

Executive Summary

Postgraduate Education in the United Kingdom

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Introduction

1. Postgraduate education is the fastest-growing sector in higher education. There has been a 21 per cent growth in new entrants over the last seven years. There are now nearly 500,000 postgraduate students in UK universities, nearly a fifth of all students. This report, which has been generously sponsored by Beachcroft Wansbroughs, looks at trends across the sector and how they affect different universities. It also looks at the financial impact of postgraduate education on universities, postgraduates and on the job market. Finally, it raises some important quality issues and assesses future demand.

Recent Trends.

2. The term 'Postgraduate' is often loosely used to describe students studying for research doctorates. In fact, in 2002-03 only 9 per cent of postgraduate qualifications awarded were doctorates¹. The story of postgraduate education in the UK in the late 1990s and early 2000s is, to a very great extent, the story of the success of universities in expanding masters-level qualifications. In terms of first-year enrolments, students on taught masters made up nearly half of all postgraduate students in 2002-03.

¹ HESA Students in Higher Education Institutions 2002-3. Note: for this study, HEPI commissioned data from HESA on the postgraduate population in UK Higher Education Institutions between 1995-6 and 2002-3. HESA were asked to produce the data on as consistent a basis as possible with the result that some innovations made during the period are not reflected in the data. For this reason totals given in this report may not match totals given in published HESA volumes. Other sources of data have also been used (including the published HESA volumes). These are acknowledged in the text.

Table 1: First year postgraduate students by qualification aim (2002-03).

	Number of students	Percentage change 1995-6 to 2002-03
Professional qualifications	7 805	2
PG Diplomas and certificates (not PGCE)	40 635	-18
PGCE	28 355	26
Taught Masters	118 700	42
Masters by research	10 080	-7
Doctorate by research	16 325	-3
Taught doctorate	585	101
Other higher	270	-74
Other PG	13 740	388 ³
Total	236 230 ⁴	21

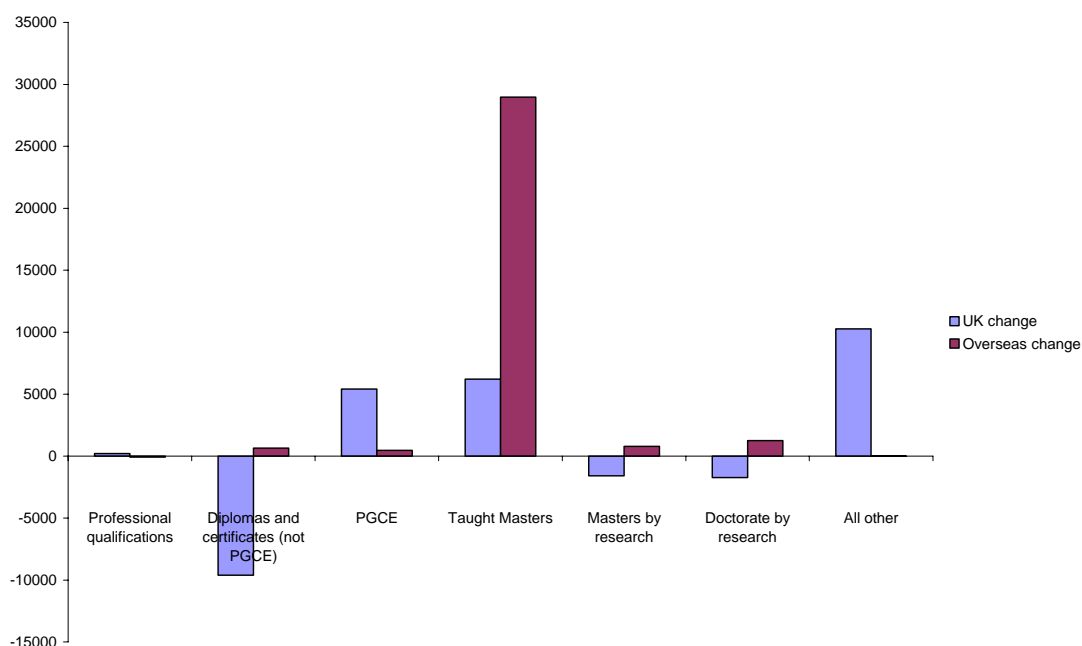
Source: (re-analysis of data commissioned by HEPI from HESA)

3. It has been the ability of universities to attract overseas taught masters students that has fuelled the 21 per cent growth in the number of new entrants between 1995-96 and 2002-03. Figure 2 shows this very clearly.

