

# The UK's Competitive Advantage: The Market for International Research Students

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UK Higher Education International Unit  
**Research Series/2**  
July 2008



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The Annexes are available for UK universities on the secure area of the UK HE International Unit website.

## Acronyms

ACU	Association of Commonwealth Universities
AEI	Australian Education International
ATAS	Academic Technology Approval Scheme
CIHE	Council for Industry and Higher Education
DAAD	Deutscher Akademischer Austausch Dienst (German Academic Exchange Service)
DELPHE	Development Partnerships in Higher Education
DfID	Department for International Development, UK
EU	European Union
FCO	Foreign and Commonwealth Office, UK
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HEPI	Higher Education Policy Institute
HESA	Higher Education Statistics Agency
IIE	Institute of International Education (New York)
ISB	International Student Barometer
LSE	London School of Economics
OECD	Organisation for Economic Cooperation and Development
ORSAS	Overseas Research Students Award Scheme
PGR	Postgraduate research
PGT	Postgraduate taught
PMI2	Prime Minister's Initiative for International Education
RAE	Research Assessment Exercise
STEM	Science, technology, engineering and mathematics
TNE	Transnational Education
UNESCO	United Nations Educational Scientific and Cultural Organization
UKCISA	UK Council for International Student Affairs (previously UKCOSA)
UKIERI	UK-India Education and Research Initiative
UUK	Universities UK



## Foreword

The United Kingdom is a global leader in the provision of quality higher education and nowhere is this lead more apparent than in our 15% share of the international market for research students. Our universities are extraordinarily successful in attracting the best of them from around the world: almost half (42%) of all postgraduate research students in the UK are international students. The benefits to the UK are clear to see: not only do these students directly raise the research output of our universities, they augment the knowledge base of the country, heighten the UK's capacity for innovation and enhance the UK's strategic position in the future international economy.

It should not be surprising that other countries would like to welcome these students as much as we do. They are the focus of increasing attention from traditional competitor countries and for countries that not so long ago were viewed as sources of brainpower rather than competitors for it. This new competition poses a threat to the UK sector. It is unwise to assume our lead can be maintained in the future without taking steps to strengthen our offer – at both national and institutional levels – to prospective research students.

This second report from the research programme of the UK Higher Education International Unit was commissioned to provide a quantitative and qualitative analysis of this challenge. The research team, led by Dr Neil Kemp, have assembled and interpreted up-to-date data based on HESA statistics, the International Student Barometer from i-graduate, and a customised survey of UK universities. They have turned this data into strategic options for consideration in international recruitment.

The extent of their evidence of the changing nature of the market is sufficient to stave off any complacency over the UK's position. The number of competitors is increasing and there has been contraction in some specific recruitment markets where the UK has traditionally excelled. There is an oversupply of international research students in some subjects and potential undersupply in others, which suggests the need to reconsider funding and scholarship provision. The study reveals the increasingly demanding expectations of the students we need to attract to our shores. Understanding how prospective research students perceive the UK is central to how we promote our sector internationally.

I wish to congratulate the authors and thank the members of the Steering Group for their guidance. I hope that both national policy-makers and university staff find the recommendations to be of use as they refine and implement international recruitment strategies.

**Professor Rick Trainor**

President  
Universities UK



1

In this study, international postgraduate research students are those on degree-awarding and non-degree-awarding programmes, from both other EU and non-EU countries.

1 International postgraduate research (PGR) students<sup>1</sup> are essential for the success of the UK economy. They contribute to the growth of the knowledge economy and enhance the research output of UK universities.

2 UK universities have been very successful in recruiting international PGR students and numbers have grown consistently, at a rate over 4% per year. UK PGR student growth has been less than 1% per year and in some subjects numbers have actually declined.

3 There are now just over 50,000 international PGR students in the UK, or 42% of all PGR students (the proportion in France is 35%; in the US it is 33%). This also represents about 15% of the total global market share and, per capita, makes the UK the most successful recruiting country at present. This success has been achieved as a consequence of reputation and quality of provision. In some subject areas, however, international students constitute over 50% of all PGR students in the UK. These include law (59%), engineering and technology (58%), business and management (58%), social studies (53%), and mathematics and computing (51%).

4 There are marked variations in recruitment patterns. Seven countries account for about 40% of all international PGR students in the UK. These are, in order: China, US, Greece, Germany, India, Malaysia and Italy. China alone provides more than 5,000 PGR students. The EU is a very important market and provides one-third of all international PGR students in the UK. In the physical sciences, one-third originate from France, Germany, Italy, Spain and Greece. Students from China, Malaysia, India, Greece and the Middle East dominate recruitment in engineering and technology, while nearly 40% of students in history, philosophy and related disciplines are from the US and Canada alone.

5 There are a number of positive international recruitment trends for the UK. There continues to be excellent growth in the demand for medicine and related subjects, social studies and business and management-related topics. Recruitment from the US, Germany, India and Pakistan is strong and there has been a reversal in the recent declines from Malaysia. There is strong growth from the Middle East (particularly Libya, Egypt, Saudi Arabia) with new enrolments up by 6% annually in recent years (25% in 2007–08) while there has been consistent recruitment growth from EU states, particularly Poland and Cyprus.

6 There are areas of concern. There was a decline in new recruitment from China in 2006–07 and this is worrying given the dependence on Chinese students generally and in areas such as engineering and technology. Recruitment from Greece, Mexico, Hong Kong, Japan, South Korea and Singapore has declined. There is also evidence of declining demand in engineering and technology and for mathematics and computing-related disciplines. Demand for courses in law, education, languages and history is also weakening.

7 The UK's recruitment success has, to a large extent, been due to the achievements of a limited number of universities operating in a few countries. Ten countries and 18 universities account for 50% of all international PGR students in the UK. In two subject areas there is a real over-reliance on a particular country: US students in humanities and arts, and Chinese students in engineering and technology.

- 8** This report investigates why international PGR students choose a particular country to study in and why the UK in particular. The major factors influencing choice of study are departmental and institutional reputations, particularly for research and teaching quality. Funding support is vital, with scholarships and affordable fees major pull factors.
- 9** Among prospective PGR students around the world, the UK and US are the most attractive destination countries, followed by Germany, France and Australia. The UK is perceived as the most expensive country in which to study and (along with the US) is considered to be the most difficult country for which to obtain a visa.
- 10** Of those PGR students who choose to study in the UK, one-third already studied in the UK prior to commencing their research programme. The influence of staff where the student had previously studied and information available through university websites are the two most important factors informing the final decision on an institution. 40% of international PGR students want to remain in the UK, either temporarily or permanently, after completing their programme.
- 11** Global market growth seems likely to continue in the foreseeable future, driven by demand from students, scholarship funding from select overseas governments and new investments to attract students in the major destination countries. For the UK the consistent growth has been driven, in particular, by individual student investment. UK institutions have contributed to a lesser extent through funding support of about 23% of students, mainly through fee discounts.
- 12** While more foreign government support is becoming available, particularly from some Middle Eastern countries, UK government scholarship support remains limited (<10% of PGR students in the UK are supported). The existence of high-profile scholarship programmes sends positive international messages. Self-funding students appear to be decreasing in number, as evidenced by the continuing reduction from Japan and other East Asian countries where the highest proportion of self-funding students originate. The implication is that UK universities will need to invest more resources if they are to remain competitive in these markets.
- 13** Even with continuing global market growth, it would be unwise to assume that the UK's position can be easily maintained. While total numbers are growing, the market is finite and with more countries investing significantly, the competitor landscape is changing fast. It is inevitable that there will be some decline in UK market share but with a revised recruitment strategy the UK can still increase overall numbers.
- 14** The US is the UK's main competitor country. It has possibly 40% of the global market share, and probably more than 120,000 international PGR students. While the US has experienced recruitment difficulties in the post-9/11 years, recent international drives are succeeding and total international student recruitment last year grew by 10%.

- 15 EU member states are also targeting research students, particularly Germany, France, Netherlands, and Scandinavian countries. None normally charge fees – indeed most provide living costs for PG researchers (who are not referred to as ‘students’) and in most cases the language of study is English. Australia and New Zealand also have new strategies tied to attractive funding packages.
- 16 Probably the largest single factor likely to undermine the UK’s global market share is cost – both fees and living-related. The UK’s main competitor countries offer attractive funding packages, including fee waivers and grants or salaries to meet living costs. Two-thirds of international PGR students in the UK must meet their costs from sources outside the UK, through personal funds or foreign scholarships. Half meet most of their costs from personal funds.
- 17 UK national scholarships and foundation and employer funding is limited, supporting only 14% of international PGR students. About 23% receive support from UK institutions in the form of fee waivers or scholarships. There appears to be little consistency in approach across institutions: some support more than 50% of their students while others fewer than 10%. This compares unfavourably with funding strategies in competitor countries. A large proportion of international students undertake some form of part-time employment but few UK universities appear to adopt an approach that recognises the need of PGR students to supplement funds in this way.
- 18 UK universities have the capacity to take more PGR students, although some research supervisors report ‘over-stretch’. Hence, funding is the most important constraint to growth. Even full international student fees do not cover the costs of student support. Only a minority of UK HE institutions have policies concerning PGR student supervision; the median level for supervisor contact is about 30 hours per year. This is an important value-for-money consideration.
- 19 A majority of UK HE institutions are involved in some form of overseas delivery through joint, split or distance-degree delivery. Most institutions are keen to expand this activity for doctoral degrees but need assistance in understanding better the risks and identification of partners. A major concern is the maintenance of quality assurance standards.
- 20 Websites are crucial sources of information for all international PGR students – more than for students at other levels of study – yet UK national and institutional websites are of variable quality and few address the specific needs of the PGR student group.
- 21 National websites lack coherent explanations of the UK doctorate, details of scholarships, other funding and employment opportunities. There is uncertainty over the availability of PGR places in the UK at any one time, by institution and specialism. A national online system could conceivably supply this information.

- 22** University websites usually lack dedicated and accessible areas for international PGR students that provide information on scholarships, fee waivers, likely costs, the availability of part-time work and institutional support arrangements.
- 23** The UK approach to promotion has traditionally focused on quality and this remains vital. But greater clarity on targets and positioning is required. A PGR 'brand strategy' would emphasise the UK's global position and the attractions and benefits of the UK. This might include stressing the high completion rate, the prestige of the UK doctorate, researcher successes, research partnerships, and employability and long-term career benefits.
- 24** A coordinated and coherent national marketing and promotion strategy could address a variety of activities, including incorporating a PGR recruitment campaign within the Education UK Partnership, targeting (new) markets to lessen dependency on a relatively small number of source countries, and targeting international students currently studying in the UK.

## Recommendations

### National-level recommendations

To maintain a competitive advantage, the UK requires a more coherent approach to the recruitment of international PGR students at national level. This approach should:

- 1 Develop a clear and attractive UK doctoral brand with emphasis on quality, innovation and the attractions of the UK as a study destination. This should be consistent with the broader and existing branding within the British Council's Education UK Partnerships.
- 2 More clearly define the benefits of a UK doctorate to an international audience. This approach should be designed to counter international perceptions of the UK as an expensive location, particularly since a UK PhD can be completed more quickly than elsewhere.
- 3 Critically review current international-facing websites to ensure PGR-specific information is relevant, useful and attractively presented. All such websites should include up-to-date details on funding and scholarships for international students.
- 4 Establish a UK PGR marketing strategy based on a framework for market segmentation, pricing and scholarships. Targets should be set on a market-by-market and subject-by-subject basis. Seven countries provide about 40% of international PGR students. Over-reliance on few subjects and few markets should be minimised.
- 5 Review national funding and scholarship provision to align funds to country and subject priorities. Offering more 'fees-only' scholarships should be considered as a means of boosting international recruitment in key (eg STEM) subjects.
- 6 Consider direct approaches to governments that provide scholarships for their nationals to study on PGR programmes abroad. It may be possible for the UK to negotiate fee agreements in subjects identified as priorities by those other governments. Some universities already do this.
- 7 Establish a campaign to target international students currently studying in the UK to encourage them to stay for PGR study. About four in ten of international students who apply for PGR programmes in the UK are already studying in the UK.
- 8 Counter perceptions among prospective international students that the UK immigration system is difficult and does not take into account the needs of international PGR students (eg family visas, part-time work). This could include specifying and driving home the benefits of the new immigration system.

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## **Institutional recommendations**

To maintain a competitive advantage, UK universities should review their international strategies to ensure that the specific needs of PGR students are clearly addressed. The following recommendations are not revenue-neutral but will require appropriate investment:

- 1** Re-examine target markets for each major subject area in which the university possesses strength. Not all UK universities need to be chasing the same markets and some diversification will also have benefit throughout the UK sector.
- 2** Revamp websites to provide the necessary material required by prospective international PGR students and make that material easily accessible. Institutional websites are crucial sources of information for all international students.
- 3** Develop on-campus PGR recruitment strategies that focus on existing international students. International students cite the influence of a lecturer where they previously studied as the most important information source for PGR study.
- 4** Organise overseas presentational visits by 'big-name' staff to build upon a university's reputation. International students cite such presentations as an important source of information, and the quality of lecturers is a key factor associated with an overseas student's learning experience.
- 5** Assist international PGR students in their attempts to secure part-time work to help fund studies. Most international PGR students need such work. Living costs and financial support are key factors associated with the learning experience.
- 6** Augment fee support in specific subject areas to compete with the recruitment strategies of overseas competitor universities, in particular in those countries considered as alternatives to the UK (ie, the US, Canada, Australia and other EU countries).
- 7** Establish guidelines for minimum levels of student-supervisor contact and convey this information clearly to prospective students. International students – and their sponsors – are demanding and are influenced by value-for-money arguments.

**1.1** UK institutions have been very successful in attracting international postgraduate research (PGR) students to study in the UK. The presence of these students is important for the UK economy, for UK research and innovation and for the research capacities of universities themselves. The need to continue to attract these students is also driven by the significant problems in recruiting PGR students from the UK, particularly in certain subject areas. However, concerns are now growing over the sustainability of international recruitment. There are more countries seeking to compete for this limited – albeit growing – pool of research students, and the scholarships and funding incentives from competitor countries are significantly more attractive than those from many UK institutions.

**1.2** This study was commissioned by the UK Higher Education International Unit as a means of assessing clearly what is currently happening internationally, how the UK might be better positioned to continue to succeed in recruiting high-quality researchers and also to provide the UK HE sector with more comprehensive market information to inform their strategies.

**1.3** Unless indicated otherwise, much of the statistical data in this report is taken from the Higher Education Statistics Agency (HESA) for the years 2005–06 and 2006–07. All data sources are identified.

### The international context

**1.4** The total number of PGR students in UK higher education institutions was 118,660 in 2006–07 (HESA data); of these, international PGR students numbered 50,365, or 42.4%. The number of international PGR students in UK has been growing at about 4% per annum over recent years.

**1.5** Table 1 illustrates the success of the UK in international higher education recruitment: in 2006–07 there were more than 450,000 international students following UK degrees globally, of which 368,000 did so in the UK itself. Such success is due in part to a widespread belief in the quality of UK provision but also a consequence of professionalism in marketing and support for both EU and non-EU international students. Institutions are aware of the benefits of international students to their budgets, their intellectual capacities and their striving for internationalisation of the whole university community.

**Table 1**  
Numbers of international (EU + non-EU) students following UK degree programmes both in and outside the UK by level of study, 2006–07

Source:  
HESA, 2006–07

Level of study	Programme in the UK	% of total	Programme outside the UK	Total
Postgraduate research	50,365	13.7	1,165	51,530
Postgraduate taught	131,915	35.8	42,460	174,375
First degree	133,745	36.3	36,775	170,520
Other undergraduate	51,985	14.1	8,605	60,590
<b>Total</b>	<b>368,010</b>	<b>100.0</b>	<b>89,005</b>	<b>457,015</b>

**Table 2**  
**Leading destination countries**  
**for international HE students**  
**at all levels of study, 2005–06**

Sources:  
 UNESCO and HESA

Destination country	Numbers
US	590,158
UK	356,080
Germany	259,799
France	236,518
Australia	207,264
Japan	125,917
Russia	90,450
China	77,700
Canada	71,650
New Zealand	40,774

2

UKCOSA (2004) 'Broadening our Horizons'; i-graduate (2006), 'International Student Barometer'.

3

Wächter, Bernd and Maiworm, Friedhelm (2008), 'English-Taught Programmes in European Higher Education. The Picture in 2007'.

1.6

The UK is second only to the US in international student numbers (see Table 2). In 2007, a US government study noted that the UK had the highest proportion of foreign students in its student population amongst G8 countries: 16% of students in the UK were international as compared with 11% in France, Germany and Canada. The US figure was only 3.4%. In the G8, Japan, Italy and Russia had the lowest proportion of foreign students with 3%, 2% and 1%, respectively.

1.7

Further evidence of the UK's success arises from a 2004 UKCOSA report and a large-sample International Student Barometer study in 2006, both of which showed high satisfaction rates among international students in the UK.<sup>2</sup>

1.8

Readers of runes looking beyond 2005–06 figures, however, might observe a world where there is likely to be:

- more intense international competition from 'traditional' and new countries entering the market for students
- more diverse education 'products' on offer and a wider variety of delivery mechanisms
- more varied perceptions of the benefits of HE
- increased power and sophistication of students as 'intelligent shoppers' with greater discrimination and new expectations
- change in the community of scholars as a result of more students accessing HE
- greater influence of electronic communications and increased globalisation of knowledge
- much more transnational education (TNE) provision
- greater influence of the private sector, with its different business models and priorities
- greater use of English as the medium of instruction beyond first-language English countries<sup>3</sup>

4  
Royal Academy (2008),  
'A Higher Degree of Concern'.

5  
British Council, Universities  
UK and IDP (2004),  
'Vision 2020: Forecasting  
International Student  
Mobility'.

**1.9** While these factors could affect all international recruitment activity, the international PGR student group is likely to be most affected and the UK may be particularly vulnerable. A cursory analysis of the overall data for UK PGR international student recruitment over recent years reveals that:

- the large increase in Chinese students since 2000 has masked declines in numbers from other important countries (though the rate of growth in students from China is itself now slowing)
- the numbers coming to study from leading source countries such as Malaysia and Greece are in decline
- there is an over-dependence on students from just a few countries; about 25% of all international PGR students come from three countries: China, the US and Greece
- EU students account for nearly one-third of all international PGR students in the UK; over half of these originate from three countries: France, Germany and Greece
- there are limited funding opportunities in the UK compared with the main competitors (particularly the US and Europe)

**1.10** Also of concern is the decline in demand by UK students for research degrees, particularly in the STEM subjects (science, technology, engineering and mathematics). The Royal Academy recently reported that registrations for science doctorates have fallen by nearly 10% in the last decade.<sup>4</sup>

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### Competing in the global market

**1.11** UK universities have a well-deserved international reputation for quality in teaching and research, professional administrative systems, and transparent and publicised quality standards. All UK universities have a contractual commitment to research and teaching; the majority of staff are required to be involved actively in both. This positive reputation is substantiated by the position in world university rankings, citations indices, increasing levels of research funding from industry, high completion rates and student-satisfaction surveys.

