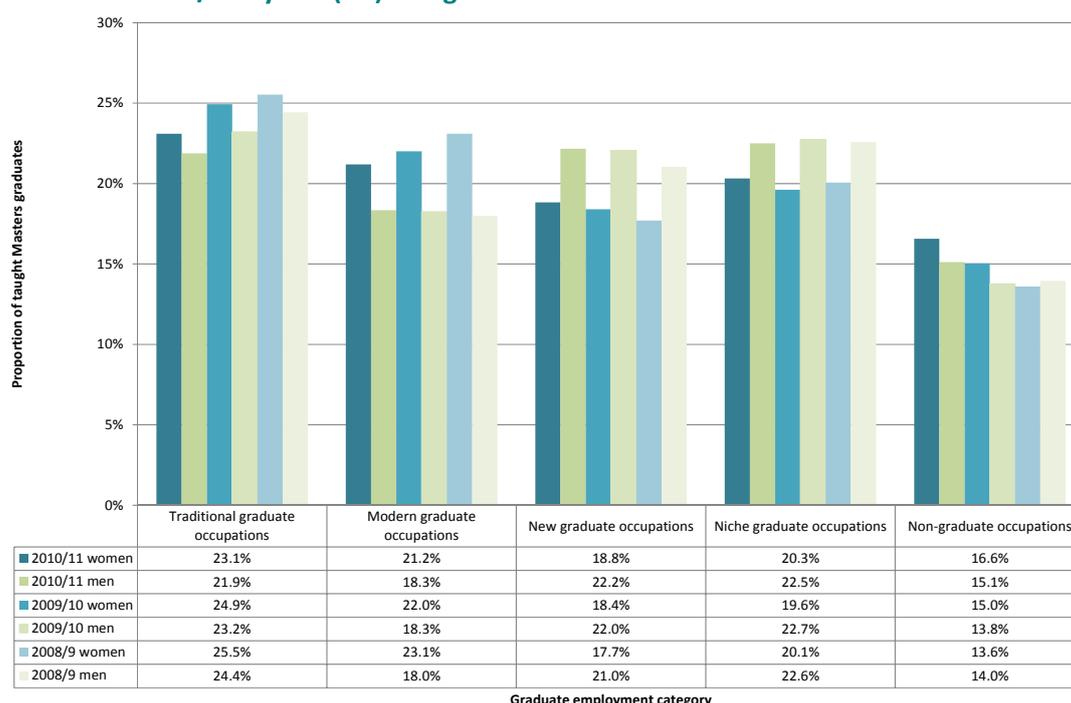
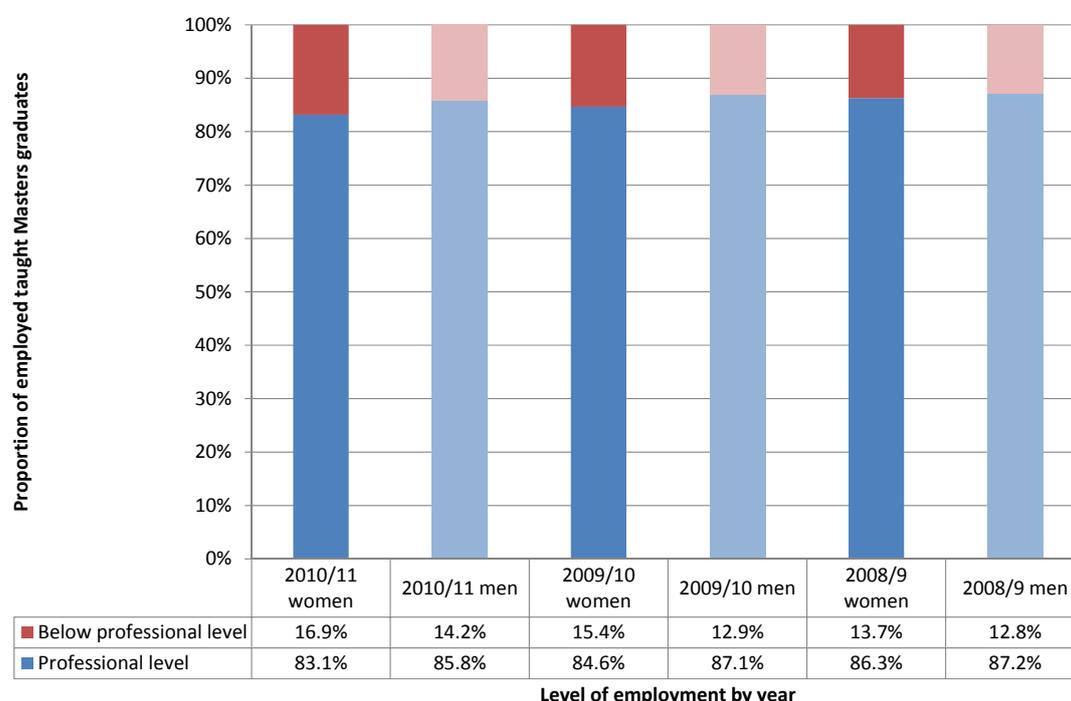
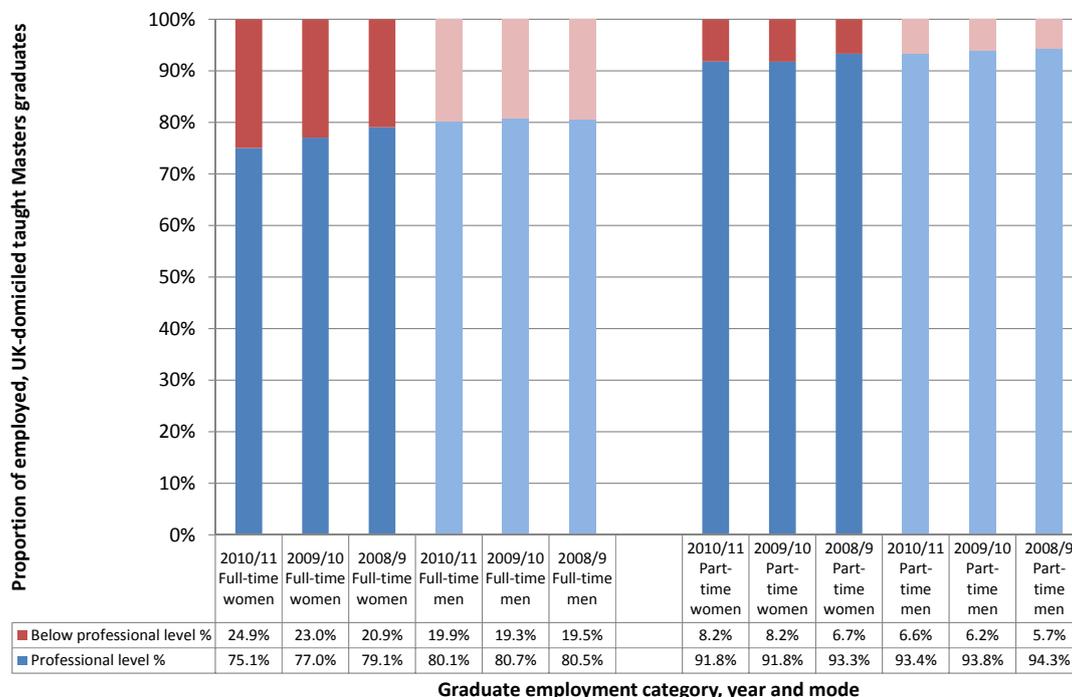


Figure 10: Types of work entered by taught Masters graduates in 2008/09, 2009/10 and 2011 by SOC 2000 and by gender.



However, when the type of work entered by Masters graduates is considered alongside mode of study, the differences appear considerable (Figure 11) and provide more evidence that part-time confers advantages over full-time Masters study in labour market transitions. Two additional features may be impacting upon this; part-time students' demographic characteristics and the likelihood that they have previously worked for their employer.

Figure 11: Types of work entered by Masters graduates in 2008/09, 2010/11 and 2011/12 by mode of study and gender.



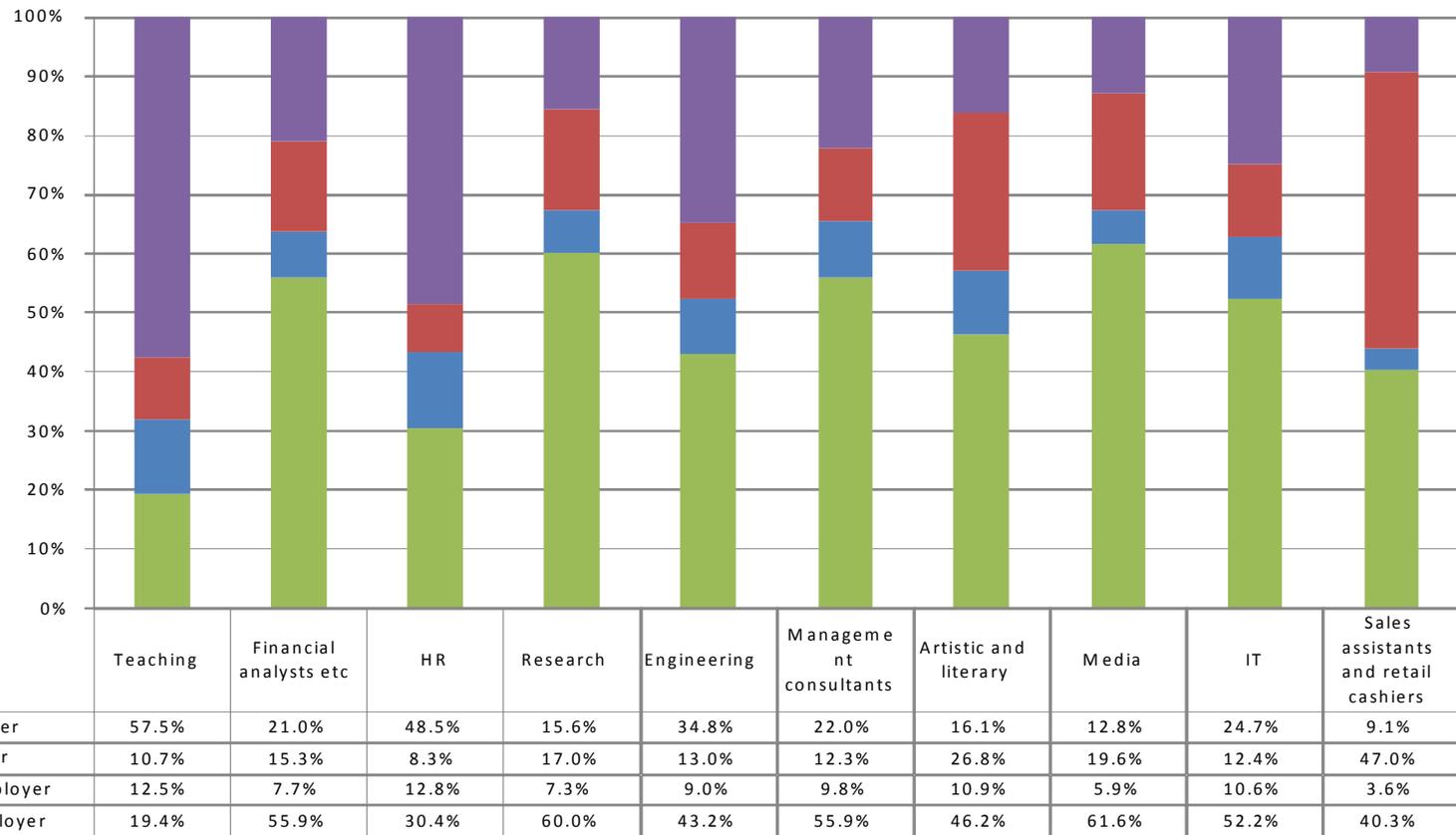
As observed in Figure 4, part-time Masters graduates are typically older and therefore more likely to have had prior labour market experience. Table 1 shows graduates who studied on a part-time basis were overwhelmingly more likely to respond that they had worked for their current employer before or during their programme of study.

Table 1: All Masters graduates' responses to 'were you employed by your current employer at any time before graduation?' in the 2010/11 DLHE survey.

	Full-time	Part-time	Total
Yes, before my programme of study	7%	18%	12%
Yes, during my programme of study	14%	19%	16%
Yes, both before and during my programme of study	11%	41%	25%
No	68%	21%	46%
Total	100%	100%	100%

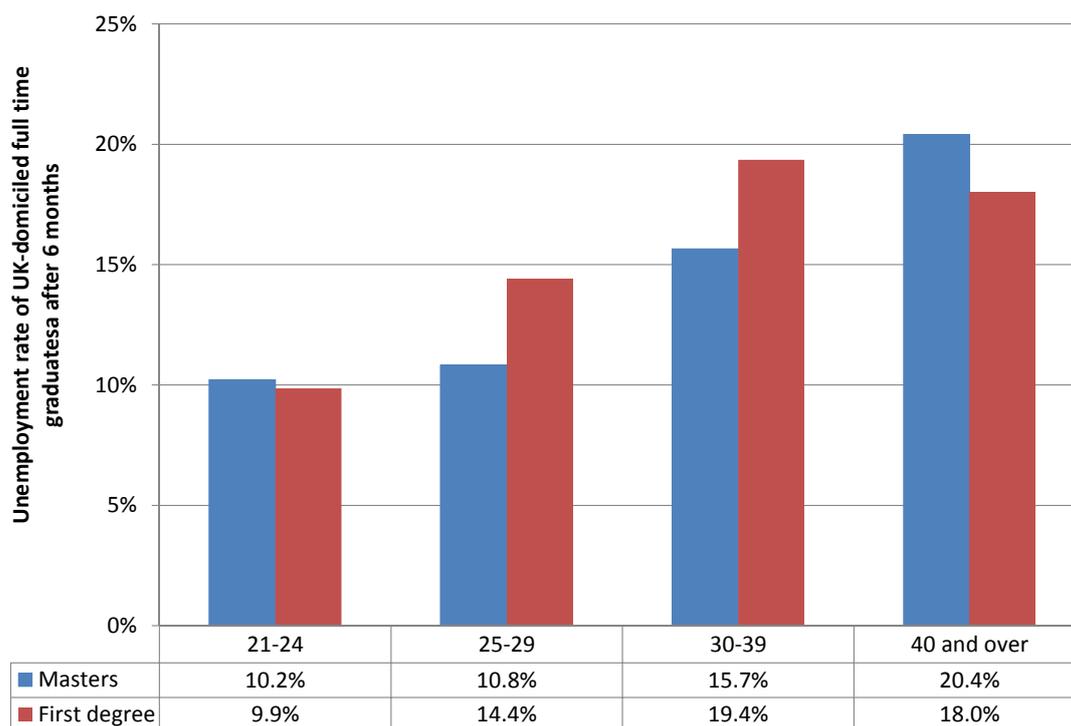
Figure 12 examines how the likelihood of being employed by the current employer before or during study also varies by type of work (or sector) and a range of popular jobs for new Masters graduates with different characteristics is examined. The pattern may owe more to employer practices within those occupations than mode of Masters study, but it is instructive to see the differences in the way prior work experiences interact with job choice.