³ This category includes study not explicitly linked to qualifications. For much of this period it would include students at the Open University whose registration did not record a specific qualification aim even where the student aimed ultimately to achieve a specific qualification. Numbers in the 'other' category increased from 2757 in 1995-6 to 15319 in 1997-8 and in the light of these subtleties, it is safest to presume that this spectacular increase reflects at least in part changing practice in the recording and classification of postgraduate study.

⁴ In order to create something as close as possible to a genuine time series some changes to HESA data collection and recording practice are not reflected in these figures.

Figure 2: Growth in numbers of postgraduate entrants



4. Research student numbers have shown a slight fall. UK domiciled entrants to research degree programmes have fallen by 17% but this has been partially offset by an increase in non-EU overseas students, whose numbers increased from a low base by 28 per cent between 1995-96 and 2002-03. In 2002-03, they accounted for 39 per cent of doctorates awarded.

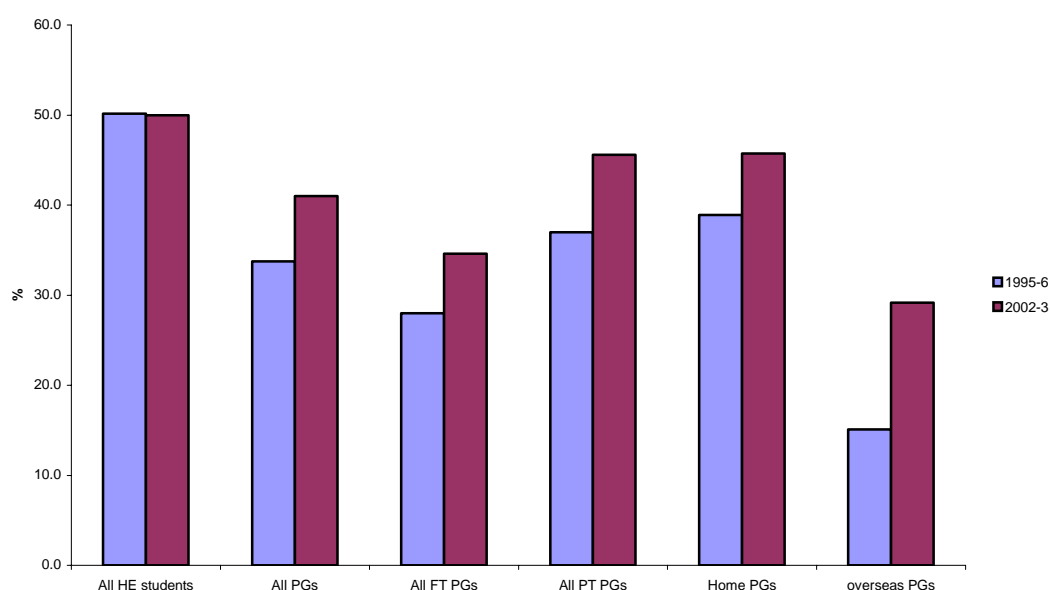
5. The number of UK students achieving first class or upper-second-class honours degrees increased by 20 per cent over six years to 2001-02, but, as yet there has been no corresponding increase in UK research student numbers.

6. The popularity of different subjects has varied enormously. In the past seven years, subjects allied to medicine have seen a 96 per cent growth, much of it fuelled by an increase in the number of part-time students. Computer science has seen an 81 per cent growth, fuelled by full-timers⁵. While nearly all subjects record an increase, physics and veterinary science both report falls in student numbers.

⁵Source: HESA Students in Higher Education Institutions 1995-6 and 2002-3

7. In England, postgraduate student numbers have risen fastest in new universities and colleges. Between 1995-96 and 2002-03, postgraduate numbers in these institutions rose by 65 per cent from 103,701 to 170,855. This represents a substantial increase in the share of the postgraduate population studying in these institutions compared with old universities. For overseas postgraduate numbers, the figures are startling. Overseas student numbers at new universities jumped from 10,048 in 1995-96 to 34,700 in 2002-03. Consequently, the new university share of overseas postgraduates almost doubled.

