

POSTGRADUATE EDUCATION

AN INDEPENDENT INQUIRY BY THE
HIGHER EDUCATION COMMISSION



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About the Commission

The Higher Education Commission is an independent body made up of leaders from the education sector, the business community and the three major political parties.

Established in response to demand from parliamentarians for a more informed and reflective discourse on higher education issues, the Commission examines higher education policy, holds evidence-based inquiries, and produces written reports with recommendations for policymakers.

KEY MESSAGES

1

A perfect storm is ahead

Fees for postgraduate courses are increasing, whilst a credit crisis, with banks less willing to offer career development loans, continues. Employers and institutions are concerned that future student cohorts will be less willing to incur further debt to undertake postgraduate study, whilst changes in the immigration system could limit international demand for postgraduate study. We are concerned that the cumulative impact of these developments may inflict significant damage on the health of the postgraduate sector.

2

Postgraduates should be part of a holistic vision for our education system

Postgraduates are key to Britain's continued success in an increasingly competitive globalised world. Despite this they are almost entirely absent from the current policy debate. We need to take a holistic view of the English education system. Rather than sub-optimising on individual stages, our conceptual framework has to include postgraduates.

3

We need to improve access to postgraduate education

Postgraduate education is "*the new frontier of widening participation*" – with prospective students currently barred from study if they cannot afford fees or access sufficient credit. There are a number of fields and professions where postgraduate qualifications are becoming a de facto requirement for employment. If action is not taken we could see the gains made from widening participation at undergraduate level diminished.

4

We need more home-domiciled students to undertake postgraduate education

High numbers of international students cannot compensate for poor take-up of postgraduate education among home-domiciled students. An emphasis is needed on up-skilling of the UK population, ensuring that British students are able to compete in the global labour market.

Britain has become the global capital of education outsourcing. A large number of students study in Britain and then return to their home countries, where they innovate and help build economic advantage. We need to encourage retention of international students by promoting opportunities for post-study work. Much of our postgraduate provision is unviable without international students. Care must be taken that changes in the immigration system do not adversely impact on our national capacity in key disciplines.

5

We need a sustainable system for funding postgraduate education

There is a strong case for state-backed student loans to be introduced for segments of postgraduate provision where the financial markets have failed to provide competitive sources of finance. The government should immediately establish a taskforce to examine the feasibility of a postgraduate student loan scheme and develop policy options, reporting by December 2013.



CHAIR'S FOREWORD

This inquiry focuses on an area of education which has been neglected in terms of policy debate and strategic thinking. Much attention has been directed towards schools and undergraduate education, but there has been almost no focus on postgraduate education. The recent higher education white paper, which ran to almost 80 pages, had only nine paragraphs devoted to postgraduate education. Indeed, in policy terms, the findings of recent studies of this area have largely been ignored.

This situation is markedly out of step with our ambition as a nation to be “*the leading knowledge-based economy of the world.*” It is also out of step with the actions of our global competitors, who are also transforming their economies to focus on higher value goods and services. Realising this vision requires us to not only maintain the vibrancy of our postgraduate sphere, but enhance it. This will not happen organically – we need to ensure that the conditions for a healthy and successful postgraduate sector are in place.

This inquiry, the first since the Browne Review and the subsequent rise in undergraduate tuition fees, has taken oral and written evidence from all the groups who are associated with and have an interest in postgraduate education. Over the last eight months we have met with its providers – universities and colleges, its consumers – business, industry and the academy, and its customers – the many thousands of students who undertake postgraduate studies.

I would like to thank all of these groups for giving their time, insight and expertise so generously. I would also like to thank the Sutton Trust and PwC, who provided financial support for this inquiry, and Joel Mullan, who managed the research process and drafted this report.

Early in the inquiry process it became clear that there were significant gaps in the evidence base upon which an informed policy should be based. A number of our recommendations therefore seek to rectify this situation.

Nevertheless, we have identified a number of areas where current practice and policy is out of step with the UK's vision for this sector and for our economy. In these areas policy change is urgently required. The postgraduate sector needs to be brought in from the cold and fully embraced as part of an integrated education system.



A blue ink handwritten signature of Dr Graham Spittle CBE. The signature is stylized and cursive, with a long, thin line extending upwards and to the right from the end of the signature.

Dr Graham Spittle CBE
Inquiry Chair
IBM Vice President

EXECUTIVE SUMMARY

The Postgraduate Landscape

A healthy postgraduate system is vital to Britain's continued academic and economic success. Postgraduates are a vital part of Britain's innovation infrastructure and are an important factor in attracting companies to locate high-value operations in the UK. As Lord Leitch has stated: they are *"critical to a high skills, high performance economy."*

Government needs to have a cross-departmental strategy for supporting postgraduate provision. The first step in formulating that strategy is to improve our understanding of the postgraduate landscape, which is complex and varied. In comparison to undergraduate provision, we know very little. There is a data lacuna.

In particular we need a far better understanding of the employment outcomes of postgraduates. In the absence of greater government funding for postgraduate education, individuals and employers invest huge amounts in paying for provision. It is vital that they have sufficient information on which to base their decisions.

A concerted effort by the Higher Education Funding Council for England (HEFCE) to collect more data, encouraging institutions to use the UCAS postgraduate service, and improvements to the Labour Force Survey will provide a far richer information set which individuals can use to inform career choices and government can use to inform policy.

Recommendation 1

HEFCE should improve its understanding of the postgraduate landscape by collecting data on:

- Financing – fees and costs
- The socio-economic makeup of cohorts of students
- Employment outcomes
- The application process (Page 22)

The Office for National Statistics should further develop the question on highest qualification level used in the Labour Force Survey, such that the survey can be used to map employment outcomes from undergraduate and postgraduate study. (Page 25)

Universities should be incentivised to migrate their postgraduate application processes to a UCAS-style system. (Page 24)

Economic dimensions

There is a misalignment between the postgraduate courses taken by students and the courses demanded by industry and the academy. Government departments and senior figures in a number of sectors have expressed concern about immediate industrial skills shortages. Meanwhile, the Research Councils and the British Academy have concerns about recruitment and retention of the next generation of researchers in a number of disciplines.

We need a systematic approach to assessing current demand for postgraduates. Variations on this recommendation have been made repeatedly in the past (including by the Thrift Review in 2008, the Smith Review in 2010, and the House of Lords Science & Technology Committee in 2012) but insufficient progress has been made.

Universities, funders and government also need to consider likely future demand for postgraduates, drawing on demographic information and intelligent projections on likely changes in technology and the industrial base. A long-term, strategic approach is needed to ensure decisions taken now, for example on the closure of university departments, are in the long-term interests of the country.

Recommendation 2

The UK Commission for Employment and Skills (UKCES), Higher Education Funding Council for England, and Research Councils UK (RCUK) should work with other sector bodies to improve our national understanding of employer need for postgraduate skills. UKCES should be the lead body in this project – and should develop and publish implementation plans by Spring 2013. (Page 29)

The Confederation of British Industry should evaluate how they monitor employer views on postgraduate skills. The CBI Education and Skills survey should be modified to look explicitly at postgraduate level skills. (Page 30)

Immigration and international students

Much of the recent increase in postgraduate student numbers is due to rising numbers of international students. Postgraduate enrolments have increased by more than 200% since 1999, compared to an increase of just 18% for home and EU students. The Commission is concerned that this increase masks stagnation in the qualification and skill level of the home-domiciled population. We need an emphasis on up-skilling the UK population, ensuring that British students are able to compete in the global labour market. High numbers of international students cannot compensate for poor take-up of postgraduate education among home domiciled students. Availability of funding is an important factor in many British students decision not to undertake postgraduate study.

We are relying on international students to plug gaps in the skills and expertise of the British population. This is not an efficient or sustainable strategy. Most international students study in Britain and then return to their home countries, where they innovate and help build economic advantage. This carries an economic cost – we have become the education outsourcing capital of the world. It is in Britain's interest to retain international students after graduation. We need to encourage retention of international students and ensure that appropriate opportunities for post-study work are made available.

Much of our postgraduate provision is unviable without international students. This leaves our universities vulnerable to changes in international demand for UK higher education. Care must be taken to ensure that changes in the immigration system do not adversely impact on our national capacity in key disciplines.

The discourse around the inclusion of students in the immigration cap has led to a damaging perception that the UK does not welcome international students and is contributing to a climate of uncertainty for prospective and current international students. We are concerned that the continued inclusion of students in the measure of inward immigration will distort the debate around immigration and will ultimately drive policy and behaviour which is not in the best interest of either our higher education system or our economy.

Recommendation 3

Immigration regulations must be consistent, fair and have regard to the economic needs of the country:

- International students should only be counted in the migration cap measure at the point that they elect to stay on in the UK after study, for example to work or marry. The number of incoming international students should instead be recorded under a separate classification. (Page 39)
- Appropriate opportunities for post-study work for highly-qualified researchers must be made available. (Page 40)
- The Home Office should reduce churn in immigration regulations. (Page 42)

Access to postgraduate education and the professions

There is a sharp policy focus on access and widening participation at undergraduate level – but little attention to reducing barriers to entry at prospective postgraduate level. Alan Milburn, Chair of the government’s Social Mobility and Child Poverty Commission, has described postgraduate education as “*a real time-bomb in terms of social mobility.*” A Vice Chancellor contributing to this inquiry described it as “*the next frontier of widening participation.*”

For many students, postgraduate education is a worthwhile investment. There is still a clear postgraduate wage premium relative to those possessing only undergraduate degrees. Postgraduate education also facilitates access to competitive parts of the labour market. There are a number of areas where it appears a postgraduate degree is becoming a de facto requirement for entry.

Analysis of Labour Force Survey data conducted by Professor Stephen Machin suggests that people from relatively rich family backgrounds have benefited from a faster increase in education acquisition at the postgraduate level, meaning that “*already existing inequalities are transmitted more strongly across generations and social mobility falls.*”

Developments in information technology, and the government's embrace of open data, means that institutions will have more information about their cohorts going forward. Institutions should use this data to improve their understanding of the socio-economic makeup of their postgraduate intakes.

Recommendation 4

Universities should systematically investigate 'cold spots' in postgraduate participation in order to inform and target their access and widening participation activities. (Page 46)

Flexible postgraduate provision, i.e. part-time, distance and online learning, is an important means of facilitating access to postgraduate education. Half of all postgraduate students already study part-time. But questions remain over whether universities are responding effectively to student demand for flexible study.

Professor Alan Tait, Pro-Vice Chancellor of the Open University, argued that many institutions had only "*a marginal commitment to part-time study.*" A number of academic contributors to the inquiry described cultural hurdles they had faced in getting their institutions to offer flexible provision. Similarly, part-time students participating in inquiry roundtables expressed frustration at trying to find institutions offering the course they wanted on a flexible basis. Timetabling of contact hours was raised as a particular issue by those trying to combine study with a full-time job.

Recommendation 5

Institutions should review how well their part-time offer is meeting the demands of prospective students. (Page 46)

Funding Research Degrees

Our international competitors are increasing investment in research and development at a faster rate than the UK. Elsevier has warned that an inability to sustain R&D spending may "*have consequences for the UK's future research performance.*" We should look closely at the amount of funding we are investing in postgraduate research and benchmark this against the rest of the world.

Recommendation 6

UK industry, government and universities should increase the amount they invest in research and development activities, in line with the UK's major competitors. (Page 52)

Academia is a profession which brings with it the opportunity to have an impact on the cultural life of the nation. We believe it should be accessible to anyone with sufficient ability. The research councils, learned societies and universities should ensure there are enough doctoral studentships to replenish the research base – particularly in arts, humanities and social science subjects which are less attractive to industrial sponsors.

Particular attention needs to be paid to funding for research masters degrees, which are becoming increasingly important for gaining admission to doctoral research programmes, and from which the Research Councils have largely withdrawn funding.

Recommendation 7

Funders, in partnership with learned societies, should reflect on whether they collectively fund enough studentships to replenish the research base in each discipline, rather than relying on self-funded individuals. (Page 52)

Funding Taught Degrees

There is a credit crisis in postgraduate education. We are concerned that an increasing number of people who wish to enter postgraduate education are prevented from doing so due to lack of access to finance. The government-supported Professional & Career Development Loan system is uncompetitive and unattractive. The number of loans granted has fallen over time and contributors to the inquiry reported that it has become more difficult to obtain credit through the PCDL scheme.

Fees for postgraduate taught courses are likely to increase – which will exacerbate this situation.

Many contributors to this inquiry were concerned about changes in attitudes to debt among those beginning undergraduate study this autumn under the new fees regime. Universities, employers and students repeatedly expressed concern that demand for postgraduate study will fall as students become more reluctant to add to their student debt.

The cumulative impact of the factors outlined above could lead a decline in the number of UK postgraduates, which would have long-term implications for British competitiveness and leave UK universities even more reliant on international students to maintain the viability of provision. Taken together these factors create an overwhelming case for the government to re-appraise how best postgraduates should be supported.

As Don Nutbeam, Vice Chancellor of the University of Southampton told the inquiry:

“unless we address this funding challenge postgraduate education will only be for the rich and for international students, and will not meet the evolving future needs of our advanced economy.”

Recommendation 8

The Commission recommends that the government immediately establish a senior-level taskforce to examine the feasibility of a postgraduate student loan scheme, and develop policy options.

Membership of the taskforce should include the following:

- Members of the finance community, including the commercial banks
- Officials from HM Treasury and the Department for Business, Innovation and Skills
- Representatives of the Confederation of British Industry, Universities UK, and the National Union of Students

The taskforce should be chaired by a member of the finance community.

The taskforce should report by December 2013, in order to allow time for implementation of recommendations by September 2015, the graduation point of the first set of undergraduates to experience the new system of undergraduate tuition fees. (Page 63)

The fiscal cost of a well-designed income-contingent postgraduate student loan scheme is likely to be low, given the lifetime wage premium postgraduates enjoy. There is a legitimate concern that creating new sources of finance for postgraduate taught would encourage universities to increase fees. In designing the loan scheme the Government should consider how unrealistic increases can be prevented.

A loan scheme should be targeted rather than universal. With such a diverse existing funding environment a universal scheme would crowd out existing funding streams and carry heavy deadweight costs. The government may wish to target loans at areas which are strategically important to our future competitiveness or areas where postgraduate education is a de facto requirement for entry into the labour market.

In the longer term, the Commission would like to see the UK move towards greater integration of funding for undergraduate and postgraduate education.

Research degrees: expectation, quality and structure

Contributors to the inquiry struggled to offer up measures of quality beyond citation counts and university league tables. Much of the current debate around quality is focussed on ensuring robust procedural checks rather than a judgement of the quality of the research produced during doctoral study. The Commission believes that we need to be systematically benchmarking our degrees against the PhDs awarded by leading institutions in competitor nations.

We did not anticipate that so many contributors would express concern about the

structure and breadth of the PhD. A sizeable number of people giving evidence to the inquiry, scientists and economists, Vice Chancellors and industrialists, thought that the PhD was too narrow, with candidates knowing everything about a tiny area and not enough about the broader discipline.

A number of contributors expressed concern about the impact of the Research Excellence Framework (REF) on academic behaviour. The REF is also a driver for the culture of ‘publish or perish’ which has contributed to the narrow nature of the British PhD.

Recommendation 9

Research Councils UK, HEFCE and Universities UK should convene a joint working group to consider the issue of research quality in detail. Employers of doctoral students, from both the academy and from industry, should be represented on the working group. (Page 71)

1. INTRODUCTION

Prospective postgraduates face an unfortunate combination of circumstances: a labour market situation where postgraduate qualifications are more important than ever before, the prospect of higher tuition fees than ever before at both undergraduate and postgraduate level, and financial institutions that are reluctant to lend money to cover the costs of postgraduate training.

Universities have seen a lot of change in recent years, including changes in the financing of undergraduate education and reductions to the overall level of state financial support at postgraduate level. This report, the product of the first major independent inquiry on postgraduate education since the Browne Review, looks at the impact of those changes in the light of longer term demographic and economic challenges.

The British government's strategy for economic success in the 21st century is premised on our ability to attract high wage, high value-added employers to the UK and be a knowledge-led economy. This route is not one that we walk alone. It is a strategy that is being followed not only by our traditional competitors in the United States and continental Europe, but also, in varying degrees, by the newly emerged economies in India, China, Malaysia, Singapore and South Korea. We are seeing a 'globalisation of high skills' which could threaten Britain's position at the leading edge of intellectual and technological progress.

Education and skills is one of the key fronts on which the battle to maintain competitiveness will be fought. Postgraduates are major drivers of innovation and growth – and will be an essential part of ensuring we have the capacity to compete.

But postgraduate education is not simply a utilitarian component of growth. It has wider, cultural significance which, though difficult to distill into quantitative terms, *"enriches our understanding of our own lives, fires our imaginations"* and allows us to grow our body of knowledge on all aspects of human experience.¹ *"Once our basic subsistence needs have been satisfied, [it] encompass those things that make life worth living."*² This richness adds to quality of life in Britain, and is an aspect of our society that we want to enhance and sustain.

For too long postgraduate education has been the forgotten part of the sector, notable in press and parliamentary debate only by its absence. It is a policy lacuna – stranded midway between undergraduate-centred education policy and policy on research and development. Some of the biggest and most difficult issues facing the sector have not been confronted and have been allowed to linger. Despite having funding explicitly included in its terms of reference, Lord Browne's review of higher education funding used only one of 64 pages to deal with funding for taught postgraduate courses. Many contributors were disappointed at the lack of attention paid to postgraduates in the higher education white paper.

1 Adapted from: AHRC, *Leading the world: the economic impact of UK arts and humanities research* (2009)

2 Ibid

This cannot continue. We know from other parts of the world that systems function best when they are holistic. We must take a whole-system approach to education. Postgraduates must be included in our thinking about how the education sector should look and what it needs to succeed. The postgraduate system is one of our strategic national assets – it must be nurtured and developed. Many of the biggest challenges facing postgraduates stem from developments external to the sector. The thorny issue of student finance and concerns regarding recent changes to the immigration system have shown where constructive engagement with government is crucial.