**1.12** Quality PGR students are essential to the growing number of institutions that aspire to be world-class universities. Pioneering research often requires interdisciplinary and international collaboration. If UK-based research is to continue to be successful, the number of non-UK PGR students must increase.

**1.13** Global competition for the relatively limited pool of high-quality international research students is increasing more quickly than the market size. In 2004 the 'Vision 2020' study forecast an annual growth in the size of the PGR global market of about 3.5% – the lowest rate for any level of HE.<sup>5</sup>

**1.14**

The US is becoming more significant in international PGR student recruitment with extended scholarship provision, a somewhat rehabilitated image after the post-9/11 immigration strictures and more active trade and diplomatic relationships with China and India. Australia, New Zealand and Canada are also first-language English countries with similar advantages to the UK in terms of comparative security, civil infrastructure, recognised HEIs, scholarships and increasing investment in international student marketing. They also link international student recruitment strategies to immigration opportunities.

**1.15**

International PGR students, especially those with families, often require high levels of support. The UK has the NHS, free schooling and imaginative schemes for child care and English-language training for spouses. Australia, New Zealand and the US make much of such provision and publicise codes and charters to affirm and guarantee institutional compliance. France is piloting a similar charter. New Zealand also confers 'home status' on dependants.

**1.16**

Continental European HEIs are providing more programmes in English, especially at postgraduate level,<sup>6</sup> and are becoming more systematic and effective in commitments to such dynamics as the Bologna Process. They charge either no or minimal tuition fees, though the fees landscape is in flux. The government of France, through its Campus France initiative, not only claims to subsidise the cost of higher education for international students but also promotes a pilot 'hosting' system for those who hold French government scholarships or bursaries. There is an expectation that the evaluation of this pilot will result in the extension of such provision to all international students.

**1.17**

Students measure investment against likely long-term benefit but the international student market is an imperfect one characterised by patchy information, differing national reputations, wide variations in national and institutional scholarships and varying perceptions of quality. Governments now also consider 'national security' in assessing academic autonomy and individual rights against the imperative of growing knowledge economies.

**1.18**

At the PGR level these interactions are at their most complex: both students and institutions bear costs and gain benefits. In order to secure the best international PGR students in the numbers required across all disciplines, the UK must convince potential PGR students that the financial and personal costs that they will bear will be more than offset by the benefits that will accrue to them in a timely fashion.

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## Methodology and approach to the study

- 1.19** The research method comprised a variety of activities:
- review of studies, national reports, and other publications
  - formal survey of key staff at UK universities
  - informal interviews of policy-makers
  - use of i-graduate's International Student Barometer on perceptions of current and prospective international PGR students
  - analysis of HESA data and other UK sources
  - analysis of data and national policies on international PGR students in the US, Canada, Australia, New Zealand, France and Germany
  - analysis of institutional and national websites

**1.20** Student perception data (see Chapter 3 and Annex 1) were compiled by the International Graduate Insight Group (i-graduate) through the International Student Barometer (ISB). The institutional survey was circulated using contact databases of the UK HE International Unit and the consultants (see Annex 2).

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## Notes on HESA data employed

**1.21** HESA data can exhibit inconsistencies in inter-university comparisons as a result of the different methodologies used by universities in compiling international student statistics. However, the impact of these variations is minimised because much of the analysis in this report relates to trends such as year-on-year comparisons.

**1.22** The analysis relates to HESA figures for all international research students (including from EU member states) in the UK, ie not just doctoral students. These data include part-time students but not those enrolled on UK programmes delivered outside the UK (TNE programmes).

**1.23** Reporting TNE provision to HESA was not compulsory until 2006–07. An analysis of international PGR students for *all* modes of delivery in 2006–07 is provided in Chapter 4.

**1.24** Numbers from HESA data have been rounded to the nearest five.

**1.25** Hong Kong data is reported separately to that for China.

7

James D Adams *et al*, Department of Economics, Rensselaer Polytechnic Institute (2005), 'Research, Teaching and the Productivity of the Academic Labor Force'.

8

The British Council (2007) 'Global Value'.

9

G Chellaraj, KE Maskus and A Mattoo. World Bank, Policy Research Working Paper, number 3588 (2004), 'The Contribution of Skilled Immigration and International Graduate Students to US Innovation'.

## Research, innovation and research students

### 2.1

A country's international competitiveness is related to its investments in research and development, and research in science and engineering plays a crucial role in driving growth. PGR students are recognised as key to research and development but only recently have attempts been made to quantify this. James Adams *et al* concluded that the research output of academics at US universities, as measured by either publications or citations, is positively correlated with the number of doctoral students present.<sup>7</sup> The post-9/11 immigration restrictions also led to a debate which affirmed the link between international PGR students and the quality of US research output.

### 2.2

In the UK, the benefits of internationalisation in research have frequently been emphasised. PGRs are central to this for a number of reasons: the level of their studies, intellectual merit, ability to network, duration of stay, possibility of staying to work in the UK, seniority of appointment on return, future career progression, overseas sponsorship and the level of fee and extended family spend.

### 2.3

The UK government recognises the economic, intellectual, diplomatic and cultural benefits of international students and continues to invest funds accordingly – for example, through the Prime Minister's Initiative for International Education ('PMI2'). The UK economy receives directly some £5.6 billion annually from international HE students; downstream multipliers bring this to a considerably greater sum.<sup>8</sup> Other benefits are multiple: students, universities and localities gain intellectual and cultural enrichment.

### 2.4

Detailed research on the impact of international PGR students on innovation is limited. Although the US ranks near the bottom in mathematics and science achievement among school students within the industrialised countries, it remains at the cutting edge of technological innovation. Chellaraj *et al* suggested that skilled migrants, particularly international PGR students from India, China and Korea, provided the explanation.<sup>9</sup> They also argued that international PGR students contributed to US productivity because they tended to complement local skills rather than substitute for them.

### 2.5

On intellectual property they concluded that:

*[I]nternational graduate students and skilled immigrants have a significant and positive impact on future patent applications as well as future patents awarded... Our central estimates suggest that a 10% increase in the number of foreign graduate students would raise patent applications by 3.3%, university patent grants by 6% and non-university patent grants by 4%. However, enrolments of US graduate students have no detectable effect.*

## The changing nature of the doctorate

### 2.6

For centuries the doctorate has been intended as evidence of having made an original and significant contribution to a field of knowledge. The holder had a high probability of academic employment. But while the doctorate retains its hallmark as an original contribution to knowledge, it is now increasingly also seen as a form of training and recognition of competence in a set of skills which can be valuable in a range of employments beyond an academic context.

### 2.7

The means of demonstrating a contribution to knowledge is in flux. PhDs are already obtained through the publication of books rather than submission of a thesis, and the same might be accomplished by a series of refereed articles. On the relationship between funding and the doctorate, a recent Australian study argues that in the sciences and engineering a risk-minimisation approach to research topic and student selection is emerging.<sup>10</sup> That is, if you want funding for your students you need a project that someone is willing to pay for.

### 2.8

The fact that some students regard research degrees as merely instrumental does not necessarily affect their reputation or significance. It will, however, affect the manner in which they are promoted and provided in the future. The adaptability, and adherence to quality standards, of UK research degrees are important in this context.

### 2.9

The UK has responded to the international competition for PGR students with a portfolio of research-based degrees. These include the MPhil, MRes, intercalated PhD, European PhD, split-site PhD, 'NewRoutePhD', professional doctorate (eg DBA, EdD, NursD), and dual-award degrees. But only the traditional PhD is transparent to the international market. How arcane is the difference between an MPhil and MRes? Little has been done to launch and market them, and build their reputations for excellence and relevance.

### 2.10

The 'New Route PhD' was created in 2003 in response to a perceived demand from governments and institutions in the Middle East. It might also be viewed as a UK attempt to compete with the US doctorate. It is intended to meet international requirements for a research degree that reflect the importance of 'knowledge-based economies' and the expectations by employers for professional skills. It has not, however, been exploited effectively and the potential benefits of the New Route PhD have not been realised fully.

### 2.11

The UK is particularly well-positioned to grow partnerships with overseas institutions to work in these areas because:

- a good variety of tried and tested programmes for staff development are available from UK institutions, some delivered electronically and some with a master's qualification
- the UK pioneered the professional doctorate and several are available that relate directly to the HE sector
- there is a strong interest in recruiting quality international doctoral students at all UK universities

- 2.12** However, this gives rise to a number of key questions:
- can approaches be developed that are affordable for either under-funded state-sector HE institutions in countries such as India, Bangladesh, Kenya and Nigeria, or the new and relatively financially constrained private-sector providers in many of these countries?
  - are there flexible approaches to delivery (eg split-site degrees, on-line approaches) that would allow staff involved to continue with some of their teaching commitments in their employing institution?
  - what are the other major issues to address (eg quality, supervision, costs)?

**2.13** The above needs to be considered in more detail and the possibility of establishing a number of pilots to test approaches is desirable. A possibility would be to base these pilot projects around existing national strategies such as UKIERI or through a new targeted initiative.

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### Supply and demand in the international market

**2.14** No other country produces HE statistical data as comprehensively as the UK. The total size of the global market for international PGR students is thus uncertain: for example, UNESCO data does not disaggregate PG research degrees from PG taught master's programmes. We estimate that the total number of internationally mobile PGR students (on programmes outside their home country) could currently be up to 300,000. This implies a UK market share in excess of 16% – the highest for the UK at any level of international recruitment.

**2.15** 'Vision 2020' predicted an annual global growth rate of about 3.5% for international PGR students but this was a probably an underestimate.<sup>11</sup> It focused on the demand for study places but there is much less information on the provision of places across countries to meet this demand. UK supply issues were covered by the institutional questionnaire for this study and are reported in Chapter 6.

**2.16** Perhaps 40% of international PGR students remain in the UK after graduation to seek employment and this could increase with a more accommodating visa regime. There is also an approaching need for relatively large numbers of new staff to replace those retiring.

**2.17** A key question in this context is what drives the growth in PGR research student places in the UK. Given that their number has been increasing at more than 4% per year, some understanding of the drivers promoting this growth should inform future policies and strategies. We suggest the following sources of funding are among the drivers:

- investment at UK universities from the Research Councils, business and industry and government departments
- research investment from university funds
- UK scholarship sources
- overseas government and employer scholarships

**2.18** What is emerging in regard to the last item is that student recruitment is declining from those countries in which the majority of students have traditionally funded themselves. Future salary considerations are less of a motivation for PGR students than for others, for whom return on investment tends to be the dominant factor in deciding to study.

**2.19** The level of UK official scholarship funding is relatively stable and applies to fewer than 10% of international PGR students. This leaves two other options as possible drivers (in addition to the private demand from students):

- Funding from universities, either as part of research contracts from industry or government, Research Council funds, or own resources. The modest increases in official research funding cannot account for the growth in student numbers. Perhaps more institutions are investing their own resources to improve their research base.
- Funding from overseas governments and employers. Recent declines have been reversed as student flows from the Middle East have increased. The question is whether this is the start of a trend or merely a short-term response to visa difficulties in the US. Welcome developments include an increase in students from Malaysia following new investment from that government and continuing investment from Thai government and institutional sources.

**2.20** Demand for research places is also driven by privately funded students and their perceptions of future employment prospects. There is evidence of increasing demand for postgraduate researchers from UK employers such as GlaxoSmithKline, Morgan Stanley, PWC and the creative industries. GSK claims that 47% of their staff are qualified at postgraduate level. Universities provide recruitment opportunities for such companies.

**2.21** The relatively slower growth in the number of UK PGR students seems to indicate that fewer UK students perceive sufficient returns in future employment to warrant the costs of three years or more of postgraduate study.

**2.22** The Council for Industry and Higher Education (CIHE) argue that the need in the UK for more international PGR students applies to most disciplines,<sup>12</sup> not just STEM subjects. The CIHE also note the importance of a broad UK research base and interdisciplinary research skills. They commented that the growth of the UK service sectors over the last 20 years was underpinned by the availability of research-trained professionals:

*The growth of the service, creative and high technology-based sectors help explain why UK GDP per head has moved from last to third amongst the group of leading advanced countries... We should laud this achievement and seek to ensure it is sustained through developing the skills and supporting the research and development that has made this possible.*

**2.23** The Lisbon Strategy suggests that Europe needs 700,000 new researchers. Similar projections, for science, engineering and technology, were also identified by the OECD.

**3.1** This chapter seeks to illuminate the motivations, expectations, and experiences of international PGR students in the UK through analysis of International Student Barometer (ISB) data provided by the International Graduate Insight Group (i-graduate). The detailed survey results, included in Annex 1 to this report, can be accessed by UK stakeholders in the secure area of the UK HE International Unit's website: [www.international.ac.uk](http://www.international.ac.uk).

**3.2** The ISB data are based on responses from PGR students between 2005 and 2007 (one survey in 2005, three in 2006 and two in 2007). Responses relating to decision-making and the application process were collected in autumn 2005 and 2006. Analysis of learning and living experience is based on all six surveys.

**3.3** The ISB data incorporate responses from 31 research-led universities from the Russell Group and 1994 Group. A further 31 non-research-led institutions are also in the base group and despite being equal in number of institutions, their PGR student respondents total only 12% of the sample. As a result, overall responses in these data are biased towards the research-led universities. This would seem to reinforce the findings based on HESA data that a quarter of all international PGR students are registered at six universities, and the leading 20 UK universities account for about half of all international PGR students.

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#### ISB demographics

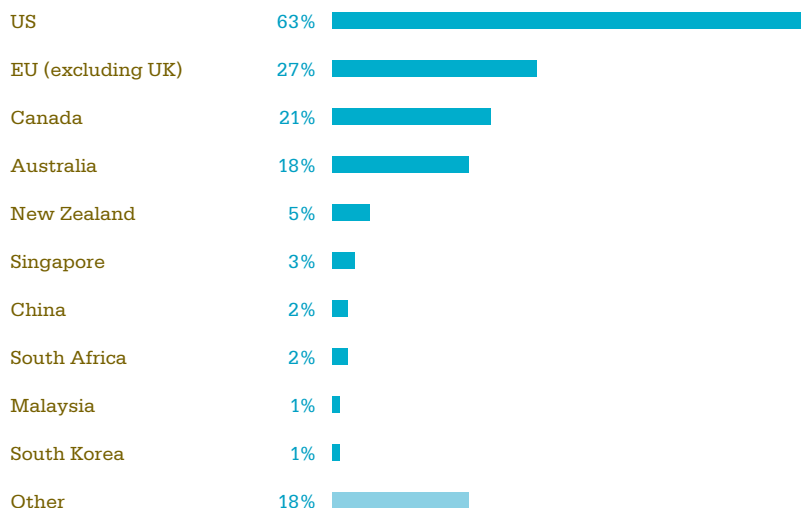
**3.4** The base data for this study comprise 19,317 student respondents, of which the largest national groups are Chinese (12%), Americans (7%), Germans (5%), Indians, Malaysians and Greeks (4% each) and Canadians, Thais and Taiwanese (3% each). The remainder are made up of more than 90 nationalities. This spread is broadly representative of the UK population of international PGR students.

**3.5** Engineering is the largest subject area represented (15%), followed by biological sciences (11%). Business, medicine and dentistry, and physical sciences represent 5% each of the response base. Comparing the main subject areas by nationality for the ISB respondents, it is notable that 45% of Chinese and Malaysian students are in engineering and technology, while Taiwanese researchers cluster in education.

**3.6** There is a very small bias towards male students (53% of the response base). However, the gender analysis by nationality demonstrates a more interesting picture. European countries are fairly gender-neutral, having roughly even numbers of male and female students. While North America demonstrates a female bias, China (58% male) and India (66% male) demonstrate a male bias. The notable Asian exceptions to this trend are Thailand (66% female) and Taiwan (57% female).

**Figure 1**  
**Other destination countries**  
**considered by international**  
**PGR students in the UK**

Source:  
i-graduate, ISB



### Application methods

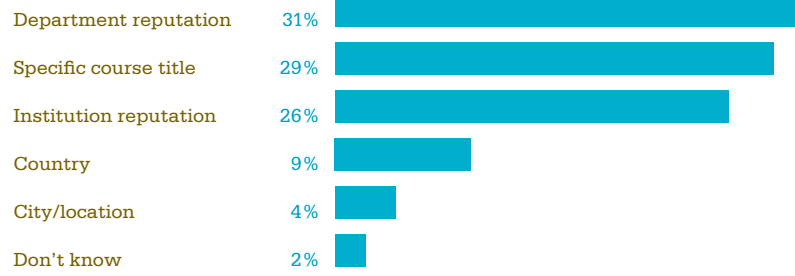
**3.7** The majority (56%) of international PGR students say they apply via paper applications to their university and 33% apply on-line. Clearly this ratio is likely to change quickly. Just 4% of students report they are recruited via education agents.

### Decision-making

**3.8** The UK is the first choice for 83% of the students surveyed and almost two-thirds (63%) say that they had considered the US as an alternative destination. Figure 1 indicates that after the US only other EU, Australia and Canada are major considerations.

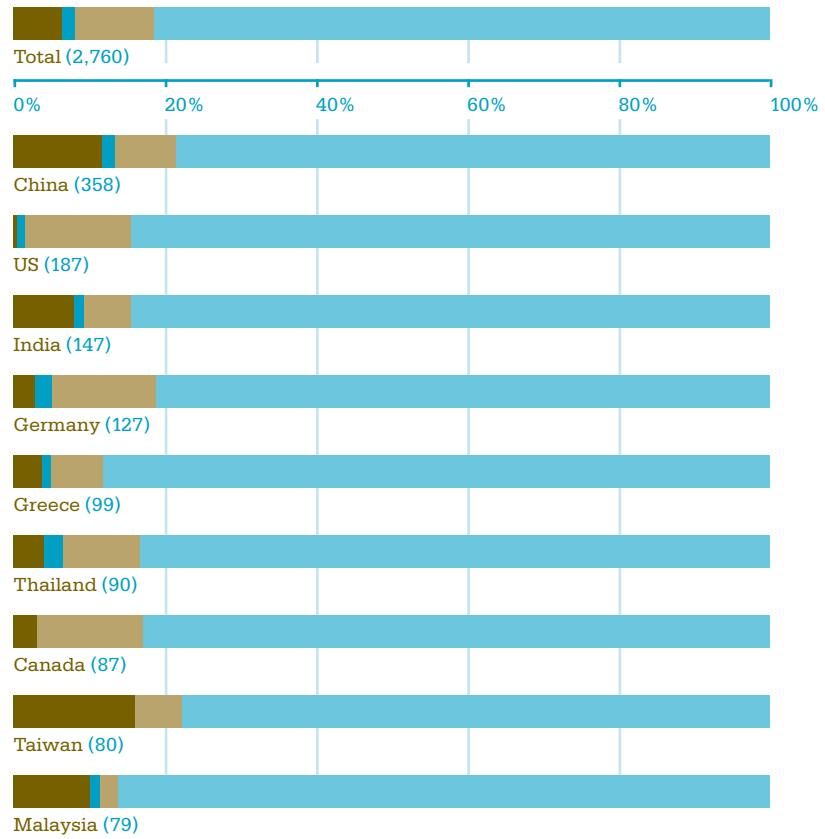
**3.9** Asian students dominate the group looking to the US while European students tend to favour another EU destination as second choice. Only Malaysian and Indian students express a significant interest in Australia.