Figure 12: Range of occupations at six months following graduation amongst Masters graduates by full- and part-time mode of attendance and by whether previously employed by the current employer.



To conclude the discussion of DLHE data, we take one subject group, Business & Management and compare the rate of unemployment at six months following graduation from full-time Bachelors and Masters degrees. We find that the impact of degree study at both undergraduate and postgraduate levels is differentiated by age, with those in the 30 – 39 age group having qualified with a Bachelors degree being at greater risk of being unemployed.

Figure 13: Incidence of unemployment amongst Business & Management graduates at six months following graduation in 2011/12 by age group.



Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12

These data suggest that the interplay of age, mode of study, gender and subject group do play important roles in Masters graduate outcomes but what should not be inferred is that these outcomes are simply the result of the actions of either individual graduates or employers acting independently. Rather it is likely that perceptions of what employers seek influences the propensity to undertake PGT study and perceptions of graduate and postgraduate skill levels influences recruitment patterns in employers and therefore, the motivations of both are inextricably bound.

Motivation for post-graduation study.

The four-stage Futuretrack study tracked the cohort of applicants to higher education in 2006 for nearly six years until 2012, when the vast majority had progressed from undergraduate study into employment and/or further training⁶. It provided an

⁶Here we refer to data collected at stage 3, when most respondents were approaching their final examinations, and stage 4, some two and a half years later, when most had made the transition into the labour market and/or

unprecedented opportunity to question graduates on their intentions and motivations for continuing to post-graduate study.

By stage 4 of Futuretrack respondents who had completed 3-year degrees were approximately 30 months beyond graduation; of these, 21 per cent had engaged in some form of postgraduate education, predominantly taught Masters programmes. Those who had completed 4-year degrees were slightly less likely to have progressed to any postgraduate education (19 per cent). This compares with 21.1 per cent of those who qualified in 2009 and whose outcomes are captured in the DLHE survey and reported in *What Do Graduates Do?*⁷ Thus, Futuretrack respondents comprise a defensible comparator to other graduates at the time.

Data from Futuretrack suggest that participation in postgraduate study is positively associated with socio-economic factors, notably parental experience of higher education and occupations of professional/managerial type, high UCAS entry tariff scores and having been domiciled elsewhere in the EU (except Ireland) and outside EU. Futuretrack identified some regional differences in participation with graduates from the East of England being most likely to undertake postgraduate study and graduates from Wales and Merseyside being the least likely.

One of the advantages of the Futuretrack study is that it enabled capture of data about (in this case) intention to undertake postgraduate study (at stage 3), and actual participation (at stage 4). Overall, 66 per cent of stage 4 respondents who expressed an intention to enter postgraduate study in stage 3 had done so by stage 4. However, 15.3 per cent of those who said they did not intend to take postgraduate study at stage 3 subsequently did so by stage 4. These apparent 'changes of mind' may represent normal behaviour in the face of a range of post-graduation options, or they might be in response to a perceived tightening of the labour market in 2009 ushered in by the recession. The relationship between intention⁸ to and participation in postgraduate study should be monitored⁹.

Those who did not change their minds (between stages 3 and 4 of the Futuretrack study) about progressing on to postgraduate study are the subject of Table 2, which captures their reasons for wanting to do another course or training. Reasons for study are indicated by responses to the question, 'why do you want to do a further course/vocational training?'

postgraduate study. For more information see www.hecsu.ac.uk and <http://www2.warwick.ac.uk/fac/soc/ier/futuretrack/>

⁷ *What Do Graduates Do?* 2010 (which include qualifiers who may have started first degrees prior to 2006 and/or who had undertaken 4-year courses)

⁸ For this analysis, those who intended to undertake post-graduation study are those who responded positively to the stage 3 question, 'I have applied or will apply to do another course or vocational training next year'

⁹ For 2013 the use of the National Student Survey was piloted as a vehicle for assessing students' intentions post-graduation and prospective future demand for postgraduate education. We also note the recent call for proposals under the Postgraduate Support Scheme includes to research into the motivations and requirements of part-time taught postgraduates, and models for stimulating part-time study at this level. See also <http://www.hefce.ac.uk/pubs/year/2013/c1182013/name.82616.en.html>

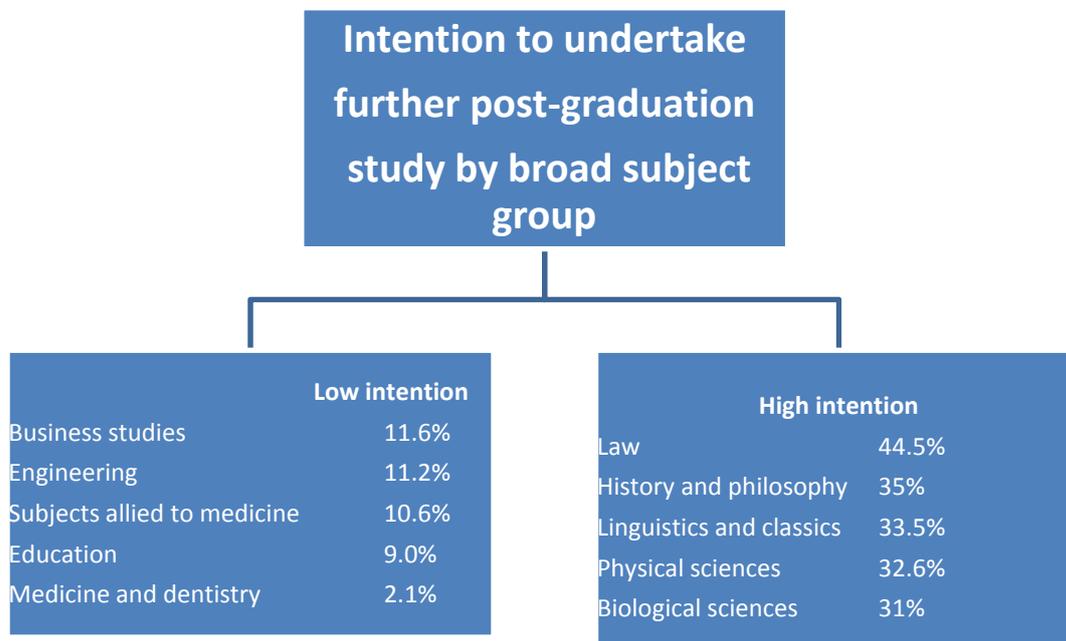
Table 2: Reasons for study in those who intended to and then did participate in post-graduation study (multiple responses permitted)

	A Respondents who intended to undertake PG at stage 3 agreed:	B Proportion of respondents in A who had undertaken PG study by stage 4 agreed:
It is essential for the career I wish to develop	59.9%	63.6%
I believe it will give access to better career opportunities	61.5%	66.8%
I wish to develop more specialist knowledge and expertise	66.5%	69.2%
I wish to develop broader range of knowledge and expertise	39.3%	69.5%
I wish to change direction	7.1%	57.1%
I wish to continue studying my subject(s) to a higher level	55.6%	72.7%
I am interested in the course(s)	63.3%	69.3%
To defer getting a job	18.0%	72.7%

Intentions for post-graduation study

Futuretrack stage 3 data in the diagrams below show the propensity of students to indicate an interest in continuing their study and whether they had actually done so by stage 4, by broad subject. Respondents included here are those who were surveyed in the final year of three-year undergraduate programmes.

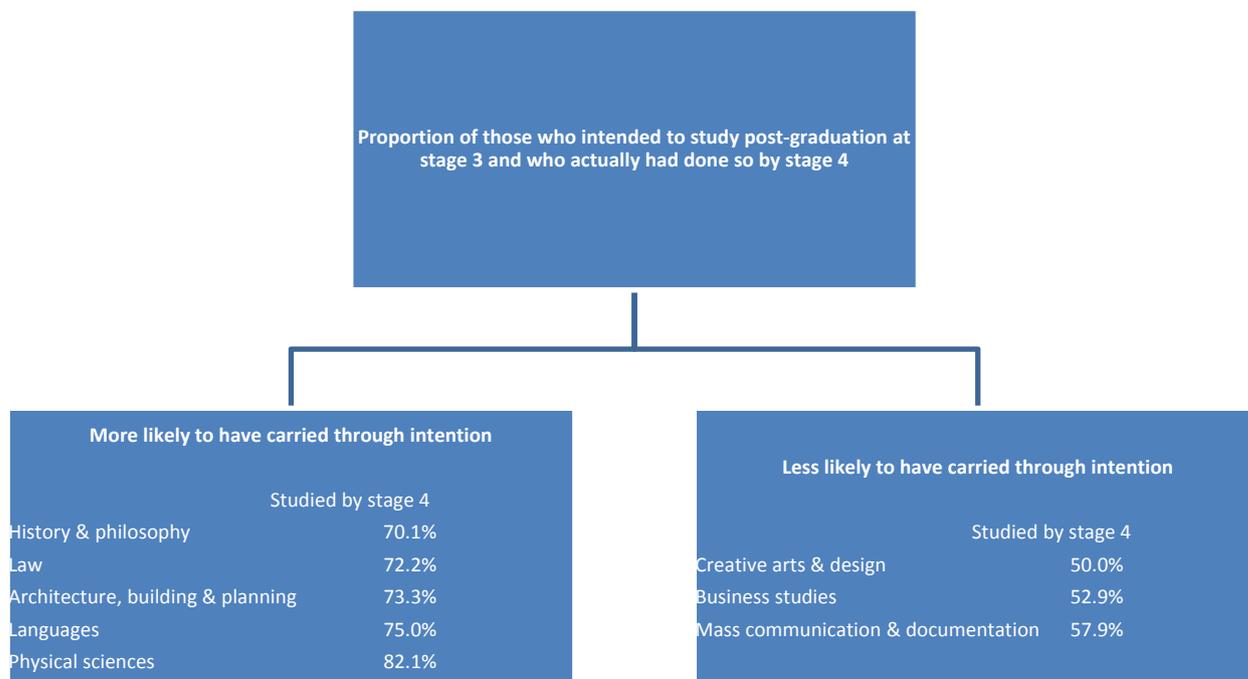
Diagram 1: Intentions to continue to or apply for post-graduation study at stage 3 by broad subject group.



Source: Futuretrack stage3, N=8,115

Of those who intended further study at stage 3, creative arts and design students were the most likely not to actually do so; 50 per cent those who had intended further study had not actually undertaken it by stage 4. Just over 39 per cent of biological science students, 36.8 per cent of social scientists, and 31.8 per cent of linguistics students had also not undertaken further study by stage 4, having said they would at stage 3. At the other end of the scale, 82.1 per cent of physical scientists who intended to enter postgraduate study at stage 3 had done so by stage 4. We suggest that due to the small sample size, information in Diagram 2 is illustrative of the propensity of graduates to carry out their earlier intentions to progress to postgraduate study. Further research into the relationship between subject of study and progression to postgraduate study is advised.

Diagram 2: Carrying out the intention to continue to study, by broad subject group

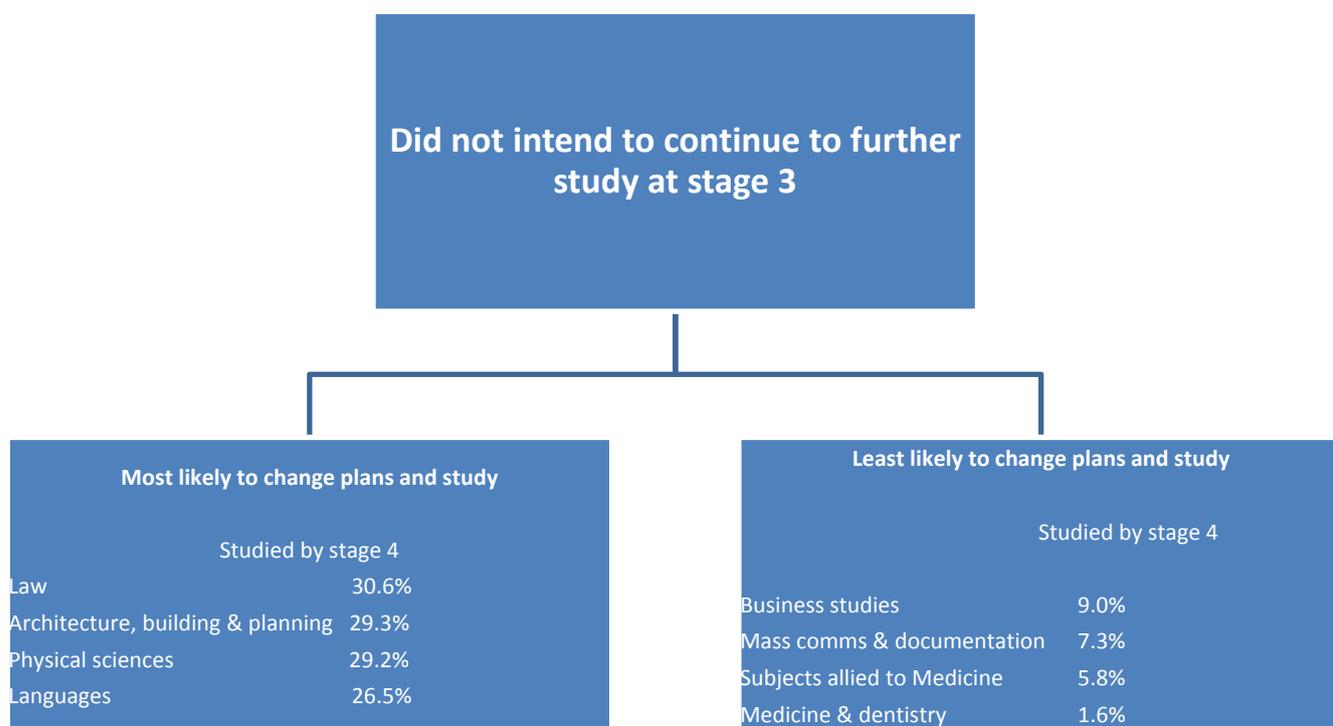


Source: Futuretrack stage 3 and stage 4, N=1,827

Thirty-one per cent of law students who did not intend postgraduate study at stage 3 actually had entered further study by stage 4, as had 29.3 per cent of architecture students and 29.2 per cent of physical science students who did not originally anticipate further study. Architecture students were amongst the least likely to intend postgraduate study, and the high proportion of those who actually did probably shows the effects of a sudden sharp deterioration in the jobs market for this subject following the recession.