Some of these challenges facing the sector are deep-rooted, and will only be resolved incrementally. Others are exacerbated by the new undergraduate fees regime and will need to be addressed before the 2012 cohort graduate. A final group of challenges can and must be tackled immediately. Our recommendations reflect these three timeframes.

Our system of postgraduate education remains world-class, but a number of market failures have become apparent – where the immediate needs of stakeholders and funders do not necessarily match the long-term needs of both the sector and the nation. Inadequate signalling has led to skills mismatches; lack of investment is restricting scope for growth. We will highlight these market failures throughout this report. The take-home message from our deliberations is clear. There is no room for complacency. Coasting on our past successes is not an option. Postgraduate capacity must be at the heart of our national plans for long-term competitiveness and growth. Failure to do so puts at risk our future prosperity.

2. DATA AND THE POSTGRADUATE LANDSCAPE

Summary

Government needs to have a cross-departmental strategy for supporting postgraduate provision. To inform this strategy we need to vastly improve our understanding of the postgraduate landscape and the postgraduate population. We know very little about the postgraduate population, in comparison to undergraduates.

Typology of provision

Postgraduate education is a notoriously difficult concept to define accurately. We might describe it as consisting of programmes that are more advanced than undergraduate study, usually undertaken by those who already hold undergraduate degrees.³ It is something of an umbrella term, encompassing a diverse array of provision – from short certificate courses, to four year PhD research projects, to professional doctorates studied largely in the workplace.

To offer any meaningful commentary on the state of postgraduate education in the UK it is necessary to disaggregate the term into more manageable component parts. The traditional distinction is between provision which is largely research-focussed, and provision which is largely teaching-focussed. This shines no light on the motivations underlying individuals' decisions to enter postgraduate study, which, from a policy perspective, are important to understand. It also ignores the reality of modern doctoral programmes, many of which include substantial taught elements.

Professional development and employability are increasingly important considerations for potential postgraduates. As such, for policy purposes, we may wish to separate courses being undertaken for principally professional reasons from those being taken principally for academic reasons.

3 Adapted from T Sastry, *Postgraduate Education in the United Kingdom*, Higher Education Policy Institute (2004)

Figure 1: A new typology of postgraduate provision

PG Taught (PGT)	PG Professional (PGP)	PG Research (PGR)
Postgraduate diploma and masters courses, extending an individual's knowledge or allowing them to convert to a new discipline	Professional certificates and diplomas	Research masters – e.g. MRes: includes methods training and often used as a stepping point to a PhD; MPhil: sometimes used as a PhD exit point
Integrated masters such as MEng	PGCE and similar licences to practise	Traditional model PhD
Postgraduate modules e.g. Open University courses	Vocational masters courses – either as CPD or preparing individual for a particular profession	'New route' PhD with larger taught elements and wider skills training
	MBA	Some professional doctorates – that count in RAE / REF
	Some professional doctorates – where required as licence to practise but not included in REF	

The postgraduate population

We have mapped existing HESA student data onto this new typology opposite. The mapping is not exact – for example we have been unable to disaggregate professionally oriented masters degrees from the 'PGT Taught masters' category. It does however provide a rough overview of the current size and structure of the postgraduate sector.

Data

Figure 2: Summary of all postgraduate students at English HEIs in 2010-11⁴

		Arts	Sciences	Combined subjects	Total
PGR	PhD	35,535	52,245	5	87,780
	MPhil	8,185	7,290	5	15,475
Total - PGR		43,720	59,535	10	103,255
PGT	Taught masters	198,775	107,690	110	360,575
	Other at taught masters level	6,900	3,075	0	9,970
	Integrated masters	4,050	63,190	0	67,245
	PG diplomas, certificates & institutional credit	52,250	27,680	1,925	81,850
Total - PGT		261,975	201,635	2,035	465,640
PGP	Professional/regulated PG	25,300	6,390	140	31,820
	MBA	26,345	380	0	26,720
	PGCE	28,530	0	0	28,530
Total - PGP		80,175	6,770	140	87,070

‘Integrated’ masters – completed as part of a four-year undergraduate degrees – are particularly common in the sciences, and in some disciplines outnumber traditional masters degrees. The majority of postgraduate professional courses are in education (53.7 per cent), with a significant proportion in subjects allied to medicine (16.8 per cent). These include masters-level qualifications required to gain eligibility to register with a health, social care, or veterinary statutory regulatory body, as well as professional masters-level qualifications other than masters degrees pursued by health, social care, and education professionals post-registration.

Improving our understanding of the postgraduate population

In comparison to undergraduate level, there is little data available on postgraduate students. The continued to success of the postgraduate sector is vital to Britain’s future, but in order to safeguard it we need a better understanding of its component parts.

A better understanding of the postgraduate population would enable government and national funding bodies to make more informed decisions about the infrastructure

⁴ Adapted from HESA data provided by HEFCE. Figures rounded to the nearest 5 students.

and funding systems which underpin postgraduate provision. Better information on likely progression is in the interests of students, employers and funders, who will all be empowered and more informed about the options open to them.

Building a richer picture of the current make-up of the postgraduate population is likely to get easier in the future. Technological developments and the current government's Open Data initiative mean that it may soon be possible to map progression all the way through the education system and into employment.

We have already seen some recognition of this need for better understanding. For example, the Smith Review recommended that the sector advise government on what additional information was needed to inform policy decisions on widening access to postgraduate study. In a letter to HEFCE in January 2012 Vince Cable and David Willetts expressed support for the work HEFCE was doing to better understand the purpose characteristics and outcomes from postgraduate study. The Commission supports the renewed emphasis which is being placed on this work

Data currently collected on postgraduates:

HEFCE currently holds the following data on postgraduate students:

- PG type (Research or Taught – this may be broken down further into doctoral, masters, diplomas/certificates, PGCE, professional qualifications and other)
- Subject
- Mode (full-time/part time)
- Domicile of student (Home/EU/Non-EU)
- Student gender, ethnicity and disability
- Completion rates
- Information on employment and salary 6 months after graduation.

There are four areas where our understanding of the postgraduate landscape remains inadequate:

Finance, fees and funding

In order to make informed decisions about where strategic funding interventions may be needed, and in order to evaluate the effectiveness of the interventions the funding bodies are already making, it is important that we improve our understanding of where existing funding for postgraduate courses comes from.

Similarly, there is a strong public interest in the level of fees charged to postgraduate students, particularly in disciplines where there is a component of public subsidy. We

welcome HESA's decision to start collating fee data for home and EU PGT students, and encourage HESA to make aggregate data publicly available in good time.

We also need a greater understanding of the impact that availability of funding for postgraduate study and existing student debt has on decisions to enter postgraduate education. We welcome the British Academy's decision to commission research into this area.

Socio-economic make-up of cohort

Access to postgraduate education remains a major concern – as we will explore in detail in Chapter 5. Small-scale studies have provided clear evidence that barriers to participation in postgraduate education exist but we need to take a more systematic approach to examining access to postgraduate study.

The methods of monitoring widening participation amongst undergraduate students do not translate well to postgraduate level. The principal measure used to assess occupational background for most undergraduates is the postcode of their parental home. Whilst this may be an adequate measure for 18-year-old prospective undergraduates, it is completely inadequate for postgraduates, who are older and may already be living in their own home or a house in a student area of their university city. One solution to this problem, advocated by groups such as London Higher, would be to link postgraduate data records with those created when the student enrolled on their undergraduate course. We support HEFCE's recent decision to develop this capability – which should greatly enrich our understanding of postgraduate cohorts and provide a sound evidence base for access policy going forwards.

Employment outcomes

Employment outcomes achieved by previous cohorts of students are likely to be of great interest to those considering enrolling in postgraduate education, with survey data from the National Union of Students suggesting that advancement in the labour market is a major driver for enrolment on a course.⁵ Despite this, some universities are not doing enough to inform students of the likely progression and employment outcomes from completing a course. In oral evidence to the Commission, one Vice Chancellor argued that some masters degrees at some institutions were failing to provide evidence of value in the labour market.

At doctoral level, the US Council for Graduate Schools (CGS) has warned that students face a “*fundamental information gap*.” CGS Director Debra Stewart argues that a lack of department-level data prevented students from making informed choices about whether to take PhDs and also made it difficult for institutions to design courses that were attractive to employers.⁶

There are currently two measures of employment outcome for postgraduates – the

5 NUS, *Student Experience Survey* (2011)

6 Speech to European Association for International Education Annual Conference, 13 September. Reported in P Jump, *Young doctors need guidance on career paths inside and outside campus*, *Times Higher Education* 20-26 September 2012

destination of leavers from higher education survey (DLHE) identifies the educational or employment destination of leavers after six months and after 40 months. The six-month data is of limited value. As Sir Tim Wilson stated in his recent review of Business-University collaboration, *“the six-month horizon is not a fair indicator in the context of career success”*. After 6 months many graduates have taken up a transitional role which does not accurately depict their longer-term progress, a sizeable proportion of graduates from PGT courses may have progressed into further education. The 40-month data covers a much smaller proportion of the cohort and cannot be disaggregated by course.

We could improve our understanding of employment outcomes at near zero cost by adding questions to the Labour Force Survey (LFS). The LFS is carried out by the Office for National Statistics every quarter. It is the largest household survey in the UK and records the employment circumstances of the UK population. Were questions on educational background (including discipline, level and institution) to be included we could vastly improve our knowledge of outcomes without the high opportunity and actual costs associated with stand-alone surveys. [The Office for National Statistics should further develop the question on highest qualification level used in the Labour Force Survey, such that the survey can be used to map employment outcomes from undergraduate and postgraduate study.](#)

Application data

We “do not know how many people apply to study at a postgraduate level or how application numbers compare with actual enrolments. We therefore have no reliable indicator of student demand.”
 – Higher Education Funding Council for England⁷

Many contributors to the inquiry expressed concern that a number of external developments could lead to a fall in demand for postgraduate study. It is vital that a mechanism to monitor changes in demand is put in place to inform the government and sector response to any changes. As an interim measure, institutions could be asked to supply aggregated information on supply and demand.

A more sustainable and long-term solution would be to encourage universities to make use of a postgraduate UCAS system. At undergraduate level there is a plethora of data available on application trends because virtually all university applications are processed through the UCAS application system. The existing UCAS platform for postgraduate applications, UK PASS, has been operational since 2007, but uptake has been relatively low, with only 25 universities and colleges administering their admission through the site.⁸

Shifting to a shared service system for postgraduate admissions would also create an opportunity for efficiencies, economies of scale and cost savings for universities –

⁷ HEFCE, HEFCE's approach to postgraduate provision: report to HEFCE board – July 2012 (2012)

⁸ We recognise that this system would not collect information on courses for which students do not have to apply – such as bespoke provision delivered exclusively for the benefit of one company's employees

freeing up resources to be spent on core academic activities.

Student contributors to the inquiry have reported difficulties in navigating the vast amount of information available online about postgraduate provision. As Dr Paul Wakeling, an education lecturer at the University of York, told the inquiry “*Although information about what postgraduate provision is available is out there somewhere, it can be tricky to pull it all together, even for very able undergraduates.*”⁹ The UK PASS portal could also provide the technological platform for developing the “*single comprehensive source of up-to-date information about postgraduate study*” recommended by Sir Adrian Smith in his 2010 report.¹⁰ We would hope that, in time, the platform would be capable of greater customisation, in order to meet the needs of individual institutions. **Universities should be incentivised to migrate their postgraduate application processes to a UCAS-style system.**

Recommendation 1

HEFCE should improve its understanding of the postgraduate landscape by collecting data on:

- Financing – fees and costs
- The socio-economic makeup of cohorts of students
- Employment outcomes
- The application process

The Office for National Statistics should further develop the question on highest qualification level used in the Labour Force Survey, such that the survey can be used to map employment outcomes from undergraduate and postgraduate study.

Universities should be incentivised to migrate their postgraduate application processes to a UCAS-style system.

9 Written submission from Dr Paul Wakeling, Department of Education, University of York

10 Smith et al, *One step beyond: Making the most of postgraduate education* (2010) p46

3. ECONOMIC DIMENSIONS

Summary

Postgraduate education should be a vital component of Britain's plan for continued economic competitiveness. There is a misalignment between the postgraduate courses taken by students and the courses demanded by industry and the academy. We need a systematic approach to assessing current and future demand for postgraduates.

The economic vision for Britain

There is recognition across political divides that the future British economy will need to be based on products and services that are higher up the value chain. In the Plan for Growth, published alongside the 2011 budget, George Osborne and Vince Cable outlined a vision for Britain as a “*high tech, highly skilled economy*” leading the world in sectors such as advanced manufacturing, life sciences, and green energy.¹¹ As Geoffrey Crossick, former Vice Chancellor of the University of London, has argued, “*the economy of the future will be founded on the generation, transmission and exploitation of knowledge of many kinds.*”¹²

But this route to continued economic success is not one that we walk alone. It is a strategy that is being followed not only by our traditional competitors in the United States and continental Europe, but also, in varying degrees, by the newly emerged economies in India, China, Malaysia, Singapore and South Korea. Many of these countries are investing huge amounts in developing the industrial and intellectual capacity which they will need to compete against us in the future.

Education and skills is one of the key fronts on which the battle to maintain competitiveness is being fought. Global university enrolment has doubled in ten years. The Indian government, for example, has increased its spending on higher education nine-fold and has an ambitious plan to increase its university population from 12 million to 30 million students by 2025.¹³ We are seeing a ‘globalisation of high skills’ which has led to a “*massive increase in [the] global supply of highly qualified workers, able to compete on price as well as knowledge.*”¹⁴

The importance of education to competitiveness has been acknowledged by business leaders and politicians alike. In a 2009 survey conducted by Deloitte, international business leaders in the manufacturing sector identified “*talent-driven labour*” as the top driver for global competitiveness in their industry.¹⁵ The US government has also recognised the importance of building and maintaining a world-class education system. In a 2010 speech the US President Barack Obama spelled out the consequences of falling behind:

“*Make no mistake: Our future is on the line. The nation that out-educates us today is going to out-compete us tomorrow. To continue to cede our leadership in education is to cede our position in the world.*”¹⁶

11 HM Treasury and BIS, *A Plan for Growth* (2011)

12 G Crossick, *The future is more than just tomorrow: Higher education, the economy and the longer term*, Universities UK (2010)

13 Y Sharma, *India: The next university superpower?*, BBC News, 2 March 2011

14 D Brown, H Lauder & D Ashton, *The knowledge economy and the global auction for jobs*, in J Mullan & C Hall (eds) *Open to Ideas: Essays on education and skills*, Policy Connect (2011)

15 Deloitte, *Global Manufacturing Competitiveness Index* (2009)

16 B Obama, *Honoring Educators in Math and Science*, White House Speech, 6 January 2010

The role of postgraduates

Writing in 2006, Lord Leitch described postgraduate skills as “*one of the most powerful levers for improving productivity*” and “*critical to a high skills, high performance economy*.”¹⁷ Postgraduate skills are “*major drivers of innovation and growth*”¹⁸ and a vital part of our innovation infrastructure. Postgraduate research and study provides an opportunity for graduates to develop expertise and thinking skills that will be in high demand in parts of the knowledge economy. The R&D departments of our largest companies are comprised of PhDs translating and applying new thinking to business and scientific problems. Similarly, many of the UK’s most innovative start-ups are the initiative of recent postgraduate students.

Current performance

In 2010, the government commissioned Elsevier to assess the performance of the UK research base.¹⁹ The report was positive, describing the UK as a “*leading research nation*” and “*a world leader in terms of article and citation output*.” However, it also noted that: “*UK research has some potential areas of vulnerability*” and that “*its leadership position may be threatened by its declining share of researchers globally, and by its declining share of global spending*.” Similarly, a 2010 report by the Prime Minister’s Council for Science and Technology (CST) states that the UK’s “*position needs to be strengthened if it is to remain competitive in research*.”²⁰ The report recognises that some research areas are stronger than others and identifies a number of gaps and areas of weakness.

Supply and demand for postgraduate provision

The first area of market failure is around postgraduate skills, where there is a misalignment between end user demand for skills and student uptake of related provision. There are two broad types of skills shortage – those impacting on academia, and those impacting on industry. We will consider each in turn.

Academic skills shortages

Research has revealed skills shortages in a number of academic disciplines. Written evidence from Research Councils UK lists recruitment and retention concerns in engineering, some physical science subjects, agricultural and soil sciences, in-vivo skills, economics, modern languages and quantitative methods within several subjects.

A written submission to the inquiry from Oxford University also expresses significant concerns about the future of some areas of research in the humanities and social sciences. The university warns that while “*Oxford takes very seriously what it sees as its historic and curatorial role in providing an effective home for small subjects such as specialist languages, it can only continue to do so if it receives appropriate support*.”

17 S Leitch, *The Leitch Review: Prosperity for all in the global economy- world class skills*, HM Treasury (2006)

18 Smith et al, *One step beyond: Making the most of postgraduate education* (2010)

19 Elsevier, *International Comparative Performance of the UK Research Base*, Department for Business Innovation and Skills (2011)

20 Council for Science & Technology, *A Vision for UK Research* (2010)

The British Academy also expresses concerns about future skills shortages. In their 2012 Position Statement the Academy argues that there is “*no strategy in place to ensure that the number of UK postgraduate researchers is sufficient to replenish the next generation of researchers, especially for some disciplines where the average age of academic researchers is particularly high.*”²¹

We should however note that evidence suggests that in other disciplines there is an oversupply of candidates for academic posts. Royal Society analysis suggests that only 30% of UK science PhDs enter post-doctoral work whilst only 3.5% remain in permanent academic posts.²²

Industrial skills shortages

Writing in 2010, Professor Adrian Smith highlighted recent research, as well as evidence from industry, suggesting that employers were finding it difficult to recruit postgraduates with the specific skills they needed. Two years on this situation has not changed. There is a growing body of evidence which documents skills shortages in a variety of sectors.