**Figure 2**  
Major factors influencing the decision of an international PGR student to study in UK  
(n = 1,847)



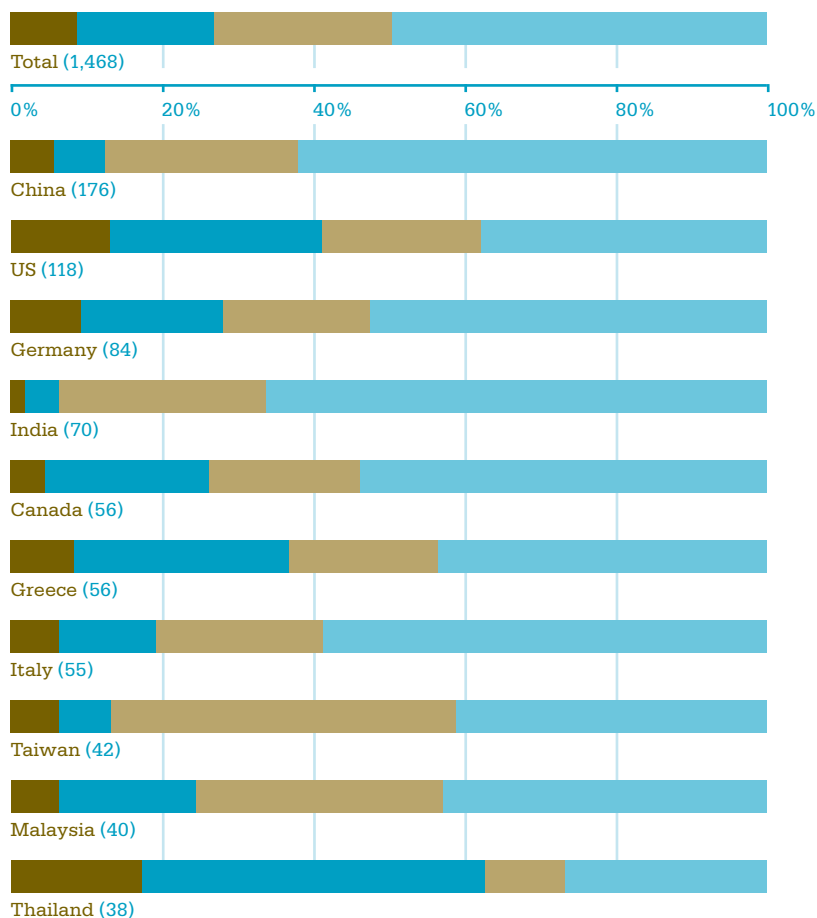
**Figure 3**  
Importance of research quality on influencing decision to study in UK, by source country

- Very unimportant
- Unimportant
- Important
- Very important



**Figure 4**  
**Importance of university scholarship or bursary on influencing decision to study in UK, by source country**

- Very unimportant
- Unimportant
- Important
- Very important



**3.10** The primary factors influencing choice of place of study are departmental and institutional reputation. Research and teaching quality of the department and university are also cited as major factors. These are demonstrated in Figure 2; from Figure 3 it is apparent that the primacy of quality and reputation is similar for all PGR students irrespective of nationality.

**3.11** 90% or more identify fee levels, the availability of scholarships and course duration as important (Figure 4), in particular by students from India, China, Taiwan and Italy. By subject, scholarships and bursaries are considered more important for students in medical and physical sciences and engineering. Most students from Thailand suggest that this was not a major concern for them. HESA data indicate that 51% of Thai PGR students in the UK receive some form of funding from their own country.

**3.12** Importantly, and as reported elsewhere in this report, students with funding resolved show the highest completion rates. Those with no financial backing have much (16%) lower completion rates.

**3.13** Nearly one-third of students applying for PGR programmes are already studying in the UK prior to commencing research; most of the remainder apply from their home countries.

**3.14**

About 20% of students say that a visit to their intended institution was a major influence in their decision to study there. The largest single influence is having previously studied at the university. This is most prominent in the arts, humanities, law and social sciences, and with students from North America and Europe. This comment by a postgraduate student suggests a link between prior study experience and access to funding:

*I would warn people wanting to apply of the severe difficulties in getting access to funding – particularly if the person has done his/her undergraduate in another institution. (Icelandic research student, social studies).*

**3.15**

It is worth recalling a HEFCE study on academic background and completion rates:

*Those with first-class degrees do best at PhD level whether they study their PhD at the same HEI or a different one. The completion rates for those who obtained their master's degrees are higher than for other classes of degree when students are studying at the same HEI. This is reversed when we look at students attending different HEIs for their PhDs where the higher rates exist amongst students with other classes of degree. Those with masters have the lowest completion rates, including those who did not qualify in the previous year.<sup>13</sup>*

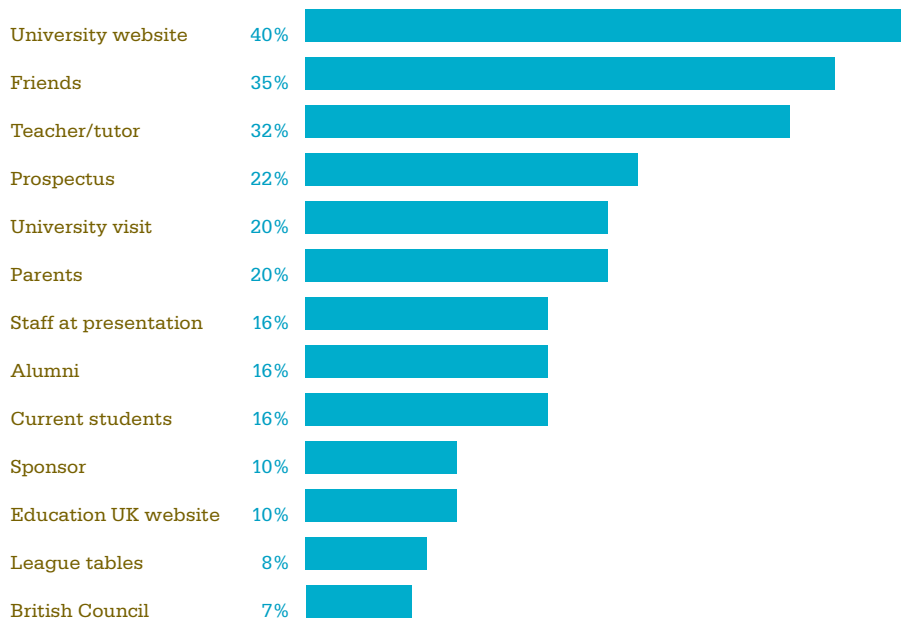
**3.16**

A key factor in assisting students to make decisions about study destinations and programmes is the manner in which they access appropriate information. Figure 5 indicates the major sources used: a logical mix of published material and personal influences. Overall, university websites are the most widely used source of information. However, personal recommendation is vital: teaching staff at a previous institution are identified as the single most important factor in a final decision (Figure 6). Presentations by visiting university staff and visits to prospective institutions also figure significantly. This would seem to indicate the importance of institutional collaboration to PGR student recruitment.

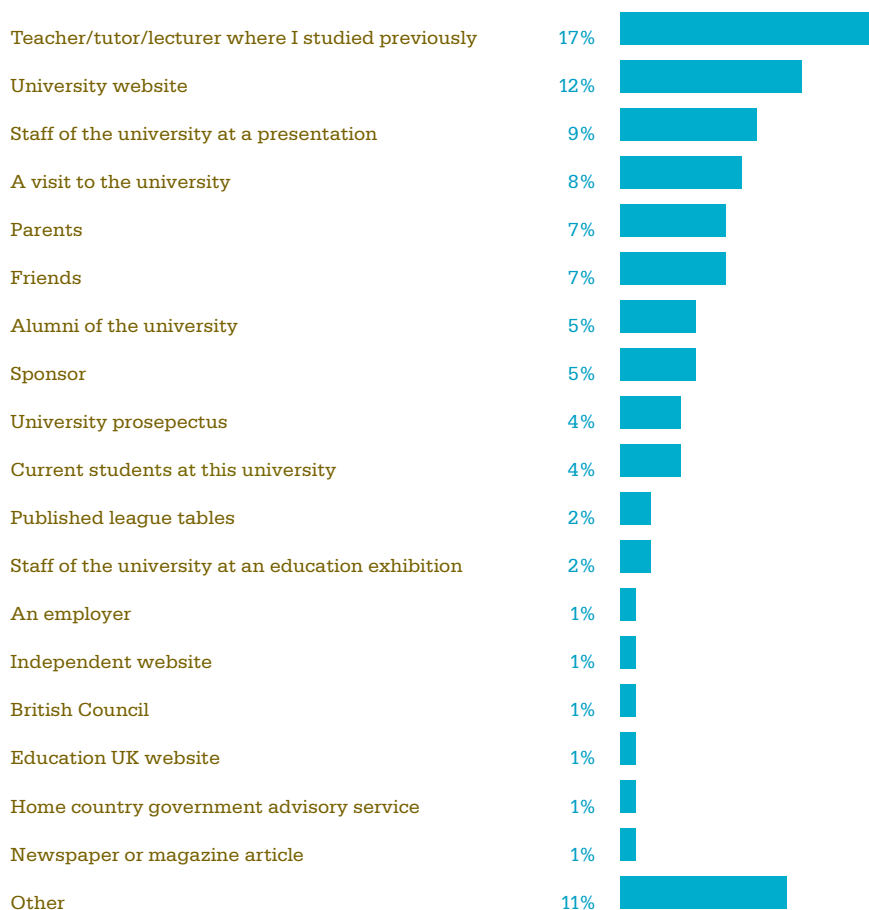
**3.17**

It should be noted that differences occur between nationalities. For example, university websites are the most important source for more students from India and Thailand. The most notable variation in influences by subject area are in business and management-related topics; these students report a broader spread of influences on their choice of programme and are less swayed by personal recommendation. For these PGR students, university and independent websites feature strongly. University league tables also feature but are mentioned by only 8% of respondents.

**Figure 5**  
**Main information sources for international PGR students when choosing where to study**  
 (n = 2,799)



**Figure 6**  
**Most important information source for PGR study**  
 (n = 1,796)



**Figure 7**  
Relative importance ratings  
for key factors associated  
with learning experience

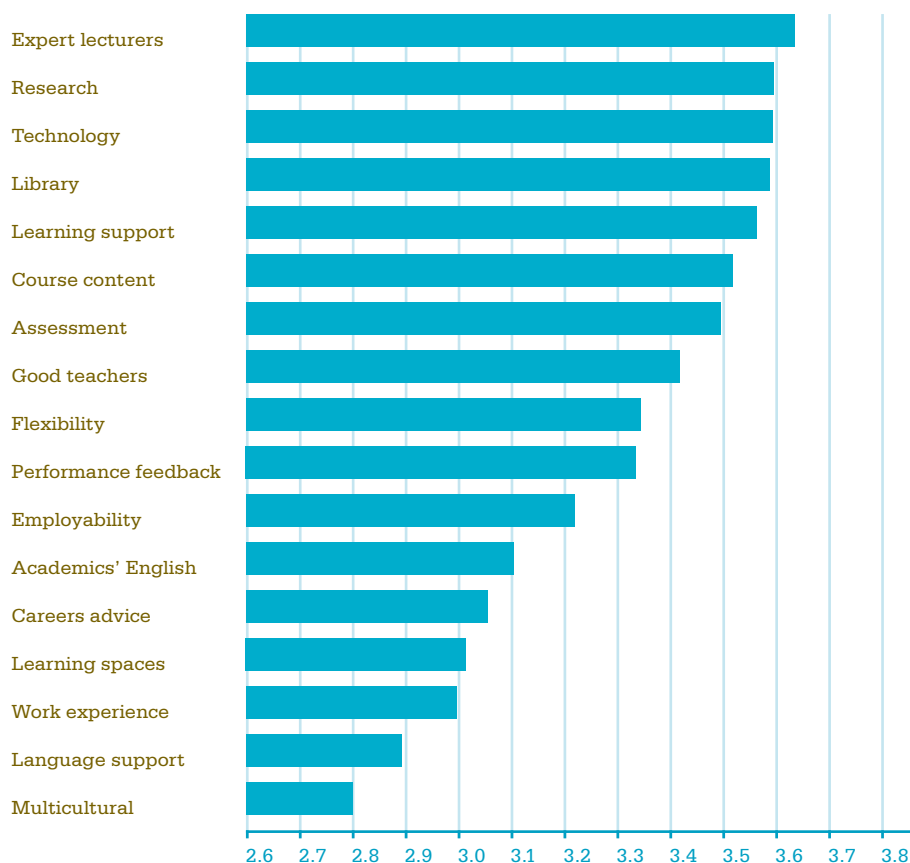
1 = Very unimportant

2 = Unimportant

3 = Important

4 = Very important

(n = 15,797)



### The learning experience

3.18

Figure 7 indicates areas of the learning experience deemed to be most important. Again expertise in research is rated as extremely important. The nature of the research project (identified as 'course content'), technology, library services and supervision (labelled as 'learning support') and assessment processes are also considered vital.

3.19

Language support and the availability of learning spaces are not considered to have a significant importance. Work opportunities and the provision of career-related support, however, are important. Indian, Chinese and Greek respondents think careers advice and work experience is a highly important element for inclusion in their programme, even though they have the least previous employment experience. For countries including Thailand, Taiwan and the US, where larger proportions of respondents have five or more years of employment experience prior to commencing PGR study, students are more reserved toward careers advice and work experience. This has resonance with the concerns expressed by students and sponsors over value for money, which is generally perceived as greater when studies are closely connected to employment outcomes.

**Figure 8**  
**Relative importance ratings**  
**for key factors associated with**  
**learning experience**

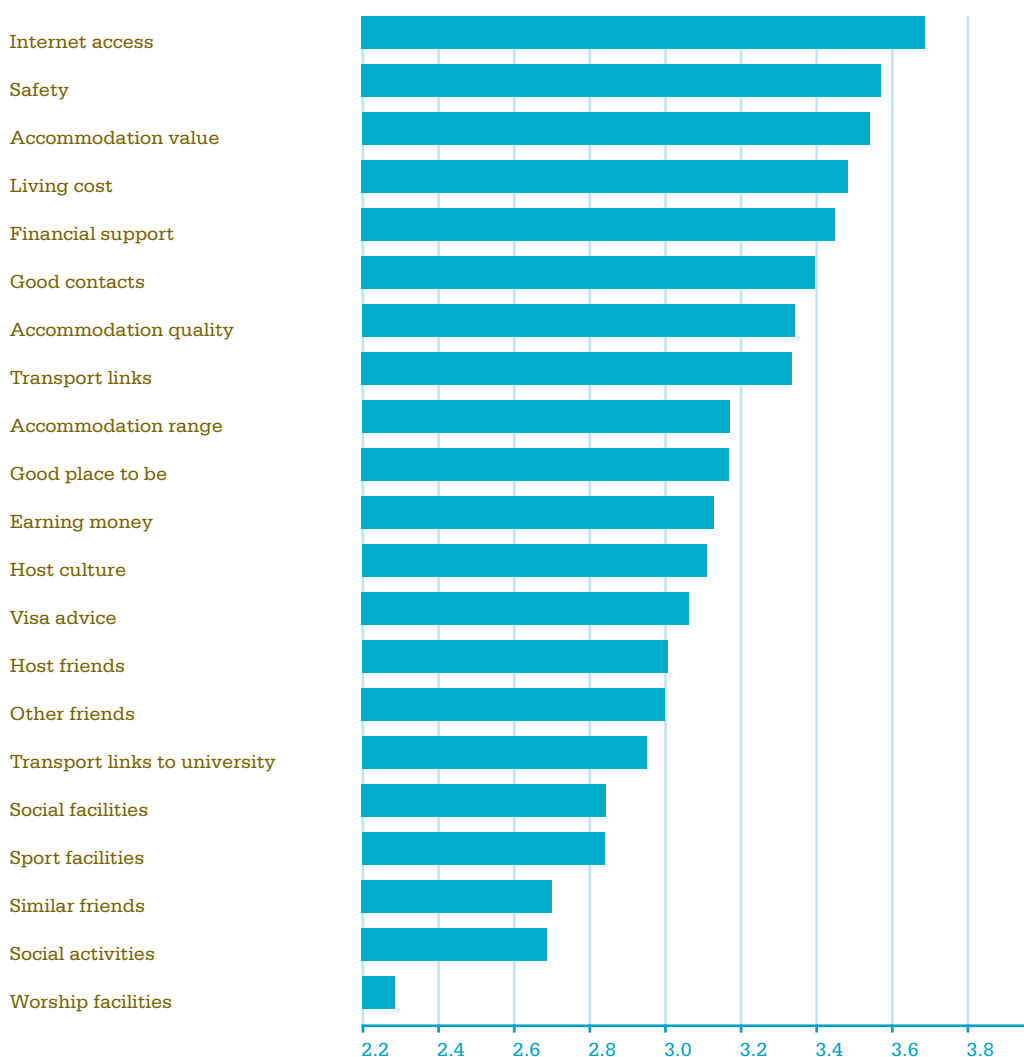
1 = Very unimportant

2 = Unimportant

3 = Important

4 = Very important

(n = 15,402)

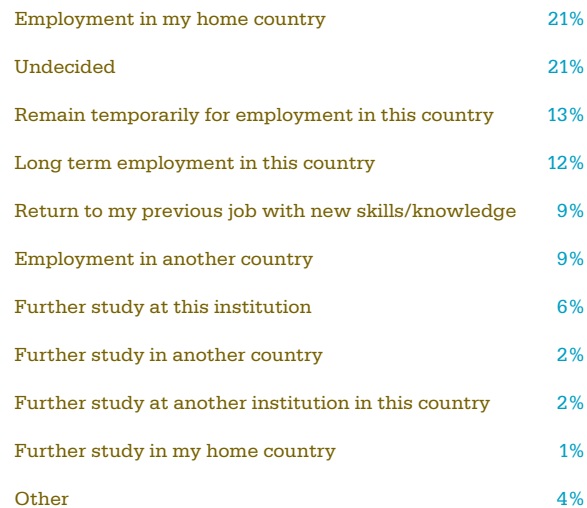


### The living experience

#### 3.20

Access to the internet is considered to be the most important criterion in the UK living experience for international PGR students. Safety and security are also identified as priority concerns. Next comes the cost of living, including accommodation and the availability of financial support. The ability to earn money, although important, is not as highly rated as concerns around living costs. The main importance ratings are detailed in Figure 8.