Figure 3: New universities' share of PG students 1995-6 and 2002-3



source: HESA Students in Higher Education Institutions 1995-6 and 2002-3

8. Postgraduate *research* students remain highly concentrated in a relatively small number of multi-faculty universities with established research reputations. Cambridge University is a long way ahead of other universities. It has 44 per cent more postgraduate research students than second-placed Oxford.

9. Unsurprisingly, it is also these research universities that produce the research students. A graduate from Cambridge is six times more likely to proceed directly to a research degree programme than the average graduate in an English institution.

Region

10. Looking at postgraduate qualifiers in employment six months after graduation, the table below shows the percentage of each territory's postgraduates employed in the region ('stayers') and the percentage employed elsewhere ('leavers'). Those not in employment after six months are excluded from the analysis.

Table 4: Strength of Scotland and Northern Ireland in retaining postgraduates

	stayers	leavers
English regions (mean)	55	45
Northern Ireland	82	18
Scotland	81	19
Wales	63	37
UK (mean)	59	41

11. Scotland, Wales and Northern Ireland depend heavily on their own universities and colleges to provide postgraduates. Most employed Scottish postgraduates find work within Scotland. It is also the case that few postgraduates from other parts of the UK do so. The same is true of Northern Ireland.

12. In Wales there is more mobility but, worryingly, it is mostly in one direction: the number of postgraduates leaving Wales for employment (37 per cent of the total) is more than twice as great as the number entering the country. Wales may need to create more postgraduate-level jobs to benefit fully from current levels of postgraduate provision.

13. No English region is as successful as Scotland and Northern Ireland in retaining its postgraduates. But the Northeast and Northwest have a similar pattern, being highly dependent on local universities and colleges for their postgraduate labour and successful in retaining a high proportion of them. It is in these regions that the case for investing monies for regional development in postgraduate provision is strongest.

14. Conversely, the East, East Midlands, Southeast and West Midlands are characterised by high mobility in both directions. They are not particularly successful at retaining postgraduates studying in the region, nor are they very dependent on local institutions to supply postgraduate labour: they seem to be attractive to postgraduate workers from across the country. For these regions, investment of resources earmarked for regional development in postgraduate provision would be poor value.

Students

Gender

15. Postgraduate students are often over 30, increasingly from overseas and, if from the UK, are highly likely to be female.

Table 5: Gender and age ratios of UK-domiciled postgraduate students by qualification aim

	Percentage of female entrants	Percentage of entrants aged 30+
PGCE	70	35
PG Diplomas and certificates (not PGCE)	63	59
Taught Masters	53	49
Doctorate or masters by research	45	38
All other PG	63	65
Total	59	50

Source: (re-analysis of data commissioned by HEPI from HESA)

16. The common perception that most postgraduates come straight from their undergraduate courses is misleading. Most entrants to all types of postgraduate course are older than 22 and there are more first-year postgraduates above the age of 30 than below the age of 25. Part-time students tend to be older still, most being over 30. The over-30s constitute a substantial majority among part-time students starting every type of postgraduate course.

17. Women make up 59 per cent of first-year UK postgraduates, 61 per cent of part-timers and 56 per cent of full-timers. Where men outnumber women is in study for research degrees, where 55 per cent of students are men.

Domicile

18. Overseas students are highly concentrated in full time taught masters courses - a segment which they increasingly dominate. Almost half (48 per

cent) of full-time taught masters students are from countries outside the EU, rising to 63 per cent if full-time taught masters students from other EU countries are included. This reflects the extent to which overseas postgraduates are concentrated in full-time taught masters study: 68% of all overseas postgraduates are studying full time for taught masters qualifications (the figure for UK students is 18%). Overseas students also make up 34 per cent of the smaller numbers of full-time research students.

Previous qualifications

19. Students studying for research degrees are more likely to have achieved first-class degrees than other graduates. Those studying for taught postgraduate qualifications by contrast have a similar profile to the general graduate population. This suggests that the possession of a taught postgraduate qualification is a poor indicator of general ability.