These concerns have been reiterated to our inquiry by a number of industrialists. Witnesses from GlaxoSmithKline and Rolls-Royce each identified a number of areas where they are suffering from skills shortages that are affecting both their own firms and members of their supply chain. The shortage areas identified include electronics, nuclear engineering, experimental medicine, medical statistics, pharmacology & toxicology, isotope chemistry, bio-processing, and high value manufacturing.

Sir John Beddington, the government’s Chief Scientific Advisor, has voiced concerns about our vulnerability in supplying postgraduates with skills in algorithmics and in statistics, two fields which will be vital in maintaining cybersecurity. He also identifies concerns, shared by the Foreign Office, the Department for Energy and Climate Change, and the Ministry of Defence around nuclear science disciplines.²³

Consequences of inaction

The UK faces serious consequences unless steps are taken to fill the skill shortages identified. As Sir Adrian Smith has stated, “*the UK’s ability to provide people skilled to this level is an important factor in attracting global businesses to locate high-value operations here.*” Smith warns that if skills shortages continue “*there is a risk that employers who are unable to find these skills in the UK, will instead choose to source them from overseas, representing a significant loss of value to the UK.*”

Whilst the UK benefits from a degree of employer inertia, with companies having sunk costs into their UK facilities, every company will have a tipping point beyond which maintaining operations, and thus jobs, within the UK will become uneconomical.

21 British Academy, *Position Statement – Postgraduate funding: the neglected dimension* (2012)

22 Royal Society, *The Scientific Century: Securing our Future Prosperity* (2010)

23 Letter from the Government Chief Scientific Advisor to Sir Alan Langlands, 21 July 2011. Available at: <http://www.hefce.ac.uk/media/hefce/content/whatwedo/knowledgeexchangeandskills/strategicallyimportantsubjects/govscience.pdf>

Failure to tackle academic skills shortages will also have consequences. Disciplines will become less competitive, with some smaller disciplines potentially disappearing from the UK HE system completely. There may also be an impact on the quality and relevance of undergraduate teaching, especially in STEM and vocationally-orientated fields, where research-informed and research-aware teaching is vital.

The way forward

To address this issue we must ensure that we have a systematic approach to identifying skills shortages, together with effective mechanisms for tackling skills shortages once identified.

The existence of such a system is fundamental to the success of the government's new approach to Higher Education. Based on a market philosophy, the new system hopes to see employers and students 'owning' and driving provision. Better information is vital – and the signalling function of data to employers and students will be key.²⁴

[We do not currently have a systematic approach to assessing employer demand for postgraduates.](#) This is a problem which has been consistently flagged as an issue by a whole series of reviews, with little done to adequately rectify the situation.

Writing in 2008, in his government-commissioned review of research careers, Warwick Vice Chancellor Professor Nigel Thrift recommended that: *“Government should establish mechanisms to develop a more sophisticated long-term understanding of the supply of and demand for researchers across all sectors and disciplines.”*

Two years later, Adrian Smith's review panel made a similar assessment, and recommended that: *“HEFCE and Research Councils UK should work together and engage with the UKCES, Sector Skills Councils and relevant bodies in the Devolved Administrations, to establish employer needs for postgraduate skills.”*

In July 2012 the House of Lords Science and Technology Sub-Committee added their voice to this consensus. Their report catalogues a cacophony of dissatisfaction with current availability of data:

“The lack of reliable data on the supply and demand for STEM graduates and postgraduates makes it very difficult to assess whether there is a shortage of STEM graduates and postgraduates, and in which sectors. More needs to be done to identify areas of shortage so that remedial action can be taken and to enable students to make informed choices about whether the courses they are considering will equip them with the skills needed by employers.”

The Commission re-iterates the spirit of Sir Adrian Smith's recommendation and of the House of Lords Report. We hope that progress will be made in this area as a matter of great urgency and propose that a single body be nominated to lead, and be

24 HEFCE, *Strategically Important and Vulnerable Subjects: The HEFCE advisory group's 2010-11 report* (2011)

accountable for, progress with the implementation of this recommendation. The UK Commission for Employment and Skills, who identify the provision of “*world-class labour market intelligence*” as one of its strategic objectives²⁵ is, in our view, the best placed organisation to do this.

The UK Commission for Employment and Skills (UKCES), Higher Education Funding Council for England, and Research Councils UK (RCUK) should work with other sector bodies to improve our national understanding of employer need for postgraduate skills. UK CES should be the lead body in this project – and should develop and publish implementation plans by Spring 2013.

We also note the valuable work done by the Confederation of British Industry in collating and voicing employer views on the education and skills system. The Confederation’s flagship work in this area – the Annual Education and Skills Survey – does not currently disaggregate employer views on graduate and postgraduate level skills. The CBI should evaluate how they monitor employer views on postgraduate skills. The CBI Education and Skills survey should be modified to look explicitly at postgraduate level skills.

Future demand

A long-term, considered approach to demand is needed. We cannot simply focus on current skills needs, but must apply a degree of foresight as to what our future economy will likely require. Adopting a ‘just in time’ model for dealing with skills shortages is not enough.

For example, it is very likely that there will be increased demand for expertise in science, technology, engineering, maths, and design going forwards. A report commissioned by the Department for Innovation, Universities and Skills (now DBIS) in 2009 looked at potential future demand for STEM subjects.²⁶ The study predicted that there would be an increase in demand for STEM workers, driven by the need to replace the ageing existing workforce and changes to the structure of industry. The study also noted that the scale of the industry was likely to increase and also noted that nature of many jobs in STEM industries was changing, with many jobs becoming more demanding in terms of qualifications needed.

Substantially increasing the number of people with expertise in an area cannot be done overnight. The pipeline in the sciences could be as long as ten years – the amount of time it might take a future employee to compete A-Levels, an undergraduate degree and a PhD. A whole-system approach to the issue is needed. Young people making life-course decisions at the ages of 14, 16 and 18 should be given intelligence on likely future demand for career paths. Likely labour market changes will also have implications for

²⁵ <http://www.ukces.org.uk/about-us>

²⁶ R Wilson, *The Demand for STEM Graduates: some benchmark predictions*, Warwick Institute for Employment Research, DIUS, CIHE and Engineering Technology Board (2009)

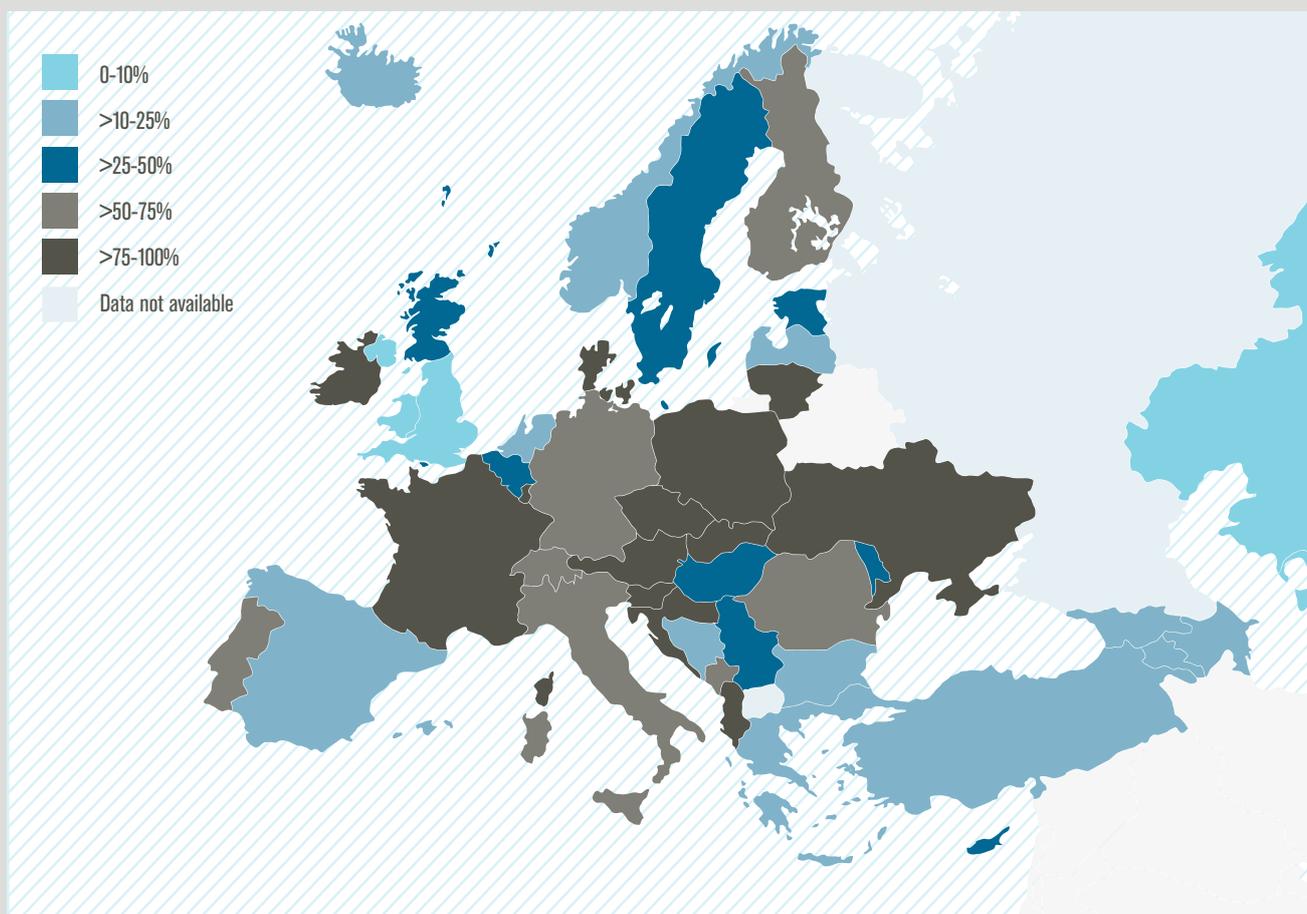
Data

How many postgraduates do we need? International comparisons

Figure 3: Take-up of second-cycle education within two years

The most recent Bologna process report shows that substantially fewer UK students move on to “second cycle” education, typically at masters or doctoral level, than in other European countries. The UK is one of only three countries with a progression rate of less than 10%, alongside Andorra and Kazakhstan.

Of course, more students progressing to second-cycle education is not necessarily positive. In some of the education systems considered by the report high progression is driven by a need for students to make up for perceived deficiencies in undergraduate provision. Similarly, in Italy, lack of employment opportunities is cited a reason for the comparatively high take-up of second-cycle education.



Source: The European Higher Education Area in 2012: Bologna Process Implementation Report, Eurydice Network

both citizens and institutions – technological advancements and global shifts in the location of industries are likely to increase the need for retraining. There will be greater demand for postgraduate education, and much of that increase will need to be delivered flexibly.

Universities must continue to consider these trends in planning the provision they offer. A strategic approach is needed to ensure decisions taken now, for example on the closure of university departments, are in the long-term interests of the country. This is vital if our education and skills system is to meet the needs of our economy in the years to come.

Recommendation 2

The UK Commission for Employment and Skills (UKCES), Higher Education Funding Council for England, and Research Councils UK (RCUK) should work with other sector bodies to improve our national understanding of employer need for postgraduate skills. UKCES should be the lead body in this project – and should develop and publish implementation plans by Spring 2013.

The Confederation of British Industry should evaluate how they monitor employer views on postgraduate skills. The CBI Education and Skills survey should be modified to look explicitly at postgraduate level skills.

4. IMMIGRATION AND THE INTERNATIONAL DIMENSION

Summary

Many postgraduate courses in the UK rely on international students to remain viable. This leaves our universities vulnerable to changes in international demand for UK higher education. Care must be taken to ensure that changes in the immigration system do not adversely impact on our national capacity in key disciplines.

Most international students return to their home countries after studying, where they continue to innovate and contribute to the economy. It is in Britain's interest to retain international postgraduates, and an adequate post-study work system must be in place to support this. An emphasis is also needed on facilitating access to postgraduate education among the home-domiciled population.

The issue of supply and demand of postgraduates, discussed in the last chapter, is intimately linked to that of immigration. If we do not train a sufficient number of people to meet the skills needs of employers those skills will have to be found overseas. Similarly, insufficient domestic demand for postgraduate education explains in part of the focus on recruitment of international students.

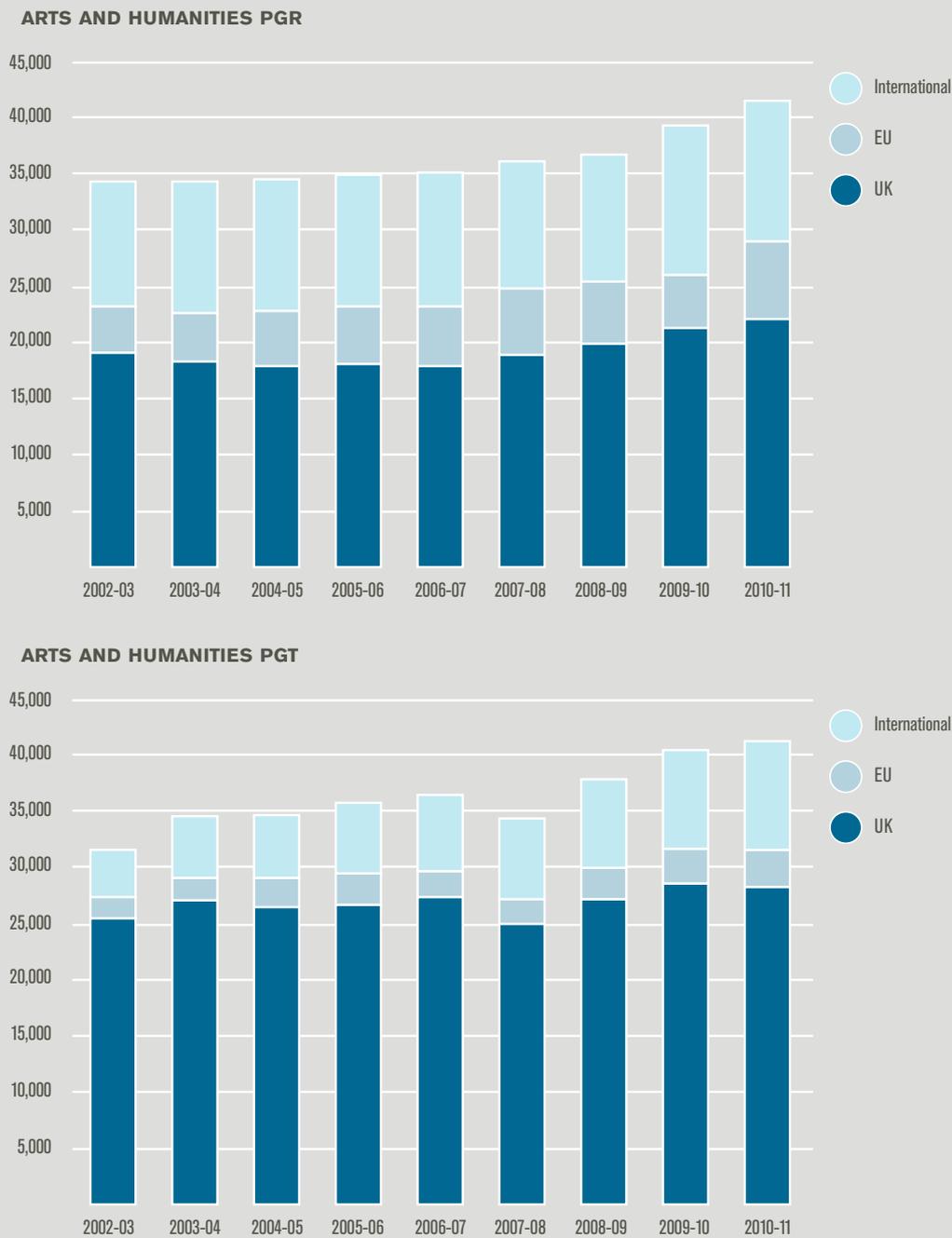
Growth in international student numbers

Lord Browne's review of HE funding pointed to an increase in enrolments onto postgraduate degrees as a signal that postgraduate HE in England was successful and in good health. But, as can be seen from the data overleaf beyond the headline figures, it becomes clear that much of the increase in volume is due to an increase in the number of international students. Universities UK estimate that International postgraduate enrolments have increased by more than 200% since 1999 academic year. In contrast, over the same period, the number of home and EU students has increased by just 18%.²⁷