**Figure 9**  
**Career and destination**  
**intentions on completion**  
**of studies**  
 (n = 3,998)



**Figure 10**  
**Comparison of attitudes and**  
**aspirations between**  
**international undergraduate and**  
**PGR students in the UK**

■ Research postgraduates  
 (n=3,984)

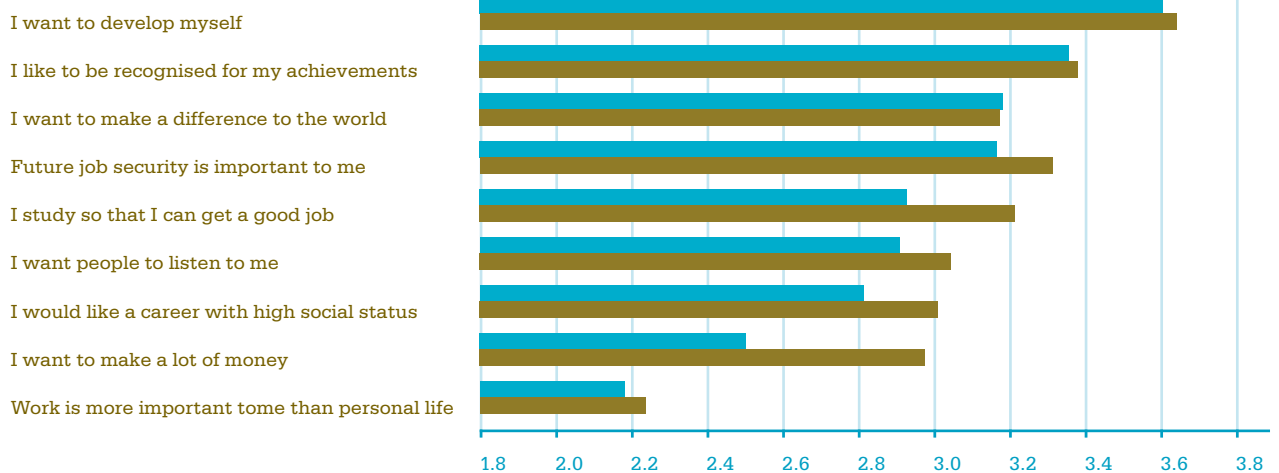
■ Undergraduates  
 (n=9,900)

1 = Disagree strongly

2 = Disagree

3 = Agree

4 = Agree strongly



**3.21** Analysis by country of origin reveals an interesting feature on the availability of organised social activities. German, American and Canadian students do not place as much importance on their availability as Asian students – some 75% of Indian students regard social activities as important. UK universities now show greater recognition of the importance of the total student experience and associated student support. Further research on this is being funded through the PMI2 initiative.

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### **Career intentions**

**3.22** Although the single largest group of respondents report that they intend to return to their own countries on completion (Figure 9), other responses taken together show that a majority intend to remain in the UK for either temporary or long-term employment or for further studies at the same university or another. Given the recent relaxing of restrictions on post-study employment in the UK, it is expected that this group will increase significantly in the future.

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### **Attitudes and aspirations**

**3.23** International PGR students have more nuanced opinions than international students at other levels of study. Figure 10 clearly illustrates that financial rewards and high social status are less sought among PGR students. For both PGR and undergraduate students, personal development ambitions dominate and most are also clear that they aspire to recognition for achievements.

**3.24** Annex 1 provides more information on variances of aspiration and attitude between nationality groups. However there is one feature common to all: nearly 90% of international PGR students said that they 'wanted to make a difference to the world'. Chinese students appear to be more financially focused, with almost 80% indicating that future income enhancement is a key motivator for studies; Malaysian (68%) and Thai (60%) students report similarly. Malaysian PGR students are more motivated by job security and Germans the least.

**3.25** It should be noted that while around half of Indian and Chinese students indicate that work is more important to them than social life, this means that half *do not*, and prefer a better work-life balance.

**Figure 11**  
**Relative attractiveness of**  
**country destinations favoured**  
**by international PGR students**

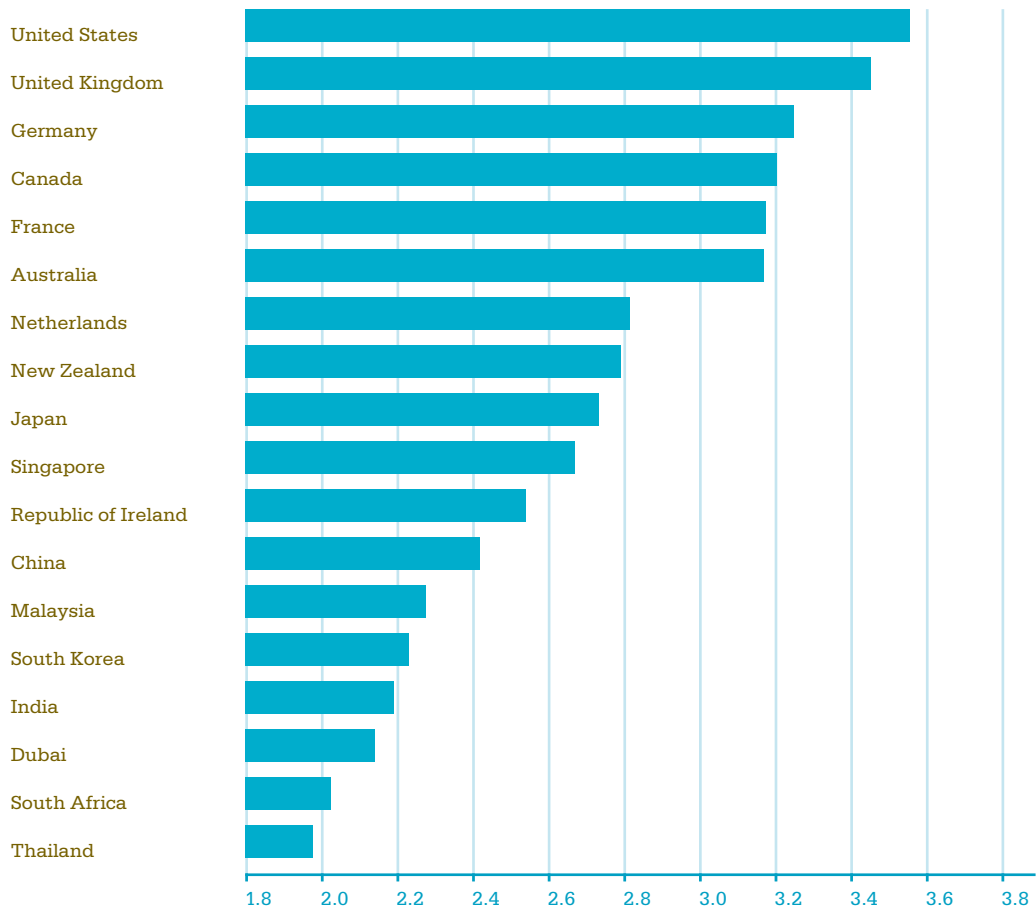
(n = 1,348)

1 = Very unattractive

2 = Unattractive

3 = Attractive

4 = Very attractive



## Student motivations for international study: competitor analysis

### 3.26

The use of the *StudentPulse*<sup>TM</sup> database allows comparisons of international PGR students by intended country of study. The largest cohort of students in this sample are from China (30%) and 22% from India. Also well-represented are students from Pakistan, Indonesia, Philippines, Bangladesh, Iran, Malaysia, Sri Lanka, Vietnam and Nigeria. Data collection points were between October 2007 and January 2008.

### 3.27

Students intending to study in the UK and Australia are over-represented in the sample, which produces a slight bias toward the UK and Australia as study destinations. To correct for this bias, the sample is weighted with the question: 'Which country do you think you are most likely to end up studying in?' The weighting factor applied is the global market share for international students for each country. This share is based on the OECD 'Education at a Glance' (2007) publication and the IIE 'Atlas of Student Mobility'.<sup>14</sup>

### 3.28

As is well known, the UK is second only to the US as the preferred destination for international PGR students (Figure 11). However, Germany, Canada, France and Australia are also highly rated.

### 3.29

Assessing each main factor that might influence an intending PGR student (see also Annex 1), the following perceptions were identified:

#### ■ Cost

The UK is considered by far to be the most expensive study destination, followed by the US and Australia. Germany is perceived as significantly cheaper.

#### ■ Reputation of qualification

Figure 12 indicates that the US, UK and Germany are perceived to have high-quality qualifications. Qualifications from Australia, Japan and the Netherlands are rated lower. Some of the 'newer' countries seeking to attract students (Malaysia, China, Singapore, Dubai) are perceived as having a much lower reputation. Surprisingly, Irish qualifications are rated below those of Singapore.

#### ■ Safety

The UK is perceived as a safe destination country, marginally behind Canada, Australia and Germany, but on par with France and New Zealand. The US, Japan and Ireland are all seen as much less safe, and India, Malaysia and Dubai are considerably behind most other countries considered.

#### ■ Visa acquisition and future employment

The US and UK are seen to be very difficult when it comes to obtaining a student visa. Most other destination countries included are considered as similar in ease. For long-term employment following studies, however, the US ranks much higher and the UK is worst. Australia, New Zealand and Canada are seen as being most likely to offer opportunities for employment following studies.

**Figure 12**  
**International PGR students –**  
**relative perceptions of the**  
**reputation of the formal**  
**qualification, by country**

(n = 1,156)

1 = Very poor

2 = Poor

3 = Good

4 = Very good



The majority of international PGR students already in the UK express an intention to remain following completion of their programmes. Unfortunately, there is no data to indicate how many actually manage to remain for employment. Among students trying to decide on a future country destination, there remains a strong perception that it is very difficult to stay in the UK for post-study employment.

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**3.30**

Together, the insights in this chapter paint a picture of what matters to international PGR students. The important message is not the generic image but the vast palette of differences between nationalities, within nationalities and across disciplines.

## Overall trends

- 4.1** This chapter seeks to provide understanding of the patterns of supply and demand in the market for international PGR students by analysing recent trends in recruitment and evidence of likely future demand. This will facilitate efforts to develop recruitment strategies at national and institutional levels. The analysis in this chapter is based on UK and international data, and the reader is referred to Annex 2 on the International Unit website for more detailed figures and data tabulations.
- 4.2** The success story is that international PGR student recruitment to the UK has experienced a compound annual growth of 4.6% for the last four years (see Table 3). Of particular note is that the 7.7% increase between 2005–06 and 2006–07 was the greatest for many years. The question must be whether this acceleration will be sustained. Past evidence indicates that a compound annual growth rate of around 4% is rather to be expected.
- 4.3** While overall a 4.6% rate of growth is very good, there are major grounds for concern when more detailed analysis of country and subject-specific data are reviewed. These are discussed below.
- 4.4** The overall trends are illustrated in Figures 13 and 14. The evidence is that there has been steady growth in recruitment from key countries. However, these data highlight a number of other important features. The continued growth from the US, most EU member states, Thailand and India is to be welcomed, as is the new growth from Pakistan and across the Middle East, particularly Saudi Arabia, Libya and Iran. The post-2004 relatively sharp rise in students from the Middle East may be correlated with the post-9/11 declines from these countries to the US, given that there is a time lag for events to have full impact.<sup>15</sup> But there have also been some notable longer-term declines in new UK enrolments, particularly from Greece (–3.8% per year), Malaysia (–2.8%), Japan (–7.3%), Hong Kong (–12%), Korea (–3.8%) and more recently China.
- 4.5** Over the last four years China alone has provided some 2,300 of the 8,300 (28%) additional international PGR students in the UK. However, new HESA data, for 2006–07 (released in May 2008), indicate that new PGR student enrolments from China declined. In contrast, an ongoing decline in recruitment from Malaysia over recent years turned to positive growth in 2006–07. Even so, the last four years cumulatively show a negative growth rate of –2.8% per year.
- 4.6** A very large concern is that a quarter of all international PGR students in UK come from just three countries and about one-third from only six countries: China, US, Greece, Germany, Malaysia and India. A positive aspect of these new data is that there has been some diversification in the country spread and disciplines. There has been growth in most subject areas, particularly for medical and biological sciences.

**Table 3**  
**International PGR students at**  
**UK HE institutions, full-time and**  
**part-time, by source countries**  
**(2006–07) and compound annual**  
**change since 2002–03**

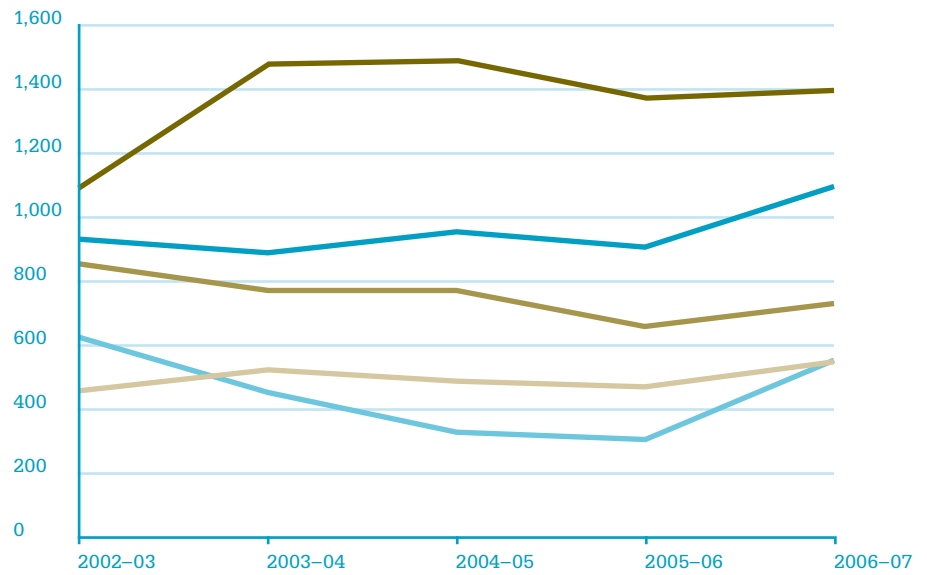
Source:  
HESA, 2006–07

	2006–07				Compound annual change since 2002–03 (%)
	Full-time	Part-time	% PT	Total	
<b>Total</b>	<b>31,180</b>	<b>19,185</b>	<b>38.1</b>	<b>50,365</b>	<b>4.6</b>
Greece	1,635	1,435	46.7	3,070	-1.0
China	3,615	1,550	30.0	5,160	16.5
United States	2,040	1,435	41.3	3,475	5.9
Malaysia	1,215	660	35.2	1,875	-2.0
Germany	1,615	905	35.9	2,520	5.6
Italy	1,120	725	39.3	1,845	3.2
France	870	470	35.1	1,340	-0.1
India	1,225	755	38.2	1,975	12.7
Ireland	565	670	54.3	1,235	1.3
Canada	730	365	28.1	1,300	3.6
Taiwan	810	455	36.0	1,265	4.2
Japan	390	435	52.7	825	-5.4
Mexico	520	360	40.9	880	-0.8
Hong Kong	255	465	64.6	720	-5.0
Spain	515	335	39.4	850	-0.7
South Korea	510	350	40.7	860	-0.4
Thailand	850	305	26.4	1,155	7.8
Saudi Arabia	700	290	29.1	995	6.4
Portugal	570	290	33.9	855	4.2
Iran	470	280	37.3	750	2.6
Singapore	250	245	49.5	495	-3.9

**Figure 13**  
**Number of first-year enrolments on PGR programmes from leading source countries, 2002-03 to 2006-07**

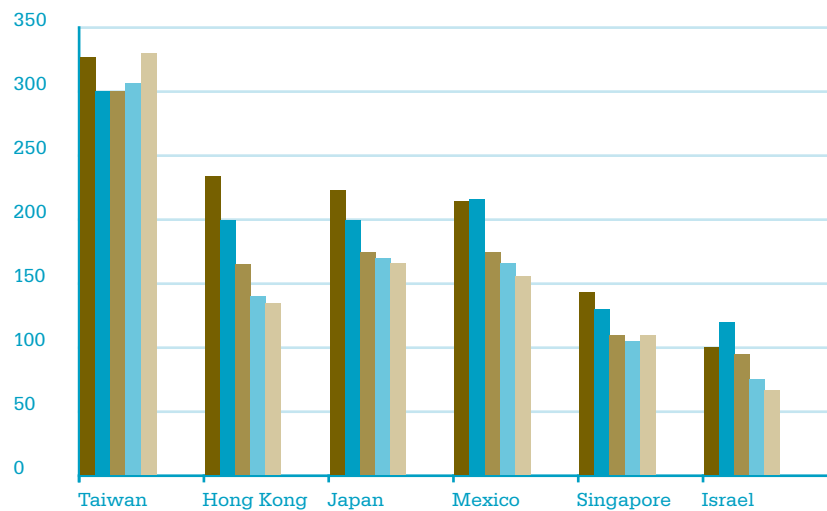
Source:  
HESA

- China
- US
- Greece
- Malaysia
- India



**Figure 14**  
**Number of first-year enrolments on PGR programmes from source countries experiencing declines, 2002-03 to 2006-07**

- 2002-03
- 2003-04
- 2004-05
- 2005-06
- 2006-07



4.7

EU students account for nearly one-third of all PGR students in the UK with over half of these coming from just Greece, Germany and France. The continuing decline in Greek PGR students, particularly in science and technology related disciplines, is therefore of concern. Good and noteworthy is the significant new growth in numbers from some of the new EU member states – led by Poland (up 45% in 2006–07) and Cyprus – albeit from a smaller base. Although numbers from Romania and Bulgaria declined for the four years to 2006–07, it is to be anticipated that EU membership will boost enrolments.

4.8

Table 1 (see p7) indicates that international PGR students in UK HE institutions constitute 13.7% of the total of all international students in UK HE. PGR + postgraduate taught students comprise about half of all international students. This proportion is similar to that in the US but significantly greater than that in Australia, where undergraduate recruitment dominates.

4.9

The HESA data for 2006–07 indicate the highest annual growth recorded for international PGR recruitment to the UK for many years. This growth is well ahead of earlier projections. As for possible reasons, the evidence points to a degree of under-reporting of numbers in previous years. University representatives indicated in discussions that collecting and reporting data to HESA has become more meticulous. They are increasingly aware that results are publicised nationally and provide indication of the successes, or otherwise, of each institution. This was particularly important for PGR students, given the recent focus on institutional research activities.