University funding

20. Postgraduate education is seen as one of the few areas where universities can make money. But it is difficult to assess its full economic benefit, as a lack of transparency in teaching costs makes it hard to do a proper cost-benefit analysis.

21. Some facts are, however, clear. Between 1998-99 and 2002-03 fees from overseas students (undergraduate and postgraduate) increased by £449 million. During this time the UK sector's total revenue increased by £3,449 million. So, over a period when overseas student numbers have been increasing at a rate that will be very hard to sustain indefinitely, growth in their fees accounted for just over one-eighth of overall revenue growth.

Table 6: Revenue and expenditure of UK HEIs (£m)

	98-99	99-00	00-01	01-02	02-03
Fees from non EU students (UG & PG)	636	672	746	875	1085
Total revenue	12113	12780	13494	14491	15562
Total expenditure	11925	12710	13544	14427	15352

Source: HESA Resources of Higher Education Institutions 1998-9 to 2002-3

22. If the UK higher education sector is to continue its rate of expansion, overseas postgraduates may help some institutions fund that growth. It is likely that for most institutions, however, overseas fees will not by themselves underpin the levels of revenue increases seen in recent years.

23. There is good evidence that non-publicly funded teaching is in surplus. This is teaching not paid for out of the public purse. The 1999-2000 data for the transparency review undertaken for the Treasury showed a surplus of 30 per cent on non-publicly funded teaching. Most of this surplus would have been in postgraduate education.

24. Exactly how much is difficult to say, as remarkably little is known about the costs of taught postgraduate provision. Similarly, whilst research in UK HEIs is known to be in deficit, it is not known how much of this deficit is accounted for by research training and how much by the research activity of university staff (the Higher Education Funding Council for England has commissioned a study which is due to report imminently on this very question).

Financial importance of overseas students

25. The impact of overseas postgraduates on individual university finances varies enormously.

26. The London School of Economics heads the universities at which overseas postgraduates form the highest proportion of the overall student body. It is followed by Cranfield, Essex, Surrey and Oxford universities.

27. Overseas fees (undergraduate and postgraduate) account for a third of LSE's revenue and nearly a fifth of Essex's .

Table 7: Ten English institutions with the highest proportion of overseas postgraduates

	Overseas PG as per cent of total student body	Overseas student fees (UG+PG) as a percentage of revenue
London School of Economics	42.2	33.6
Cranfield	31.9	3.5
Essex	22.6	17.2
UMIST	18.3	11.6
Surrey	16.9	10.7
Oxford	16.1	4.5
Cambridge	15.4	5.4
Imperial	14.7	6.7
Institute of Education	13.7	3.6
UCL	13.6	7.1
England	6.2	7.5

28. In general, the most prestigious universities have the highest proportions of postgraduate students and the highest proportion of overseas students. This makes simple conclusions about the degree of exposure to any downturn in overseas student recruitment impossible. It is highly unlikely that the likes of Oxford and the LSE would be the first to be affected by any drop in demand. And it would be naive to suggest that their dependence on often-volatile sources of income that carry risks for other institutions - research funding and overseas students - is particularly risky for these fortunate institutions. For less well-positioned institutions, however, the potential volatility of overseas student numbers might be an issue if they become too dependent on income from such students - especially if recruitment were concentrated in a small number of key countries.

Earnings and the job market

29. UK holders of postgraduate qualifications tend to earn more than holders of first degrees. A recent study found that males with postgraduate qualifications typically earned 4.7 per cent more than those with undergraduate qualifications. The premium enjoyed by females was 10.4 per cent⁶.

30. Students with postgraduate qualifications in 2002-03 enjoyed an average premium of 28 per cent after six months compared with first-degree graduates, although this may reflect the professional focus of postgraduate courses, which is likely to mean that fewer postgraduates spend time in casual or low-status employment immediately after graduating.