27 L Bell & J Chester, *Analytical briefing: taught postgraduate funding and finance*, Universities UK (2011)

Data

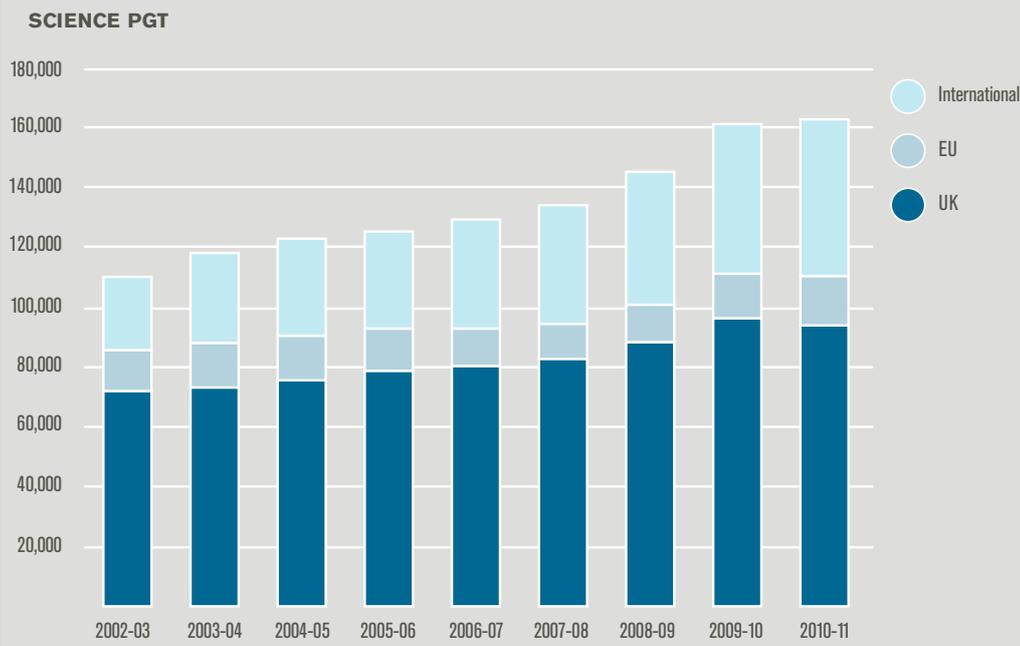
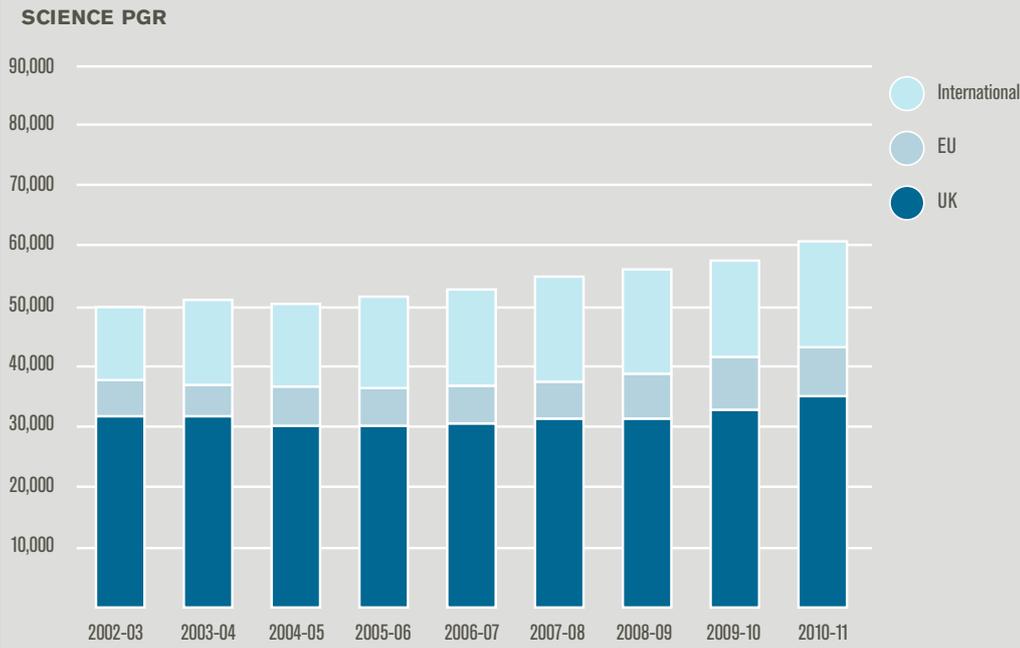
Figure 4: Postgraduate enrolments by domicile, 2002-10²⁸



Enrolments onto postgraduate courses increased steadily between 2002 and 2010, with postgraduate research enrolments rising by 20.5% and postgraduate taught enrolments rising by 34.3%. This rise is predominantly due to rapid increases in uptake by international students. The trend is particularly marked in PGT, where international enrolments increased by 105.8% compared to an increase of 15.8% in home enrolments. Uptake of PGR courses by international students over the same period increased by 26.8%, compared to a 14.1% increase in domestic uptake.

In a handful of disciplines at PGT level, rapid increases in international enrolments have actually masked a decline in the number of domestic enrolments. For example, international enrolments in business and administration studies more than doubled

28 HEFCE ASG analysis of the HESA standard registration population resistered at UK HEIs, 2002-03 to 2010-11. Students registered at the Open University are not included in these figures



between 2002 and 2010, whilst domestic enrolments in these disciplines declined by almost a fifth.

The prevalence of this trend across a number of scientific disciplines is particularly concerning. A steady decline in domestic uptake of computer science PGT courses has seen home enrolments fall by 46.1%, against a 66.2% rise in international enrolments. Within certain disciplines, international students now outnumber home students by almost two to one. An increase of 149.5% in the number of international students taking engineering and technology PGT courses has seen international enrolments comfortably overtake domestic enrolments, which remained relatively stagnant over the same period.

The value of international students

International students, researchers and faculty are an essential and valuable part of our higher education infrastructure.

Academic benefits

Academia is a global endeavour involving dissemination of ideas and thinking across frontiers. Working or studying outside of one's home country has become a norm for both UK-born and foreign academics – 63% of researchers affiliated with UK institutions have also published articles while working at institutions outside the UK.²⁹ International researchers are also an important part of the current success of the UK postgraduate education system. As Universities UK Chief Executive Nicola Dandridge has said: *“World-class research requires world-class people, and we simply can't adopt a fortress Britain attitude... Unless we are able to bring in world-leading researchers, the extraordinary international quality of UK research will plummet.”*³⁰

Economic and diplomatic benefits

Higher education is now one of the UK's top exports. The Department for Business, Innovation and Skills estimates that the value of education and training exports to the UK economy in 2008/9 as being £7.87 billion.³¹ There is also diplomatic and reputational value in educating international students, who retain an affinity with Britain and with their alma mater. The Home Affairs Select Committee has noted that a significant number of current and former Heads of State were educated at British universities.³²

Speaking to the Business, Innovation and Skills Select Committee, Simon Walker, Director General of the Institute of Directors, spoke highly of the business development advantages which international students bring, enabling firms to enter new markets with *“known staff who are home grown in both the country and company sense.”* This point is also made by Labour MP Paul Blomfield and Conservative MP Nadhim Zahawi. Writing in the Sunday Times they described international students as an opportunity to build economic ties:

“When they return home and rise to prominent roles in business and politics, they turn first to Britain when making decisions on trade and investment. Every university has countless examples of international graduates who have returned with contracts for UK companies.”

Analysis

The increase in the number of international students has been beneficial for the UK HE sector, but the Commission is concerned that this is masking stagnation in the qualification and skill level of the home-domiciled population.

29 Elsevier, *International Comparative Performance of the UK Research Base*, DBIS (2011)

30 N Dandridge, *Universities rely on international staff and students*, *The Guardian*, 12 October 2010

31 DBIS, *Research Paper Number 46: Estimating the Value to the UK of Education Exports* (2011)

32 House of Commons Home Affairs Select Committee, *Student Visas – Seventh Report of Session 2010-11* (2011) Volume I, Appendix 5

Up-skilling the world

We are relying on international students to plug skills gaps in the indigenous population. Lack of domestic demand for STEM subjects means UK industry also has to rely on international graduates to fill positions.

Relying on international recruitment is not an efficient or sustainable strategy as most international students plan to return home. Home Office analysis of the 2004 cohort of international students suggests 59% of student migrants have left the immigration system after two years, increasing to 80% after 5 years,³³ whilst the Institute for Public Policy Research estimates that only 15% of student entrants will stay beyond seven years.³⁴ Elsevier's assessment of the UK research base notes that "nearly 31% of all researchers that published work while affiliated with UK institutions during the period from 1996-2010 stayed in the UK for less than two years before moving abroad."³⁵ A recent NESTA-commissioned study of the Indian higher education system suggested that 74% of Indians studying or working in the United States planned to return to India.³⁶

On return to their home countries international postgraduates continue to do the high value-added work they have trained for in the UK, become a part of the innovation infrastructure, and help build the economic competitiveness and advantage of their home country. **Britain has become the education outsourcing capital of the world.**

We need to think about our own economic advantage going forward. High numbers of international students cannot compensate for poor take-up of postgraduate education among home domiciled students. An emphasis is needed on up-skilling of the UK population.

Lack of opportunity

Oral and written evidence submitted to the Commission suggests that the principal reason for shortfalls in domestic demand for postgraduate study is lack of opportunity caused by lack of funding. As one Vice Chancellor told the Commission, "currently, it is easier to fund a Chinese student than a British student."³⁷ These concerns are shared by the British Academy which notes that "there are insufficient opportunities and funding support for UK students to engage in postgraduate research and therefore to be in a position to apply for academic posts."³⁸

Many of our competitor nations are investing huge amounts in UK postgraduate education. The Brazilian government, through the Science without Borders initiative,³⁹ and the Chinese government, through the Chinese Scholarship Council, have invested significant amounts in funding their students to study at postgraduate level at the world's top universities. Similarly, the Kingdom of Saudi Arabia invests 1.8 billion euros per year in the King Abdullah Scholarship Programme, which provides full funding to 125,000 students undertaking undergraduate or postgraduate programmes abroad.⁴⁰

33 L Achato, M Eaton & C Jones, *Research Report 43: The Migrant Journey*, Home Office (2010)

34 A Glennie & M Cavanagh, *International Students and net migration in the UK*, Institute for Public Policy Research (2012)

35 Elsevier, *International Comparative Performance of the UK Research Base*, DBIS (2011)

36 NESTA, *River of Innovation: the Future of Higher Education and its Impact on Research & Innovation* (2012)

37 Oral evidence to the Commission

38 British Academy, *Position Statement – Postgraduate funding: the neglected dimension* (2012)

39 <http://www.cienciasemfronteiras.gov.br/web/csf-eng/faq>

40 ICEF Monitor, *Enormous Saudi scholarship programme extended to 2020* (2012). Available online: <http://monitor.icef.com/2012/02/enormous-saudi-scholarship-programme-in-the-spotlight/>

We are also concerned that the increasing reliance on international students to make provision viable leaves our universities vulnerable to changes in international demand for UK higher education.

Course viability

In some subjects postgraduate provision is sustained only by international students. A sudden decline in international student enrolment would threaten such courses. As one Vice Chancellor told the Commission:

“Some of our best and most specialised STEM masters degrees would not be taught without international students – electronics, computer sciences, some medicine. These are markets for which there is little domestic demand.”

Many of these courses are in areas of strategic national importance – such as engineering – where we are already facing skills shortages. A decline in the availability of these courses could in turn have an impact on Britain’s industrial and economic capacity.

Future international demand for British HE

It is difficult to project future trends in international student numbers with any certainty. The 1997 Asian financial crisis led to large falls in the number of students coming to the UK from Malaysia, until then the domicile of more international students than any other country. The number of Greek students in the UK has similarly declined as its economic situation worsened. Projections by the British Council suggest that UK international student numbers will increase by 28,000 in the next decade. However, the same report notes that it is difficult to estimate the displacement impact which development of campuses in China, Singapore and some of the Gulf States will have.⁴¹

UK international recruitment is increasingly concentrated on a handful of countries and a handful of subject areas. In 2010/11 over half of all overseas research students came from China, Saudi Arabia, and the United States.⁴² Shocks to demand in single markets could therefore have a major impact on the UK higher education sector.

Many of the emerging economies investing heavily in international postgraduate education are doing so to build research and teaching capacity in their domestic higher education systems. Presumably over time the amount spent in this manner will decrease. Similarly, the increasing availability of English-language teaching in European universities is also a potential threat to UK universities in the postgraduate taught market.

We concur with the Smith Review, which correctly identifies that UK universities may find it *“more challenging”* to attract the same high numbers of international taught postgraduates in the future.⁴³

41 British Council, *The shape of things to come: higher education global trends and emerging opportunities to 2020* (2012)

42 British Academy, *Position Statement – Postgraduate funding: the neglected dimension* (2012)

43 Smith et al, *One step beyond: Making the post of postgraduate education* (2010) p74

Immigration reform since 2010

In the run-up to the 2010 General Election the Conservative Party argued that “immigration today is too high and needs to be reduced”, and pledged to take action to reduce inward immigration to “tens of thousands a year.”⁴⁴ Following the election this pledge was reflected in the Coalition Agreement, with the government committing to introducing “an annual limit on the number of non-EU economic migrants admitted into the UK to live and work.”

Classification of international students within the cap

For the government to meet its target of getting immigration levels down to 100,000, the number of international students would have to fall substantially. Universities UK analysis of the November 2010 Migration Advisory Committee report suggests the reduction would have to be “in the region of 87,600 over the next three years.”⁴⁵

Were such reductions to be realised the higher education sector would be significantly damaged, particularly at postgraduate level. As we have already noted, many courses in strategically important disciplines rely on international students to remain viable. We would likely see course closures, perhaps even department closures. In the long-term, Britain’s research capacity and competitiveness would be damaged and diminished. In our view, this is too high a price to pay.

Throughout the summer of 2012 ministers from the Prime Minister down have stated clearly that there is no limit on the number of international students entering Britain. But there is a disjuncture between government proclamations on this issue and the continued inclusion of students in the government’s immigration cap.

The immigration cap is colouring coverage of the government’s attitude to student immigration in the world press. This has led to a damaging perception that the UK does not welcome international students,⁴⁶ a perception which has been made worse by the fallout from the UK Border Agency’s decision to strip London Metropolitan University of its licence to recruit international students. It is also contributing to a climate of uncertainty for prospective and current international students, which does not inspire confidence for those considering investing in a British university education. In short, continued inclusion of international students in the government’s net migration target is having a negative impact on perceptions of UK postgraduate education.

We are also concerned that the continued inclusion of students in the measure of inward immigration will distort the debate around immigration and will ultimately drive policy and behaviour which is not in the best interest of either our higher education system or our economy.

There is a growing consensus that international students need to be taken out of the inward migration statistics, unless they remain in the UK after their period of study.

44 Conservative Party, *Invitation to join the Government of Britain: the Conservative Manifesto* (2010)

45 UUK oral evidence to BIS Select Committee. See also E Acton, *The UKBA’s Proposed Restrictions on Tier 4 visas: implications for University recruitment of overseas students*, Higher Education Policy Institute (2011)

46 See R Lambert, *Immigration policy goes against our universities*, *Financial Times*, 30 August 2012

The House of Commons Business, Innovation and Skills Select Committee and the House of Lords Science and Technology Committee have both separately made this recommendation. Removing students from the cap is also supported by the Institute of Directors and many business leaders, including Sam Laidlow, Centrica CEO and Chair of the CBI HE Taskforce, and Lord Digby Jones, former CBI Director General.⁴⁷

We welcome David Willetts' plans to produce disaggregated figures on student migration in order to better inform the debate, but do not believe that this is enough. The government must follow its words with actions and remove international students from the cap on net migration.

International students should only be counted in the migration cap measure at the point they elect to stay on in the UK after study, for example to work or marry. The number of incoming international students should instead be recorded under a separate classification.

Post-study work

We noted earlier in this chapter that many international students return home quickly. This carries an economic cost. It is in Britain's interest to retain international students after graduation. This view was eloquently put to the Commission by Sir Martin Sweeting, Group Executive Chairman of the space technology firm Surrey Satellites:

"We're training extremely good folk who then drift back to their own countries – having trained them we ought to have the mechanism to use them to contribute to our economy... this is a real disaster."

The United States is tackling a similar challenge. Speaking in Texas last year US President Barack Obama said:

"Today we provide students from around the world with visas to get engineering and computer science degrees at our top universities, but our laws discourage them from using those skills to start a business or power a new industry right here in the United States. So instead of training entrepreneurs to create jobs in America, we train them to create jobs for our competition. That makes no sense at all. Look at Intel and Google and Yahoo! and eBay. These are great American companies that have created countless jobs; they were founded by immigrants. We don't want the next Intel to be created in China or India. We want those companies and jobs to take root in America."⁴⁸

Indeed, in a report to Congress the US National Academies have proposed that the US government should grant residency (a 'Green Card') to overseas students who earn doctorate degrees in areas of national need.⁴⁹ Canada already has a similar policy, whereby Green Cards are available to those completing doctorates in science and engineering.

47 P Blomfield & N Zahawi, *Foreign students key to UK business*, *Sunday Times*, 22 July 2012. Available online: <http://www.thesundaytimes.co.uk/sto/comment/leaders/article1086307.ece>

48 B Obama, *Remarks on Comprehensive Immigration Reform*, El Paso, Texas, 10 May 2011

Prior to the immigration reforms any student completing a postgraduate degree at a designated UK higher education institution was entitled to apply for a post-study work visa lasting two years under the Tier 1 visa route. That route has now been closed, with students instead being invited to transfer into the Tier 2 route when their student visa comes to an end. The requirements under Tier 2 are more stringent.

Current requirements for obtaining a post-study work visa

International students graduating can switch into Tier 2 (General) visa from within the UK provided they meet the following conditions:

- They have a confirmed job offer for a graduate level job (with a registered Tier 2 sponsor.)
- The job pays a minimum salary of £20,000 or the going rate for the job “whichever is higher”.
- Their Tier 4 visa has not yet expired (students typically receive four months at the end of their course of study before their visa expires).
- They will not need to satisfy the Resident Labour Market Test and will not count towards the annual Tier 2 visa limits (currently set at 20,700 per annum).⁵⁰

Contributors to our inquiry have expressed concerns about the impact of some of these changes. In particular, concerns have also been expressed about the number of certificates of sponsorship that have been made available. The Association of Medical Research Charities has highlighted the views of a number of its member research institutes who are concerned that the new system may inhibit their ability to recruit the best scientists.⁵¹

Again much of the challenge is related to perception. As Sir Timothy O’Shea told the Commission, *“high quality postgraduates don’t know what they want to do for sure, but they do want to know that the economic opportunity to start a company whilst in the UK is open to them.”* The perception that their opportunity to work may be limited is damaging the appeal of UK education.

We may also see intensification of skills shortages, with industries that had previously relied on recruiting international graduates to fill key positions facing constraints. **We must ensure that appropriate opportunities for post-study work for highly-qualified researchers are made available.**

49 National Research Council, *Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation’s Prosperity and Security*, National Academies Press (2012)

50 Adapted from: Universities UK, Supplementary written evidence to the Business, Innovation and Skills Select Committee (2012), printed in House of Commons Business, Innovation and Skills Select Committee, *Overseas Students and Net Migration* (2012), Ev 23-28, pp 47-49

51 Universities UK, Wellcome Trust & Association of Medical Research Charities, *Briefing for Lords debate on the Government’s proposed limit on non-EU economic migration*, 21 October 2010 (2010)

The need for certainty

The higher education sector asks prospective international students to invest a large amount of money in their education. Uncertainty and a constantly shifting immigration landscape do not create the atmosphere of certainty which encourages investment.