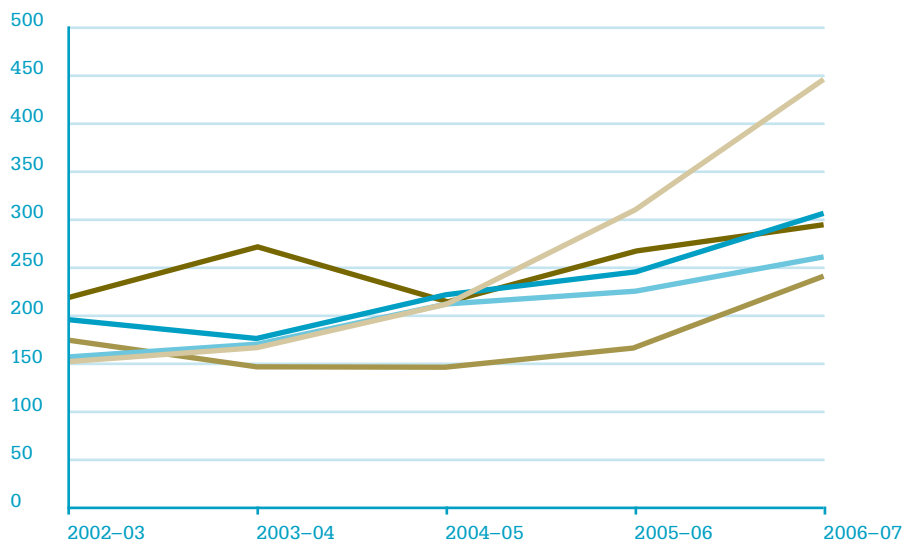
4.10

Compared with other levels of study for UK degrees, there are few opportunities for international students to pursue UK PGR programmes in their own countries; only 2.3% are on such programmes. In comparison, 25% of international PGT students on UK programmes are doing them in other countries.

**Figure 15**  
Number of first-year student enrolments on PGR programmes from source countries experiencing new growth, 2002–03 to 2006–07

Source:  
HESA

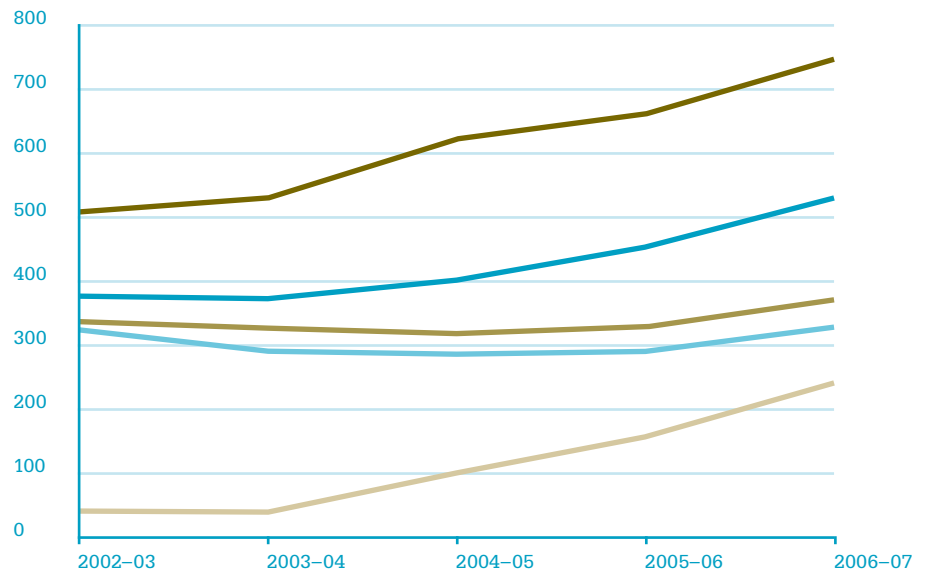
- Thailand
- Saudi Arabia
- Iran
- Nigeria
- Pakistan



**Figure 16**  
**Number of first-year student enrolments on PGR programmes from selected EU countries, 2002-03 to 2006-07**

Source:  
HESA

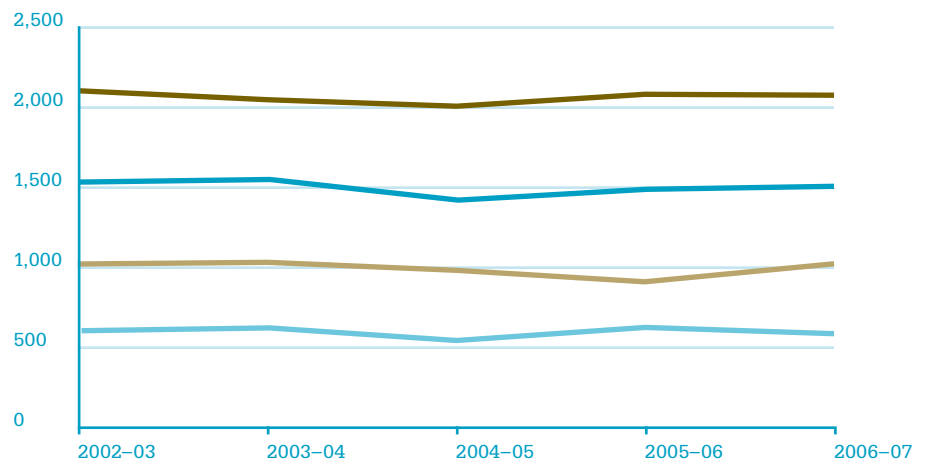
- Germany
- Italy
- France
- Ireland
- Poland



**Figure 17**  
**Number of first-year UK PGR student enrolments by selected subject areas, 2002-03 to 2006-07**

Source:  
HESA

- Physical sciences
- Engineering and technology
- Maths and computing
- Business and management



**4.11** Table 3 shows that 38% of international PGR students are part-time. While it might have been expected that EU students would dominate this mode of study (because of freedom of access to UK employment), this is not the case. Indeed, non-EU students make up the larger proportion of part-time study. And this is not confined to those who might be funding their own studies. For example, significant proportions of Mexican, Malaysian, Saudi and Thai students are reported as part time, yet these are countries from which a large proportion of students receive funding from government or employers. This further indicates the tendency of international students to seek flexible approaches to generate funds to support their studies. This is explored in more detail in Chapter 5 in the context of a UK national strategy for international PGR students.

**4.12** The HESA and ISB data both confirm the importance of previous study in the UK. They indicate that, on average, about 40% of first-year international PGR students studied in the UK prior to commencing PGR programmes.

**4.13** While the 'previous study' factor is about 40% for almost all countries, there are variations:

- the largest groups of international PGR students reporting prior study in UK are those from China (68%), Nigeria (62%), and Japan (62%)
- EU PGR students reporting the highest level of prior study in the UK are from Cyprus (75%), Greece (71%) and Ireland (67%)
- less likely to have been in the UK for prior study are PGR students from Pakistan (46%), Brazil (36%) and Egypt (30%)

The importance of promotion to students already on undergraduate or postgraduate taught programmes in the UK cannot be overstated.

**4.14** By comparing international PGR and PGT numbers, it is apparent that there is an under-representation of PGR students from Cyprus, Ghana, India, Pakistan and Nigeria. This has implications for targeting for PGR recruitment, particularly as total international student numbers from these countries have been growing significantly in recent years.

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### **Comparison of UK and international PGR research students**

**4.15** The rate of increase in international PGR students in the UK has been greater than that for UK students. In 2006–07, international students comprised 42.4% of the total UK PGR student population of 118,905 (Table 4). Recruitment of new international PGR students had a compound annual growth rate of about 4.3%, while UK PGR recruitment to 2005–06 grew at less than 1% annually. This accelerated to 2.5% in 2006–07 but see again the note on 2006–07 HESA data in paragraph 4.9.

**4.16** There should be concern over the declining interest among UK PGR students in STEM subjects. While the decline is only about 1% annually in enrolments, it is now a consistent trend over a number of years (see Figure 17).

**Table 4**  
International and domestic  
PGR students in the UK

	2004–05	2005–06	2006–07
<b>Total international</b>	<b>45,515</b>	<b>46,770</b>	<b>50,365</b>
Total domestic	66,580	67,070	68,540
Total	112,095	113,840	118,905
<b>% international</b>	<b>40.6</b>	<b>41.1</b>	<b>42.4</b>

**4.17** While the proportion of international PGR students in UK is about 42% of total PGR numbers, in some key disciplines international students form the majority:

- law (59%)
- business and management (58%)
- engineering and technology (58%)
- architecture and building (58%)
- social sciences (53%)
- mathematics and computing (53%)

**4.18** There is consequently a high and increasing dependence on international recruitment in these subjects. The UK is accordingly vulnerable to changes in the global PGR market. Recent data indicate a declining interest even among international students in engineering and technology. See Annex 2.

**4.19** More positively, there is a recent increase in the number of UK students pursuing research degrees in the social sciences, arts and humanities, biosciences and medicine and related topics.

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### Subject areas

**4.20** Table 5 illustrates the dominance of science and engineering with international PGR students; some 54% of international PGR students are in these categories. For new enrolments, this proportion increased to 59% in 2006–07. Over the last four years, growth has been noticeable in medicine and related disciplines, biosciences, mathematics and computing, business and management, and mass communications.

**4.21** There has also been negative growth in agriculture and veterinary sciences. This may well be a consequence of the reduction in support from development assistance agencies for postgraduate study; the pattern is also observed in the PGT trends. Furthermore, international PGR students in law have declined in number over the period, while the number on taught master's remains steady.

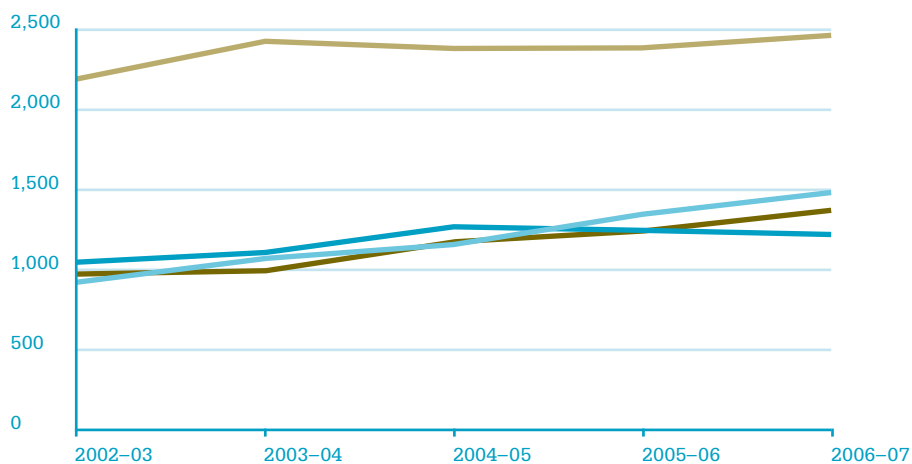
**Table 5**  
**Main subject areas for**  
**international PGR students in**  
**the UK, 2002–03 and 2006–07**

Source:  
HESA

	2002–03	2006–07	% of students in 2006–07	Compound annual growth (%)
<b>Totals</b>	<b>42,060</b>	<b>50,365</b>	<b>100.0</b>	<b>4.6</b>
Engineering and technology	7,725	8,780	17.4	3.2
Social studies	4,830	5,855	11.6	4.9
Physical sciences	3,765	4,585	9.1	5.1
Maths and computing	3,190	4,400	8.7	8.3
Biological sciences	3,325	4,360	8.7	7.0
Management and business	2,755	3,495	6.9	6.1
History, philosophy etc	2,775	3,255	6.5	4.1
Education	2,510	2,815	5.6	2.8
Medicine, dentistry	1,835	2,720	5.4	10.4
Languages, area studies etc	3,030	3,300	6.6	2.2
Others related to medicine	1,565	1,985	3.9	6.1
Law	1,485	1,410	2.8	-1.1
Architecture, building and planning	975	1,155	2.3	4.4
Creative arts, design	1,150	1,205	2.4	1.1
Agriculture and veterinary sciences	830	555	1.1	-9.6
Mass communications and documentation	325	485	1.0	10.6

**Figure 18**  
**Number of new enrolments**  
**of international PGR students**  
**by subject area, 2002–03**  
**to 2006–07**

- Physical sciences
- Maths and computing
- Engineering and technology
- Medicine and related



- 4.22** A slightly different picture is revealed when new enrolments are isolated. From these data it is apparent that the very strong rate of growth in recruitment to medicine-related disciplines (a compound annual growth of 12.5%) and biosciences is likely to continue. Of particular note, however, is that over the last two years new enrolments in mathematics and computing have declined slightly while engineering and technology enrolments have increased at a lower-than-average compound rate of 2.9% per year. These trends are illustrated in Figure 18.
- 4.23** To assess possible over-dependence on few countries, it is worth analysing key subject areas according to the main source countries for international students. This will have implications for future strategy formulation.
- 4.24** One-third of international PGR students in the UK are in engineering, maths, computing and physical sciences. The majority of these originate in a small number of countries. Half of all students from China, Malaysia and France are in these subject areas. The recent decline in recruitment from China is therefore likely to impact on these subjects in particular.
- 4.25** Nearly 40% of international students in mathematics and computing originate from only six countries: China, Greece, Germany, India, Malaysia and Saudi Arabia. Chinese students dominate the number in physical sciences but it is also the top choice for French students in the UK. Strikingly, for international students in the physical sciences, five out of the top six source countries for PGR students are EU members (France, Germany, Italy, Spain and Greece).
- 4.26** While a modest proportion of US students come to the UK to study physical sciences, the numbers are even lower for mathematics and computing and smaller still for engineering.<sup>16</sup> This may represent a recruitment opportunity unless it reflects a decline in demand for the subjects by US students more generally, even at home.
- 4.27** The compound growth rate for new engineering and technology PGR student recruitment is only 3% annually. If Chinese students are not included, a real problem becomes apparent, as the growth rate collapses to less than 1%. The new decline in Chinese enrolments could have a direct impact on engineering and technology research. However, the reversal of decline in Malaysian student enrolments and good growth from India and Pakistan could counter this trend.
- 4.28** An over-dependence on Chinese, Greek and Malaysian student recruitment for engineering research is apparent. Diversification of source countries is desirable and there needs to be real effort to effect this.
- 4.29** Medical and related sciences account for some 4,700 or about 9.3% of international PGR students in the UK. The annual compound growth rate is a hefty 10.4%. In biosciences, growth has also been strong at 7% annually. These subjects generally have the highest tuition fees and there is also the possibility of associated bench fees.

- 4.30** Medical science students are recruited from a broader mix of source countries than others. Given the successes in these areas, and their importance to the UK, it is worth exploring whether recruitment might be expanded from the current source countries as well as grown in others.
- 4.31** About 5,850 international research students are in the social sciences (12% of the total), within which economics and politics account for nearly 60% of enrolments. About 40% of social science students come from just seven countries: the US, Italy, Germany, China, Greece, Canada and Japan. The US and Italy are the dominant source countries. Americans constitute more than 10% – a significant proportion – and the US is by far the most important in politics.
- 4.32** Business and management total 3,500 international PGR students and the disciplines have had good annual growth of about 6.1%. New UK domestic admissions have been in decline, as has recruitment from Japan, Singapore, Spain and Hong Kong. But this has been more than compensated for by the large growth from China and from Greece, Thailand, Germany, Pakistan and Nigeria. From within the EU there is no discernable pattern: enrolments from Germany, Greece, Cyprus and France have increased and Portugal, Ireland, Spain and Netherlands registered decreases.
- 4.33** There has been modest growth in history and philosophy, driven in particular by strengthening demand from the US and Canada. Almost 40% of PGR students in these subjects come from North America. This is part of a more general trend by which the arts, humanities and classics tend to attract proportionally more students from wealthy countries.
- 4.34** While over-dependence on two countries is undesirable, the increases have been spread across many more countries. Japan's share in history and philosophy actually increased, which contrasts sharply with the decline in Japanese student recruitment in all other subjects.
- 4.35** In languages and classics, English-language studies account for more than half of students and linguistics about 30%. Americans constitute 17% of PGR students in these disciplines. Recruitment patterns for linguistics and classics have similarity in terms of country spread. Just over 50% of students come from the US, Greece, Japan, Taiwan, Canada and Germany. There has been only modest growth in these subjects over the last four years, at about 1% annually. There has been a significant decline in the number of students recruited from Japan.

**4.36** The source-country spread for recruitment in education and related subjects is strikingly different: the two main source countries are Hong Kong and Israel. This is almost certainly a result of several UK universities offering in-country learning opportunities in education (including professional doctorates) in both countries. Compound annual growth in PGR recruitment is now only 1% and, given that the rate for UK students in education is only 2.6%, opportunities for significant future growth in education seem limited.

**4.37** Education is also distinct because few international students are able to meet study costs from personal funds: most professional educationalists (particularly teachers and teacher educators) are employed in some way by government organisations and/or educational institutions. Given that few countries pay their teachers and lecturers at a level that might allow them personally to fund their studies in the UK, they either need scholarships or lower-cost and flexibly delivered programmes in-country that allow them to continue working.

**4.38** The point has already been made that market diversification for international PGR students is essential. The subject areas most in need of this are engineering, mathematics and computing, management and the humanities. While it is difficult to name a figure that constitutes 'dependence' on a single source country, we suggest that anything over 20% should give rise to concern. Above this point, initiatives for source-country diversification should be developed.

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### **Comparative recruitment activities of UK universities**

**4.39** The dominance of the research-led universities in attracting international PGR students is inevitable (see Table 6). The research-led Russell Group of 20 universities accounts for more than half of all international PGR students. A quarter of them are at only six of these universities.

**4.40** A more detailed analysis of source countries for these leading institutions reveals some interesting patterns:

- China is the lead source country for half of these research universities and it provides an ever larger proportion of students for non-Russell Group universities.
- Oxford and Cambridge are similar in their source-country mix for recruitment but have a very different pattern compared with other UK universities. The top six source countries for Oxford and Cambridge are, in order, the US, Germany, China, Canada, Australia and Greece (and these account for 45% of their international PGR students). Of the other UK universities only Edinburgh and the LSE have an approximately similar country profile for recruitment.
- These universities have a relatively diverse spread of source countries, ie fewer than 20% of students from any one country; none appears to be over-dependent on one country.
- Nottingham has significantly more PGR students from China and Malaysia than any other UK university. This probably reflects the fact that Nottingham has campuses in both countries.
- Bristol and Leicester are much more successful at recruiting from Hong Kong than other universities. This is perhaps because of the education programmes they offer there.

**Table 6**  
**UK universities with the most**  
**international PGR students,**  
**2005–06**

Source:  
HESA, 2005–06

University	46,770	% of total
University of Cambridge	3,230	6.9
University of Oxford	2,650	5.7
University of Manchester	1,880	4.0
University of Nottingham	1,665	3.6
University of Birmingham	1,360	2.9
University of Edinburgh	1,210	2.6
Newcastle University	1,140	2.4
University of Sheffield	1,125	2.4
University College London	1,040	2.2
Imperial College	1,030	2.2
University of Leeds	1,025	2.2
University of Bristol	1,010	2.2
University of Southampton	955	2.0
London School of Economics	885	1.9
King's College London	835	1.8
University of Warwick	835	1.8
University of Essex	805	1.7
University of Leicester	774	1.7
Loughborough University	745	1.6
Cardiff University	720	1.5

#### 4.41

UK achievements are, to a large extent, a consequence of the successes of a small number of universities in a limited number of countries. Eighteen universities receive half of all international PGR students, drawn from 10 countries. If international PGR student numbers are to expand, the number of universities as active players probably needs to increase. This will require a more pro-active national strategy that includes smaller and more specialist institutions operating in niche areas.