Apart from medicine or nursing graduates, who did not generally enter postgraduate study at all, it was students from mass communication and documentation who were most likely to stick to their decision not to take postgraduate study at stage 3; just 7.3 per cent changed their minds. This is summarized in Diagram 3.

Diagram 3: Changes of mind: not intending to continue with study at stage 3 but actually had done so by stage 4, by subject group



Source: Futuretrack at stage 3 and stage 4, N=6,288

Intention to study at stage 3 is also associated with the type of institution attended as shown in Table 3.

Table 3: Intention to study at stage 3 by type of higher education institution

HEI based on access tariff ¹⁰	Proportion intending to undertake PG study
Highest tariff university	23.0%
High tariff university	22.5%
Medium tariff university	17.7%
Lower tariff university	18.6%
General HE college	15.3%
Specialist HE college	14.5%
Overseas	19.3%
Intention to study (all)	20.9%

Students at the highest tariff universities were both most likely to continue to postgraduate study having said they would at stage 3 (74.8 per cent of those saying they would take postgraduate study did so) and the most likely to change their mind and study having said

¹⁰ Working paper 1 at http://www.hecsu.ac.uk/futuretrack_stage_3_working_paper_1.htm

they were *not* going to at stage 3 (19.9 per cent of those who said they were not going to study actually did so). This is perhaps unsurprising given that these students are already attending institutions offering postgraduate opportunities, and may have more funding opportunities available. By contrast more than half (51.2 per cent) of those students who attended a lower tariff university and said they intended to study at postgraduate level, did not actually do so and only 8.3 per cent of those who did not intend to study at stage 3 did so by stage 4.

Fifty-five per cent of those who expected to study in stage 3, and whose outcomes we know from stage 4, expected to fund their study through a postgraduate award or bursary; this group were also the most likely (70.4 per cent of them) to actually have continued to further study by stage 4. Forty nine per cent of respondents intending to study expected to rely upon private funds and very slightly fewer (69.4 per cent of them) did go on to further study. The relationship between intention to progress to postgraduate study and levels of debt accrued via undergraduate study, is further described elsewhere (Purcell, *et al*, 2012, and BIS, forthcoming).

Jobs in the future.

The reasons for undertaking postgraduate study most frequently selected by Futuretrack respondents are intrinsic to the course and emphasise a desire to continue to develop their specialist and subject knowledge. One reason expressed by nearly three quarters of those who did undertake postgraduate study was 'to defer getting a job'. This is striking because far fewer (18 per cent) had agreed with this reason at stage 3, which for most was a few months prior to completing their degrees. Given the economic circumstances prevalent in the summer of 2009, this finding may be unsurprising and it may also indicate students/graduates' adaptability and response to economic prevailing economic conditions.

Research aimed to predict future labour market needs (Wilson and Homenidou ,2010) has suggested that there will be continuing, slow growth in the economy to 2020 with around one and one half million additional jobs created. The working age is rising at the same time as participation rates are falling, reflecting the aging population. More than half of the net increase in jobs will be taken up by women and less than four out of ten of these will be full time. Manufacturing is expected to maintain its share of output but see a small reduction in employment due to increases in productivity. Growth in employment is predicted in the business services sector, albeit not in the public sector, and particularly amongst the higher skilled, white collar occupations (managers, professionals and assistant professional roles) thus increasing its share of the labour market from 42 to 46 per cent by 2020. There is a predicted decline in the demand for skilled and semi-skilled machine operatives and as many as 400,000 manual jobs could disappear; a similar number of administrative and clerical jobs are likely to disappear, due largely to new technologies. Conversely, there are predicted to be increases in lower skilled job opportunities in the personal care and service sectors.

These changes have been described as the 'hour glass effect' and bode well for those with first and postgraduate degrees, as there is evidence of continuing demand for higher-level qualifications. Job opportunities created by the need to replace staff (e.g. staff who retire) will outstrip the creation of new jobs and it is likely that growth will be concentrated in the south of England, particularly in and around the south-east and London. Cut backs in public sector employment are likely to impact most significantly on the north and west of the UK.

Outstanding employer engagement at Lincoln

A jewel in its crown is the Engineering Hub. It is the first new dedicated engineering school in the UK for over 20 years, opened officially in January 2012. The founding head is Professor Paul Stuart, now Director of the University's Institute of Power and Energy. It is home to the UK's first dedicated centre for industrial power generation engineering, providing specialist courses designed to meet the future needs of engineering enterprise and innovation as well as serving as a hub for research excellence. There is a research facility and a Siemens branded large turbine hall. The university is developing innovative ways to generate and harness power on a sustainable and efficient basis, as well as to improve the quality of energy engineering processes and equipment.

"Siemens has a very long heritage and commitment to skills and training. Our collaboration with the University of Lincoln, to establish the UK's first engineering school for 20 years, is ground-breaking in many ways. The co-location of Siemens' world-class gas turbine training facility is unique, enabling students to benefit from real-life engineering issues first hand. This is all part of our focus on creating 'industry-ready' graduates with the practical engineering skills needed in today's business. We also focus on highly innovative research for next generation turbines and other technical engineering issues. Our goal is to make the school a centre of excellence for engineering." (Director of Engineering, Siemens)

The supply of high-level qualifications is continuing to rise, yet,

The demand for skills, as measured by occupations and qualifications, is also projected to rise. The numbers of jobs in occupations typically requiring a degree continue to grow while the graduate intensity of many others is rising steadily. How much this reflects demand as opposed to supply trends is open to debate.
(Wilson and Homenidou, 2010, page xvii)

Balancing supply and demand is difficult to achieve at employer/organisational level. The UKCES (2012) reports¹¹ that employers find it hard to fill vacancies due to 'skills shortages' and employees are reported to have 'skills gaps' that result in sub-optimal performance in job roles. Regional variations are considerable, with 13 per cent of employers overall indicating skills gaps, masking 25 and 23 per cent reporting gaps in North Lincolnshire and Plymouth respectively. Ninety five per cent of employers report that skills shortages and gaps impact upon business performance, particularly in relation to the management of workloads and capacity to be competitive and innovative.

Real life Masters projects at Worcester

In association with the Bulmer Foundation, the University of Worcester's MA degree in Sustainable Development Advocacy involves students undertaking three, month-long placements in employing organisations where students lead 'real life' projects on behalf of their hosts. This had led to employers coming forward with offers of placements; more than can be accommodated. University staff consider the relationships with employers as

¹¹ Davies, B., Gore, K., Shury, J., Vivian, D., Winterbottom, M., (2012) 'Employer skills Survey 2011: results', for the UKCES, Wath-upon-Deerne.

‘informal partnerships’ underpinned by a written agreement in respect of student placements.

Good communication channels have been developed and these are maintained via simple mechanisms such as email, and supplemented with invitations to meetings and seminars – the aim being to maintain high levels of customer service. Pre-placement visits are undertaken in respect of new/inexperienced placement hosts, and a mid-placement visit to all hosts is undertaken for each placement.

Innovation catalysts.

Postgraduates have been described as ‘innovation catalysts’ and not only essential in meeting the skills shortages and gaps in the supply chain identified by employers (at local, national and international level) but also in driving future business innovation and growth. The chair of the independent HE Commission’s inquiry into postgraduate education¹² writes,

As part of a new British industrial policy, where we pick races rather than winners ...continued investment in the UK’s education and training systems will be an important part of this economic future but our view of skills and the higher education system must be broader.

(Spittle, 2012)

Key messages arising from the HE Commission’s inquiry include, that postgraduates cannot be omitted from the development of holistic policy-making for higher education; the UK-domiciled population needs to be up-skilled; and retention of non-UK domiciled postgraduates through post-study work should be enabled.

The earlier review of postgraduate education¹³, chaired by Professor Adrian Smith in 2009/10, also noted that postgraduate education had received very little policy attention. Amongst a range of specific recommendations, two remain relevant here:

Higher education institutions need to be more pro-active in providing postgraduates with the opportunity to develop the core competencies they need to succeed in a competitive job market.

Universities UK and the Sector Skills Councils should highlight and encourage best practice in the development and delivery of courses designed to involve and meet the needs of employers.

There have been many calls for the sharing of best practice in business-university collaboration. The Council for Industry and Higher Education (now the National Centre for Universities and Business) has published extensively on the benefits of collaboration in sectors as diverse as manufacturing, creative industries and research and development. There is both consistency and contradiction in the messaging, reflecting the enormous diversity of business type in the UK. For example, in discussing workforce development King (2007) emphasises the lack of knowledge about how much investment businesses put into skills development and suggests that employers’ interests lie in education and training that enhances job performance whereas employees seek portable qualifications. By contrast,

¹² HE Commission (2012) Postgraduate education: an independent inquiry by the HE Commission.

¹³ BIS (2010) ‘One step beyond: making the most of postgraduate education’, accessed at <http://www.bis.gov.uk/assets/biscore/corporate/docs/p/10-704-one-step-beyond-postgraduate-education.pdf>

CIHE (2010) found that seven out of ten recruiters sought out Masters graduates specifically for their analytical, thinking and problem-solving skills.

Industrial collaboration at Cardiff

Based on a programme developed first at MIT in Boston, iSolve is an intensive five day programme¹⁴ and allows entrepreneurial postgraduates to work with real inventions in order to determine the best route for their commercialisation. Findings from these teams are then presented to a panel of judges alongside a report.

A key part of the iSolve project involves finding contacts in relevant industries to gather real-world feedback on ideas for applications. This builds existing networks of contacts as well as helps develop hands on experience in talking to new people with a range of different backgrounds. iSolve is open to all postgraduate students and research staff.

“It was really great fun working with the iSolve group. I learned a lot related to marketing and the business world... i-Solve really helped me in developing some new skills”

(student, MSc Computer Science)

There is a strong thread running through the literature that advocates the development graduates as global actors, capable of transcending cultural differences by being able to work within multiple perspectives (CIHE, AGR and CFE, 2011).

If current reports present at least one slice of the true experience of business-university collaboration, then the cake must be very large indeed. A very real challenge facing universities is how to engage with businesses that operate, locally, nationally and internationally as de facto, their need for postgraduates will be very different.

Relationship building at Anglia Ruskin

Anglia Ruskin University engaged employers in both the planning and the delivery of a new User Experience (UX) MSc course by regular consultation achieved through employer advisory group meetings. The employer contacts identified an industry-wide gap in qualified graduates in UX. Employers are considered to be both clients - the university aims to meet employers' recruitment needs (and thus secure employment opportunities for its graduates) and partners - the co-delivery of projects and initiatives, to ensure these needs are met.

Staff at the university have taken a proactive approach by meeting employers at their office locations, by holding networking events and by inviting employers in to give guest lecturers. There is a conviction that these activities promote trust in employers (that the university can deliver to meet their needs) and lead to in-kind support by employers. Their advice to other universities aiming to engage employers in PGT courses includes:

- consult with a variety of contrasting employers in the development of courses

¹⁴ MSc. Operational Research and Applied Statistics
<http://courses.cardiff.ac.uk/postgraduate/course/detail/p225.html>
i-Solve <http://www.cardiff.ac.uk/racdv/students/i-solve/>

- hold joint meeting(s) with all the involved employers to enable them to share ideas
- encourage development of a relationship with the institution as well as individuals
- identify ways employers can be involved in the delivery of the course as this helps to maintain engagement on an on-going basis.

CIHE (2010, *ibid*) identified five types of employers of postgraduates reflecting very different skills needs:

- *trawlers*, who recruit postgraduates who simply get caught in the net
- *spear-fishers*, who seek specific capabilities and target specialist degrees or institutions
- *anglers*, who might be equally interested in a good class of first degree
- *harvesters*, who recruit both specialists and generalists and
- *baiters*, who do not require postgraduates.

In our survey and interviews with employers it is clear that the diversity of the labour market provides opportunities for graduates with specific and generic masters level learning. The following examples describe the recruitment of Masters graduates from the perspectives of a sample of pharmaceutical statistical analysis, mobile support in health and care, broadcasting technology, academic publishing, agriculture/horticulture, statistical consultancy, engineering, laboratory services and forensic science, businesses. In different ways, these accounts challenge the assumption that there is no separate labour market for taught postgraduates in the UK, confirm that employers needs for masters graduates are difficult for universities to predict and offer ways to shape collaboration between universities and business.

University-business practice

Our discussions and survey reveal a wide range of responses by institutions to the challenge of engaging employers in taught postgraduate courses. There is clearly a great deal of innovative work that is sensitive to both the needs of employers and Masters graduates; the understanding of the former adding strength to the development of employability in the latter.