Universities UK CEO Nicola Dandridge notes that there have been 14 changes in student immigration regulations since 2009. Three of these changes – in April 2011, July 2011 and April 2012 have been major. These “*incessant and relentless changes*” have not only tested universities systems but contributed to the international perception that “*there is a clamping down that is carrying on and on and on.*”⁵² A Vice Chancellor giving evidence to the Commission reiterated this point noting that “*we have seen some changes introduced at extremely short notice*” and called for greater stability in the post-study visa system. [The Home Office should reduce churn in immigration regulations.](#)

Recommendation 3

Immigration regulations must be consistent, fair and have regard to the economic needs of the country:

- International students should only be counted in the migration cap measure at the point that they elect to stay on in the UK after study, for example to work or marry. The number of incoming international students should instead be recorded under a separate classification.
- Appropriate opportunities for post-study work for highly-qualified researchers must be made available.
- The Home Office should reduce churn in immigration regulations.

5. ACCESS TO POSTGRADUATE EDUCATION & THE PROFESSIONS

Summary

Postgraduate education is in danger of becoming “*the new frontier of widening participation*” – with prospective students currently barred from study if they cannot afford fees or access sufficient credit. There are a number of fields and professions where postgraduate qualifications are becoming a de facto requirement for employment. If action is not taken we could see the gains made from widening participation at undergraduate level diminished.

Political context

All political parties have put an emphasis on the importance of social mobility and access to the professions. In April 2011, the Coalition Government published its Social Mobility Strategy, which declared that “*tackling the opportunity deficit*” and “*creating an open, socially mobile society*” would be the Coalition’s guiding purpose. The strategy recognised that failing to achieve a more socially mobile society would leave “*the country’s economic potential unfulfilled.*”

At undergraduate level, a great deal of time, focus and resource has been put into improving access to higher education. The Office for Fair Access was established by the last government following the introduction of £3,000 undergraduate top-up-fees to promote and safeguard fair access to higher education for lower income and other under-represented groups. Today, institutions charging fees of £6000 per year or more are required to file an access agreement with OFFA and undertake outreach activities. At postgraduate level, there has been much less focus on this issue.

The Milburn Review

In January 2009, Prime Minister Gordon Brown commissioned the former Cabinet Minister Alan Milburn to chair a review of access to the professions. The review panel also included senior leaders from every major employment sector in the UK. The final report of the Review explicitly identifies access to postgraduate education as an issue to be addressed.

The report notes that postgraduate degrees have “*increasingly become an important route into many professional careers*” but “*are substantially more expensive than undergraduate degrees*” with “*no student support framework equivalent to the framework for undergraduates.*” Milburn recommended that “*new proposals need to be formulated to establish a clear, transparent and fair system of student financial support for postgraduate learners.*”⁵³

Speaking earlier this year, Milburn re-visited the postgraduate issue: “*Post-graduate education is a real time-bomb in terms of social mobility. Everyone agrees that nobody should be barred from undergraduate education because they can’t afford fees, and yet we completely accept this barrier when it comes to post-graduate*

53 Milburn et al, *Unleashing Aspiration: the Final Report of the Panel on Fair Access to the Professions*, Cabinet Office (2009)

education. The fact is, post-graduate education is not a luxury for the individual, it is a necessity for our economy and wider society.”⁵⁴

Importance of postgraduate skills in current labour market

Postgraduate skills are becoming increasingly important for entry into the labour market and for progression within employment. There are a number of areas in which postgraduate study is becoming a norm, necessary for entry into a profession, either as a licence to practice or as de facto requirement.

‘Postgraduate Careers’

In written evidence to the Commission, members of the Association of Graduate Careers Advisory Services reported that in some occupational areas there was evidence of increasing requirements by employers for a postgraduate qualification for certain roles. These included :

- Quantitative roles in investment banking
- Scientific roles in biotechnology firms
- International development and NGOs
- Legal
- Engineering
- Teaching
- Psychology professional roles
- Museums work
- Technical roles in the environment profession
- Patent attorneys
- Clinical science

Further work may be necessary in order to establish whether or not other occupations and roles will also increasingly require postgraduate qualifications.

The Geoscience Community noted that in some parts of their profession *“there are very limited opportunities for those with a BSc only; most companies take postgraduate qualifications as their minimum entry level, with Masters graduates constituting a large proportion of this intake.”* For those in the workplace, there is some evidence to suggest masters qualifications are important for in-work progression. The submission goes on to state that: *“there is also some evidence that, for those few gaining employment with a BSc, there is little prospect of career advancement.”*

Postgraduate study is also increasingly used by older students as a mechanism for changing career, with possession of a postgraduate degree being used as a proxy for direct experience in the field.

Evidence review: current trends in access to postgraduate education

Postgraduate wage premiums

Recent research by Joanne Lindley and Professor Stephen Machin, published by the Institute of Fiscal Studies, found that rapid “educational upgrading” of the population had taken place in Britain over the last thirty years, but that this up-skilling has not happened evenly across the population.⁵⁵

People from relatively rich family backgrounds have benefited from a faster increase in education acquisition. Simultaneously, the “*postgraduate premium*,” the wage differential enjoyed by those with postgraduate qualifications, has risen sharply. The combination of these two trends has been that “*already existing inequalities are transmitted more strongly across generations and social mobility falls.*” This finding is a stark reminder of the importance of getting this issue right.

Factors affecting progression to postgraduate education

Analysis of the limited existing research on this topic suggests that working class students are less likely to progress to postgraduate study immediately after a first degree – although when academic factors such as subject, institution, and degree classification are controlled for, this difference is reduced. Over a longer timeframe, destination data suggests that “*rates of progression to higher degrees by social class after three years show sharper social class differentials.*”⁵⁶

One interpretation countenanced by Dr Paul Wakeling, a lecturer in education at the University of York, is that:

“postgraduate study is used as a ‘second chance’ of obtaining suitable graduate-level employment for those who have the familial resources to facilitate further study. Those who do not have such resources available to them and may be averse to further debt are thereby underrepresented among those graduates who return to postgraduate study.”

Turning to policy implications, he concludes:

“The limited evidence we have suggests finance is important in accessing postgraduate education, but that finance is not the only factor to be considered.”

The type of institution attended also has an effect on propensity to undertake postgraduate study. Research suggests that rates of progression onto postgraduate education are substantially higher amongst those students studying undergraduate degrees at Russell Group universities.^{57, 58}

55 J Lindley and S Machin *The Quest for More and More Education: Implications for Social Mobility*. Fiscal Studies 33 (2012) pp 265–286

56 P Wakeling & C Kyriacou, *Widening Participation from Undergraduate to Postgraduate Research Degrees*. NCCPE and ESRC (2010)

57 Ibid

58 See also: R Wilson MP, E Truss MP, G Stuart MP & J Clappison MP, *Achieving Fair Access: Removing Barriers, Realising Potential*, Fair Access to University Group (2012)

Improving our understanding

We need a better understanding of the motivations behind students' decisions to enter postgraduate education. Is it the case that some groups of students have less understanding of the potential benefits of postgraduate education – and are less likely to apply? Or is the real issue underlying different progression rates related to other barriers to participation? The answer to this question will have a bearing on the appropriate policy response. Research should be undertaken to get a better understanding of the dynamics of this issue.

The linking of undergraduate and postgraduate records which HEFCE are embarking on this Autumn – together with new data from the UK PASS system we advocate in Chapter 2 – should give institutions a far more sophisticated understanding of the socio-economic background of their applicants and intake. **Going forward, universities should be able to systematically investigate 'cold spots' in postgraduate participation in order to inform and target their access and widening participation activities.**

Postgraduate participation should be explicitly addressed in institutions' widening participation strategies.

Flexible study

Full-time study is not an option for many postgraduates, particularly those with dependents and financial commitments. Similarly, full time study may not be an attractive proposition – they may already be in work and seeking to improve their prospects of promotion, or they may wish to pursue postgraduate study for leisure reasons.

Over 50% of postgraduates already study part-time or flexibly. Flexible learning can take a variety of forms – part-time, evening provision, day-release, distance learning, e-learning or blended provision. Availability of these options is essential.

Giving evidence to the Commission, Professor Alan Tait, Pro-Vice Chancellor of the Open University argued that many institutions had only a marginal commitment to part-time study. A number of academic contributors described difficulties and cultural hurdles in getting their institutions to offer this type of provision,⁵⁹ whilst students participating in Commission roundtables expressed frustration at trying to find institutions offering the course they want on a flexible basis.

Where part-time postgraduate education is offered it is important to ensure that timetabling of contact hours is sympathetic to the professional commitments of students. **Institutions should review how well their part-time offer is meeting the demands of prospective students.** In particular, institutions should pay special attention to the distinct pedagogical needs of part-time or distance learning students,

59 Factors influencing institutional approaches to part-time study are explored in C Callender, A Jamieson & G Mason, *The supply of part-time education in the UK*, Universities UK (2010)

and consider whether provision is timetabled appropriately. There is likely to be greater demand for part-time postgraduate demand in the future. Institutions should consider how they might be more responsive to it.

Recommendation 4

Universities should systematically investigate 'cold spots' in postgraduate participation in order to inform and target their access and widening participation activities.

Recommendation 5

Institutions should review how well their part-time offer is meeting the demands of prospective students.

6. FUNDING POSTGRADUATE EDUCATION

Summary

There is a strong case for state-backed student loans to be introduced for some segments of postgraduate taught provision where the financial markets have failed to provide competitive sources of finance. The government should immediately establish a taskforce to examine the feasibility of a postgraduate student loan scheme and develop policy options, reporting by December 2013.

Our international competitors are increasing investment in research and development at a faster rate than the UK. We should look closely at the amount of funding we are investing in postgraduate research and benchmark this against the rest of the world.

Funding policy has a far-reaching impact on the behaviour of individuals and universities. It is vital that the funding system for postgraduate education supports the interests of the sector and the nation.

Our Vision for Funding Postgraduate Education

It is beyond the scope of this inquiry to develop a detailed blueprint for the future funding of postgraduate education. We do however want to set out general principles upon which the future funding system should be based.

First general principle

Prospective students must be able to access finance for postgraduate provision. In recent years, many postgraduates, especially those studying part-time, have looked to private sources of finance. However, where the financial sector fails to make this finance available there is a residual role for government and universities.

Universities must have regard to the accessibility of their provision to students at all levels. The vast majority of provision still benefits from a degree of public funding or subsidy. In their report on *Government Reform of Higher Education*, the House of Commons Business, Innovation and Skills Select Committee stated that “*access to public funds brings with it responsibilities.*” Whilst the Select Committee was in this instance referring to widening participation in the context of private provision, we believe that the sentiment applies equally to this area.

Second general principle

We need a mixed economy funding system, with diverse funding streams and sources of income, recognising and reflecting the heterogeneous landscape of postgraduate provision. Any new streams of funding should not crowd out existing funding, but look to add capacity.

Funding Postgraduate Taught

PGT courses should be funded by a combination of individual contributions and public funds. Public funds should largely be targeted at ensuring access to finance, such that access to PGT provision is not restricted by ability to pay.

Funding Postgraduate Professional

PGP courses should be funded by the principal beneficiaries, individuals and employers. A commercial loan scheme should be in place to support contributions by individuals.

Funding Postgraduate Research

Research should be funded by industry, government and universities in line with their research and development strategies. All three groups should look closely at the level of funding they are putting into PGR and benchmark this against international competitors.

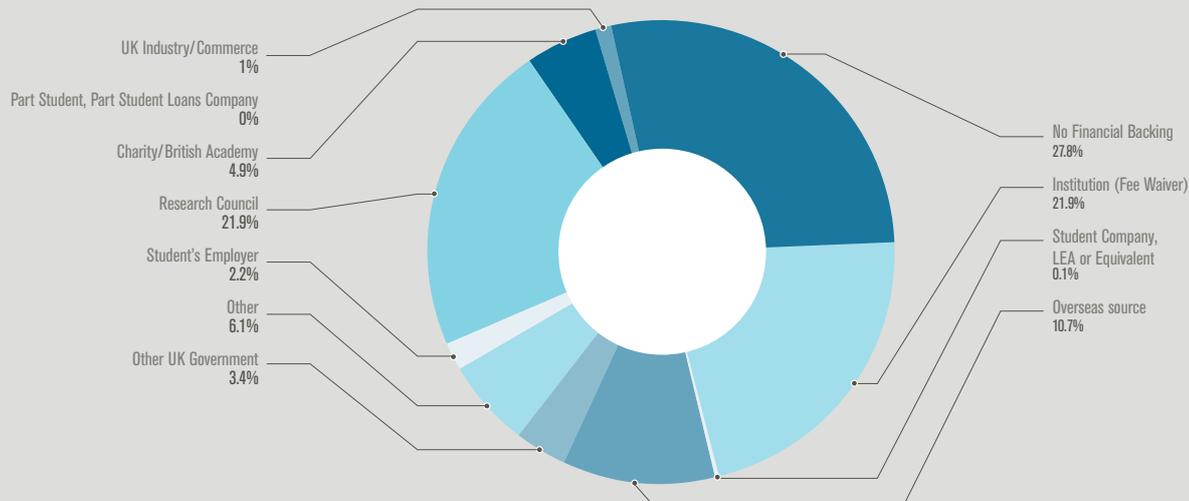
PGR students should be provided with sufficient funding to pay tuition fees – together with a stipend to cover living costs. Institutions should also ensure research students have access to sufficient funding to engage in professional activities.

Particular attention needs to be paid to masters degrees as a route into postgraduate research, especially in disciplines and institutions where a research masters is a prerequisite for entry into PhD programmes.

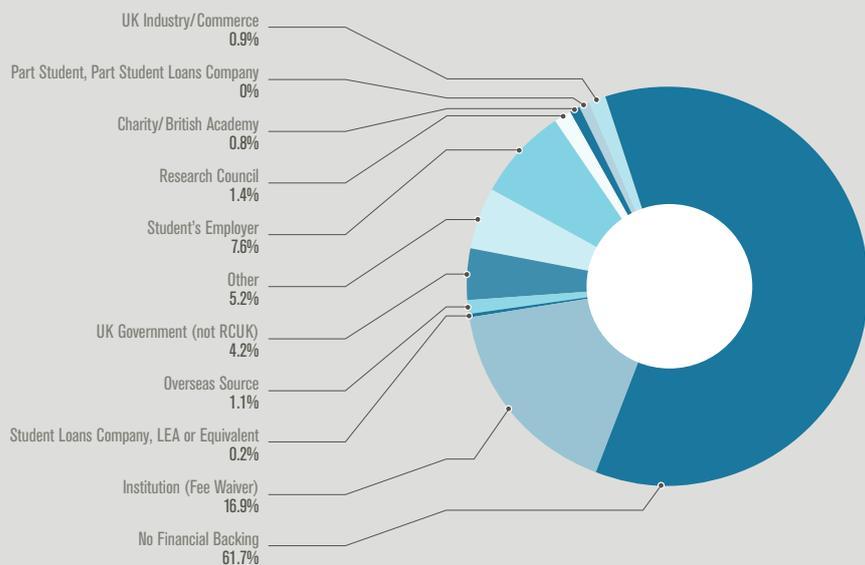
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Figure 5: Sources of tuition fee income for postgraduate research students⁶⁰

Full Time



Part Time



A significant proportion of postgraduate research students receive either Research Council or institutional funding. In 2010-11, 16% of all PGR students were supported by the Research Councils, whilst 20.5% were funded directly by their institution.

Nevertheless, 37.6% of all postgraduate research students are self-funded – the single largest group at this level. This is particularly prevalent in the arts and humanities. According to HESA, only 3.7% of all PGR students are funded by their employer – once again however, this is likely to underestimate levels of employer support as the method of data collection does not detect some of the more complex funding arrangements commonly made between students and their employers.

A further 3.7% of all PGR students are funded by charitable organisations like the Wellcome Trust, which supports a significant number of PhD studentships in the biomedical sciences.

⁶⁰ 2010-11 HESA standard registration population split by the major source of their tuition fees. The population is restricted to students registered at HEIs in England, and includes students in all years of study (rather than just entrants). Figures are a headcount measure, rounded to the nearest five. Percentages are based on unrounded figures. Levels of employer/ industry funding are likely to be undercounted. The HESA data collects the source of the tuition fees as the institution receives them: it cannot appreciate subtleties in arrangements relating to the payment of tuition fees.

Postgraduate Research Provision

Current funding

The funding landscape for research students is diverse. The Research Councils invest around £3 billion in research annually, supporting 21% of UK PhD students. 5,742 of the 27,285 students starting PhDs in 2010/11 received funding from the Research Councils.⁶¹ There are also a number of charitable foundations and trust who provide funding for research. Universities themselves also provide funding for research.

International comparison

Levels of investment in postgraduate studentships are closely linked to levels of investment in R&D more generally. In most of the science fields the majority of lab work is performed by PhD students and post-doctoral researchers.

Enhancing the value of the research base⁶²

The Council for Higher Education and Industry has convened a taskforce to look at how the value gained from the UK research base can be enhanced. Giving oral evidence to the Commission, Robert Sorrell, Vice President for Public Partnerships at BP and chair of the taskforce's working group outlined early findings:

- Over time higher education expenditure on R&D in the UK has increased considerably compared to GDP, although it should be noted that since the onset of the economic crisis, the UK's principal competitors have increased investment at a faster rate than the UK.
- There is an R&D funding gap: The UK is falling behind in R&D investment relative to its international competitors. Business and government spending on R&D has been decreasing as a percentage of GDP since the 1990's.
- R&D is concentrated in the UK's biggest firms, 10 companies account for 34% of all R&D conducted in the UK. Only 3.5% of UK R&D is conducted by SMEs.