### Costs, benefits and prices

- 5.1** Understanding the ways in which international PGR students are financed is crucial. Given the support on offer in competitor countries, funding packages in the UK need to be as generous and imaginative as possible in order to attract the best international doctoral candidates. This chapter addresses funding through analysis of data on financing, surveys and the various awards available in the UK. Funding arrangements in other countries are discussed in Chapter 7.
- 5.2** The total cost of a programme for international PGR students comprises tuition fees (plus bench fees if relevant), living costs, opportunity costs associated with loss of employment in the home country and possible additional costs for accompanying dependants. Significant non-financial costs include fear of failure, risk of unhappiness and isolation, potential lack of acceptance of qualifications for employment purposes on return to home country, uncertain potential for employment in the UK or a third country and the possibility of family and social disruption.
- 5.3** HESA data provide a means of assessing the primary source of funds for all international research students in the UK. The quality of these data, however, depends on how each HE institution collects and reports information. Of all the data collected by institutions, funding data appear to be the most variable, but given the large size of the sample reported by HESA, valid generalisations can be made. Table 7 provides an overall picture of funding sources for international PGR students in the UK in 2005–06.
- 5.4** For the International Student Barometer data (see Chapter 3), students surveyed were allowed to provide more than one source of funds to reflect the fact that students generally depend upon a mix of sources. The main difference observed between the ISB and HESA data sets relate to responses under the ‘University Scholarship’ category for ISB. While HESA data indicate that about 23% of international PGR students receive financial contributions from UK institutions, ISB indicates 34%. In the latter case respondents probably did not distinguish between UK and overseas universities as funding sources and may not have been aware that funding from a UK institution might in fact originate with some other UK source. The net impact of this is that the ISB data almost certainly understate the level of funding from overseas sources – and the ISB returns indicate that this is significantly greater (76%) than HESA (63%).
- 5.5** Both sets of data above indicate that around half (HESA 48%, ISB 54%) of international PGR students in the UK meet costs mainly from personal funds, ie from part-time employment, from family or personal loans, with little scholarship or other support. At country level, Table 9 shows that more than 70% of students from Taiwan, Japan, Hong Kong and South Korea meet the majority of their costs from personal funds.

**Table 7**  
**Main sources of funds for**  
**international PGR students**  
**in the UK, 2005–06**

Source:  
HESA, 2005–06

<b>Non-UK funding sources</b>	<b>Number of students</b>	<b>%</b>
Personal funds	20,655	47.6
International agency	125	0.3
European commission	85	0.2
Overseas governments	3,315	7.6
Overseas institution	1,230	2.8
Students employer	1,080	2.5
Overseas industry/commerce	360	0.8
Other overseas	605	1.4
<b>Total non-UK sources</b>	<b>27,455</b>	<b>63.2</b>
<b>UK funding sources</b>		
<b>UK HE institution funding sources</b>		
Fees waiver	7,395	17.0
No fees	2,705	6.2
<b>Sub-total UK institutions</b>	<b>10,100</b>	<b>23.2</b>
<b>Other UK funding sources</b>		
Charitable foundation (UK)	1,510	3.5
UK industry/commerce	355	0.8
UK government scholarship	1,640	3.8
UK research councils	1,565	3.6
UK government departments	560	1.3
Other official UK (LEA, DELNI, SAAS etc)	200	0.5
British academy	30	0.1
<b>Total UK funding sources</b>	<b>15,960</b>	<b>36.8</b>
Student absent for year	220	
Not known	950	
Other	2,185	
Total (less not accounted for)	43,415	
<b>Total</b>	<b>46,770</b>	

**Table 8**  
**Main sources of funds for international PGR students in the UK, 2007**

Source:  
 ISB Survey

\* Respondents could indicate more than one source

Funding source	% reporting*
University scholarship	34
Own funds	28
Family	18
Home government scholarships	17
Host government scholarships	10
Loan	8
Government/other scholarship	6
Employer	5
Charity/trust	5
Other sponsor	3
British Council	2
Other	7
<b>Total respondents</b>	<b>19,046</b>

**Table 9**  
**Proportion of self-financed international PGR students in the UK, 2005–06 – highest levels by country**

Source:  
 HESA, 2005–06

	Number of students	% personal funds
Taiwan	1,210	77.3
Japan	875	76.4
Hong Kong	755	76.2
South Korea	840	73.3
Lebanon	180	70.2
Cyprus	475	69.5
Greece	3,100	59.3
Portugal	820	58.5
United States	3,170	57.7
Zimbabwe	145	56.5
Norway	170	56.1
Nigeria	670	55.6
United Arab Emirates	305	54.8
<b>Average all countries</b>		<b>47.3</b>

**Table 10**  
**Proportion of self-financed international PGR students in the UK, 2005–06 – lowest levels by country**

Source:  
HESA

	Number of students	% personal funds
<b>Average all countries</b>		<b>47.3</b>
Russia	295	33.1
Brazil	375	32.7
Chile	155	32.6
Egypt	490	31.5
Hungary	115	30.9
Australia	440	30.9
Oman	200	30.9
Romania	195	30.6
New Zealand	190	27.4
Malaysia	1,780	26.4
Saudi Arabia	850	25.2
Syria	245	25.1
Libya	495	24.5
Mexico	930	23.4
Vietnam	180	21.0
Algeria	145	19.6

## 5.6

Chapter 6 notes that the majority of UK universities say they prioritise the recruitment of quality students over the need to generate revenue. Nevertheless, about two-thirds of international PGR students in the UK meet the costs of their studies either through personal funds or scholarships from their home countries.

## 5.7

Chapter 4 noted the decline in recruitment over the last four years from Hong Kong, Japan, South Korea and Greece. UK universities appear to require proportionally more students from these countries to meet most of their costs from personal funds. A strategy to increase recruitment from these countries must take this factor into consideration.

**5.8** HESA data suggest that overseas employers and governments provide on average for about 15% of PGR students in the UK. Table 11 takes a closer look at this and shows that such funding is heavily skewed toward the Middle East, Mexico, Malaysia and Thailand. Some countries, for example, Egypt, Malaysia and Vietnam, make independent arrangements through their embassies with UK universities to secure good financial packages for their scholarship students. An approach for increasing recruitment of PGR students from these countries might therefore be to target their governments and employers more systematically.

**5.9** It should be noted, however, that precise support arrangements are often unclear: even students can be confused as to whether their funding derives from an employer (eg the university if they are academic staff) or a government. For example, in Malaysia, the government often provides money to universities which then provide the scholarships. In some cases fees are reduced by UK institutions when other government or university schemes are in place.

**5.10** At the other end of the scale, PGR students from East Asia, India and most European countries are the least likely to receive support from their governments or employers; they are expected to meet costs personally or to receive some form of support from UK sources.

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### **UK institutional funding**

**5.11** UK universities generally, and unavoidably, view international student tuition fees as an income-generating activity. The current PMI2 initiative, however, reflects the fact that the UK is moving into a more sophisticated stage of internationalisation with a greater emphasis on sustainable partnerships. In particular, research-led universities in the UK and elsewhere have become more aware of the importance of international research activity and its contribution to their wellbeing and status. There is, therefore, an increasing willingness to make scholarships available to international students from institutional sources.

**5.12** With PMI2 support, Universities UK and GuildHE are currently investigating the value of scholarships offered to non-UK students by UK HEIs. Preliminary data from 53 institutions indicate that 39 have scholarship strategies, some developed considerably more recently than others. As might be expected, investment in scholarships varies widely: one or two institutions have an annual budget of £3m or more, four have more than £1m and 20 institutions £100,000 plus.

**5.13** It is likely that this study will recommend a review of scholarship strategies in the context of wider international strategies. While individual institutions show varying levels of success in scholarship marketing, there is a need to review it, and all funding support, at the 'UK plc' level with the aim arriving at more coherence and better returns on investment.

**Table 11**  
**Proportion of international PGR students in the UK funded by their own government or employer – highest and lowest groups of countries, 2005–06**

Source:  
HESA, 2005–06

Average for all source countries = 15.1%			
Highest (% of students supported)		Lowest	
Saudi Arabia	69.8	India	5.6
Libya	66.3	France	5.4
Mexico	60.1	Taiwan	5.4
Oman	57.4	Canada	4.8
Thailand	51.0	Australia	4.8
Malaysia	50.6	Italy	4.6
Egypt	50.5	Germany	4.5
Kuwait	47.3	Israel	3.8
Syria	45.1	Japan	3.6
Jordan	39.5	South Korea	3.5
Ghana	34.0	China	3.5
UAE	33.9	Greece	3.4
Brazil	33.5	Hong Kong	3.0
Iran	28.4	Cyprus	0.7

#### 5.14

UK universities themselves are the largest single providers of funding for international PGR students. They support about 23% of them through scholarships and fee waivers. But there is a very wide range of practices: the highest level of direct support is provided by the universities of Oxford, Sheffield, Nottingham and Edinburgh. These institutions, in various ways, provide some funding for more than half of their international PGR students. At the other end of the scale there are universities that provide for fewer than 10% of their international PGR students. While this variation is to some extent understandable, its sheer level is surprising, given the priority most universities say they place on international PGR student recruitment.

#### 5.15

It is also revealing to consider which source-country students are most supported by UK universities (see Table 12). PGR students from the EU are high on this list. The other most-supported students are from Russia, India, Argentina, Australia, Sri Lanka and China. The least-supported students are from the Middle East, Japan, Thailand and Mexico. The institutional survey conducted for this work (see Chapter 6), however, indicate that the latter group includes those countries identified by UK universities as priorities for PGR recruitment.

**Table 12**  
**Proportion of international PGR students in the UK supported by a UK HE institution, grouped by most- and least-supported countries, 2005–06**

Source:  
HESA, 2005–06

	Number of students in UK	Proportion of students supported by UK institution (%)		Number of students in UK	Proportion of students supported by UK institution (%)
<b>Total</b>	<b>46,770</b>	<b>26.6</b>	<b>Total</b>	<b>46,770</b>	<b>26.6</b>
<b>Most supported by UK institutions:</b>			<b>Least supported by UK institutions:</b>		
Hungary	115	46.4	Nigeria	670	19.4
Poland	375	43.1	Iran	675	18.9
France	1,305	43.1	Vietnam	180	18.5
Romania	195	41.8	Malaysia	1,780	17.0
Russia	295	41.1	South Korea	840	16.3
Australia	440	40.4	Hong Kong	755	15.4
India	1,775	39.3	Egypt	491	14.8
Bulgaria	135	38.2	Japan	875	14.4
Spain	830	37.3	Taiwan	1,210	13.2
Argentina	130	36.1	Mexico	930	12.8
Sri Lanka	290	35.8	Algeria	145	12.3
Germany	2,275	35.8	Jordan	450	11.1
Italy	1,690	35.7	UAE	305	9.6
China	4,835	34.9	Oman	200	9.6
Bangladesh	240	33.8	Thailand	1,035	9.6
Netherlands	405	33.2	Syria	245	7.7
Israel	460	33.0	Libya	495	6.6
Zimbabwe	145	32.8	Bahrain	135	5.4
Austria	225	32.2	Saudi Arabia	850	3.9
New Zealand	190	31.8	Kuwait	215	3.9

- 5.16** Our institutional survey also clearly finds that the majority of UK universities prioritise their research requirements (70%) over revenue generation (30%). Given that on average only 23% of international PGR students receive funding support from UK universities, the key questions are why this level of support is generally so low and why there is such great variation in levels of funding when the stated priorities are so similar.
- 5.17** Further evidence of the importance of scholarships comes from the 'Broadening our Horizons' report of 2004.<sup>17</sup> This indicated that 31% of international PGR students received institutional scholarships and 24% funding from UK government sources. It found that 30% paid their own fees and 23% received support from their home governments. This was a survey based on 1,052 respondents in the PGR sector, which may indicate why there are some differences to HESA data and the larger-sample ISB survey.
- 5.18** International PGR students rely on a mix of funding to cover fees and living costs; this mix includes in particular personal funds but also UK institutional and government support, scholarships, home governments and employers. Shortfalls are often met through part-time employment.
- 5.19** Some of the countries from which the decline in PGR student recruitment to the UK is greatest (eg Japan, Malaysia, Mexico, Greece, Hong Kong) are those countries in which the majority of students need either to fund themselves or seek own-government scholarships. They are the countries whose students are least-supported by UK institutional sources, yet they are also identified by UK universities as priorities (see Chapter 6).
- 5.20** There also seems to be little correlation between the countries that UK universities prioritise and those for whose students they do provide some form of funding support (Table 12). European countries were rarely identified as strategic priorities in our survey, while one-third of all international PGR students are from Europe. Even after discounting EU countries, there remain major inconsistencies between stated policy and reality. Most institutions prioritise Malaysia and the Middle East, yet these receive the least support. Perhaps a greater strategic targeting of fee reductions and scholarships in these countries might improve recruitment levels.

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## Scholarships and other funding support

### Overseas Research Students Award Scheme (ORSAS)

5.21

This scheme was set up in 1979 by the UK research funding bodies to attract high-quality international students to the UK to undertake research. Originally, universities that opted to participate received an annual grant allocated by formula and final decisions on candidates were left to the funding body. ORSAS awards paid the difference between full international fees and home/EU fees (they were therefore inapplicable to other EU students). This left successful candidates needing another £3,500 per year for tuition, let alone maintenance and travel expenses.

5.22

In 2005 the scheme was re-organised to take effect in 2006–07. Institutions now make the final selection of awards themselves, within the limit of the grant provided. It is not clear that universities receive the same amounts as under the previous regime. But there is now university discretion to award without prescriptions as to subject areas. The ORSAS is well publicised and after nearly 30 years has a global reputation. Since 1980 more than 24,000 awards have been made to students from 90 countries. This is about 800 per year.

5.23

The disadvantage of the scheme is the limited funding available for each candidate and the consequent exclusion of good candidates for whom it is simply insufficient. Universities are free to make contributions to the scheme but few seem to do so. The ORSAS is currently (2008) being reviewed by the funding councils.

### Dorothy Hodgkin Postgraduate Awards

5.24

The DHPA scheme was launched in 2003 with the intention of bringing outstanding students from the developing world (notably India, China, South Africa, Brazil) and Russia and Hong Kong to study at top UK research facilities. Funding for each award is shared equally by a Research Council and a private-sector sponsor. The scheme takes excellence as its priority: excellence in the student, the host institution, and particularly in the school or department. The awards are generous: full fees and living expenses are paid and some additional funding goes to the host department. There have been three cohorts of students (in 2004, 2005 and 2006); there are currently 390 students registered, with BP and Hutchison Whampoa as the most involved private partners.

5.25

The advantages of the scheme are its high profile, generous funding and its goal of bringing the best students to the most highly rated research departments. Disadvantages include the relatively small number of awards compared with total need, the lateness in the recruitment cycle for notification to universities and the uncertainty as to which countries are eligible (since this is a function of the private-sector contributions). This does not help the effective marketing of the scheme.

18  
P Sakya (2007), 'Dorothy Hodgkin Postgraduate Awards: Report 2007'.

19  
*Ibid.*

**5.26** A review of the scheme in 2007 indicated a high level of student satisfaction for the level of funding and the quality of supervision received.<sup>18</sup> 86% of award holders said that they would not have been able to study in the UK without the award and only 5% said that they could have done so. 95% of awardees had undertaken undergraduate work in a developing country. The institutions involved appear to be pleased with the quality of students.

**5.27** The DHPA scheme is, therefore, extremely valuable in providing an adequate funding stream for the recruitment of first-rate students. The level of enquiries suggests that the scheme has successfully raised the profile of UK universities to overseas.

**5.28** The private sector is supportive of the programme. GlaxoSmithKline commented:

*GSK's continued investment in the UK will depend on the quality of its graduates and postgraduates and on the maintenance of the quality of the basic research carried out in the many universities and research institutes with which we collaborate... The scheme enables the company to foster links with key academic institutions where the scholars are placed; and it gives us access to a pool of highly skilled DHPA graduates for potential recruitment opportunities.*<sup>19</sup>

**5.29** The UK Research Councils extend their scholarship programmes to other EU students. In 2005–06, 1,560 international PGR students (3.3% of the total) received funding from a UK Research Council (see Table 13). The Engineering & Physical Sciences Research Council was the largest contributor, with 705 awards.

**5.30** It is informative to consider which subject areas are prioritised by UK institutions, the government or other sources. Table 14 shows that the likeliest source of funding in subject areas other than the physical sciences is from students themselves. Even in those areas that are identified as priorities for the UK (eg engineering and technology), individual students are the most usual providers. In education, 71% of international PGR students are self-financing.

**Table 13**  
**Number of EU PGR students supported by each Research Council, 2005–06**

Source:  
HESA, 2005–06

Research Council	Number of students
Biotechnology & Biological Sciences Research Council (BBSRC)	80
Medical Research Council (MRC)	105
Natural Environmental Research Council (NERC)	25
Engineering & Physical Sciences Research Council (EPSRC)	705
Economic & Social Research Council (ESRC)	230
Particle Physics & Astronomy Research Council (PPARC)	20
Arts & Humanities Research Board (AHRB, now AHRC)	225
Research council – not specified	170
<b>Total</b>	<b>1,560</b>

**Table 14**  
**Sources of funding for international PGR students, by subject area, 2006–07**

Source:  
HESA, 2006–07

	Student (%)	UK institution (%)	UK government (%)	Overseas (%)	Other (%)
Medicine	32.6	23.5	22.6	20.5	0.8
Subjects related to medicine	39.2	23.7	14.0	20.9	2.2
Biosciences	36.3	26.7	19.0	17.0	1.0
Physical sciences	29.5	31.9	20.9	15.9	1.8
Mathematics	30.5	27.1	21.7	19.9	0.2
Computing	43.9	25.8	9.3	20.2	0.8
Engineering and technology	34.7	28.4	14.4	20.4	2.1
Social sciences	56.6	19.8	12.1	11.4	0.1
Business and management	58.6	18.8	4.7	17.7	0.2
Arts and languages	58.0	20.4	12.8	8.7	0.1
Education	71.1	11.3	4.7	12.8	0.1
<b>All</b>	<b>47.6</b>	<b>23.2</b>	<b>13.4</b>	<b>16.0</b>	<b>0.9</b>

- 5.31** Table 14 shows the UK in an unfavourable light when compared with the US and other competitor countries, where in STEM subjects in particular more than 90% of international students may receive support (see Chapter 7).
- 5.32** About 40% of international PGR students in the UK previously studied here. This indicates the vital need to facilitate progression from undergraduate and master's programmes for students with potential. This study did not assess the extent of awareness in international master's students of further research opportunities in the UK.
- 5.33** The large majority of master's students are privately funded but two major sources of scholarship funding for international master's students in the UK are the Chevening awards offered by the Foreign & Commonwealth Office (FCO) and a number of scholarships, fellowships and bursaries administered by the Association of Commonwealth Universities (ACU). Under the terms of these programmes, progression to doctoral level studies is normally not possible. The Chevening, which aims to bring future leaders and decision-makers to the UK for study, specifies that students may not normally remain in the UK to undertake a PhD. Governments use scholarships as instruments of long-term public diplomacy. In this context it is understandable that they wish for such students to return home. In the case of some master's students, however, this agenda works against that of the need to retain the best research talent in the UK.
- 5.34** The Commonwealth Scholarships, for both master's and doctoral students, are similarly intended to nurture future leaders. A few developed countries, however, have either pulled out of the scheme or at least attempted to withdraw. The FCO's announcement in 2008 that it would stop funding recipients from developed Commonwealth countries (and supposedly reallocate the funding through a different department for recipients from developing countries), elicited much negative reaction. Of the many reasons for opposing this funding cut, one with resonance is that it is in conflict with the UK policy of wishing to attract more of the best research talent in the world.
- 5.35** Our institutional survey (Chapter 6) and analysis of HESA data indicate that up to 80% of international PGR students in some institutions undertake part-time work. Current UK immigration regulations permit international students to undertake paid work for up to 20 hours a week in term time and up to 40 hours a week during vacation. At the UK minimum wage, 20 hours amounts to about £110 per week.
- 5.36** Many supervisors take the view, however, that research students should not be troubled with the need to seek outside work while trying to complete a research programme within the prescribed time limit, particularly if it is laboratory-based.