Particular challenges recognised by institutions include:

- the prevalence of year-long Masters programmes (or part-time equivalent), that may constrain time for practical work (projects and placements) with employers
- the need to balance generic and specific learning outcomes in programmes, to support both graduates' long term employability and employers' needs for skilled professionals
- graduate recruiters not differentiating between first and Masters level applicants (this may be an issue particular to the UK)
- the numbers of international students/graduates who may be seeking taught postgraduate qualifications for 'global' rather than local careers
- the need to build sustainable relationships with employers within time and resource constraints

Our cases of best practice show that institutions meet challenges in ways that could be described as both bespoke, via the development of a 'niche' PGT programme to address a specific need in a local business, or strategic, via work with professional organisations, groups of employers or development of institutional strategy. Institutions successfully combined these 'top-down' and 'bottom-up' approaches to create a climate for collaboration from which one initiative tends to lead to another.

We found examples of institutions raising the profile of collaborative working with employers in activities as diverse as the inclusion of employers in meetings and seminars, the achievement of industrial awards for course development, invitations to employers as guest lecturers and the creation of posts to manage relationships with businesses across departments, faculties or the institution.

Most of our cases indicated that maintaining employer involvement in PGT hinged upon establishing effective mechanisms for communication, in order to develop the shared agendas, so crucial in establishing genuine collaboration. Communication methods thought to work well include via academic staff maintaining contact with alumni working in businesses and relationships focused upon research or practitioner development. One institution had carried out research into the views of employers before attempting to develop its relationships with them, and found that there were real gaps in understanding even amongst businesses with a long-standing association. For example, one finding indicated that employers were unaware of differences in course content in across institutions.

Relationship management is not just concerned with the establishment of new work practices, but also encompasses the invigoration of existing ones, and is therefore a dynamic process. The dynamism of university-business relationships is evidenced in the apparently contradictory views expressed; for example, staff at one institution felt that getting employers together to discuss and share ideas would enhance course provision whilst at another staff felt that the heterogeneity of businesses made collaboration on single courses difficult to achieve. Although our research was not sufficiently extensive to be certain, there appears to be likelihood that there are local and regional differences (and practices) in the way that businesses expect to be able to work with institutions.

In many cases, institutions indicated that their business relationships were achieved through employers actively participating in courses as guest lecturers, discussants, managers of work placements, project or dissertation supervisors, and so forth. Similarly, academic staff who work as consultants, co-researchers and who support businesses' continuing professional development needs, are working actively with employers. There appears to be a consensus that such shared activities underpin the strengthening of relationships because they build trust and mutual understanding through day-to-day communication.

Institutions deploy a variety of means to find places for communications to take place – some described formal mechanisms such as advisory panels in course development; some emphasised the importance of keeping communication mechanisms 'light' and informal. Others found that professional networks enabled academic staff to maintain contact with business colleagues. Academics who undertake professional work outside the institution were thought particularly likely to be able to maintain effective working relationships with businesses across their professional sector. One institution describes using the provision of student placements as a way of maintaining contact via visits to employers' premises to design placement projects and monitor student performance.

Employers' perceptions of the value of taught postgraduates

There are many ways in which a high quality Masters degree can improve a graduate's employability, whether through increasing their subject or technical knowledge, improving self-management skills or simply demonstrating commitment and determination. Employers' opinions and awareness of Masters degrees are crucial to appreciating the value of these courses, and how this value can be enhanced and realised. As we will see, these employer views on Masters degrees vary greatly between organisations and sectors.

We interviewed eight employers and conducted a small scale survey of 26 employers, all of which had higher level skills requirements, and most recruited at least some staff with Masters degrees. Here we provide a short overview of key findings from the employer interviews and survey, before presenting eight in-depth employer profiles.

Qualification requirements

We asked interviewees whether there were any roles within their company that required a Masters level qualification. Broadly employers fall into two camps here: those for which certain roles require a Masters degree, and those which only require a Bachelor's degree. From our survey of 26 employers, 22 found a Bachelor's degree to be essential for some roles, while 10 found a Masters degree to be essential. Of the latter 7 agreed that they also offer candidates with a Masters degree higher starting salaries than those with Bachelor's degrees. Where a Masters degree is essential, this is often linked to the employer's need for quite specific subject or technical skills and knowledge – for example, in statistics or in broadcasting technology. Interestingly, even these employers do not have separate recruitment processes for candidates with Masters or Bachelor's degrees (no respondents agreed with the relevant statement in the survey).

Whilst we have found that there are positions in which a Master's degree is seen as essential, such requirements could have an adverse impact on social mobility and the ability of poorer individuals to move into these industries. In 2011/2012, average postgraduate tuition fees for home/EU students were £6,184, which represented a 24% increase in fees relative to the previous year¹⁵. With higher fees introduced at the undergraduate level, there is a possibility that students from a low socioeconomic status are increasingly priced out of Master's study, given the lack of financial support available at the postgraduate level.

Amongst the employers we interviewed, we found that there was a demand for students who possessed a Master's in subjects such as Statistics, Finance and Computer Science. Students who wish to pursue such courses will often have to self-finance their study, unless they are able to secure a scholarship or bursary offered by the university.

Employers that do not require Masters degrees are varied, but may not need such a close link between degree subject and graduate occupations. While a first degree may be a requirement, candidates can demonstrate the wider competencies for the role by referring to a range of prior experiences and skills. These may have been developed by studying for a higher level qualification, but experience inside and outside the workplace is also likely to be an important factor in articulating these attributes. Some employers fall into both groups, with specific requirements for Masters degrees for some roles, but not for others.

¹⁵ <http://www.timeshighereducation.co.uk/416869.article>

The quotations below illustrate these two attitudes towards Masters degrees, and more detail on specific examples is given in the employer profiles that follow. The first quote is taken from a company which specifically recruits for Masters qualifications, whilst the second from a firm that does not place great emphasis on the specific degree level qualification of a candidate.

“It’s about the research experience and being able to sit down and methodically break an assignment down to go through the actual theory of how you do something.”

“No, we look at the wider picture and what their experience has been, not just in the workplace, but their wider experience and see what skills they can bring to the business. I think enthusiasm is the key one.”

Employability

In cases where employers actively recruit people with a relevant Masters degree, the added skill set that can be offered by postgraduate students was well recognised. Masters students were believed to have greater maturity, alongside stronger learning and analytical skills. From the survey 14 out of the 25 respondents agreed that Masters graduates are more professionally mature and 11 agreed they have better problem-solving skills compared to candidates with a Bachelor’s degree. Importantly though, a Masters degree is not a guarantee of better employability skills and only seven survey respondents agreed that a Masters is necessarily an indicator of a high quality candidate. Also some of the valuable qualities found in Masters graduates may not have necessarily been developed through further study itself, but also through a kind of self-selection, with able or interested candidates being seen to be more likely to study at postgraduate level. Amongst our sample, there were a handful of employers who only looked to recruit Masters students from high entry tariff institutions, as the selective nature of these institutions meant that only the most able individuals completed their courses.

Companies who are not specifically looking at recruiting Masters graduates showed far less awareness of the added value of postgraduate study. Indeed, in certain organisations where both first degree and Masters students were recruited in the same process, it was evident that little internal research had been carried out on whether first degree and Masters degree employees were performing or progressing at different rates.

“It would be really interesting work for me to do to actually look at the people who have progressed within our organisation and identify whether amongst them there is a higher proportion of people with Masters qualifications than with the general population we have. That’s actually quite an interesting question for me and one that, until we spoke about it now, I hadn’t even thought about.”

These attitudes show there is still work to be done to promote the value of Masters qualifications, as distinct from Bachelor’s, and raise awareness amongst employers who may not have considered their recruitment in these terms. Just five out of 25 survey respondents agreed Masters graduates perform better in leadership roles, six that they have higher commercial awareness, and none agreed they are better at working in teams. Potentially there is also a burden on universities to support the development of employability skills as part of Masters courses.

Work with universities

It was common amongst the companies we consulted for them to liaise with universities to recruit bright talent into their organisation; for example, through attending careers fairs or promoting job vacancies to students. Interestingly, a number of employers we interviewed were also involved in aspects of the design or delivery of postgraduate programmes to allow students to develop their practical knowledge and experience, alongside a higher level qualification. The importance of work experience and the practical application of knowledge and skills was a theme repeated by the majority of employers, many of whom believed that this was a key feature that could be improved in current Masters courses. Several employers also emphasised that better work-related skills development integrated into Masters programmes would have great benefits for students, and help to justify the significant investment they were making in their learning.

Masters graduates in pharmaceutical statistical analysis

We interviewed the Resourcing Manager of a company with over 200 employees that provides statistical support to the pharmaceutical industry on analysing data generated from clinical trials. Skills needs at the company include advanced skills in statistical analysis, computer programming and medical writing.

Qualifications required

The company has different skills and qualification needs for different roles. For graduate statistician roles, the minimum requirement is an MSc in statistics or related fields, such as epidemiology or medical statistics. This is not necessarily because the educational calibre of Masters graduates is better, but as much because almost everyone in that role in the industry holds a Masters and it is considered an industry standard. Therefore candidates without a Masters degree are at a significant disadvantage if applying for graduate statistician roles.

Other roles, such as medical writing, are at a more senior level and potentially require a PhD, because of the technical scientific writing skills required. For programming roles, a BSc in a relevant computer science-related degree is required, with a minimum pass of a 2.1 or above. Therefore, the qualification requirements differ according to the different roles within the company.

The graduate statistician role involves analysing clinical trial data and interpreting what the data reveals in terms of the efficacy and safety of new treatments. The statisticians support clients who contract for a large amount of work, including collecting, interpreting and manipulating the data from the client company. They also provide consultancy support for ad hoc data queries. New statisticians often require a lot of direction and support as the work is complex, but as they gain experience they work more independently.

For the graduate statistician role, the MSc provides research experience and experience of methodically breaking down a statistical problem, with knowledge of the underlying theory behind the analysis. This experience gained in the Masters enables these graduates to take on the responsibility of delivering flexibly on both contracted and more ad hoc query based projects. This experience could be gained without a Masters degree, but the historic focus on the academic rigour built through the MSc, has meant that these candidates are more credible.

To maintain competitiveness, the company tends to offer higher starting salaries for candidates joining with a Masters degree, 15-20% higher than other roles which only require a BSc. Other companies in the industry are also recruiting statisticians with MScs, which means that the company needs to remain attractive by offering these higher salaries. However, the company does not face significant barriers to recruiting suitable candidates with Masters qualifications. They find there is always competition, but there are sufficient courses around producing high quality Masters graduates.

“There’s plenty of courses offering the relevant Masters degree programmes. You just have to be thorough when you’re assessing that you’re getting the right people. Different universities will have different calibre courses. For example, the London universities, Manchester and Lancaster all have strong courses.”

The company tends not to train existing staff up to Masters level while they are employed, preferring instead to recruit candidates who already have the right qualifications. The cost of paying for the course and the time away from work is the main barrier to learning alongside work.

Employability skills

The company finds people with a Masters level qualification more mature and grounded than those with only a Bachelors degree. Having taken an MSc course, they have made a deliberate choice towards a particular career route in statistics, which makes them stand out from candidates with a Bachelors degree, many of whom have taken a degree more because it is expected of them. The interviewee also felt that staff with Masters degrees perform better in leadership roles.

“I think you can often see that candidates with the MSc are a lot more mature and more grounded than those applying for BSc level roles. When people have completed an MSc, that’s been a conscious and personal decision to do that. Therefore, they seem to be a lot more stable in terms of their mindset and a little bit more settled and clear on what they want to achieve. So they can come across a lot more decisive and clearer when you’re interviewing candidates.”

This is interesting because the self-directedness and deliberate mind-set of these candidates are not necessarily developed through the content of the qualification itself, but equally or more so through the filtering process of the types of candidates who wish to go on to study an MSc. Through doing the course, candidates with Masters qualifications develop better knowledge and understanding of the industry, as well as the statistical abilities that are core to the role.

The company considers graduates of both full-time and part-time Masters programmes, with a slight preference for those graduating from full-time courses.

“We consider both. I think full-time Masters is often more appealing, because it’s more focused. So whilst somebody would have got experience during a part-time Masters, we might prefer that somebody had gathered that experience during a break between the Bachelor’s and the Masters. But we do consider both.”

Case of best practice

The company's main interaction with universities is through attending careers fairs and working with careers departments to promote their vacancies. The company would like to have more intensive interactions, such as attending or delivering talks to students, but the current resources for this activity are limited and it is not seen as necessary to gain the required number of applications.

Generally they are content with the skills of Masters degree graduates. The programmes at different institutions tend to be at a similar level and the qualification provides a useful benchmark for entering the company.

"Because the Masters degree programmes in statistics, medical statistics, bio statistics and so on, have been at the same level and offering the same sort of content over the years, people get used to knowing what to look out for and what a Masters graduate will bring to the table. So you assess against those criteria."

However, that's not to say that additional competencies would not be welcome on top of the MSc. Suggestions for improving the employability of Masters graduates included integrating more hands-on work experience, such as a work placement, into the course:

"If you have a Masters programme that combined a traditional MSc programme with some sort of other hands on experience, giving individuals opportunities to work on real life data from a specific company, then it's certainly going to make that individual stand out more over others."

"You have sandwich courses at BSc level; you never have them at MSc. The funny thing is, if you had something like that at MSc level, you'd all of a sudden have something that was quite special. But I don't think it's necessarily feasible."

The link to practical hands on experience can be found in some existing courses that have employer involvement in their content and development. Graduates from these courses stand out above those without similar experience.

"You often find Masters courses that are supported or sponsored by the large multi-national pharmaceutical companies and if you see that on a candidate's CV, then on paper they are going to seem a stronger, higher calibre candidate."

Masters graduates in mobile support in health and care

We interviewed the Operations Manager of a small company with six employees (one full-time, two part-time, two interns and one apprentice) that provides telecoms remote monitoring and assistive technology in the health and care sector, to help people in need of care or health support or monitoring to stay in their homes. The company was formed

around 18 months ago and is now beginning trading following a period of set up. The main skills requirements it faces are for sales and marketing skills, as well as general business and commercial skills to run the company effectively. Being a small company, staff need to have a flexible skill set and will become involved in many areas of the business.