These trends are also highlighted by Elsevier in their report to the Department for Business, Innovation and Skills. They warn that an *“inability to sustain R&D spending at levels comparable to the global average may also have consequences for the UK's future research performance relative to other countries.”*

61 Written evidence from Research Councils UK

62 A Hughes & A Mina, *The UK R&D Landscape*, Council for Industry and Higher Education (2012)

As the Russell Group of universities have pointed out:

“We certainly can’t rest on our laurels. While developed countries on average invest one per cent of GDP on higher education, the UK invests just 0.6% of public funding in HE, one of the lowest levels in the OECD. Even when fees and private research funding is included, we are outpaced by the US, Australia, Canada, Korea and Japan. Global competitors are pumping billions into higher education and snapping at our heels.”⁶³

Similar points were made by a number of other contributors to the inquiry:

“the UK cannot hope to remain at the top of the international league tables for research if we continue to buck the trend and spend less on R&D (both public and private) than any of our competitors.”⁶⁴

UK industry, government and universities should increase the amount they invest in research and development activities, in line with the UK’s major competitors.

A STEM bias

Commentators have identified a STEM bias in postgraduate policy,⁶⁵ as can be seen in the chart opposite there are more studentships available in the STEM subjects than in arts, humanities and social sciences. Only 31% of the total number of studentships are for arts, humanities and social sciences. As a consequence, self-funding of PhD provision is far more common in the arts, humanities and social science disciplines.

The cost of self-funding a three to four year PhD will be prohibitive for most of the population. Entry into an academic career is thus largely dependent on winning a PhD scholarship. We believe that sufficient funding should be in place to replenish the research base, without relying on self-funded individuals to make up the numbers. Academia offers a platform for thought leadership – It is vital that it is a profession which is accessible to all with the talent, not just those able to pay their own way.

Funders, in partnership with learned societies, should reflect on whether they collectively fund enough studentships to replenish the research base in each discipline, rather than relying on self-funded individuals.

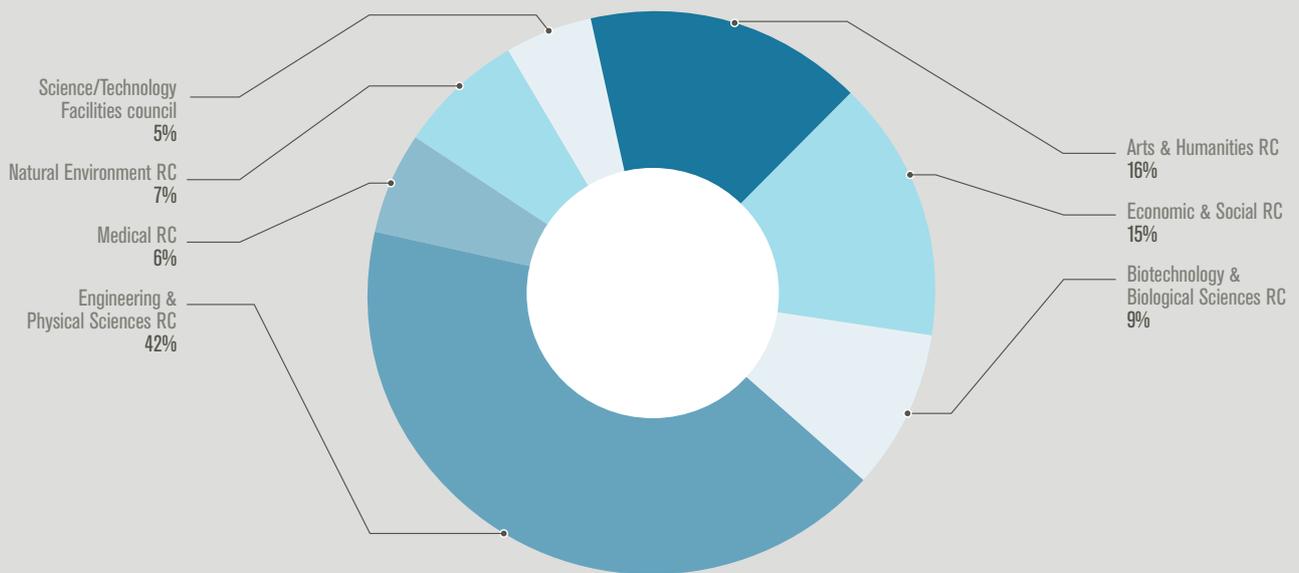
63 Russell Group, Response to ministerial speech on science and technology, 4 Jan 2012

64 Written evidence to the inquiry

65 See: R Deem, *Recent postgraduate policy in UK higher education: A stem bias and an absent presence*. Presentation at UK CGE Conference, July 2012.

Data

Figure 6: New RCUK-funded doctoral starts⁶⁶



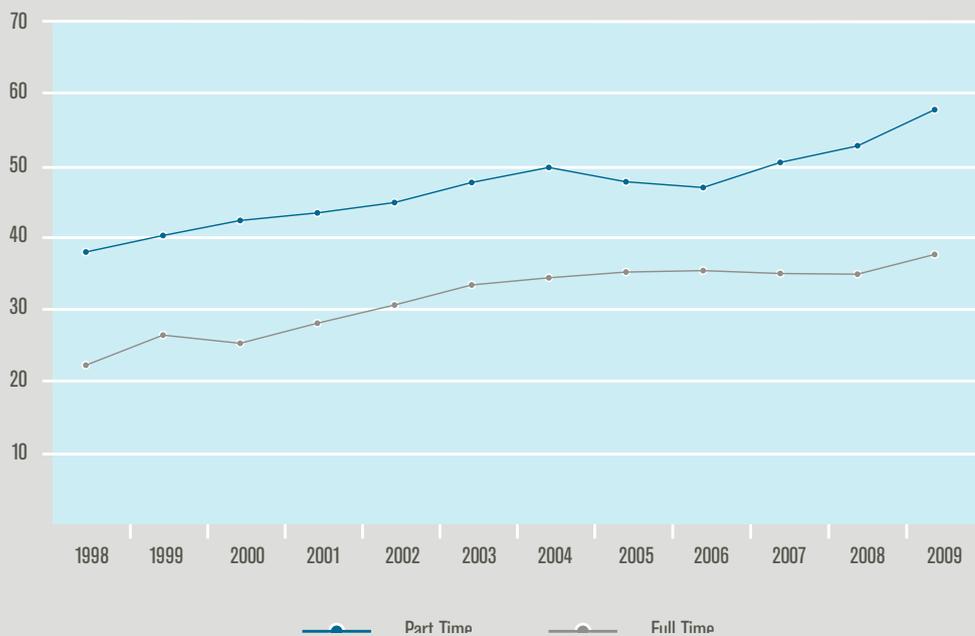
66 Data drawn from HC Deb, 6 February 2012, c133W

Funding for research masters

As can be seen from the graph below, having a masters degree has become more important for securing entry into PhD study over time. The number of PhD starters with a masters degree has increased for both full-time and part-time provision since the mid-1990s.

Data

Figure 7: % of PhD starters with a masters⁶⁷



Across the Bologna Higher Education Area just 10 countries report that there are possibilities for holders of bachelors (or equivalent) degrees to enter doctoral programmes.⁶⁸

Despite the growing importance of masters for admission to PhDs the Research Councils have largely withdrawn from funding one year masters courses.⁶⁹ Projections from Research Councils UK project that 596 research masters studentships will be made available this academic year (480 for arts and humanities, 110 for biology and biotechnology, 6 for economics and social sciences). There will be no studentships available for taught masters.⁷⁰

This was identified as a concern by a number of contributors to the inquiry. One described funding for masters qualifications as “*the broken bridge to doctoral study.*”

67 Reproduced from: M Fuller, *Setting the science*, Presentation at UK CGE conference, Birmingham, July 2012. Redrawn from *Patterns and Trends in UK Higher Education*, Universities UK, (2011). Data from HESA.

68 Education, Audiovisual and Culture Executive Agency *The European Higher Education Area in 2012: Bologna Process Implementation Report (2012)* p 40

69 Written evidence from the Russell Group

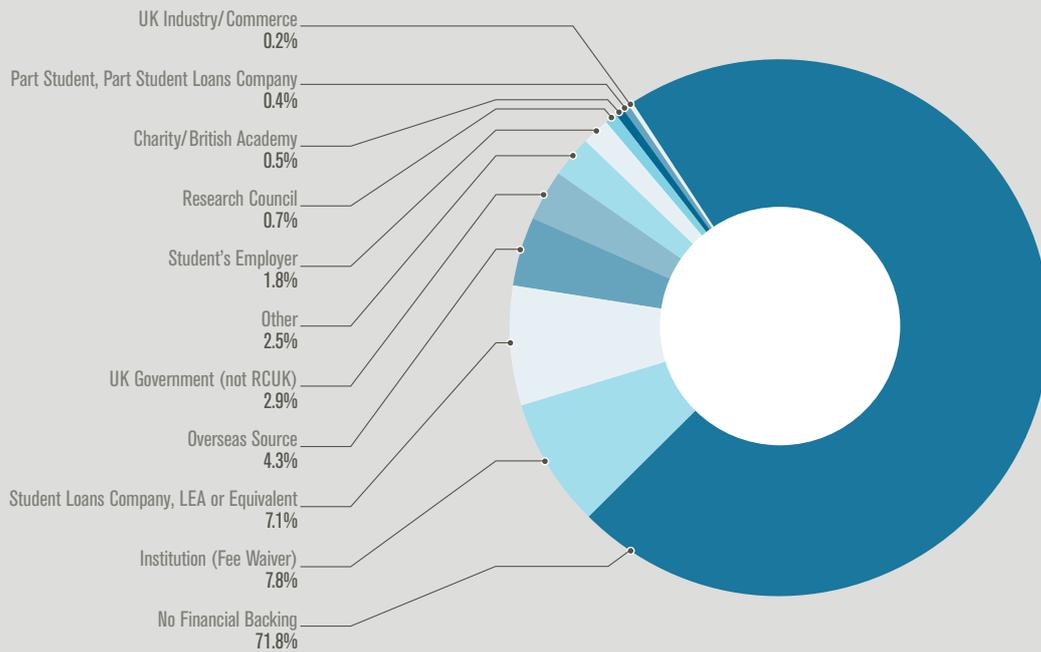
70 HC Deb, 6 February 2012, c133W

A Vice Chancellor giving evidence to the Commission said: *“The problem of rising fees and lack of available loans is compounded by the recent phasing out of support from Research Councils for many conversion Masters and more vocational Masters courses.”* This is less problematic for science disciplines, where funded ‘integrated masters’ degrees are more widely available. **We recommend that the taskforce on postgraduate student loans we advocate later in this chapter specifically at research masters as an area which may benefit from improved access to finance.**

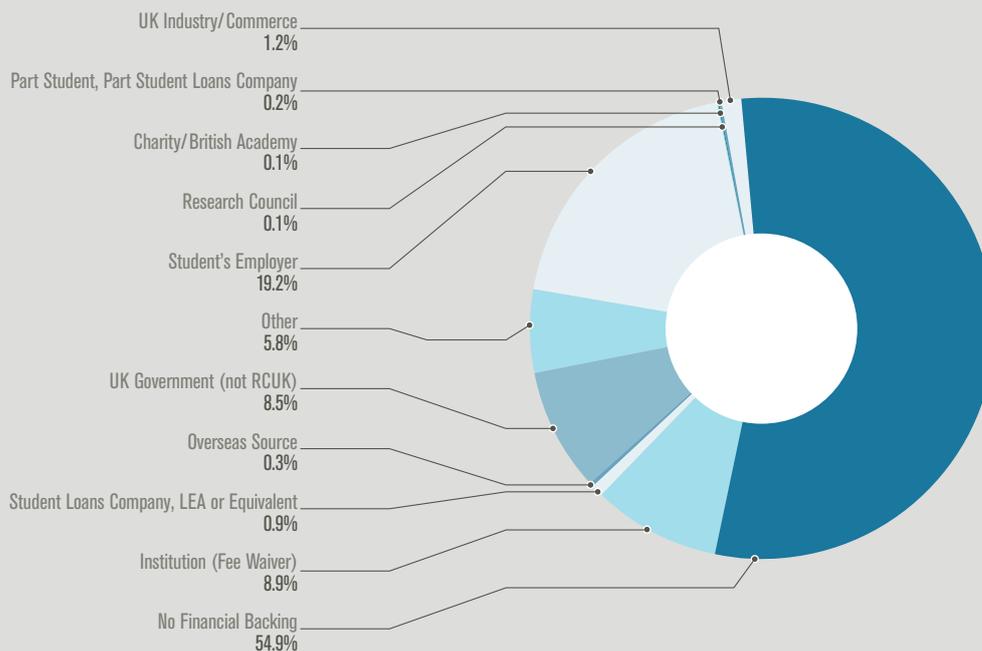
Data

Figure 8: Sources of tuition fee income for taught postgraduate students⁷¹

Full Time



Part Time



The majority of postgraduate taught students receive no financial support towards the cost of their tuition. This includes students who rely on Professional and Career Development Loans to finance their studies.

In 2010-11, 8.4% of all PGT students were supported by their institution. Only 0.4% were supported by the Research Councils, whose financial support for taught postgraduate study has increasingly been phased out. Research Council funding for freestanding one-year masters courses has now largely been withdrawn.

71 See note 60.

Postgraduate Taught Provision

Current funding

The majority of postgraduate taught students receive little or no financial support towards the cost of their tuition. Around 10,000 students use the Professional and Career Development loan system each year – although as we explore below even this system is in need of reform.

Changes have also been proposed to the support HEFCE gives towards the cost of high-cost subjects. Acting upon a direction from the Browne report, HEFCE decided to withdraw supplementary teaching funding from subjects in Band C. This decision was reversed in January of this year with funding levels maintained at the levels they were prior to the HE reforms. HEFCE have concluded that a new approach to funding postgraduate taught provision is needed, and propose that this interim funding continue for the remainder of the spending review period whilst a new method is developed.

Funding for public sector professional courses

We noted earlier in this report that a large amount of professional postgraduate education is in fields allied to education and medicine. The Commission recognises the important role that these masters degrees play in professional development. The funding arrangements for many of these courses are different – they are often funded directly from the departmental budgets of the Department for Health and the Department for Education.

A number of changes to the financing arrangements for such courses have been introduced recently. For example, in teacher training, the amount of training bursary available for prospective teachers studying for a PGCE will now vary according to the undergraduate degree classification of the student and the subject the student wishes to teach.⁷²

The government should closely monitor enrolments on such courses to determine what impact the new funding arrangements have had on participation.

72 <http://www.education.gov.uk/get-into-teaching/funding/training-in-england/postgraduate-funding.aspx>

Professional and Career Development Loans

The principal source of government funding for PGT provision is through the PCDL system. A PCDL is a bank loan of between £300 and £10,000. The Skills Funding Agency pays the interest payments on the loan for the duration of the period of study, following which the loan operates like an ordinary bank loan, with repayments due each month.

The Government will soon be conducting a review of Professional and Career Development Loans following the introduction of Government-backed fee loans in further education.⁷³

Contributors to this inquiry have made a number of criticisms of the scheme:

1. Competitiveness of terms

Currently, only Barclays bank and the Co-operative bank participate in the scheme. The 1994 Group argue that there is insufficient competition in the loans market to ensure that the terms represent a good deal for students.⁷⁴ The Group point out that for loans of over £5,000, the advertised PCDL interest rate is higher than most available personal loans. Martin Lewis, founder of MoneySavingExpert.com and Chair of the Independent Taskforce on Student Finance Information advises prospective applicants to *“give them [PCDLs] the elbow sharpish after you graduate or the interest will pile up.”* In their recent report on STEM education the House of Lords Science & Technology Committee concluded that the PCDLs *“terms and repayment conditions are considered to be fairly onerous.”*

2. Repayment

Unlike undergraduate loans, repayments are not income-contingent. Repayments are required one month from the end of the course regardless of an individual's employment situation and earnings. This means there is a greater element of risk for individuals taking on loans.

Contributors to the review noted that courses were often taken to enable the student to change career. It was suggested that the ability to apply for a repayment holiday at the end of the study period would better enable full-time students to transition to sustainable employment. Such a change could be made without cost to the public purse, with the accrued interest payments added to the amount of loan outstanding. The government should examine this proposal in its forthcoming review of the PCDL system.

3. Quantum

There are concerns around whether the £10,000 maximum loan is sufficient to cover the cost of fees and living expenses. A HEFCE survey of fees, conducted in 2009, found the average fee for a full time postgraduate taught course was

73 HC Deb, 26 April 2012, c1019W

74 1994 Group, *The Postgraduate Crisis* (2012)

£4,950, with courses in business disciplines costing an average of £9,600 per year and courses in science disciplines costing an average of £6,525 a year.⁷⁵

This poses a particular challenge for institutions offering two year courses. The National Film and Television school offer industry-respected MA courses with fees of £9,800 per year. Whilst the school does make bursaries and scholarships available to its small intake, they report that students have had to go to overseas institutions due to insufficient access to finance.⁷⁶

4. Availability of loans

Respondents report that it has become more difficult to obtain credit through the PCDL scheme. Access to the career development loan is dependent on the bank's assessment of the credit-worthiness of the individual. A loan can only be obtained for an "approved vocational course." As can be seen from the figures below less than half of those applying for PCDLs in the last two years were able to obtain finance.

Figure 9: Availability of Professional and Career Development Loans⁷⁷

Financial Year	Loan applications	Loans offered	% success rate	Loans taken up	% taken up
2009/10	20,627	12,239	59%	8,320	68%
2010/11	19,229	8,333	43%	7,679	92%
2011/12	22,716	10,105	44%	8,884	88%

Even the banks currently involved in the scheme have recognised that it is in need of reform. Barclays Bank has recently held talks with the Department for Business, Innovation and Skills on a new loan scheme to help meet the funding gap.⁷⁸

75 HEFCE, *Survey of fees for postgraduate taught and part-time undergraduate students* (2009)

76 Oral evidence from the National Film and Television School

77 Raw figures obtained from answers to Parliamentary questions.

78 J Morgan, *Barclays bids to fill the postgraduate student loans gap*, *Times Higher Education*, 24 May 2012

Evaluation of the current system

The Commission has identified three areas of concern:

1. Access to finance – a credit crisis

We are concerned that an increasing number of people who do wish to enter postgraduate education are prevented from doing so due to lack of access to finance.