- 5.37** Outside earnings are frequently needed for tuition fees, particularly the final instalment. In the context of limited scholarship availability in the UK, there is a strategic need to facilitate part-time work arrangements on institutional and national levels, as happens in the US.
- 5.38** The new points-based immigration system aims to attract and retain highly skilled people. This will hopefully benefit those international PGR students who wish to stay to work in the UK. Similar schemes boost international recruitment in other countries.
- 5.39** This chapter has demonstrated that the funding of international PGR students in the UK is complex, lacks coherence, is less generous than in competitor countries and depends on considerable investment by students themselves. Understanding how PGR students meet costs is an essential step in building strategies at national and institutional levels. This is addressed in Chapter 8.

### The survey

**6.1** In order to understand better the policies, activities and attitudes of the UK HE sector, a questionnaire was sent to all UK HE institutions (see Annex 2). This sought comments on their policies, strategies and experiences in regard to international PGR students. A total of 68 responses were received from, in the main, senior managers involved directly with international PGR student policy, eg PVCs, Deans of Graduate Schools, and Directors of International Officers. A small number came from research supervisors. There were no discernible differences between these groups in patterns of responses.

**6.2** Some 64% of the respondents reported that they gave a high priority to recruitment of international PGR students and more than 90% said that this applied to all departments across their institution. A small number replied that they prioritised science and engineering over other topics. 60% of respondents said they had a marketing strategy for recruiting international PGR students, and a few said that it was 'under development'. A comment with general resonance was:

*Strategy is too strong a word, but we do have processes that we follow, including maintaining close relationships with our international alumni, building research links with overseas HEIs, encouraging our doctoral alumni to 'spread the word', and so on.*

**6.3** Means of promotion specifically to international PGR students were:

- scholarships and/or fee reductions, some targetted for specific countries or subjects
- building long-term links with international research institutions and governments
- developing agreements with scholarship agencies in key countries such as Mexico, Thailand and China
- building on the opportunities of the UKIERI (for India) and BRIDGE (for Russia) projects
- the university website
- use of external websites for funding opportunities, eg [www.jobs.ac.uk](http://www.jobs.ac.uk) and [www.postgraduatestudentships.co.uk](http://www.postgraduatestudentships.co.uk)
- overseas visits by academics, targetted at specific institutions and countries
- advertising in key countries
- liaison and follow-up with alumni networks

**6.4** Only one university reported that their strategy for international PGR students included in-course support for research students and improving the experience of research students on campus.

**6.5** A number mentioned that a key means for recruitment was to encourage students to stay on after completing an undergraduate or master's degree. But a large number said that they promoted to potential international PGR students only through regular international marketing activities such as education fairs and use of agents. Recall that the ISB and other surveys indicate that fairs and agents are not the best means to attract PGR students. Some indicated that arrangements were rather *ad hoc*, some noted that the global mandates of International Offices made it hard to target specific groups.

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### Research output or revenue?

**6.6** When asked to assess the balance between 'revenue generation' and 'contribution to research output' as drivers for international PGR student recruitment, only 16% of respondents chose revenue. About 70% were clear that the motivation was the contribution to research output. The question is whether such motivation is aspirational rather than real, given that the analysis of the 'source of funds' data for international students in Chapter 5 does not substantiate the claim. The countries prioritised tended to be those in which PGR students are most likely to receive non-UK financial support and thus bring revenue to the institution.

**6.7** Many other drivers for international PGR student recruitment were mentioned, including strengthening the research base and culture, recruitment of postdoctoral and lecturing staff, wanting an international student body, enhancing the experience of home students, providing links for international collaborations, commitment to capacity-building in developing countries, difficulties in attracting UK students of sufficient quality, and the importance to the UK of attracting future leaders.

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### Country prioritisation

**6.8** It was surprising that 70% of respondents said that they did not prioritise specific countries as part of an institutional strategy or, if they did, they were unaware of what the priorities might be. Table 15 summarises the responses of those who did indicate priorities. China and India figured strongly in almost all, and the US and Malaysia were also named by many. Beyond these four, there was less consensus among institutions. Most striking was that very few respondents mentioned EU countries, yet research students from the EU represent nearly one-third of all international PGR students. It should be noted that the prioritisation of students from India and China is consistent with defined institutional strategic priorities, as students from those countries are in the group most likely to receive some form of UK institutional support (see Chapter 5).

**Table 15**  
Country priorities identified by questionnaire respondents (multiple priorities permitted)

Source:  
Institutional questionnaire

Country	Responses prioritising the country
China	24
India	23
United States	12
Malaysia	11
Thailand	8
South Korea, Pakistan, Middle East, Japan	5
Saudi Arabia, Mexico	4
Hong Kong	3
Nigeria, Taiwan, Egypt, Vietnam	2
Russia, Oman, Libya, Kenya, Brazil, Jordan, Canada, Iran, Greece, Germany, EU (unspecified)	1

## Part-time employment

### 6.9

Only two respondents said that their international students did not undertake part-time work, although a few did not know. Only a few were able to comment with confidence on how many students did it; suggestions were from 10% to 90%. One said that more than 90% of their doctoral students did some form of additional paid work, mostly within the university. Another noted that half of their doctoral students did academic work such as teaching but only 10% used work to fund a significant proportion of fees and maintenance.

## Capacity for expansion

### 6.10

More than 90% of respondents indicated that they were able to take on more students generally, with no indication of capacity differences between departments or subject areas. The few mentioned constraints were related to supervisory capacity or appropriateness of this capacity rather than physical infrastructure. However, there is anecdotal evidence at the research supervisor level that overstretch is an issue. Another view strongly expressed was that the dearth of financial support for research students limited their ability to grow and that in some disciplines – notably those with high bench fees – it cost institutions to host PhDs even at international fee rates.

## Academic and other support

### 6.11

Some 44% of respondents reported having in place institutional policies on time allocated for student supervision, 18% said there was no policy and the remaining 38% were unaware of arrangements. Some provided details of policies on supervisor contact hours. These varied greatly between institutions and disciplines: the highest level of contact was about 200 hours per year whilst the least was a 'minimum' of 10 hours or eight meetings per year. The median figure was 30 hours.

### 6.12

The clearest statement of a university code of practice on supervision included:

*requirements for formal supervisory meetings, at which substantial discussion of research progress and plans takes place, to be held at least twice a term; and, in addition, for a supervisory meeting to take place, if requested by the student, within one week, as far as practicable. In addition, each doctoral student has a thesis advisory panel, consisting of the supervisor and at least one other member of academic staff... In the case of full-time students, the thesis advisory panel meets with the student at least twice a year.*

### 6.13

The postgraduate research section of the QAA Code of Practice does not specify optimum hours for supervision. It states:

*Depending on institutional and research council guidance, supervisory responsibilities may include... establishing and maintaining regular contact with the student... Supervisors will be sensitive to the diverse needs of individual students, including international students, and the associated support that may be required in different circumstances.<sup>20</sup>*

While there will always be variation because of differing disciplinary requirements, the level of supervisory support should be clear so as to manage expectations effectively.

## Joint, dual, split and distance-delivered programmes

About two-thirds of respondents reported involvement in PGR degree delivery overseas through some form of international cooperation arrangement. By far the most popular was through 'split degree' delivery, followed by joint and dual degrees. Split-site PhDs were considered an attractive option that would help develop research capacity and ease the pressure of limited supervisory capacity.

### 6.14

When asked whether they would wish to develop new arrangements in the future, the great majority (80%) said that they would be keen to do so and only 20% of respondents replied negatively.

### 6.15

Institutions were asked to identify likely barriers to developing overseas delivery arrangements. Overall there seemed to be a good understanding of the requirements and potential pitfalls:

- **quality assurance:** ensuring appropriate academic standards and support for students; meeting QAA expectations; associated risks to academic standards which require additional resources to manage
- **internal governance:** obtaining institutional 'buy-in'; in-house articles of governance; constitution hesitant on entering new agreements without sector-wide frameworks for international doctoral programmes
- **delivery and supervisory:** resources needed to set-up and maintain awards are considerable and normally underestimated; limited capacity of supervisors to support students in remote locations; concerns over supervision by partner universities

21  
Chellaraj *et al* (2004), *op cit*.

22  
Details available in the  
'counter-terrorism' section  
of the UK Foreign Office  
website: [www.fco.gov.uk](http://www.fco.gov.uk)

23  
[www.bia.homeoffice.gov.uk/  
newpointsbasedsystem](http://www.bia.homeoffice.gov.uk/newpointsbasedsystem)

- **financial:** costs of providing adequate quality assurance and due diligence; attracting critical mass of students sufficient to make arrangements work
- **laboratory-based programmes:** constraints within sciences and engineering compared to arts and humanities; infrastructure inadequate to ensure that the work can be supported in a way that would make the university confident
- **partners and agreements:** need for networks to identify suitable collaborative institutions; lack of logistical and legal information required to negotiate and launch schemes

**6.16** A number of suggestions for future support included the development of a form of standard agreement for joint or split-degree programmes between UK and overseas universities, sector-wide frameworks for international doctoral programmes delivered overseas, and assistance in the identification of appropriate partners. Given the wide interest in this area, there are obvious opportunities for sharing experiences and assessing whether there might be standardised agreements developed.

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### Visa regimes

**6.17** Institutions were asked for general comments on international PGR students and the main difficulties they had experienced in research student recruitment. The majority of responses related to two areas: visas and immigration arrangements, including visa renewals, and the dearth of funding in comparison to the UK's main competitors. On immigration, it was felt that recruitment would be impeded considerably by both ATAS (under the Foreign Office) and the points-based system (Home Office).

**6.18** Chellaraj *et al* demonstrated that stricter immigration enforcement resulted in a significant reduction in patent applications and patent grants in total.<sup>21</sup>

**6.19** In the UK, the Academic Technology Approval Scheme (ATAS, launched in November 2007) might have a similarly negative effect. ATAS requires prospective postgraduate taught or research students, in 'certain sensitive subjects', to obtain a 'clearance certificate' before lodging visa applications. The subjects covered are precisely those of key interest to international research students: medicine, agriculture, biological and physical sciences, mathematics, computer science, engineering, metallurgy, biotechnology and other materials technologies. The scheme, which replaces the Voluntary Vetting Scheme, is intended to 'prevent individuals from acquiring or developing knowledge and skills that could be used in the proliferation of weapons of mass destruction'.<sup>22</sup>

Pulling in the other direction, the new points-based system for UK immigration aims to ensure that the UK can attract highly skilled individuals to contribute to labour-market productivity. The new system recognises the value of high qualifications by awarding more points for them. PhD courses can be in any subject for this status. This may be important in attracting and retaining researchers.<sup>23</sup>

## 6.20

Vigorous international competition for quality overseas applicants was also identified as an increasing problem. A useful comment was that:

*We still – just – have an advantage over the US in the friendliness of our visa/immigration regime. It's important to keep this. We need as a sector to consider how well we welcome and integrate international students, and what additional support (eg English language training) they might need. We need as a sector to be aware of the major intellectual and pedagogic shifts that some international students have to make to take full advantage of the approach to scholarship and research which we offer.*

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## Websites

## 6.21

The institutional survey and ISB data both indicate the importance of university websites in the decision-making of potential international PGR students. A review of the websites of a number of universities was undertaken to assess how easily a prospective international PGR student might find specific details on programmes, likely costs, funding and/or scholarships. While a few universities had websites that were relatively accessible, the majority required very determined searches.

## 6.22

It is relatively straightforward to access details on fees but generally much more difficult for scholarships and fee-discount possibilities. This is not useful for marketing purposes and serves to reinforce the perception of the high cost of UK PGR programmes – yet in reality most UK institutions *do* offer some form of scholarship and/or fee remission. Some have developed prestigious named scholarship programmes but it is apparent that few make the most of these by not featuring them prominently on the website.

## 6.24

The Education UK website, run by the British Council, provides the most comprehensive information on UK programmes appropriate for international students. It is also the most widely used internationally, with over 12 million visitor sessions per year. It has information on each institution and searchable databases for each level of study. There are additional 'country sites', often with information in local languages. While there is a useful database of scholarships, however, the postgraduate area is general and not tailored to the needs of postgraduate research, and especially doctoral, students. There is, therefore, a need for a dedicated PGR website that offers a portal both to institutions and funding sources.

24

For a good example of this, see the University of Melbourne website which provides detailed information on 'International Fee Remission Scholarships', 'International Research Scholarships' and many others.

## 7.1

The international competition for research students is increasing rapidly. There are more countries seeking to expand their research and innovation base by increasing the scale and scope of international collaborations as well as recruiting researchers from other countries (both students and staff). While the UK has been successful in all of these areas over recent years other countries are becoming more competitive through strategic positioning. In this section the activities and policies of some of the UK's main competitor countries are considered.

### Australia

## 7.2

Australia has been the most successful country at international student recruitment over the last 10 years or so. Its main strength, however, has been in undergraduate recruitment from East and South East Asia. Australia has not been as successful at the postgraduate research level. This relative underperformance is being addressed and more focused strategies for PGR students are emerging.

## 7.3

In 2007, Australian Education International (AEI) reported that there were some 177,760 international students in Australian higher education, representing a 3.8% rise over the previous year, with strong growth in commencements from India, Malaysia and South Korea (up 10.8%, 9.5% and 14.4% respectively). International PGR students totalled about 9,000 or 5% of total enrolment. In 2005, there were approximately 24,000 students following Australian degree programmes outside Australia. Some 38% of research students are in science, engineering, social sciences and management-related topics.

## 7.4

Australian universities charge about A\$20,000 (£9,000–£10,000) for doctoral students in science and engineering. Only a small fraction of students pay the full fee, however, as there are a range of scholarships and discounts on offer. What is impressive is that most Australian universities provide comprehensive information on scholarships and funding in a readily accessible way for prospective PGR students through their websites. This almost certainly helps to overcome the initial negative perceptions associated with the fee.<sup>24</sup>

## 7.5

There are other national strategic approaches to encouraging international PGR students to seek Australian study. These include:

- 'Jason', an Australian database for postgraduate scholarships
- the close relationship between skilled migration and international student recruitment. The points-based system for student visas prioritises postgraduate researchers
- links to skilled migration opportunities on university websites
- encouragement of international PGR students to remain in Australia to work on completion of studies

25

Ministère Éducation Nationale Enseignement Supérieur Recherche (2005), Les étudiants inscrits dans les 83 universités publiques françaises en 2005.

26

Ministère Éducation Nationale Enseignement Supérieur Recherche (2006) Les étudiants étrangers dans l'enseignement supérieur – Repères et références statistiques.

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## New Zealand

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7.9

In 2006 the New Zealand government announced that international PGR students will pay fees at the same level as New Zealand domestic students. The immigration and visa process is also relatively straightforward and students are encouraged to stay on to work following their studies.

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### Domestic status for international PhD students in New Zealand

Since 2006, new international PhD students have been accorded domestic status for the purposes of tuition fees in New Zealand. In addition:

- Dependent children of international PhD students are classified as domestic students in New Zealand state schools.
- International students who graduate from a course recognised under the Skilled Migrant Category are eligible for a six-month work permit.
- Once graduates have gained work this way, they can apply for a post-study two year work permit or residency under the Skilled Migrant Category.
- Partners of international postgraduate students can apply for a work permit valid for the duration of the student's course of study.

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7.10

Although the number of research students in New Zealand is low in comparison to the UK, and the capacity of the system to take large numbers is restricted, this approach to welcoming international PGR students creates a very positive perception for international students. There is also a national scholarship programme (the International Doctoral Research Scholarships) for students from designated countries undertaking research doctoral degrees in New Zealand universities.

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## France

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7.11

The number of international students in France has increased considerably over recent years; they account for 14.7% of students at French universities. The total number in 2005–06 was 209,523 and within this some 24,000 were studying at the doctoral level.<sup>25</sup>

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7.12

The proportion of international students increases significantly according to the level of study: they account for 18.5% on master's programmes and 35.2% on doctorates.<sup>26</sup> The origins of international students are given in Table 16. The dominant position of Africa is apparent (essentially West and North Africa). There has been considerable recent growth in the number of Asian students.

**Table 16**  
International doctoral students  
in France (2005)

Number of international doctoral students according to region of origin		International students as a proportion of students enrolled on doctorates, by subject area (%)	
EU	3,569	Humanities	36.2
Non-EU Europe	1,875	Social Sciences	56.8
Africa	10,407	Sciences and Engineering	31.3
America	2,248	General	35.7
Asia	5,844	Medical related	22.9
Oceania	24		
<b>Totals</b>	<b>23,975</b>		

### 7.13

The dominance and dependence of the social sciences on international students (56.8% of all students) is apparent. International PGR students studying sciences and engineering in France account for 31.3% of the total enrolment in those subjects. For the UK the comparable figure is 56%.

### 7.14

French universities do not charge PhD fees and there are a considerable number of scholarships available at national and institutional levels. The government publicises opportunities for international doctoral students to earn money. Following completion of the programme there is encouragement to staying on to work. To quote from the Campus France website ([www.campusfrance.org](http://www.campusfrance.org)):

*Working in France during your studies: All foreign students have the right to work during their studies in France. French legislation now authorises foreign students to work a maximum of 964 hours per year. In France there is a guaranteed minimum salary which is €8.44 gross per hour.*

*Once you have obtained a degree equivalent to a masters or higher degree, you may request a temporary residence permit and this permit authorises you to work in any kind of salaried job you choose, up to a limit of 60% of the legally permitted number of working hours. If you sign an employment contract that is in a field related to your studies and whose remuneration is at least equal to one and a half times the SMIC, you will then be able to work full time and request a change in status (from student to employee) from the Préfecture administrative offices.*

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## Germany

7.15

German universities and research institutions have expanded activities to recruit international researchers whom are normally referred to as junior or research staff rather than students. German institutions do not normally charge fees and provide living allowances for many international researchers on doctoral programmes.