Table 8: The postgraduate premium 2002-3

	Mean salary of those in full-time employment six months after graduation (£)	Postgraduate premium (per cent)
Postgraduate qualifiers	20 951	0
All first degrees	16 393	28
First class honours	17 756	18
Upper second	15 981	31
Lower second	15 219	38
Third class honours	15 180	38
Unclassified ⁷	23 660	-11

Source: (re-analysis of data commissioned by HEPI from HESA)

31. An increase in the number of people with postgraduate qualifications seeking employment in the UK is likely to have an effect on the labour market. Unsurprisingly, the available evidence suggests that this impact would be felt most strongly in professional occupations⁸. In 2001-02, a quarter of first-

⁶ Conlon and Chevalier 'Rates of Return to Qualifications: A summary of recent evidence' (CIHE 2002)

⁷ Figures reflect high salaries earned by holders of first degrees in veterinary science, medicine and dentistry the majority of which are unclassified

⁸ Based on standard occupational classifications which define professional occupations as normally requiring a degree or postgraduate qualification. This indicates that postgraduate qualifiers tend to be in occupations where they are insulated from competition from non-graduates whereas first degree graduates do not.

degree graduates in employment six months after graduation were classified as being in professional occupations. The equivalent figure for postgraduates was 76 per cent⁹. These figures are affected by PGCEs, which are in many ways untypical of postgraduate qualifications. But even if teacher training is removed from the analysis, the contrast between postgraduate and first degree qualifiers is still striking.

Table 9: Professional employment: postgraduate and first degree qualifiers obtaining employment six months after graduation 2001-2

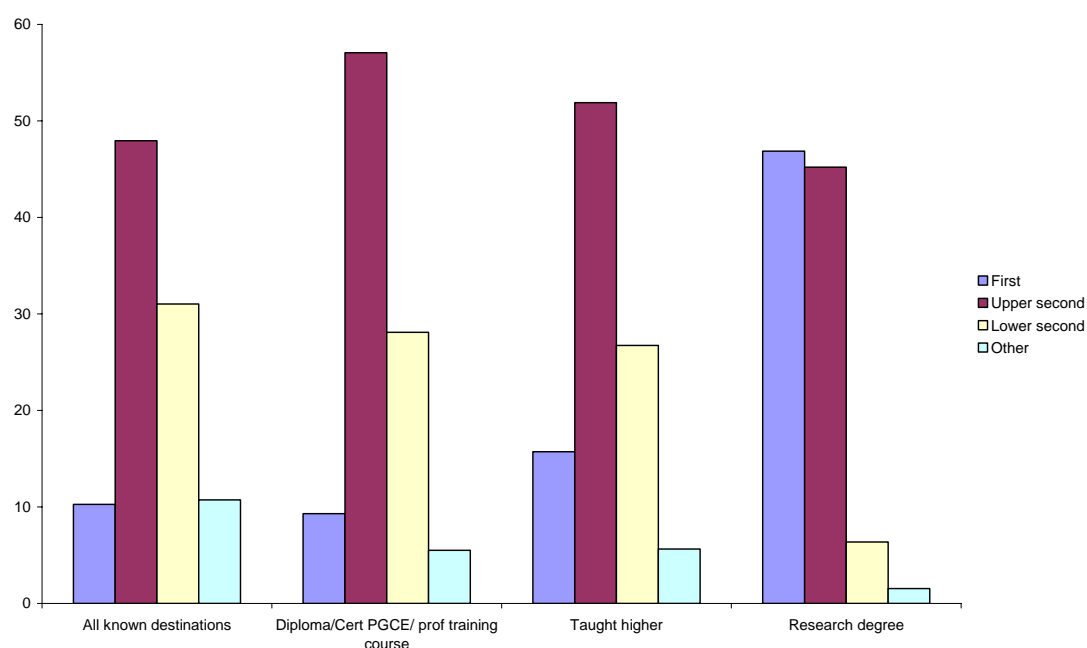
	All occupations	Professional occupations (percentage of all occupations in brackets)
Postgraduate	28755	21845 (76)
First degree	115410	28685 (25)
Postgraduate (excl teacher training)	13410	6785 (51)
First degree (excl teacher training)	108560	22095 (20)

32. In addition to traditional graduate and postgraduate professions, other occupations, particularly those in the process of becoming graduate occupations, will look increasingly to the universities to provide accredited training for their members. It is, therefore, to be expected that some existing training provision will move into the postgraduate higher education sector. Less formally, a postgraduate qualification may become the norm in occupations where this has not previously been the case, even where no formal professional accreditation is involved (for example social research).