In his 2010 report, Lord Browne argued that the undergraduate system of funding should not be extended to postgraduate taught provision because: “the private benefits of taught postgraduate education are predominant over the public benefits and have clearly tended to be sufficient to generate private investment.” He also noted that postgraduates were more likely to have worked, to have savings, or to be supported by an employer.

When registering on a course students are asked to state the major source of their tuition fees. A summary of this data return is shown on page 56. The majority of students receive no financial support towards the cost of their tuition and, as we have already noted, only a small proportion of the postgraduate population use the PCDL system. Others have challenged the assumption that most benefits accrue to the individual.

2. Potential impact of an increase in PGT fees

It is likely that the average fee for a PGT course will increase.

The austere financial landscape in HE has encouraged universities to calculate the full economic cost of their provision. One Vice Chancellor, giving evidence to the Commission, stated that his university estimates that arts, humanities and social science courses cost almost £9,000 to deliver, STEM subjects cost £11,000 to deliver and medical courses cost upwards of £16,000. He predicted that institutions would increase fees “to more accurately reflect the cost of teaching.”

Another contributor to the inquiry projected that tuition fees would increase, regardless of cost pressures, arguing that “*Universities will no longer be able to justify charging £3,000-£4,000 fees for advanced education when undergraduates are paying £9,000.*” Such a view is not uncommon among senior university officials. There is a concern that we are entering an unhealthy situation where price will be seen as a proxy for quality.

This poses a number of challenges. There may be a deterrent effect, where students decide not to enter postgraduate education at all: research launched at the 2012 Royal Economic Society conference suggests that a 10% increase in postgraduate tuition fees is associated with a fall of between 1.7% and 4.5% in the probability of a student continuing their studies.⁷⁹ We may also see a substitution effect, where students choose disciplines they believe will offer a greater financial return.

⁷⁹ P Wales ‘Access all areas? The impact of fees and background on student demand for postgraduate higher education in the UK’ Spatial Economics Research Centre Discussion Paper (2012, forthcoming)

An increase in fees will also exacerbate the credit issues we have discussed so far, with individuals having to persuade financial institutions to provide them with a larger loan.

3. Impact of debt aversity on uptake of postgraduate study

Whilst we will not have data on the impact of changes in undergraduate fees on the decision to enter postgraduate studies until 2015, we have been struck by the frequency with which this issue was raised by contributors to the review. Institutions, employers and students repeatedly expressed concern that demand for postgraduate study would fall.

This issue has also been recognised by HEFCE who state:

“There could... be an impact on self-funded postgraduate education, which would add to the level of financial burden, and this could particularly impact on the humanities and social sciences, where self-financed study is most common.”⁸⁰

A related issue to debt aversity is risk aversity. Undergraduate student loans are designed to incorporate a number of safeguards for graduates, most notably income-contingency. By contrast, postgraduate debt is real debt. Loans taken out under the PCDL schemes are commercial loans with near commercial terms. A risk averse graduate is unlikely to wish to take out a PCDL to cover the costs of a postgraduate qualification.

The anomaly of integrated masters

HEFCE report that some universities are considering extending their range of ‘integrated’ masters. These four-year undergraduate degrees are already common in the science subjects – where they enable direct progression onto PhD programmes. The Student Loans Company treat integrated masters in the same way as undergraduate degrees, with tuition and maintenance funding available for all four years, including the masters year.

HEFCE are monitoring changes in average course length. Should the number of four year courses increase substantially greater pressure will be applied to undergraduate funding – and it is not difficult to foresee a situation where HEFCE is forced to reduce the number of undergraduate places. Greater availability of integrated masters may also have undesirable consequences – potentially locking students into unsuitable courses, chosen at the age of 17. Such a scenario, in which provision is being driven by funding is one we should seek to avoid.

A state-backed loan system

The role of private finance

A number of contributors to the review expressed reservations about the ability of commercial banks to provide a general mechanism for providing finance for postgraduate education.

Tim Leunig, a Policy Advisor at the Department for Education, and until recently the Chief Economist at the CentreForum thinktank argues:

“there are likely to be market failures in the market for credit to young people. Many recent graduates, thinking of undertaking graduate study, have no collateral, and no track record of paying debts. In addition, they may already have borrowed heavily from the bank, to fund their living expenses as undergraduates.⁸¹ In such circumstances lenders will find it hard to assess who represents a good risk, and will be reluctant to lend across the board.”

“the existence of credit market imperfections creates a classic rationale for government intervention.”

The National Union of Students argues:

“Private investment follows the logic of the market rather than mitigating its excesses... the credit flow from banks will be meagre until somebody finds a way to extract profit from funding postgraduate study.”⁸²

Giving oral evidence to the Commission, Nicholas Barr, a Professor of Economics at the London School of Economics stated:

“Private finance is difficult. Private institutions want to make large long-term secured loans, or small short-term unsecured loans. Large long-term unsecured loans are not attractive to them. The private sector will come up with loans for professional areas – such as MBAs – but not for the entire sector.”

There is a role for private finance within the funding system for postgraduate education – however private finance alone will not be sufficient.

A state-backed loan system for PGT

Almost all contributors to our inquiry supported the introduction of a state-backed student loan system for postgraduate taught provision to supplement existing sources of funding.

The cumulative impact of the factors outlined above could see a decline in the volume of UK postgraduates, which would have long-term implications for British

81 The 2007 UK Student Finance Survey conducted by Halifax found that 73% of students had an overdraft facility, with the average amount owed being £952. A third of those questioned were overdrawn by over £1,250.

82 Written evidence to the Commission

competitiveness and leave UK universities even more reliant on international students to maintain the viability of provision.

Taken together, these factors create an overwhelming case for the government to re-appraise how postgraduates should be supported.

The Commission recommends that the government immediately establish a senior-level taskforce to examine the feasibility of a postgraduate student loan scheme, and develop policy options.

Membership of the taskforce should include the following:

- Members of the finance community, including the commercial banks
- Officials from HM Treasury and the Department for Business, Innovation and Skills
- Representatives of the Confederation of British Industry, Universities UK, and the National Union of Students

The taskforce should be chaired by a member of the finance community.

The taskforce should report by December 2013, in order to allow time for implementation of recommendations by September 2015, the graduation point of the first set of undergraduates to experience the new system of undergraduate tuition fees.

Costs

An important consideration is the likely total cost associated with a student loan scheme.

In oral evidence to the inquiry, Professor Nicholas Barr argued that:

“There is a distinction between fiscal costs and cashflow costs. As an economist I don’t think cashflow costs matter very much – if the money comes back in the long run then we’re lending it to ourselves. I’d be more concerned about the fiscal costs – the money that you lend that doesn’t come back.”

In an income contingent loan system the repayment level is a function of wage level. Postgraduates tend to enjoy significant wage premiums. Analysis conducted by London Economics for BIS estimates the wage premium associated with postgraduate masters degrees as being 8.9% for men and 10.3% for women.⁸³ Research published by the Sutton Trust in 2010 quantifies the average wage premium associated with a masters degree as being £250,000, though it should be noted that the premium varies between subjects and institutions. The average starting salary for a home postgraduate was £24,000 (2008 figures), in contrast to an average undergraduate starting salary of £19,500.⁸⁴

83 G Conlon & P Patrignani, *BIS Research Paper 45: The Returns to Higher Education Qualifications* (2011)

84 Sutton Trust, *The social composition and future earnings of postgraduates* (2010)

Similarly, analysis of Labour Force Survey data conducted by the Centre for Economic Performance found that “*staying on in higher education after acquisition of a first degree and obtaining postgraduate qualifications is increasingly paying off through time... for younger men and all women, the wage differentials for those degrees do not fall over time despite increased supply.*”⁸⁵ Indeed the premium has actually risen from 6 % above that enjoyed by undergraduates in 1996 to 13% in 2009.

The existence of this premium means that with a well-designed student loan scheme, the vast majority of loans made should be repaid. The fiscal costs will be low. This is a conclusion which is also reached by Tim Leunig, whose modelling of income contingent student loan systems suggests that “*the majority of students would pay back the entire loan after they had graduated.*”

Reduction of the deficit has been a major driver in UK public and economic policy for the last three years, with the Coalition Agreement stating that deficit reduction is the most urgent issue facing Britain. The introduction of a student loan system for some PGT students would not substantially add to the deficit. Student loans are classed as ‘policy lending.’⁸⁶ Because policy loans are classified as being financial transactions rather than spending transactions, student loans are not included in the measure of the public ‘deficit’ – the public sector net credit requirement.⁸⁷

One factor which will have an impact on the cost of a loan scheme is the size of loan which is made available. For example, the calculations underpinning the cost-effectiveness of Leunig’s proposed postgraduate loan scheme are based on fixed percentage contributions towards a £10,000 loan. This is not an insurmountable problem; it may be possible to design a system in which those who take out larger loans pay back a greater percentage of their income each month.

Whilst the Commission is not able to recommend a detailed blueprint for a loan mechanism on the basis of the evidence received, we do offer the following advice to the taskforce:

The loan system should be targeted not universal

The Commission considered a universal loan scheme for taught postgraduate provision. We concluded that in such a diverse existing funding environment a universal scheme would crowd out existing funding streams and carry heavy deadweight costs. Whilst, as noted above, the real costs of each loan will be low, we are conscious of the constraints of the current fiscal environment. This is a point made to the Commission by the National Union of Students, who argued that “*in an environment where the Education Maintenance Allowance has been cut, we cannot justify extensive public expenditure on postgraduate study.*”⁸⁸

The Liberal Democrats have recently proposed a targeted student loan scheme. Policy

85 J Lindley & S Machin (2012), *The Quest for More and More Education: Implications for Social Mobility*. Fiscal Studies, 33: 265–286

86 HM Treasury, *Classification Paper: Capital and Financial Transactions*, Paragraph 3.11. Available online: http://www.hm-treasury.gov.uk/d/capital_classification_paper.pdf

87 Student loans would however count as a part of the overall stock of financial debt – the ‘Public Sector Net Debt’

88 Written evidence to the inquiry from the National Union of Students

passed by their 2012 party conference commits the party to introducing a scheme for approved courses, whereby the government pays fees up to a certain limit and the student pays back the money as a capped post graduate tax.⁸⁹

Principles for prioritisation

A non-universal scheme would require a degree of prioritisation and differentiation, beyond just attractiveness to financial institutions. A targeted scheme necessitates a strategic approach – with the objectives of providing funding clearly outlined in advance. The two imperatives we have already identified in this report, competitiveness and access, offer two potential guiding principles. The wish to avoid large deadweight cost provides another.

1) Financial value-added:

The most important principle for prioritisation is that funding should be targeted at areas where the existing credit market has failed. A number of areas of provision are already well-catered for in existing financial markets. For example, it would be difficult to justify providing funding for most MBA students, when many students are sponsored by employers, banks are more willing to lend, and there is a community-financing facility available.⁹⁰

2) Competitiveness:

The government may wish to target loans at areas which are strategically important to our future competitiveness, and where there is currently a mismatch between projected demand and future supply of postgraduates.

A similar scheme was recently proposed by the House of Lords Science & Technology Committee, who recommended that the Government “*extend the student loan scheme currently available to undergraduates to cover STEM Masters degrees.*”⁹¹ The analysis which the Lords Committee used to reach their conclusions is similar to our own – though we do not believe that STEM subjects should necessarily have a monopoly on postgraduate loan funding. There are a number of other subject areas which are as important to maintain – with languages and quantitative social science being good examples.

3) Access:

In Chapter 5 we identified a number of professions where postgraduate qualifications were now considered to be the norm for prospective candidates. Lack of access to finance for these courses impedes access to the professions and social mobility. The government may wish to target loan funding towards these areas.

An alternative approach would be to target funding at individuals, removing the barriers to participation faced by particular credit-constrained subgroups of society. In a written submission to the inquiry, Universities UK suggested that the Government

89 J Huppert, *Developing a future: policies for science and research*, Liberal Democrats (2012)

90 <https://prodigyfinance.com/>

91 House of Lords Select Committee on Science & Technology, *Higher Education in Science, Technology, Engineering and Mathematics Subjects* (2012)

might “perhaps identify those students that were eligible for maintenance grants at undergraduate level or through the use of other indicators... identify students that may not otherwise pursue postgraduate study.”⁹²

A written submission to the inquiry from the Russell Group outlines three possible alternatives for a loan scheme:

“A: Loans could be available for maintenance only, but with the student able to choose to use some or all of it towards fees.

B: Loans could be available for fees, but only up to a certain level, with institutions free to set fees above that, if they wished.

C: Loans might only be made available to courses meeting certain Government policy priorities (eg SIVS, or courses offering entry to a profession).”⁹³

Neither scenario A or B would cover the full cost of undertaking study. This could lead to a situation where the benefits of the scheme are captured by more affluent students and where the very candidates whom the loans scheme is designed to target are still unable to access postgraduate education if they are unable to make up the shortfall from other sources of finance. As far as possible we believe a loans system should seek to meet the full costs of a course.

Can we prevent an upwards drift in fees?

There is a legitimate concern that creating new sources of finance for postgraduate taught degrees would enable universities to increase fees. Indeed, the clear implication of HEFCE’s assertion that “*there is likely to be more limited scope for providers to increase their fee income*” in absence of financing, noted above, is that a funding scheme would provide scope for increases in fees. This is a situation which we believe should be discouraged.

Increasing fees is a problem also envisaged by Lord Browne in his review of Higher Education Funding. Browne points out that universities “*could set unrealistic fees, out of proportion to the employment returns from the courses they provide, and yet still receive all of the fee income.*” Browne proposed a levy on fee loans above a determined amount, such that universities share an element of risk with government.⁹⁴

PhD studentships provided by the Research Councils are a possible model which could be applied to loans for masters courses. Under the terms of studentships, whilst institutions taking on RCUK-funded students are not regulated in terms of the fees they charge for degree programmes, any difference between the Research Council fee-payment level and what an institution charges should not be met by the student.⁹⁵

92 Written evidence to the inquiry from Universities UK

93 Written submission from the Russell Group of Universities. It is interesting to note that EU students would not be entitled to access the maintenance funding outlined in scenario A, but would be entitled to the fees support outlined in scenario B. (See DirectGov – <http://bit.ly/QSuKfH>)

94 Prof Nicholas Barr makes a similar suggestion in his evidence to the Commission. See box on next page.

95 See, for example: <http://www.stfc.ac.uk/Funding+and+Grants/19174.aspx>

Ideas put to the Commission

A single loan scheme for undergraduate and postgraduate education

The Australian government provides student loans to cover the costs of postgraduate fees under the Higher Education Loans Programme (HELP). Repayments, made through the tax system, are progressive – with those earning more repaying back a greater proportion of their income each month. The total costs of the scheme are controlled through a lifetime cap of £71,970 for medical students and £38,140 for other students.⁹⁶ The scheme is available for most, though not all, postgraduate courses. The HELP system covers only fees, which are lower in Australia than the UK.

The Australian model was presented to the Commission by Southampton University Vice Chancellor Don Nutbeam.⁹⁷ Rather than replicating the Australian model exactly, Nutbeam proposes creating a single loan scheme which home students can draw on to cover both undergraduate and postgraduate learning. He contends such a system could be established without major changes to the current arrangements for student financial support for undergraduate education.

An income-contingent loan of £10,000 for masters degrees

In a report for CentreForum published in late 2011⁹⁸, Tim Leunig proposed that government should offer income-contingent loans of £10,000 to prospective postgraduate taught students in order to cover maintenance costs. The graduate would pay off the loan through the tax system, with 9% of earnings between £15,000 and £21,000 being repaid. An interest rate would be applied, ranging from inflation to inflation plus 3% on a progressive scale with outstanding debt forgiven after 30 years.⁹⁹ Those earning over £21,000 would thus pay back £540 per year. Leunig proposes that loans should be available for any postgraduate taught degree, with eligibility restricted to those with first class or upper second class honours degrees.

Risk-sharing by students and universities

In oral evidence to the Commission Professor Nicholas Barr argued for extension of the undergraduate student loan system to postgraduates. Noting that “student loans are designed to make a small loss, protecting those with low lifetime earnings from repaying the entire sum”, he argued that the key question for public policy was who carried this loss. Instead of the loss risk being placed on taxpayers – which would inevitably mean controls on student numbers – it could instead be shifted to the cohort of students and the universities through risk premiums.

A long-term private bond

One idea put to the Commission¹⁰⁰ envisaged universities collectively leveraging investment from capital markets to provide a long-term loan facility for UK

96 Currency conversion calculated on 5 September 2012

97 Professor Nutbeam also wrote about this model in *The Guardian* - <http://www.guardian.co.uk/education/2012/feb/27/postgraduate-funding-fees-rise-australia>

98 T Leunig, *Mastering Postgraduate Funding*, CentreForum (2011)

99 Undergraduate loan repayments under the new student finance regime begin at £21,000. Students obtaining loans under the 2006-2011 top-up-fees system begin repayments at £15,000.

100 J Wakeford, *Postgraduate Funding: UK HE Compact Bonds* – note circulated to the Commission (2012)

students. Universities could be an attractive prospect for financial markets given the predictability of their revenue streams and the longevity of their business models.

Corporate bonds could be issued via a Special Purpose Vehicle (SPV) composed of a number of universities, potentially also including their alumni, private investors, industry, business and other stakeholders, with government acting as guarantor. Each bond issuance would provide a facility for students at participating institutions to draw down loans for postgraduate study. The targeting of loans would be established as part of the lending criteria of the SPV, and this in turn would be a repayment risk insured against by each institution.

This could provide a scalable, postgraduate funding solution, offering less risk exposure for individual institutions and removing the need for risk-selecting students. As a contingent liability, the bond is accounted for outside of the PSNCR and offers students a cheaper repayment alternative to existing commercial loan schemes.