Qualifications required

Masters degrees are not generally required for most roles in the business. The interns and apprentice have been employed to take forward the sales and marketing aspects of the business. The interns hold Bachelor's degrees from foreign universities and are felt to have the necessary skills for their roles. The apprentice is a school leaver and also works in marketing the business to new clients.

The Operations Manager herself holds a Masters in Business Administration (MBA) and is the only member of staff with a qualification at this level. Having graduated eight months ago, she feels this qualification has given her the skills to run the small business effectively, with a good general understanding of business needs.

“Because I did an MBA, it’s given me an overview of all the tools that I need to help run the business more effectively. My career’s been over 20 years, mostly in another sector, so it’s interesting to see how those skills can be transferred. Doing the MBA opened my eyes to a lot of things that I actually knew, but it’s put it into a context that helps me to see how I can adapt my skills to new situations.”

Having an MBA is not an essential requirement of the Operations Manager role, but it is certainly useful in helping to ensure awareness of business issues. Similarly within the wider industry, a formal qualification at Masters level is not seen as a requirement for most roles. In general, the company doesn't draw rigid distinctions between whether candidates hold a Bachelor's or a Masters degree, preferring to look at the wider attributes of each candidate, such as their industry awareness and general enthusiasm for the role.

Employability skills

In relation to the employability skills of individuals with Masters level qualifications, compared to Bachelor's level, the company believes it depends entirely on each person. An individual candidate's commercial awareness and ability is not necessarily clearly related to their level of qualification, and is closely related to their work experience.

“There are people without Masters degrees who have an awareness that would help in any industry, and people with Masters degrees who still aren't that commercially or business aware. So I think it all depends on the individual. ...If you've got a mature student with a Bachelor's degree and plenty of experience, they would be more employable than someone with a Masters degree and no experience. Experience counts for a lot.”

Case of best practice

The company has a very close relationship with a specific university in the South West. The Operations Manager herself works for two days a week at the university business school as a research assistant on employability and skills shortages in the South West region, aiming to support HE graduates at all levels to be more entrepreneurial and employable. In this role she mentors an MBA student, who is also conducting a structured, accredited month-long work placement at the same company. The company finds that taking on a work placement student gives access to expertise, fresh ideas and new approaches, as well as somebody conducting valuable work at no cost to the company.

Things are always changing, with new theories coming out and good and bad practice being identified. Technology is moving on, with a huge drive towards social networking and social marketing. The MBA student is more keyed into that, being a 'digital native', and the extent that it can help our business. This sort of expertise is invaluable to us."

Building relationships with Masters students can also give the employer a useful recruitment option on completion of the course, avoiding high costs associated with finding suitable candidates.

"From the employer's perspective, after the course, you know the person and their skills and they understand the ethos of the company and it helps avoid going through a lengthy recruitment process."

For the MBA student, the placement gives an opportunity to gain valuable work experience, understanding how a small business works with the potential for employment at the end of the course. Indeed the Operations Manager herself was employed in her current role following an earlier successful work placement at the same company as part of her own MBA course.

The Operations Manager made the point that MA and MBA programmes can be enhanced by universities taking this kind of cooperative education approach with employers. Work placements and work experience built into the courses can help to develop the softer skills and self-management skills that are valuable in small businesses and employment generally.

"We want to make sure that students come out of a course not just with the skills relevant to the particular course, but with a whole raft of other skills that are attractive to employers."
"I know it would take longer for students to complete their Masters, but they could get paid as a result of doing work experience, improving their skills, developing themselves and not being afraid to challenge situations which perhaps they'd feel intimidated in if they hadn't had work experience. And the company is able to benefit from that personal development as well."

The interviewee felt that relevant work placements as part of Masters degrees can have such a positive impact on a student's experience and subsequent employability that it can help to justify the high costs and potential risk of undertaking Masters level study.

"If there is a particular sector in which they want to develop their skills, then giving students the chance to do that as a placement, or in a partnership approach with an employer can justify the investment in the course. MBAs in this country can be ridiculous amounts of money for course fees and this would be one way of encouraging more students to take Masters degrees."

The interviewee highlighted other ways that her own MBA programme could have been improved: more emphasis on softer skills and networking would have been valuable, as would more and better careers advice to develop a career plan. She emphasised that the university had recognised the need to raise awareness of the careers service with students throughout the university, including in the business school, and was now promoting this more actively to students.

Masters graduates in broadcasting technology

We interviewed the managing director of a small technology company with 12 employees working in the broadcasting industry. The company develops and deploys IT and other technologies for large broadcasting clients, often tackling research and development problems, before deploying the solution. They have a range of skills needs, particularly focusing on cutting edge technology and commercial skills. Typically the company would recruit between one and three Masters graduates in a year.

Qualifications required

The company considers Masters degrees in computer science, programming and related areas to be essential for some roles. The roles that candidates with Masters degrees enter vary considerably, based on the individual being recruited, from junior developer roles, to more senior levels. The specific technology knowledge and skills developed in the Masters degree is highly valued by the company, as well as candidates' fresh thinking and new ideas. Being in a specialist industry, they require a specialist, up-to-date skillset, something which is often dominated by younger people who are often more familiar with the latest technology.

"We're trying to find intelligent people. To a large extent the Masters qualification is a filter. We very specifically want to hire Masters students, because they do have a degree, so they have a basic level of specialist understanding in the area that we're looking at. They obviously want to learn more and we're trying to learn with them – that's why we do it. We want to learn from them as much as hire them."

Although many candidates without Masters qualifications may also be familiar with the latest technologies, the company finds that it values the structured and robust learning that happens in academic higher education programmes.

"Because we develop cutting edge technologies, the students and graduates we work with have more than an average skills base. So, there are some very bright programmers out there who didn't even finish their GCSEs, but we're looking for intelligence that has been fine-tuned and filtered in a structured way. "

Employability skills

Specifically, Masters graduates are felt to be stronger candidates than Bachelor's graduates. Graduates from Bachelor's degrees are not yet experienced or structured enough to meet the companies skills needs. It is at Masters level that the company see both the higher skill levels required, but also the dedication and commitment to a career path, which is highly sought after.

"At undergraduate level, you can just tell immediately that they're not used to digesting and getting their heads around briefs and they don't seem that structured. Whereas Masters students have got a good enough grade to progress on to a Masters, but also have been inspired enough about what they want to do to actually go on and do it. And that's important to us."

"You've got to be pretty dedicated to go on to do a Masters. Especially in today's climate, many students will want to go straight into work to start paying back their loan."

The company usually selects graduates of full-time Masters programmes, but graduates of part-time courses would also be attractive and have developed some of the work attitudes the company requires.

“If anything, knowing a student was responsible enough and organised enough to hold down a job simultaneously with a Masters course, that would impress me.”

Despite the positive skills developed through Masters degree, the managing director still felt that higher education graduates need to develop better self-management skills than at present. Often the transition from university to a commercial environment is challenging and more experience of self-management and commercial attitudes as part of Masters programmes would be valuable.

Case of best practice

To support its skills needs, the company has a strong relationship with a particular university electronic computer science department. Amongst several areas of work, the company directly feeds into the department’s Masters programme by setting real life design brief problems for students to tackle as part of their 10-week group design projects. The students work in groups of five or six to tackle the design brief, guided by university staff to ensure that the project also meets the academic needs of the course module.

As well as helping to ensure the candidates develop practical R&D skills, this acts as a route through which the company can recruit new staff. For example, the company is due to employ three students in June as they finish their Masters degrees. It also helps to develop genuine, high quality, academic solutions to the R&D challenges the company faces. Being a relatively small company, they choose to work closely with just one university, as it has a specific and relevant specialism. The company also has an ongoing programme in which they hire part-time undergraduate students on part-time employment contracts, recruited through the university.

The value of this kind of relevant, course related work experience is very high and the managing director of this company felt that there is considerable value in industry and higher education collaborating in this way.

“I think very specifically that industry and higher education should be working together. It seems to me that universities have had a lot of funding cut, so there must be pressure to find revenue streams. Likewise you have businesses that are finding it hard to trade and need to tap into affordable R&D environments. That’s one of the reasons we got involved with the university, because it is structured enough for it to be considered an affordable, professional decision for us. Ultimately to me it seems to be a win-win.”

The company is now getting requests from the university to formalise the relationship further, because they see it as a competitive advantage for making their Masters programme more attractive to students concerned with employment after their courses. Indeed, the relationship brings many benefits for the students who may be concerned whether they can afford to complete a Masters course.

“If I were a student now, I would be looking for courses that give me practical work experience and opportunities to develop myself and almost guarantee myself a job when I finish my degree. The students who work with us on their Masters courses seem to find it

very motivating and rewarding, because they know they've got an opportunity to turn their degree into a job at the end."

Masters graduates in academic publishing

We interviewed the managing director of a non-profit, independent company, focused on open access academic publishing. The company has close links to a university and is staffed almost exclusively by academics and part-time students. The company has only a small number of staff, comprising of three directors, who are university academics, and two PhD students working part-time, and a small number of interns; they are considering employing a Masters graduate in the near future. High quality academic writing and editing skills are highly valued, as well as technical IT skills.

Qualifications required

The company has several roles: directors, IT support, editorial and marketing roles. The different roles have different qualification requirements: because of the academic nature of the IT support and editorial roles a PhD is preferred, whereas the marketing role has fewer specific requirements.

The company has recently interviewed and is likely to employ somebody who is finishing their Masters. They find it important that candidates have a Masters degree from specific, high prestige universities, such as Oxbridge and London universities. This is partly because of the high quality courses on offer, but perhaps also because the selective entry in these institutions acts as a filter to identify the very best candidates.

"In my experience you know you probably don't want to even interview people coming from certain universities, simply because the Masters degree doesn't give them that much. But you do want to employ them from other universities, so it's very variable. It's not just a Masters degree; it's which universities they studied at."

The second point the managing director found important is at what point a candidate completed a Masters degree in their career – as in many industries, work experience is considered very valuable.

"If it's just straight after university, it's probably less useful to us. It's more useful if a person had some experience relevant to the job, or is a bit more mature."

The company has found it difficult to recruit for the IT support role, partly because it is a part-time role and partly because they cannot offer a high salary. The editorial role attracts more candidates, but it is more difficult to find those with the right work experience, alongside their qualifications.

Employability skills

The managing director was clear that PhD students tend to have better and more relevant skills. They are seen to have a more critical, in-depth, imaginative approach to problems, as well as better IT skills and more experience. Masters courses are not viewed as being sufficiently in-depth to guarantee the skills and understanding necessary for the role. The shorter duration of a Masters degree was also highlighted as making it potentially more superficial.

“Even a good Masters course is probably not quite good enough for what we need. The courses can be quite ‘bitty’ and they haven’t had time to do any in-depth work, so when they come here you have to train them – not from scratch, but they don’t come with a set of skills you can rely on completely.”

Case of best practice

The company itself is based at a major university and has very close links with university staff and students. The company tends to recruit its interns or part-time staff from the same university, although also from other similar institutions. The company is not currently making attempts to influence the content of Masters programmes at universities, but consider that it could be useful in the future. The principal barrier to this is a lack of contacts and collaboration with Masters course leaders.

Overall, although the company does consider candidates with Masters degrees, they are not the first preference for providing the required skillset. The managing director suggested that slightly longer Masters programmes might produce more in-depth study skills, which could produce candidates more suited to the academic skills required in this company.

Masters graduates in agriculture and horticulture

Our next interview took place with a not-for-profit training and recruitment organisation in the agriculture and horticulture industry that has an intake of around twenty graduates per year. These graduates are provided with training that will allow them to move into junior management roles within the fresh produce industry. Whilst candidates may enter with only an undergraduate qualification, they will obtain a postgraduate certificate in Food and Fresh Produce Management on successful completion of the scheme at the end of the two years, which signals the development of their practical and theoretical knowledge of the industry. The programme is accredited by Harper Adams University College, which therefore provides trainees with a qualification that is recognised inside and outside of the industry. The programme consists of four different work placements, as well as personal development workshops looking to build their leadership and management skills.

Qualifications required

The minimum requirement to be eligible for the programme is an upper-second class degree. There are no positions within the company that specifically require a Masters degree, as all candidates complete the same training scheme. Masters students however may apply to the scheme. Candidates with a Masters will often have completed a more theoretical course and have little or no work experience in the sector and they apply to specifically address this gap. For managerial roles in the sector, the ability to apply knowledge is seen as a necessity when entering such a demanding industry. A Masters student who has completed a theoretical course and has no practical experience is likely to be at a disadvantage when trying to move into employment compared to a sandwich placement student.

“Some of the Masters courses are very theoretical and not very applied to the industry. I think that sometimes hampers the students that come out of these programmes. Whilst they have the theoretical knowledge, they have no work-based learning knowledge. The transition to the workplace is harder for the Masters students than it is for the (under)graduates.”

Students who have completed more practical Masters courses relevant to the industry would be too advanced to enter the training scheme, as they have already reached the intended standard. It is such Masters qualifications that are often particularly valued within the fresh produce sector. The interviewee felt that Masters degree students needed to have a clear understanding of what role they wish to move into and the value the Masters may bring to that position, if it is going to be worth pursuing. However, simply completing a postgraduate degree without considering its potential future application to your anticipated role may mean the Masters has little importance in future employment.

“If they have done a Masters because they couldn’t find a job and have no clear career path as to how they want to use that, then I don’t think they will have gained any momentum over an undergraduate.”

Employability skills

In comparison to individuals with only an undergraduate degree, Masters students were likely to demonstrate better communication skills, given that they are afforded the opportunity to complete more presentations and undertake more rigorous research and investigation during their study. However, it was emphasised that the key barrier to recruiting Masters graduates was their inability to illustrate that they can apply their knowledge into the industry. Often, they would concentrate so intensively on their academic qualification that not much thought had been given to how that knowledge and expertise could be applied into different roles within the industry.