33. None of this means that postgraduate qualifications are a passport to a professional career. There are three reasons for this. Firstly, those studying for taught postgraduate degrees - in contrast to research students - cannot be presumed to be an elite among graduates as their first degree results do not differ greatly from other graduates.

⁹ HESA First destinations of students leaving higher education institutions 2001-2

Figure 10: First degree classes of graduates proceeding directly to postgraduate study



34. Secondly, the number of people holding postgraduate qualifications is much smaller than the number of graduates. This basic fact is highly significant. It is very difficult for employers to target non-graduates with a high level of general education because there are so few of them. As a result a degree has become the norm in many occupations. Conversely, the pool of good graduates without postgraduate qualifications is large and there is often little incentive for employers to restrict recruitment to postgraduates.

Table 11: percentage of the UK labour force with HE qualifications in 2002

Age	Percentage with HE qualification	Percentage with postgraduate qualification
16-19	1	0
20-24	23	2
24-29	33	7
30-34	26	7
35-39	26	7
40-44	25	6
45-49	24	6
50-54	23	6
55-59	23	5

35. Finally, employers have very good means to differentiate between graduates on the basis of *academic* achievement or general ability without reference to postgraduate qualifications (both A level grades and degree classes are easy to understand, readily comparable and externally validated) . Postgraduate qualifications, therefore, are likely to be valuable in the job market if they indicate the possession of specific skills and knowledge, but not as an indicator of general ability.

Quality and public information

36. Given the increasing importance of postgraduate provision in the UK higher education sector, and in particular the vital task of continuing to attract overseas students, it is essential to continue to ensure quality.

37. The huge growth in masters degrees and the diversity on offer has made it difficult for students to get a clear idea of what a course involves. The Quality Assurance Agency's National Qualifications Framework does provide some guidance. It defines five levels of higher education qualification. Of these, three are undergraduate and two postgraduate: "masters-level" and "doctoral level" qualifications. The problem is that the category into which almost all taught postgraduate qualifications fall - masters level - is extremely broad. It spans a range from a postgraduate certificate, typically requiring three months of full-time study and sometimes requiring no prior acquaintance with the subject, to an extended masters programme (often called MLitt or MPhil) taking up to two years of full-time study and intended for those with substantial relevant education.

38. Nomenclature can also be confusing. To give one example - the MA and the MSc in most English universities is a taught postgraduate degree examined primarily on the basis of taught components. Cambridge University, however, describes its MSc as a research degree "requiring six full-time (or ten part-time) terms of research" and its MA, famously, is not an academic qualification at all. Such idiosyncrasies are not exclusive to ancient universities. The more recent practice of identifying postgraduate

qualifications with a focus on professional practice with a suffix indicating the field of study (for example MEd) has greatly increased the number of qualifications on offer in many universities. The way such qualifications differ in form and content from other programmes requiring a similar period of study is not consistent. To complicate matters further, there are undergraduate masters' qualifications. These are offered to students who pursue extended undergraduate studies.

39. The fact that postgraduate courses of very different types appear to be clustering under the banner of the UK taught masters degree makes the case for greater quality of information more urgent. A standardised nomenclature may be the best way to achieve this, with courses clearly labelled conversion, research training or professional masters.

40. While nomenclature is a cause for concern, there is no case to be made for the kind of regulation that would dictate to institutions what they can teach and to whom. On the other hand, as full-time taught masters students account for over two-thirds of overseas postgraduates anything which reduces the credibility or attractiveness of the UK masters is a grave threat to UK institutions. What is important is to allow innovation within the sector while providing useful information for prospective students.

41. Doctoral qualifications are more homogenous. Most doctoral students are pursuing research doctorates examined mainly by research although many of these will not be traditional PhD or DPhil programmes.

42. In recent years, there has been a move to complement the UK PhD's emphasis on original research with other elements designed to maximise the benefits of research study for the student and to combat social and intellectual isolation. The "new route PhD" - a recent innovation - is designed to integrate taught elements into a longer PhD programme without affecting the requirement for candidates to make a substantial contribution to knowledge through an original thesis. A similar approach can be seen in the "1+3"

masters plus PhD programmes pioneered by some UK research councils, with a one-year masters in research training followed by a three-year PhD.