Alumni borrowing – the Prodigy Finance model

Prodigy Finance connects alumni with students attending the top universities in the world – “creating a community of investors and borrowers.” Alumni purchase bonds which cover an entire class of students at a particular university. Investors can choose to only invest in their own alma mater or to spread the funds among multiple universities. Prodigy structure the bonds to ensure a balanced and diverse portfolio of students in each issuance. The return to investors depends on the repayment performance of students – though to date there have been no defaults. There are however questions about the scalability of this model beyond MBAs and other high-return degrees.

Employer tax incentives

A number of contributors to the inquiry advocated the establishment of tax credits for employers contributing specifically to the cost of postgraduate education for their employees. Birkbeck College, University of London stated that “Financial incentives to employers to pay for their staff to undertake part-time postgraduate studies should be considered seriously, as many employers are keen to do so but have limited resources.”

The Association of Business Schools argued that: “Access to funding for individuals and incentives for businesses to develop their staff is very important. Initiatives such as tax breaks for businesses and community finance schemes may help plug the gap left by high street banking pulling out of the postgraduate finance area.”

A research review of international tax incentives compiled by Cedefop¹⁰¹ identifies a need to avoid deadweight costs, especially among large enterprises, who may invest regardless of incentives. In designing a potential incentive system there may be a

101 Cedefop, *Using tax incentives to promote education and training* (2009)

case for restricting eligibility to small and medium sized businesses. The Cedefop report also acknowledges that it is difficult to make informed policy decisions about tax incentives, noting the “scarcity of quantitative and qualitative information” and that “comprehensive public evaluations of them are practically non-existent.” Clearly this topic cannot be taken in isolation – and its merits must be assessed as part of a wider debate on financial support for postgraduate education. The Commission recommends that the taskforce on postgraduate finance consider tax incentives as part of their programme of work.

A long term vision

In the long term, the Commission believes the UK should move towards greater integration of funding for undergraduate and postgraduate education. As Professor Don Nutbeam, Vice Chancellor of Southampton University, told the Commission: *“it is unhelpful to maintain the sharp division between undergraduate and postgraduate provision which exists today.”*

The separation of the two has already led to a number of inconsistencies. A masters degree which is integrated as the final year of a four year undergraduate degree is eligible for Student Loan Company support, yet a stand-alone masters degree taken immediately after an undergraduate degree is not. Such a distinction is arbitrary.

As we have already discussed, jobs requiring postgraduate level skills are likely to become more common as the structure of our labour market evolves. Demand for postgraduate education as a prerequisite for entering the workforce is likely to increase.

Similarly, we are entering an era in which lifelong learning is certain to become more important. Three years of undergraduate education early in one’s life is unlikely to be enough to sustain an entire career. The generation entering higher education today are likely to have to take on wholly different areas of work, perhaps in a new, nascent industry, part-way through their career. They will have to retrain and up-skill throughout their lives; this may well include postgraduate education, perhaps delivered on a modular or flexible basis.

As the Skills Commission stated in their 2011 report: *“Dynamic funding mechanisms will be vital if lifelong learning is to keep pace with increasingly flexible labour markets. Individuals will require funding architecture that helps them re-train, paying for small chunks of learning and bite-sized provision – pay as you go learning.”*¹⁰²

We will need a funding model which supports this new reality.

102 Skills Commission, *Technicians and Progression*, Policy Connect (2011)

Recommendation 6

UK industry, government and universities should increase the amount they invest in research and development activities, in line with the UK's major competitors.

Recommendation 7

Funders, in partnership with learned societies, should reflect on whether they collectively fund enough studentships to replenish the research base in each discipline, rather than relying on self-funded individuals.

Recommendation 8

The Commission recommends that the government immediately establish a senior-level taskforce to examine the feasibility of a postgraduate student loan scheme, and develop policy options.

Membership of the taskforce should include the following:

- Members of the finance community, including the commercial banks
- Officials from HM Treasury and the Department for Business, Innovation and Skills
- Representatives of the Confederation of British Industry, Universities UK, and the National Union of Students

The taskforce should be chaired by a member of the finance community.

The taskforce should report by December 2013, in order to allow time for implementation of recommendations by September 2015, the graduation point of the first set of undergraduates to experience the new system of undergraduate tuition fees.

7. RESEARCH DEGREES: EXPECTATION, QUALITY AND STRUCTURE

Summary

We do not have an adequate understanding of the quality of the research conducted by our doctoral students, nor that of our competitors. Universities should be benchmarking their research against that produced by universities in the rest of the world. Many contributors to the inquiry, from academia and from industry, argued that the traditional UK PhD is too narrow. Concerns remain about the impact of the Research Excellence Framework on the behaviour of both academics and institutions.

Throughout this report we have highlighted the need for better data to inform policymaking. Nowhere is this absence of evidence greater than on the issue of degree quality.

It is important to note that there will be vast differences in the experiences of research degree candidates – even those in the same discipline studying at similar institutions. Nevertheless, the Commission believes that there are discernible trends and messages that will be of interest to all institutions.

In the context of postgraduate education the term ‘quality’ is difficult to define. We may wish to distinguish between two measures of quality. Firstly, there is the more orthodox definition of quality of the kind that might be that assessed in a peer review exercise – a judgement of the academic merit of the research produced during the course of a degree.

Secondly, there is a conception of quality that might be better termed as ‘expectation’. How well do UK postgraduate research degrees meet the expectations of doctoral students? How well do degrees meet the expectations of the academy or of employers? Seasoned academics who are lauded for their high quality research might not always be good educators or good supervisors, measured against what a student might be reasonably entitled to expect. Similarly, a traditional rigorous academic programme might not meet the reasonable expectations of employers in terms of providing the student with transferable skills.

The notion of quality has to be viewed through an international prism. Academia is increasingly a global endeavour. The pool from which universities recruit is global. High-quality PhD programmes, which prepare doctoral candidates for the realities of this labour market, are essential.

We are not able to make firm recommendations on the ‘quality’ of UK postgraduate research degrees on the basis of the evidence received. Nevertheless, a number of messages were persistently raised by inquiry contributors and merit further investigation and reflection.

The issues raised in this chapter are too important to ignore – they are integral to the future health of the UK academy and the UK economy. We cannot simply coast on past success but instead must look carefully at how we need to react to international developments and changes in labour markets.

Research Councils UK, HEFCE and Universities UK should convene a joint working group to consider the issue of research quality in detail. As part of its work the group should consider the broader issues highlighted in this chapter. Employers of doctoral students, from both the academy and from industry, should be represented on the working group.

‘Quality’ of postgraduate research

Much of the current debate around quality is focussed on ensuring robust procedural checks rather than a judgement of the quality of the research produced. In oral evidence sessions the Commission invited witnesses to elaborate on exactly what was meant by the term ‘world class postgraduate education’. Contributors struggled to suggest measures beyond citation counts and university league tables. We do not believe such measures are sufficient. Citation counts are particularly unhelpful in the humanities disciplines, where journal articles are not the sole mode of output.

We need to be systematically benchmarking our degrees against the PhDs awarded by leading institutions in competitor nations. A greater degree of self-awareness and an understanding of student and industry perceptions will be vital in maintaining our world-leading status. As Professor Sarah Worthington (former Pro-Director for Research at LSE) told the Commission: *“we must realise that the playing field is global, not national, and so the data we collect and the benchmarks against which we assess achievements should be international not national.”*

A debate is needed within the sector about how benchmarking should be done and whether appropriate mechanisms for this exercise are in place. We expect that professional bodies and learned societies will have an important role to play.

A good example of the value of such exercises is the International Review of Mathematical Sciences conducted by the EPSRC with the BBSRC and a number of learned societies in 2010. That review identified doctoral training as the *“most worrying factor in [mathematical] education and training”* and found that *“to a large extent, UK PhDs are not competitive for academic positions in today’s global market.”*¹⁰³ The series of benchmarking reviews instigated by the Economic and Social Research Council in 2005 in partnership with professional bodies provide another possible model.^{104, 105}

103 Pendley et al, *International Review of Mathematical Sciences*, EPSRC (2011)

104 <http://www.esrc.ac.uk/funding-and-guidance/tools-and-resources/impact-evaluation/international-benchmarking.aspx>

105 See also the characteristics of quality research degrees identified in League of European Research Universities, *Doctoral degrees beyond 2010* (2010)

Structure of PhD provision

The question of quality is closely related to that of purpose. From the viewpoint of the academy, of government, of the individual student, what is the purpose of the PhD?

From an individual perspective possible answers include:

- As a foundation for a career in academia – the “academic apprenticeship”
- As a foundation for a career outside of academia which requires high-level thinking skills and expertise
- As an opportunity to make a substantial contribution to the knowledge base and develop expertise in an area of interest

From an institutional perspective, we might also add the idea of the PhD as an integral part of research capacity, especially in the sciences, where a vast amount of bench work is performed by PhD candidates.

We need to assess how well the current structure of PhD provision meets these expectations. Something we did not anticipate at the outset of the inquiry was the number of contributors who would express concern about the structure of the PhD. **A significant number of people giving evidence to the inquiry, scientists and economists, Vice Chancellors and industrialists, thought that the PhD was too narrow**, with candidates knowing everything about a tiny area and not enough about the broader picture. One Vice Chancellor giving evidence to the Commission said: *“We should look at whether PhD structure fits people for the jobs they want to do.”*

Industry concerns on breadth of the PhD are well-documented.¹⁰⁶ But, the evidence we have received suggests that it may also be the case that the traditional PhD model is not optimal even for an academic career. One research-active academic giving evidence to the inquiry said of PhDs: *“they go too deeply into too narrow an area – and don’t have the breadth that I would like to see.”* A senior university officer contributing to the review recalled that he had seen new postdoctoral researchers struggle to teach introductory undergraduate courses because they no longer had a sufficient understanding of the breadth of their field.

Again, these observations are not completely new. Similar concerns led to the creation of professional doctorates and new route PhDs and, to some extent, informed the development of Doctoral Training Centres and Roberts funding for transferable skills training.

Nor are these concerns unique to Britain. Recognising that the traditional doctoral apprenticeship model cannot accommodate all of the demands placed on it by both modern academic life and by non-academic employers, the Orpheus Network has developed a new model of PhD education which is being used across Europe. The network calls for a “new attitude” to the PhD whereby students take more responsibility for the project itself.¹⁰⁷

¹⁰⁶ See for example: Council for Industry and Higher Education, *Talent Fishing* (2010)

¹⁰⁷ See response by Orpheus to coverage of HE Commission workshops at UK CGE Summer Conference <http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=420764&c=1>

Length of PhD provision

We have also seen a re-ignition of debates on PhD length. Anecdotal evidence heard by the Commission suggests that the average length of funded PhD studentships is now declining, with the average EPSRC studentship now being 3.5 years.¹⁰⁸ This issue is related to the breadth debate we have just discussed. The Royal Society's landmark report on STEM HE, *A higher degree of concern*, recommended that the period of higher education study for scientists should increase for scientists, in part because of the "increasing breadth required of successful PhDs."¹⁰⁹ Similarly, students in doctoral training centres are awarded funding for four years to enable them to add breadth to the depth of their studies.

It is also related to the quality of doctoral training. The 2010 International Review of Mathematic Sciences, which called for strong efforts "to ensure that UK PhD training meets the highest international standards," explicitly notes that this "relies on the provision of PhD student funding during an adequate period of training." The review recommended that universities consider moving to a four year model with "a special one year research Master's degree, followed by three years of PhD education and training."¹¹⁰

This trend towards shorter funding packets was recognised in the Smith Review, which reported that several stakeholders had advocated extending the length of courses. Smith recommended that universities fund longer PhDs where they thought it appropriate, recognising that this may mean a reduction in the number of PhD students funded. Since the Smith Review, Research Councils UK have highlighted the tension between this direction and incentives in the Research Excellence Framework "that may encourage large volumes of PhD students."¹¹¹

The Research Excellence Framework

A number of contributions to the review raised the issue of research assessment and the impact it had on both the doctoral experience and patterns of postgraduate provision.

The Research Excellence Framework (REF) is a peer-review exercise which determines the distribution of the selective elements of public funding for research. The first REF is due to take place in 2014, replacing the Research Assessment Exercise (RAE). Writing in 2003, Sir Richard Lambert identified a 'bias' in the research assessment process, stating that "assessment panels tend to concentrate on purely academic benchmarks, such as output in important journals." He reported that this had led to a number of departments deliberately deciding "not to work with business in order to concentrate all their efforts on raising their RAE rankings."¹¹²

108 <http://www.epsrc.ac.uk/funding/students/dta/Pages/length.aspx>

109 Royal Society, *A higher degree of concern* (2008)

110 Pendley et al, *International Review of Mathematical Sciences*, EPSRC (2011)

111 Letter from Shearer West to Alan Langlands, 27 May 2011. Available at:

<http://www.hefce.ac.uk/media/hefce/content/whatwedo/knowledgeexchangeandskills/strategicallyimportantsubjects/rcuk.pdf>

112 R Lambert, *The Lambert Review of Business-University Collaboration* (2003)

A number of steps have been taken to reduce these unintended consequences and bring research assessment further into line with the principle of neutrality – i.e. that the REF should not distort the activity that it measures and *“it should not encourage or discourage any particular type of activity.”*

- The 2014 REF assessment framework clearly states that: *“All types of research and all forms of research output across all disciplines shall be assessed on a fair and equal basis.”*¹¹³ The same statement was included in the submission guidance for the 2008 RAE, yet the RAE Managers report notes that *“less ‘applied’ work was submitted than might have been expected.”*
- The 2014 REF will see the introduction of an impact measure, designed to test the ‘reach and significance’ of outputs. It is hoped that this measure will provide *“a level playing field in the REF for all types of research.”*¹¹⁴
- Steps have been taken to increase the representation of user groups on REF assessment panels, something which the Council for Industry and Higher Education has called *“necessary though not sufficient.”*¹¹⁵ This needs to go further, with a concerted effort required by the funding councils in the run up to the next REF in order to identify and recruit appropriate panellists.

This is not a problem which can be solved by simply changing structures or governance arrangements. It remains the case that submission of applied work is seen as more risky by academics and institutions than submission of more traditional outputs. More needs to be done to challenge this perception and reassure academics that applied work will be treated equally, in practice as well as in theory. Moreover, as Sir Tim Wilson (former Vice Chancellor of the University of Hertfordshire) has advocated, we need a campus culture where work in applied disciplines is not just acceptable, it is celebrated and supported.¹¹⁶

Impacts on postgraduate study

1. Institutional strategies

For institutions that derive a large part of their income from QR funding, which is allocated using the findings of the research assessment exercise, a strong performance in the RAE / REF is vital. There is a strong incentive to target resources at activities which will improve the outcome of the next exercise. Some contributors to the review expressed concern about the trade-offs that institutions may make on this basis, perhaps choosing not to offer courses for which there is clear demand.

One organisation contributing to the review noted that: *“There appears to be a narrowing of postgraduate courses – at all levels including Certificate, Diploma*

113 REF 2014 Secretariat, *Assessment framework and guidance on submissions*, (2011)

114 HEFCE, *Research Excellence Framework impact pilot exercise: Findings of the expert panels* (2010)

115 Council for Industry and Higher Education *Supporting Research Excellence: A global business perspective* (2010)

116 T Wilson, Speech to PraxisUnico conference (2011)

and Masters – on offer to prospective students because of the focus on REF research areas. This has led, and will continue to lead, to a loss of environmental courses which are essential for environmental sector businesses.”¹¹⁷ Whilst we have not seen firm evidence of this narrowing taking place across the system it is a phenomenon that should be monitored.

We need a better understanding of the impact that research assessment has on academic and institutional behaviours. The sector should also seek to better understand other behavioural drivers, for example, whether there are incentives in progression and promotion practices that encourage a focus on certain types of research.

2. Publish or perish

Some commentators have also argued that the focus on a record of publication that the REF encourages has contributed to the perceived narrowness of the British PhD. For doctoral students wishing to pursue an academic career there is pressure to publish. The jobs.ac.uk website advises early career researchers that, in the run-up to the REF, *“if you have any strong publications (i.e. monographs or articles in world class journals) then you are more likely to be hired... because you will be able to offer something to your new department’s submission.”*¹¹⁸

There is an opportunity cost to this focus on publication. Doctoral students reject other opportunities that could broaden their experience. As the Prime Minister’s Council for Science and Technology also notes: *“Pressure on early-stage researchers to publish often militates against their collaborating with business or the public sector and this needs to be addressed urgently through the Research Excellence Framework.”*¹¹⁹

Recommendation 9

Research Councils UK, HEFCE and Universities UK should convene a joint working group to consider the issue of research quality in detail. Employers of doctoral students, from both the academy and from industry, should be represented on the working group.

117 Written submission from the Field Studies Council

118 C Armstrong, *The Research Excellence Framework 2014 – Careers Advice*, jobs.ac.uk

<http://www.jobs.ac.uk/careers-advice/working-in-higher-education/1561/the-ref-the-research-excellence-framework-2014/>

119 Prime Minister’s Council for Science & Technology, *A Vision for UK Research* (2010)



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A vibrant system of postgraduate education is vital if Britain is to achieve its ambition to be *"the leading knowledge-based economy of the world."* Yet postgraduates are almost entirely absent from the debate about the future of our higher education system.

A perfect storm is on the horizon for prospective postgraduates. They face higher tuition fees than any generation before them, coupled with financial institutions which are reluctant to lend money. Simultaneously, globalisation and changes in the UK's industrial base mean that postgraduate degrees are more important than ever before in getting ahead in the labour market.

This report, the product of an eight-month inquiry, calls for the postgraduate sector to be brought in from the cold and fully embraced as part of an integrated education system. It identifies policy shifts which will be needed to ensure that Britain remains a competitive place to do research and do business. It also explores access to postgraduate education, *"the next frontier of widening participation"*, and makes recommendations on how postgraduate provision should be funded in the future.

Our system of postgraduate education remains world-class, but there are a number of areas where current policy and practice is out of step with our national vision for this sector and for our economy. In these areas policy change is urgently required. There is no room for complacency. Coasting on our past successes is not an option. Failure to act will put at risk our future prosperity.

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