“When you are interviewing Masters students, whilst academically they are very sound, they have no ability to apply what they have learnt to a practical environment. The food and farming industry are very practical environments and if an individual lacks the ability to apply what they have learnt, they are really going to struggle in this environment.”

Case of best practice

Currently, whilst there are some institutions who are trying to highlight to their students how the course content can be applied in industry, there are also institutions at which the Masters courses are designed as the initial step before moving on to doctoral study. However, the problem with this is that many students often realise that they do not wish to pursue a PhD in the subject and will look to move into employment. However, their course fails to adequately prepare them for moving into industry, as they do not gain an insight into the practical applications of the subject. This is potentially an area for improving the design of some of the Masters courses currently on offer to potential postgraduates, which will benefit their employment prospects.

“I think in some of the Masters programmes, a more applied process needs to be built into them, where the students have to do an industrial project or something where they can demonstrate their learning based in a practical based environment.”

Finally, in order to allow postgraduate students to potentially study and work at the same time, universities need to offer greater flexibility with regards to learning methods (e.g. online learning). This will allow students to benefit from a mix of theoretical and practical learning.

Masters graduates in statistical consultancy

Our interview took place with a statistical consultancy providing analysis and forecasting for clients within the sports industry (e.g. bookmakers or sports management). The company is relatively small in size, with around fifty employees, who are placed into one of two separate teams. Approximately twenty to twenty five people work within the research team which is composed of mathematicians, statisticians and computer scientists. Meanwhile, the other teams focus on providing support to this group and consist of employees working in fields such as human resources or in general analytical functions.

Qualifications required

The qualifications required to be considered for positions in these teams differ. At present, the company hires candidates with a first degree, a Masters degree and those with a doctoral degree. However, it is within the research team that postgraduate skills are deemed to be a necessity. This is due to the complexity of the work involved, which is considered to be on a par with that in a university department, as well as the need to be at the forefront of the industry in order to attract and retain clients.

When recruiting for roles within the research team, the employer is particularly looking for those candidates who have attended a university that ranks within the top ten in the country, such as Oxford or Warwick. These universities tend to offer integrated Masters courses in the required subjects and hence successful candidates will commonly hold such a qualification. The rationale behind recruiting from these universities stems from the belief that there is a big difference in the quality of the courses offered at alternative institutions. It is at the top universities, where the interviewee feels that the most able students apply and where teaching at Masters level adequately equips them with the skills and knowledge that are sought after by the company. PhD students are also considered for roles within the research team, but candidates at this level would not necessarily be expected to have attended one of the top institutions for their PhD. Rather than any transferable skills gained through postgraduate study, the company is particularly interested in the subject specific knowledge attained through study, as well as the research experience provided due to this reflecting their own requirements within the research department. It is the lack of research experience and additional knowledge gained through an extra year of study that makes first degree students ineligible for such roles.

“It is the subject-specific knowledge gained through Masters and PhD courses that are essential for the organisation. On top of that, the research experience that goes along with it. This is generally something that people don’t get at Bachelor’s level.”

Employability skills

Looking more closely at the potential transferable skills gained through postgraduate study, the interviewee did feel that Masters candidates were more likely to display better communication skills than those with only a first degree, given that they may have the opportunity to mentor and teach undergraduate students, which helps to develop this ability. Whilst those individuals with a Masters degree often possessed better problem-solving skills and had the potential to learn quickly, the interviewee was unsure whether this was necessarily due to their postgraduate study. It could well be that those who possess these skills have a higher probability of going on to pursue higher level study (see quote below). Whilst commercial awareness was not an attribute looked for in potential candidates, it was felt that this was not an area that should be addressed by university

courses and is the reason why many companies run their own graduate programmes. Higher education institutions should focus on teaching the subject and allowing students to develop their learning and problem-solving skills.

“It’s a little difficult to distinguish between whether it is an extra year of study that identifies that or whether people with those sort of skills have the interest in wanting to take their studies on for another year.”

The majority of employers who responded to our survey stated that a candidate with only a first degree but with 12-24 months’ work experience would be preferred to a Masters candidate with no work experience. However, this employer was in the minority who disagreed with this, given the specific focus on subject knowledge and research experience. Those who had worked in a financial trading organisation however may well have gained additional skills to those built at Masters level and will normally begin to display attributes found in doctoral students. Often, they will work across a number of projects with different supervisors and will therefore begin to develop their own methods and approaches to completing research. In a Masters course however, it could well be that the supervisor to a student’s research steers a large proportion of the work, inhibiting such development.

Case of best practice

The company focuses on recruiting those already with a relevant Masters or PhD into their research team, rather than train existing staff to such a level. This is mainly due to the fact that the organisation is relatively small and therefore doesn’t have the resource to be able to allow staff to take a few days off per week to attend part-time study courses.

The work with universities currently tends to focus on the recruitment aspect and trying to ensure that potential candidates are aware of the careers on offer at the company, which is done by attending careers fairs, for instance. Whilst there is a lack of work with universities around the design and delivery of Masters courses, this is due to the adequacy of the courses provided at the top institutions from which the organisation looks to recruit.

“Within the institutions we look to recruit from, Masters courses are adequate in terms of their design and delivery.”

Masters graduates in food manufacturing

We interviewed the UK recruitment manager for a large food manufacturer, operating in the UK and Ireland as a subsidiary of a global company. The company produces many well-known food brands sold in the UK and Ireland, as well as exporting products across the world. The UK part of the business has a steady need for graduate level recruits, at around 50 new graduates per year. These are recruited into ten different business areas, with a range of role types, from manufacturing, health, quality, to research and development, marketing and finance. The graduates are encouraged to work and collaborate across functions to gain experience across the business.

Qualifications required

The company generally takes on graduates of undergraduate degrees who have left university within the previous two years. This is because the programme is designed as a

development programme, and the company believes that those with more substantial work experience are better suited to a direct hire route, rather than the graduate scheme. The company does not generally differentiate in its recruitment between Bachelors and Masters graduates. The qualifications requirements of graduate roles require a minimum upper or lower second class undergraduate degree (depending on the route) and postgraduate qualifications are not a specific requirement for graduate roles. One exception is in the HR management route, where a merit or above at Masters level can meet the qualification requirement if an individual did not achieve a 2.1 in their undergraduate degree.

“There’s no direct awarding or criteria that support a Masters grad over an undergraduate. We don’t allocate more points to that and we don’t make a postgraduate qualification a specific requirement.”

Prior to two years ago the company used to specify that a Masters qualification was necessary for engineering graduate roles, but has since decided that a Bachelors degree is sufficient. The company made this change because with the requirement for a Masters the talent pool was restricted, and opening up eligibility to undergraduates helped encourage more applications. The company has found that lowering the qualifications threshold has not affected the quality of appointments and has allowed applications from greater numbers of candidates. The minimum qualification requirement acts as an initial sifting tool to ensure the number of applicants is neither too high nor too low. The company’s recruitment and assessment process then ensures that candidates meet the appropriate quality criteria the roles need.

While the UK part of the business does not require postgraduate qualifications, the company’s global product development recruitment programme does specify that postgraduate qualifications are a requirement. These recruits would enter at a more senior level as part of a fast track development scheme.

Employability skills

The recruitment manager did not believe that undertaking a Masters course makes an individual more employable in itself. Instead a candidate’s employability is noticeably higher if they have undertaken an internship or work placement, which acts as a key differentiator, rather than degree level.

“We’ve not really seen much difference in terms of the calibre [between Masters and undergraduate applicants]. The knowledge is there, but in terms of how they perform in the exercises we’ve not seen a difference.”

While a Masters degree is not necessarily a disadvantage, the recruitment manager did feel that some candidates with a Masters actually found the transition to work more difficult. In fact the recruitment manager felt that Masters graduates can in some circumstances be less attractive than Bachelors graduates because they have developed a more theoretical mindset, rather than practical or commercial.

“In my opinion, I would much prefer to take on an undergraduate than a postgraduate, because undergraduates really struggle with the transition from academia to business, and a Masters graduate has gone even further down that route.”

If a graduate programme is trying to recruit future company leaders, the recruitment manager felt that specifying a Masters qualification could limit the talent pool of suitable candidates.

“A lot of graduate programmes now are focused on finding future leaders of the company. If you recruit someone with a Masters, you’re narrowing your candidate pool to functional experts, not necessarily future leaders. They may be very focused on their discipline and want to excel, which is not a bad thing, it’s just whether or not that’s what your graduate programme is trying to achieve.”

Working with universities

Staff within the company may be supported individually to undertake higher education qualifications part time as part of their professional development. The main focus for qualifications alongside work is professional qualifications, such as CIMA or CIPD qualifications, rather than academic qualifications or Masters programmes.

“If someone’s excelling and they need that extra thought leadership aspect through a Masters, there are times when we’ve supported them part time alongside work, so they’re learning the theory and they’re applying it in a practical sense as well.”

Case of best practice

The company works closely with university careers services across the UK to raise awareness among graduates and encourage applications to its graduate programme. In addition to this the company works with Sheffield Hallam University supporting a school leaver programme that combines a degree in professional practice with five weeks’ per year work at the company. The company pays the students’ course fees and following the degree there is the option to do a Masters in a more specialist area or join the company as a full time employee. The advantage for the company of this arrangement is it has more control over the content of the degree programme, as well as a pool of high quality recruits to join the business following graduation.

“We’ve worked with Sheffield Hallam to make the degree bespoke to our way of working. From an attraction point of view, we’re growing our own.”

Overall the recruitment manager felt that Masters degrees should similarly take a less theoretical, and more practical focus, helping to prepare students for employment, perhaps through incorporating work placements or practical projects as standard.

“The main frustration I have is careers services or tutors just not gearing candidates up to come into the world of work. It is just so theoretically based and it’s difficult to get out of that mindset.”

Masters graduates in engineering

As part of the research, an interview was held with an organisation in the engineering sector. The firm has only been trading for approximately four years, but currently runs a special two

year graduate training programme, which aims to develop and recent graduates, so that they are able and ready to fill current skills gaps within the nuclear energy industry. The graduate scheme is open to Masters and PhD students, as well as those with a first degree. All applicants are expected to go through the same recruitment process, with successful candidates required to complete three eight-month secondments with sponsor organisations as part of the graduate programme. Dedicated training periods are also offered and candidates are supported towards obtaining professional qualifications. Whilst engineering graduates (Mechanical, Electrical and Chemical) are particularly encouraged to apply, the scheme also looks for candidates with a science or commercial background.

Qualifications required

For roles in Electrical Engineering, the organisation generally tends to recruit Masters level students. Accepted candidates in these roles that possess a lower level qualification would be required to complete additional modules at the beginning of the graduate programme to increase their knowledge to the standard needed by certain employers within the industry. Hence, it is the subject specific knowledge that a Masters qualification offers that makes it important to possess for these positions, as knowledge obtained in these courses will be directly utilised by graduate employees.

“We tend to recruit at Masters level for the Electrical Engineering. I say we take the best that presents, but for the Electrical, if they are not qualified to Masters, then they have to do additional catch up units once they are on the programme to bring them up to that level because I think it is a requirement going forward.”

“They will be directly applying that subject knowledge. Specifically with the Electrical, they would be expected to apply this in the workplace.”

Employability skills

When asked to compare the skills possessed by Masters and first degree students, it was believed that Masters students often demonstrated better analytical skills and were also able to learn more rapidly. However, when asked to compare the communication and teamwork skills between Masters and first degree candidates, the interviewee highlighted that they hire graduates from a range of backgrounds and there will often be noticeable differences between them in terms of specific attributes that they possess.

“We do take from across a breadth of skills base. Some disciplines are notoriously better communicators than others; so for example, our commercial graduate is a better communicator than some of our engineers.... Whether it’s down to the mindset in the first place rather than the degree of education, I don’t know.”

Meanwhile, doctoral students have had their applications rejected in the past by the firm. Despite their strong technical skills, some candidates have been found to be less practical and with poorer communication skills.

“At assessment centre, we do sometimes turn down PhD students because they tend to be less practical. Often, by the time they get to the doctorate, we find that they don’t perform as well in the team working exercises as some of the undergraduates.”

Case of best practice

Staff members are encouraged to complete a postgraduate certificate in Nuclear Technology at a Russell Group institution. The two year graduate scheme aims to make candidates

aware of the wider nuclear industry and this particular certificate is delivered in order to help achieve this target of the programme. To help individuals obtain this, they are given extra leave to complete their studies and course costs are also covered.

The organisation is currently working with universities in order to raise awareness amongst current students about the opportunities that are available in the nuclear industry and recruiting graduates into the scheme. This is predominantly done by attending engineering and science fairs at universities that have a large proportion of graduates completing the relevant qualifications. Whilst there is currently a skill shortage in the STEM subjects, supply into this industry is also to some extent restricted by the lack of knowledge students have of career prospects in the nuclear industry and it is one of the few sectors offering long-term job security.

“It is probably one of the few areas where there is literally a job for life if they wanted.”

The interviewee did highlight that they would like to work with universities by having an input into the design and content delivered in taught Masters courses. This desire stems from the requirements of sponsor organisations, which need students that are able to practically demonstrate and apply their technical skills.

“It is linked to employability and what the industrial sponsors are requiring of us. If a Masters student cannot interpret a diagram of a common household piece of equipment, then it’s this sort of lack of practical application of their technical skills.”

Masters graduates in laboratory services and forensic science

The views presented below have been provided by a large laboratory service and forensic analysis organisation employing more than five hundred members of staff. Analysis carried out includes DNA, as well as other chemical components. The company carries out rigorous internal training, with individuals having to demonstrate core competencies. This is in order to comply with their UKAS accreditation.

Qualifications Required

Whilst the firm does employ candidates with a taught Masters degree, this is simply due to them meeting their selection requirements for a particular role and not due to the fact that there is a specific requirement for the taught Masters qualification. A first degree in a science based subject is essential however for some of the roles given the transferable skills and subject-specific knowledge that is expected, with many successful candidates possessing a degree in Bioscience. Individuals with the relevant first degree bring with them an appreciation of the needs of a scientific organisation, with regards to the application of scientific methods and the demand for a high level of accuracy in the work that is conducted. By completing a relevant degree, graduates will also have developed the analytical and interpersonal skills desired within specific roles offered at the company. Given the strong emphasis on practical application of science at the firm, the most relevant degree to the company tends to be an undergraduate course in Biomedical Science, because students are able to develop an understanding of the application of science as well as their theoretical knowledge.