43. Other doctoral qualifications, generally in professional subjects, usually contain a term that describes the subject of study - such as EdD for doctor of education. These doctorates usually contain a substantial taught component and the extent of original research varies.

44. A final point to remember is that much of the education received by students after they have graduated is not specifically postgraduate and falls outside the scope of this report.

Conclusions

UK demand

45. HEPI has previously calculated, based upon growth in undergraduate demand expected between 2002-03 and 2010-11 in England, that there could be up to 50,000 more postgraduate students in higher education by that date.

46. Recent press reports suggest that some universities are presuming that as graduate numbers increase, an increasing proportion will undertake postgraduate study as a means of distinguishing themselves from their peers. This is far from certain. The proportion of UK first-degree graduates proceeding to postgraduate study as a first destination has declined. On the other hand, the number of UK full-time entrants to postgraduate programmes appears to be growing faster than the number receiving degrees. This suggests an increase in the numbers opting for postgraduate study at some point after gaining their first degrees. If this is the case, it may be some time before the full impact of increases in the undergraduate population on the postgraduate population is felt.

47. It is too early to judge the impact of increased levels of student debt, and the new fee arrangements for undergraduate courses, on the demand for

postgraduate study. But it could be significant as a large proportion of postgraduates are self-funded and prospects for growth depend on this number increasing. It is also possible that new graduates - those graduating now who would not have become graduates in an earlier period - will not be as willing to proceed to further study as past graduates.

EU demand

48. EU postgraduates represent 8 per cent of all postgraduate entrants - a proportion that has not changed greatly since 1995-96. Accession countries are expected to bring in up to 9,000 additional EU postgraduate students by 2010. This group of students is not critical to UK universities in terms of revenue. EU students carry many of the costs of overseas students but do not pay premium fees.

49. For UK postgraduate providers, however, developments in the EU will be important, in the form of moves towards the creation of a European Higher Education Area, or the implementation of the Bologna Process. This is seeking to establish equivalence of the qualifications awarded in different European countries and could be based upon on years of study, as is customary in many European countries, rather than on learning outcomes, as is customary in the UK.

50. If this process defines a two-year masters cycle as a European norm, this could have serious implications for UK universities, which have carved out a very successful market niche with one-year taught masters. But this is far from certain to happen and the recently-signed EU constitution specifically rules out any move to require member states to offer a particular pattern of provision.

51. On the other hand if, as a result of developments in the EU, the English masters degree develops a reputation as an inferior product, then this could damage our standing in the (much more important) world market.

Global demand

52. Recent research by the British Council¹⁰ has sought to predict future demand for UK higher education from outside the UK and to identify the factors influencing that demand. It estimates that demand will continue to rise steeply, particularly for taught postgraduate study. Across the major English-speaking destination countries it predicts that growth will increase by an average of 6 per cent a year until 2020. For the UK it predicts a growth rate of 4.7 per cent a year until 2020, based on current trends. It forecasts that the percentage of postgraduates among international students in UK higher education will increase from 47 per cent in 2003 to 57 per cent in 2020.

53. Overseas student demand can be volatile. There is already evidence that other English-speaking countries are experiencing a fall-off in demand. In October 2004 The Times Higher Education Supplement reported a sudden and unpredicted fall of 14 per cent in the number of people arriving in the UK on student visas in 2003. It is not yet known whether this phenomenon will be reflected in higher education enrolments for 2003-04.

54. Postgraduate education is one of the success stories of UK higher education. New universities in particular have shown themselves skilled at exploiting the growth in student numbers, particularly from overseas, in what was for many a new market. But there are warnings. The static nature of demand for research degrees among UK students is creating an over-reliance on overseas doctoral students, particularly in science.

55. Overall, demand for Anglophone postgraduate education exceeds supply, but overseas demand can be volatile. Universities relying heavily on one country for their supply of overseas students could suffer serious financial losses if supply dries up. It is also likely that overseas students will become better informed and more demanding, obliging institutions to invest heavily to retain their position. It is important that they respond positively.

¹⁰ Vision 2020: Forecasting international student mobility (British Council 2004)