The reason for a taught Masters degree not generally being desired is in large part due to the perception of such courses being highly theoretical. The lack of practical application

prevents taught postgraduate students from enhancing their employability skills to organisations outside of academia and is seen as a current flaw within these courses. Within certain parts of the business however, it is desirable to bring in individuals with a first degree in a pure or a relevant applied science and a Masters qualification in Forensic Science for the reasons outlined in the comment below.

“This gives people a first degree that is solidly based in good quality science and scientific principles and the taught Masters in Forensic Science gives them additional understanding of the context that they are applying the science in.”

“The fact that they have been through a Masters programme in forensics is helpful for us and it is fair to say that we have fewer problems with them understanding the reasons for doing some of the things that we do.”

Employability skills

Whilst it is believed that Masters students will often have better communication skills than undergraduate students, this does not necessarily translate into such students being able to work more effectively in a team. The fact that they have a higher level qualification than others within a team can often mean that individuals regard their views as superior, inhibiting their ability to work efficiently with other colleagues. Another concern with hiring Masters students alongside first degree candidates is that, given the level of investment they have put in to obtain such a qualification, they can often have greater expectations in terms of remuneration and career progress.

“There is a mild reluctance within the organisation to bring in Masters students alongside first degree students on the basis that Masters students have higher expectations in terms of remuneration or the rate of progress. This can lead to them becoming more impatient and more of a management challenge than first degree students.”

One of the issues with not having any relevant work experience in this particular industry is that such candidates with a first degree or taught Masters lack an understanding of the reality of applying science in the industry and will often be dissatisfied initially by the repetitive nature of the work until an adjustment is made.

“When people join us and they come out of an academic environment, they are frequently disappointed (until they readjust) by the fact that they have to do things in the way the procedure sets out it should be done. There is no scope for deviating from that and so they feel like robots. To help people to understand the true nature of the world of work in a scientific environment is really quite important. “

Case of best practice

The company is currently working with a university to aid the development of a taught Masters degree course. Not only are they contributing to the design of the curriculum, but part of the programme will be delivered at the offices of the organisation, which will allow students to see how they would be using their degree and the work they would undertake if they were to enter the industry. This relationship was struck by a university identifying what it believed to be a gap in the market place for a taught Masters and approaching the company to help them design and deliver this course.

“It’s a direct response to a university identifying what they believe is a requirement within the market for a taught Masters in a particular area and coming to talk to us and seeking partnership to help develop and deliver a programme in the forensics arena.”

As well as this, collaboration is taking place with two other universities to enable students on their Masters programmes in Forensics to complete a summer project with the firm. This may also aid future recruitment as the employer can identify the most capable graduates and students become more aware of the career opportunities on offer.

In the future, the company can see there being value working with universities in joint research, so long as these projects are able to bring benefits to the forensic community and its own reputation. Further work with higher education institutions on designing the content for relevant forensics programmes is desirable in order to ensure that these programmes strike a compromise between the needs of academia and employers within the industry.

Masters graduates in finance

Background

Our final interview took place with a manager responsible for recruitment at a major financial institution within the United Kingdom. The organisation recruits candidates at Bachelor’s, Master’s and PhD level, with separate recruitment processes for each of these three qualification standards. Although both undergraduate and Master’s graduates have the same induction and similar development opportunities, Master’s graduates are offered slightly higher starting salaries.

Qualifications required

At the undergraduate level, students with a degree in any discipline are eligible to apply for the graduate programme. Those with a first degree will often move into operational analysis roles and make use of the competencies developed during their undergraduate study such as analytical and problem-solving skills, with less emphasis on their subject-specific knowledge. However, at the Master’s level, candidates must possess a degree specifically in Economics and/or Finance. A particular degree is required, as the job responsibilities of Master’s graduates require the application of detailed subject knowledge, as well as strong research capabilities, both of which are gained through an extra year of study. For instance, postgraduate students may analyse global economic activity or aspects of the financial system and will thus need to directly apply the knowledge gained through higher level study.

Employability skills

The recruitment manager has seen little variation in the soft skills of Master’s graduates, compared with first degree graduates. Typically, Master’s students who apply for the postgraduate programme have completed four straight years of higher level study, rather than going into employment first, which potentially explains why there is this similarity between these two groups. However, there was a feeling that Master’s graduates often show better team working and interpersonal skills compared to doctoral graduates, perhaps due to Master’s students having had opportunities to work in groups as part of their learning.

“I’d say it relates to the nature of individual research that PhD students will do over a much longer period than Master’s students, so they don’t necessarily have the same opportunities to work in groups.”

One weakness often found amongst candidates however, including postgraduate students, is their ability to effectively demonstrate their skills and knowledge in the application process, including their initial application form and their approach to the tests in the recruitment process. This particular problem can prevent some highly able candidates from being successful in securing employment with the organisation, which therefore leads to a missed opportunity for both the prospective candidate and the employer. This weakness may highlight that some students are not fully utilising the career guidance offered at the university.

“Students may be missing out on learning the skills that would help them in an application. It starts from simply how to write an application form and how to sell yourself best, through to how to approach different tests and interview...Some maybe haven’t utilised their career service as well as they could have done.”

Staff development

Whilst staff may not be directly encouraged to study for a postgraduate qualification, the option to study for a Master’s qualification is open to all employees, as long as this fits with the needs of the business. Candidates who do decide to pursue a Master’s degree tend to do so in the fields of Economics and/or Finance and then move into those sectors where these skills are needed. Within the Human Resources department, completing a Master’s in Human Resources may also be possible, if this were something an employee wished to do. If the demand for higher level study fits in with the requirements of the organisation, sponsorship is available to employees with tuition fees being paid. Employees would also be granted leave if they wished to study full-time or be offered flexible working arrangements, if they decided to pursue part-time study. Support and the option to study at Master’s level is provided to employees, as this will allow the organisation to develop a more highly skilled workforce, with the subject knowledge and experience to excel in their roles.

“It’s to make sure that we have staff that possess the qualifications, experience and technical knowledge that we need for roles. If that means by sponsoring existing staff, you get not only the experience, but also the technical knowledge, then that can only be advantageous to the organisation.”

Case of best practice

Working with universities

The organisation works with 56 universities around the recruitment of graduates in some way, delivering campus based activities to students at 34 of these. Within the target group of universities, a separate list does exist for recruitment at the postgraduate level. Whilst there are sufficient applications from those with a background in Economics, there is an increasing interest within the organisation to attract those with a postgraduate degree in Finance, given the rising importance of this area to the institution.

The organisation has experienced problems recruiting candidates with a Master’s in Finance and one of the reasons for this could be a lack of knowledge amongst students about the different career roles offered at the organisation.

Conclusions and recommendations

Issues and themes

We conclude that,

1. There is clear evidence that university-business collaboration in relation to PGT courses is **diverse and flourishing** demonstrating the strong economic value of this provision. Examples included in this study illustrate strong, sustainable relationships between institutions and employers that indicate engagement at a variety of levels of institutional life. There is need to extend and develop good practice in collaborative working within and between institutions.
2. Employers' requirements for Masters level qualifications are linked to their requirements for **specific skills, abilities and knowledge**. Employers emphasise the value of practical, work-related experience during Masters courses. There is some evidence that a Masters qualification as a supplement to an undergraduate degree, does not compensate for a lack of practical skills and experiences.
3. Most employers do not distinguish between first and Masters degree holders in recruitment or reward arrangements; yet some recruit explicitly for those holding a particular Masters level qualification. This apparent contradiction in recruitment practices reflects both **historical subject-career trajectories** and the specificity of employers' needs. The former is often associated with the policies and practices of professional bodies and the latter, with skills shortages and gaps at organisational level.
4. Whilst this leads us to conclude that there is **no discrete labour market** for Masters graduates overall, there are subjects domains (particularly within sciences, technology, engineering and mathematics) for which the typical post-Masters trajectory provides access to occupations that are unlikely to be available to those without a Masters. Nonetheless, the employment prospects for PGT graduates are good and better than for undergraduates with generally higher rates of employment at six months following qualification.
5. The UK labour market for Masters graduates may differ from those in other countries where there is a discrete Masters labour market. As international students form a large part of the postgraduate population in the UK, higher education practice and **students' expectations** depend to some extent on non-educational policy-making; for example, recent changes introduced by the UK Border Agency.
6. Employers who do not specifically recruit for Masters graduates are less aware of the added value of Masters degree learning and there is a need for institutions (and graduates) to be able to understand and **articulate their value** to employers. Those who do specifically recruit Masters graduates are aware that the qualification also develops stronger (generic) analytical and problem-solving skills than undergraduate degrees.
7. The employability of those graduating from taught postgraduate (PGT) courses is differentiated by subject of study, mode of attendance, age group and gender.

Differential outcomes do not form consistent patterns; this requires institutions to develop a clear understanding of **PGT outcomes** at course level.

8. The case studies of university-business collaboration reveal that institutions respond flexibly to the needs of businesses and achieve effective communication mechanisms. However, the needs of business and the demands of the labour market are not static and institutions are required to **continually update** their understanding of the way the labour market operates and the effect this may have on outcomes of particular courses. Anticipating changes in the labour market for PGT is problematic for both institutions and businesses; nonetheless, observation of trends can be inferred by using available datasets such as the Destinations of Leavers from Higher Education (DLHE).
9. Motivation to study for a PGT qualification immediately following a first degree is strong amongst those who attended a high/highest entry tariff institution on a full-time basis, and appears to have a dual goal of continuing studies alongside preparation for future employment. Intention to **progress to PGT** as declared in the final year of an undergraduate degree may not be a reliable indicator of propensity to actually do so.
10. Generic (non-vocationally specific) Masters courses may be more difficult for students to derive employability benefits in the short term. Providing opportunities for students to **network with employers** and genuinely understand how their higher level learning can be channelled and used remains an issue.

Recommendations for success

We conclude that the following factors characterise positive engagement with employers and businesses; we recommend that:

Institutions should prioritise:

1. Provision of single purpose, niche, Masters **designed and targeted** at a pre-defined group of students in association with a single employer or employer group.
2. Developing a subject-centred Masters which is **of value** to a particular industry, sector or profession.
3. Developing a balanced **partnership** with committed employers comprising a rich mix of activities in which employers can participate.
4. Working to identify **employers' real needs**, and allowing a shared agenda to evolve that may include a range of forms of engagement.
5. Positioning Masters qualifications as entry to a profession and making available the opportunity **to convert from** an unrelated first degree.
6. Encouraging the development of 'light touch' informal networks of academic staff and professionals/practitioners centred (but not exclusively) on alumni.

7. Encouraging student-employer networking that **facilitates the transition** from university to working life.

Employers should prioritise:

8. Enabling university staffs to have direct **access to business managers** with opportunities and problems to solve, neutralising the 'gate-keeper' effect of intermediary departments (such as human resources management).
9. The establishment of effective, collaborations with university staffs reflecting **multiple levels** within the organisation (such as production, marketing, training, recruitment)
10. Actively encourage professional bodies and not-for-profit organisations who are able to provide practitioners to support Masters programmes through **professional networking** and other activities.
11. Extending the range of **opportunities for communication** with universities in addition to that aimed at job recruitment; for example, at student induction, and at course design and validation.

Course teams should:

Recognise there is need for robust **information about PGT course outcomes** prior to application to courses and access to career advisory services at an early stage.

12. Optimise the use of **alumni** as informal tutors, role models, mentors to widen horizons and scope for action.
13. Make the most of web-based and other sources of information, including social networks, about the **career trajectories and progression** of Masters graduates.
14. Actively share and disseminate good practice within and between institutions. Consider development of **inter-institutional collaborative** arrangements to support industry/sector requirements and counter unproductive competition.
15. Reconsider the balance of specific and generic learning goals within courses and encourage the development of '**sandwich Masters**' that include long or substantive periods of work placement to develop the application of learning in relevant industrial settings.
16. Recognise the centrality of **relationship management** and the time and expertise required to build effective working partnerships.
17. Encourage the sense in students, employers and institutions of Masters courses as '**degrees with a purpose**' rather than an extension of undergraduate learning.

Policy makers in DBIS, UUK and HEFCE should:

18. Commission research and development projects that inform the **evidence base** and ongoing policy thinking in this area, with particular emphasis on progression between undergraduate and postgraduate study.
19. Continue to keep taught postgraduate employability and employer engagement under review and monitor trends and developments; in particular, to examine whether there are changes in **the demand for and supply of** PGT graduates and what drives these.
20. Commission further research into **Masters graduates' career trajectories**; in particular the relationships between subject and mode of study, and work and further study outcomes. This is necessary not only in order to better understand the diversity of outcomes but also to provide accurate information to prospective PGT students and to inform course planning arrangements.

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Appendix 1

Methodology

Analysis of available data

The analysis of data included examination of HESA Destinations of Leavers from Higher Education (DLHE) data to examine the outcomes of graduates of PGT courses and the Futuretrack data to examine the motivations and perceived skills of those who aspired to go on to taught postgraduate study in 2009 and 2010.

We carried out a brief review of recent literature on employer engagement with postgraduate taught provision to examine the nature of evidence of high level skills needs amongst employers. A full review of literature on employer engagement with HE was not undertaken; instead selected publications were used to illuminate trends or issues identified in the data analyses and where they point to the identification of best practice within an industry or sector.

Identification of best practice

Case studies of best practice were drawn from a wide range of information collected on current practice. Case studies were selected to identify exemplars of the following:

- contribution of employers to the HE curriculum
- employer engagement in work based learning
- employer provision of work placements/experience
- employer engagement in the work of professional bodies

Ternouth *et al*, (2012) used an organising framework, the '5Cs', to map the efficacy of business-university collaboration in knowledge transfer and innovation. The framework owes much to the work of Spence (and others) on the 'rules of collaboration'. We used this framework to scrutinize and report upon examples of best practice in employer-engagement with PGT course provision. The 5Cs (amended for this proposal) are aimed to clarify the drivers and forces for change in employer engagement with PGT:

- company recognition of opportunities or issues around engagement with PGT
- co-recognition of the opportunity to form partnerships in respect of PGT
- co-formulation of 'open engagement' by the (business and HE) partners
- co-creation of new forms of partnership working
- commercial value of engagement with PGT

Survey of selected employers

The online survey was designed to capture employers' views of the particular value of postgraduates and the nature of their collaboration with HEIs. Questions were aimed to collect information on:

- businesses' higher level skills needs and recruitment of postgraduates in the previous 12 months
- utilization of and value placed on postgraduate level skills, particularly in comparison to first degree level skills
- experience of working with universities to recruit postgraduate skills, or to design and deliver courses, if relevant, reasons for and value placed on these activities

- open questions on the ways employers can work with universities to address gaps in skill needs or employability of postgraduates

The online survey of 26 employers was followed up with thirty-minute, semi-structured telephone interviews with 9 employers chosen to reflect a range of priority sectors and relevant characteristics. Interviews were aimed to enable employers to elaborate information provided in the online survey.

Only employers who employ Masters graduates were selected for interview. These employers were selected opportunistically in order to achieve a spread of sectors and experiences. The evidence from employers is qualitative and focuses on understanding the circumstances and perceptions of the participating employers in depth, rather than achieving a sample that is representative of the wider population.

Developing the report and making recommendations

The project steering group received and commented upon the draft report. In addition the views of key stakeholders were sought including, UUK's Education Business and Industry Network, and the chair of AGCAS' Postgraduate Task Group.

Appendix 2

Steering group membership

Carl Gileard, Association of Graduate Recruiters

Chris Rea, Graduate Prospects

Christopher Hale, Senior Policy Adviser, Universities UK

Emma Creasey, Higher Education Funding Council for England

Liz Bell, Policy and Data Analyst, Universities UK

Verni Tannan, Department for Business, Innovation and Skills

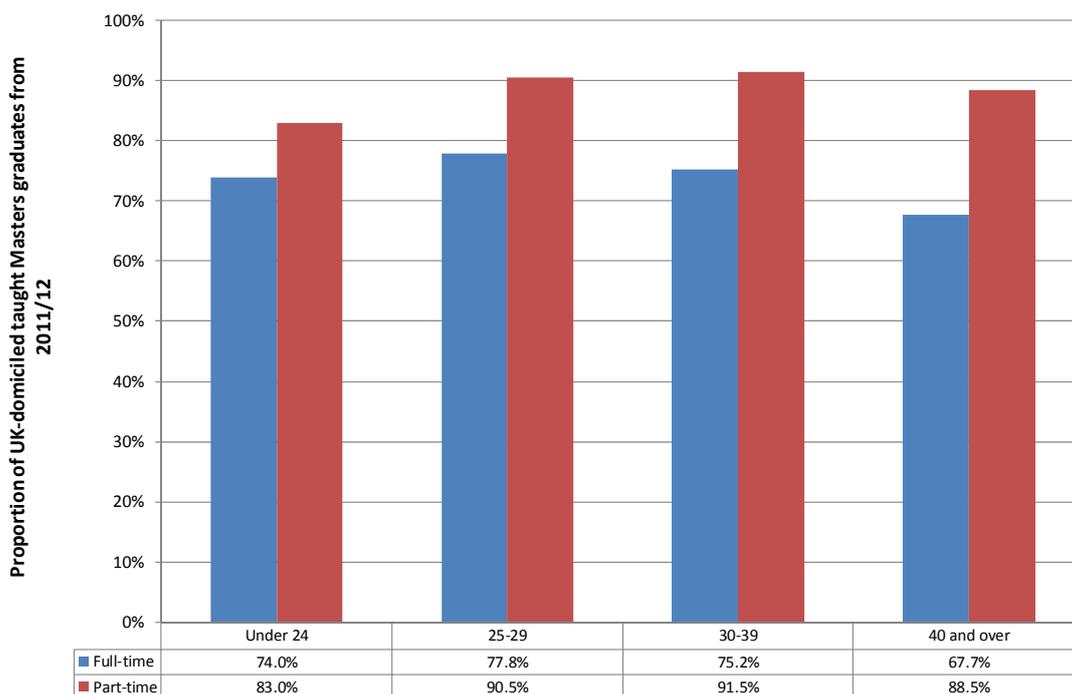
Appendix 3

Destinations of Leavers from Higher Education (DLHE) survey 2011/12: updates following changes to data collection.

The 2011/12 data collection for the annual Destination of Leavers from Higher Education (DLHE) survey underwent significant change. Two changes affect the content of this report. The first was that the occupational data was updated to use the Standard Occupational Classification (SOC 2010) from the previous classification (SOC 2000). Although the changes in the way occupations are classified is not substantial, it does mean that occupational data from before the change are not comparable to those after it, and therefore in this report we cannot make comparisons of occupational data. Where a single year's occupation data, or a figure derived from that data, has been required in the text, we use 2011/12 data. Where a year-on-year trend is examined – particularly where the effects of recession on the Masters labour market are discussed – analysis comprises data to 2010/11 (before the new classification SOC 2010 was introduced) and the data for 2011/12 is included in this appendix for completeness.

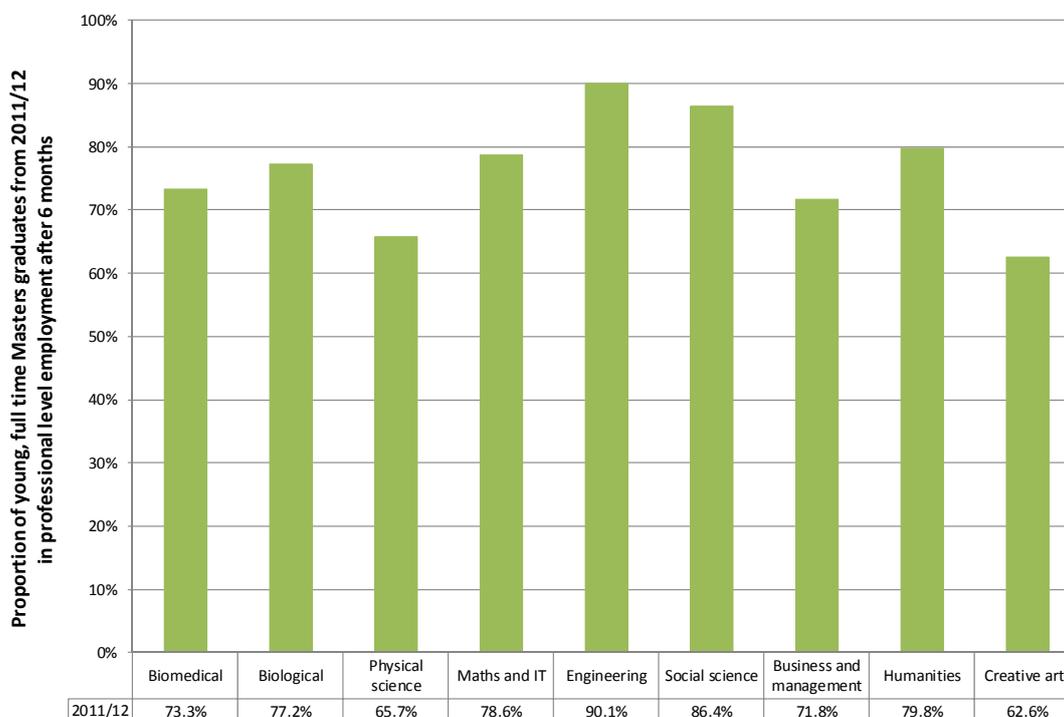
The second main change is more fundamental. Graduates responding to the 2011/2012 data collection were asked both to describe their *most important* day to day activity and then to describe *all their other* activities. This is a departure from the previous survey, where graduates were merely asked to describe their most important activity. This means that both numbers and proportions of graduates going into work or study are not directly comparable with previous years' DLHE data. (NB, unemployment is measured in the same way, and *is* comparable). Where a single year's employment data, or a figure derived from that data, has been required in the text, we use 2011/12 data. Where a year-on-year trend is examined – particularly where the effects of recession on the Masters labour market are discussed – analysis comprises data to 2010/11, before the new survey was introduced, and the data for 2011/12 is included in this appendix for completeness.

Updated Figure 14: Employment rates for Masters qualifiers, by age and mode of study in 2011/12 (following from Figure 5)



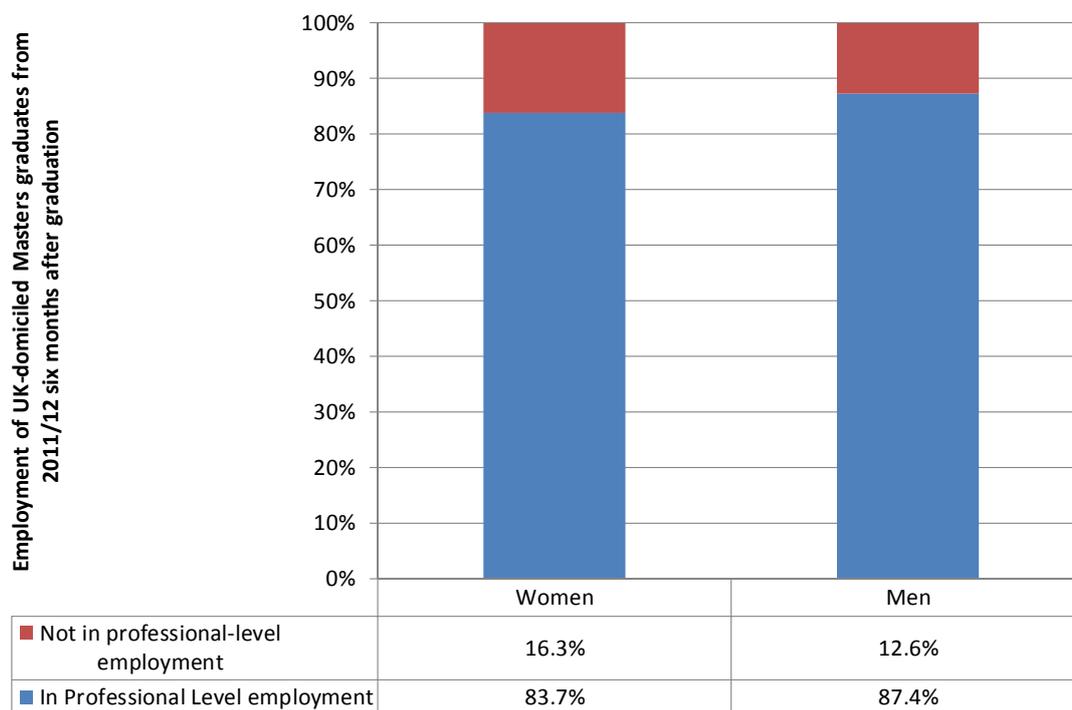
Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N= 32,680

Updated Figure 15: Proportion of young (aged 21–24 years) taught Masters graduates obtaining professional and managerial level employment at six months following graduation in 2011/12 (following from Figure 8)



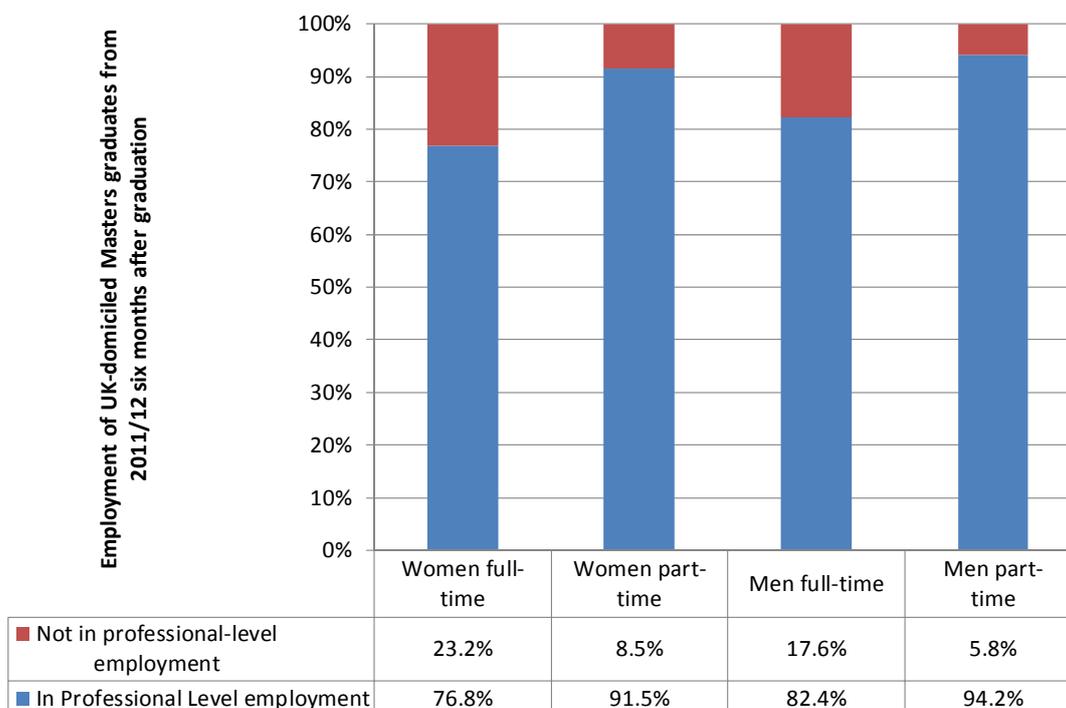
Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N= 32,680

Updated Figure 16: Level of employment entered by taught Masters graduates in 2011/12, by gender (following from Figure 10)



Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N= 32,680

Updated Figure 17: Level of employment entered by taught Masters graduates in 2011/12, by gender and mode of study (following from Figure 11)



Data comes from HESA Destinations of Leavers of Higher Education Survey 2011/12. N= 32,68