7.16

Germany has been successful in international recruitment. In 2005 there were some 188,000 international students (and a further 54,000 resident in Germany). The pattern of source countries is distinct. This is seen in Table 17 where the dominance of Russia and eastern Europe is evident. Although the number of international doctoral researchers is given as 16,612, this understates the full picture as there are significant numbers of students in doctoral programmes in non-university research centres. The total number of international doctoral researchers is possibly as high as 25,000.

7.17

By comparison with France and the UK, Germany attracts proportionately more international researchers in science and engineering-related disciplines (see Table 18).

7.18

A new approach to doctoral studies is being developed to improve the international competitiveness of German institutions:

*The DAAD and the German Research Foundation (Deutsche Forschungsgemeinschaft – DFG) are working together in the ‘Doctorates at Universities in Germany’ (PhD) programme to implement the recommendations of the German Science Council (Wissenschaftsrat) and the German Rectors’ Conference (HRK) on reforming doctoral training in Germany. The programme aims to strengthen and sustain the competitiveness of Germany’s universities by changing the structure of doctoral studies and, so, to make them more attractive for highly qualified applicants. 42 projects are currently being funded.*

There are also a wide range of scholarships available as explained by DAAD:

*Some universities and institutions offer post-grad students the possibility of working part-time (up to 50%) as a member of the staff involved in scientific research... Prospective post-graduate students can also consider working for a scientific institute, for example the Max-Planck-Society or the Fraunhofer Institutes. The Gottfried Wilhelm Leibniz Society also has research institutes specialising in the humanities, law and social sciences... These institutes are not only of interest to PhD students as potential employers but some also award scholarships of up to €1,000 per month. As a rule, students are involved in research projects, the results of which they can use in their dissertation – all in all, this results in the PhD degree being completed relatively quickly.*

**Table 17**  
**Main source countries for international students in German higher education at all levels, 2005**

	<b>Total</b>	<b>% change since 2004</b>
China	25,987	7.9
Poland	12,209	5.4
Bulgaria	12,467	7.6
Russia	9,594	7.7
Morocco	6,986	2.9
Turkey	6,587	1.7
Ukraine	6,532	12.1
France	5,512	-1.5
Cameroon	5,245	2.6
Austria	4,148	-3.3

**Table 18**  
**Main subject areas for doctoral researchers in German institutions, 2005**

<b>Subject area</b>	<b>% of total</b>
Humanities and languages	22.5
Social sciences and law	13.1
Physical, mathematical and biosciences	37.3
Medicine and related	4.7
Agriculture and related	4.9
Engineering	14.9
Other	2.6
	100

## 7.19

More recently the German government has encouraged international students to stay to work on completion of studies. If they secure a permanent post, then the student residence permit can be converted to a temporary employment permit – which can, after five years, result in permanent residency status.

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## United States

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### 7.20

The US attracts the largest numbers of international students at all levels. There were about 540,000 in 2006–07.<sup>27</sup> This follows declining numbers for 2004 and 2005 but the trend is now upwards. Statistics for 2006–07 indicate a 3% increase in all international students but, significantly, with new enrolments up by 10% over the previous year. Even in the years of decline, the number of international PGR students continued to increase. The long-term trend in international PGR student growth has been about 3.5% per year and in some disciplines, particularly the physical sciences and engineering, over the last five years there has been a larger rate of growth.

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### 7.21

The Survey of Earned Doctorates (SED)<sup>28</sup> provides useful information though they measure the number of new doctorates awarded in a year rather than HESA's total numbers of PGR students in the HE system. The 2007 report noted that the 45,596 research doctorates (domestic and international students) awarded during 2005–06 represented an increase of 5.1% from the previous year. These are significantly increasing numbers.

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### 7.22

In 2006 the proportion of doctorates awarded to international students was 33%. International students have accounted for most of the growth in the number of doctorate recipients over the last decade. International students earned the majority of doctorates in engineering (67%) and 53% in physical sciences. These proportions are significantly greater than those for the UK but it should be noted that these figures are also larger than those given in the US 'Science and Engineering Indicators 2006'.

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### 7.23

The impact of 9/11 offers a mixed picture. First-time, full-time enrolment of international science and engineering graduate students declined 5% in 2002 and 8% in 2003. These were concentrated in engineering (down 12%) and computing (down 23%), fields favoured by international students. In contrast, there were increases in physical sciences (up 9%) and psychology (up 10%) while numbers remained stable in the other sciences in 2003. Foreign students' share of first-time full-time graduate enrolment dropped from 35% to 29% between 2000 and 2003, with most of the decrease in computer science (from 71% to 52%) and engineering (from 61% to 50%).

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### 7.24

The last year for which an analysis is available by level of study and country of origin for the total population of international students in the US is 2002–03. Table 19 provides an aggregate total for all graduate students.

**Table 19**  
**Lead source countries**  
**for all graduate students**  
**in US, 2002–03**

Source:  
 IIE, Open Doors

Country of origin	Graduate students
India	58,320
China	52,235
Korea	24,615
Taiwan	15,480
Canada	11,250
Japan	9,515
Turkey	7,005
Thailand	6,705
Mexico	4,330
Germany	4,090
France	3,375
Brazil	3,255
Russia	3,155
Pakistan	2,810
Colombia	2,785
United Kingdom	2,665
Indonesia	2,520

### 7.25

The National Science Board's *Science and Engineering Indicators 2006* provides a breakdown of major source countries, although the data relate to the number of doctorates awarded. It is apparent that the top 10 countries of origin of PGR students in science and engineering accounted for 64% of all foreign doctorate recipients up to 2003, with more than half of these being in Asia (see Table 20). The major Asian countries sending doctoral degree students to the US have been, in descending order, China, Taiwan, India, and South Korea. Canada and Mexico were also among the top 10 and major European countries of origin (none in the top 10) were Germany, UK, Greece, Italy, and France, in that order.

### 7.26

While the growth of science and engineering doctorates earned by Chinese nationals increased to more than 3,000 in 1996, the number levelled off to about 2,500 more recently. The number of doctoral degrees earned by students from Taiwan increased rapidly for almost a decade to more than 1,300 at its peak in 1994. But as Taiwan increased capacity for advanced science and engineering education in the 1990s, the number of PGR students from Taiwan in the US declined.

**Table 20**  
**Foreign recipients of US science and engineering doctorates, by country of origin, 1983–2003**

Source:  
National Science Foundation

Country/economy	Doctorates awarded	
<b>All foreign doctoral recipients</b>	<b>176,019</b>	<b>100.0</b>
<b>Top 10 total</b>	<b>111,959</b>	<b>63.6</b>
China	35,321	20.1
Taiwan	19,710	11.2
India	17,515	10.0
South Korea	17,112	9.7
Canada	5,832	3.3
Iran	3,807	2.2
Turkey	3,413	1.9
Thailand	3,102	1.8
Japan	3,100	1.8
Mexico	3,0461	1.7
All others	64,060	36.4

**Table 21**  
**Asian recipients of US science and engineering doctorates, by field and country of origin, 1983–2003**

Source: National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, special tabulations (2003). *Science and Engineering Indicators 2006*

Field	Total Asia	% of all Asian	China	Taiwan	India	South Korea
<b>All fields</b>	<b>141,826</b>	<b>100%</b>	<b>37,510</b>	<b>23,045</b>	<b>20,382</b>	<b>21,810</b>
Science and engineering	120,968	85%	35,321	19,711	17,515	17,112
Sciences	44,213	31%	10,202	9,156	7,685	6,469
Engineering	76,485	54%	25,119	10,555	9,830	10,643
Non-science and engineering	21,128	15%	2,189	3,334	2,867	4,698

- 7.27** Students from India earned more than 17,500 doctoral degrees at US universities over the period until 1983–97. Like students from China and Taiwan, these were mainly in engineering and biological and physical sciences. Indians were awarded by far the largest number of doctorates of any foreign group in computer sciences. The increase in students from India ended in 1997, was followed by five years of decline and numbers increased again in 2003.
- 7.28** Students from South Korea were awarded more than 17,000 doctorates, mainly in engineering and biological, social, and physical sciences. They reached a peak of about 1,200 in 1994; this was followed by a decline to a low of about 800 annually in the late 1990s and an increase to almost 1,000 in 2003.
- 7.29** Among western European countries, Greece and the UK sent most students to the US to 1993. Thereafter, the number of PhD recipients declined. The numbers from Germany, Italy, and France have, in contrast, increased over the past two decades. More recently there has been a steady growth in doctorate awardees from eastern European students and in 2003 there were reported to be more than 700. A higher proportion of central and eastern Europeans (89%) than western Europeans (73%) earned doctorates in science and engineering. West Europeans were more likely to study psychology and social sciences, and east Europeans were more concentrated in physical sciences and mathematics.
- 7.30** From closer analysis of the National Science Foundation data (Tables 20 and 21) the US dependence on a few Asian countries is apparent: more than 50% of foreign doctoral awardees come from four countries. Asian doctoral students dominate science and engineering (only 15% of them do other subjects).
- 7.31** Unfortunately, there are no sources of disaggregation according to subject areas available on an annual basis, although some indication can be obtained from *Science and Engineering Indicators 2006*. For the 20 years from 1983–2003, international PGR students earned approximately 37% of all doctorates awarded but were responsible for more than half of those awarded in engineering, 44% of those in mathematics and computer science, and 35% of those in the physical sciences. These proportions are similar to those for the UK.
- 7.32** UK HESA returns are based on the actual total PGR population and the the subject categories employed are slightly different. After making adjustment for these differences, it is apparent that the US has a different subject profile for total numbers of research students (domestic and international) – see Table 22. The UK has proportionately more doctoral students in the life- and health-related sciences, but fewer in engineering and social sciences and many fewer in education.

**Table 22**  
**The US and UK compared:**  
**postgraduate research students**  
**(domestic and international),**  
**by subject area, 2006.**

Sources:  
HESA/Survey of Earned  
Doctorates

	US doctorates awarded 2006	% of total for US	% of total for UK
<b>All subjects</b>	<b>45,525</b>		
Life and health sciences	9,668	21.2	27.1
Physical sciences (including maths and computing)	7,449	16.4	18.1
Engineering	7,176	15.8	14.5
Social sciences	6,967	15.3	11.5
Education	6,115	13.4	5.9
Humanities (including fine art, drama)	5,570	12.2	16.5
Others (particularly management, media, mass communications)	2,680	5.9	6.4

**7.33** Recent figures show marked divergence between the US and UK. There was an increase of 5% in American doctorates awarded between 2005 and 2006, which is over twice the UK figure. Engineering and physical sciences showed the largest increases in the US (12%) whereas in the UK the rates of growth were only 2% and 0.6% for engineering and physical sciences, respectively.

**7.34** US data indicate that international students earned 67% of doctorates awarded in engineering and 53% of those awarded in physical sciences. Other than for engineering (where international PGR students in UK account for 57%), these profiles compare approximately with those for the UK.

**7.35** In 2000, in the US more than half of the engineers holding doctorates and 45% of those in the physical sciences, computer sciences, and life sciences were foreign-born. One-third of these scientists and engineers came from China and India alone. This trend is likely to continue, in spite of visa restrictions, given the increasing demand for these professionals. The number of science and engineering postdoctoral appointments at US universities has more than doubled in the past two decades and foreign-born researchers account for most of the increase (58% in 2003).

**7.36** In 2003 about 74% of international PGR students said that they intended to stay in the US after completing their programme. Stay rates vary by place of origin: relatively high percentages of science and engineering doctorate recipients from China and India and relatively low percentages of those from Taiwan, Japan and South Korea intended to remain. Among US science and engineering doctoral degree recipients from Europe, a relatively high percentage from the UK planned to stay. Few PhDs from France, Italy and Spain intended to stay.

**7.37** In 2003, 53% of international students who had received doctorates in 1993 were still working in the US; for the 1998 cohort some 61% were still working there. But growing international competition for foreign students raises questions about the continued viability of these high rates.<sup>29</sup>

**7.38** There is little published information on the funding of doctoral students in the US. Some data exists for all graduate students (ie master's + doctoral) and these indicate that about 50% contribute towards their costs from their own funds (particularly through income generated by part-time employment or a loan). About 40% receive some form of support from the university, although this level varies greatly according to subject.

**7.39** In science and engineering more than 90% of international doctoral students receive funding to cover living costs and very few are required to pay university fees. The norm is that international students are likely to receive support through several different mechanisms. Unfortunately data are not centrally collated as provision tends to be *ad hoc*, dependent on both departmental and staff research funds and university core support. The largest single source is associated with research contracts, particularly from government departments; these might provide for Research Assistantships (RAs). It is estimated that RAs support about 46% of all science and engineering students. A range of other sources are available, including teaching assistantships, fellowships and traineeships, other federal agency support, and non-federal support, including from the institutions' own resources.

**7.40** Particularly important in support funding is the availability of part-time employment for international students. Federal regulations restrict the employment of international students to campuses only. Universities respond by having clear employment information systems to detail opportunities and assist students to secure academic/research-related employment and other campus jobs.

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**7.41** It takes a long time to get through the American university system. From end of bachelor degree to PhD it is 6.4 years for physical science doctorates, 8.6 years for engineering and 10.9 years for social sciences. International doctoral students on average tend to complete faster than domestic. Nevertheless, this is a significantly longer average time than for research students in the UK.

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## Singapore

**7.42** There has been much publicity around the Singapore government's aim of making the country an 'education hub' for the region with an initial target of recruiting 150,000 international students. The government is also keen to attract quality research centres to the country, particularly in the biosciences. Part of Singapore's overall strategy includes attracting a number of 'big name' universities to open campuses.

**7.43** There have been some successes to date, particularly toward the international student recruitment targets at undergraduate and PG taught programmes, but there have been mixed experiences in regard to foreign campuses and research provision. Currently there are established and proposed campuses for INSEAD; Murdoch University; Tisch School of Arts, NYU; Duke and Stanford Universities and the University of Chicago Graduate School of Business. Recently the Design School from Cincinnati has announced an intention to set up a Singapore campus. Some of these are in partnership with established Singaporean HE institutions. There have already been two high profile 'casualties' who invested and then departed: UNSW Asia (administered by University of New South Wales) and Johns Hopkins University (medical education and research facility).

**7.44** Given the level of investment from the Singapore government, particularly to encourage graduate level and research activities, the capacity to attract international researchers will inevitably grow. But the size of the country, and the associated HE and research system that it might support, is unlikely to result in significant competition in the total market for PG researchers – apart from niche areas that the Singaporeans might prioritise.

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## China

**7.45** China is rapidly becoming a major player in the international student market, although it is not yet fully engaged in the recruitment of international PGR students. Nevertheless, China's research and development expenditure is rapidly approaching that of Japan.

**7.46** The number of international students in China was 110,844 in 2007, of which 6,715 were sponsored by the Chinese government and the rest studying at their own expense. According to the Ministry of Education, international students from 178 countries studied in 420 Chinese colleges and universities in 2004. The total number increased by 42.6% over the previous year. The first students from Bangladesh, India, Thailand, Pakistan and Japan earned doctoral degrees in Chinese universities in 2004.

30  
British Council *et al* (2004),  
*op cit.*

- 8.1** The UK has been very successful at recruiting international PGR students over the last decade or so, possibly the most successful country in the world on a per capita basis. UK institutions have achieved this based on a reputation for quality, but it is a delicate balancing act between the need to focus on quality in their selection procedures while attracting students able to fund their own studies. Given the shortage of scholarships from the UK to recruit students in numbers necessary to sustain their research base, most institutions need international PGR students with access to their own personal funds or a scholarship from their employer or government.
- 8.2** The total size of the global market for international PGR students is not known, as comparative data is inconsistent. Even the most comprehensive data set from UNESCO does not disaggregate research from master's students. We suggest that there are up to 300,000 international PGR students studying outside their country of origin. This would imply that the UK market share is in excess of 15%. The 'Vision 2020' study predicted a growth rate of about 3.5% per annum but indications now are that this was an underestimate.<sup>30</sup>
- 8.3** The UK already has proportionally the largest numbers of international PGR students in its HE system. The current level of over 42% international PGR students in the UK compares with France at 35% and the American level of about 33%. Interestingly, even at these levels, UK institutions responding to our survey did not indicate that there were yet capacity constraints.
- 8.4** It would be unwise to assume that the UK's leadership and share will be maintained in the future without taking steps to strengthen a number of essential aspects of our PGR programmes. This concern is based on two realities: while the market for PGR is growing globally, it is constrained; most of the major countries active in international higher education are now investing in PGR student recruitment and offer funding packages significantly superior to those available from the UK. The question, therefore, is not *whether* this will impact on the UK but *when* – unless the UK HE sector and individual universities develop new and competitive recruitment, marketing and funding strategies.
- 8.5** While this report is concerned specifically with international PGR students, our analysis indicates there are concerns over the ability to attract UK students in some key topics, including engineering, technology and physical and mathematical sciences. There is a need to re-focus efforts towards recruiting more UK PGR students, through some form of national strategy with enhanced financial and promotional resources.
- 8.6** Almost all UK institutions are clear that they require high-quality international PGR students to drive forward their research agendas but only a few seem to invest significantly to achieve this through scholarships, fee remissions and proactive PGR marketing. They tend to recruit mainly those students who come with their own funds.

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## Country prioritisation

- 8.7** The most important countries for international PGR student recruitment for the UK have been China, India, US and Greece. Future national and institutional recruitment strategies should recognise this but should also consider the UK's vulnerability to a downturn. This has already started for recruitment from Greece and China.
- 8.8** EU countries are extremely important as they provide about one-third of all international PGR students in the UK. Yet national and institutional policies seem to be ambivalent toward prioritising EU recruitment. Recent increases in numbers from EU countries should be welcomed as the students tend to be spread across all disciplines, although those from eastern Europe are more concentrated in physical and engineering sciences.
- 8.9** It is important for the UK HE sector and individual universities to consider diversification of source countries according to subject areas. A figure of 20% might be a useful yardstick for dominance of one country in a particular subject area. While some institutions might have programmes populated by significant numbers of students from one country, by this measure the UK overall is relatively well-balanced except for two areas:
- over-dependence on the US in arts and humanities (30%)
  - dependence on China in engineering and technology (20%)
- 8.10** No country provides more than 10% of the total UK international PGR student population; the largest is China at about 10%. For certain subject areas, however, the international proportion of the total PGR enrolment is greater than 50%: engineering and technology (57%), law (58%), business and management (56%), social studies (52%), mathematics and computing (51%) and architecture and building (56%). These are subjects vital for the UK's knowledge economy but dependence on international students in these subject areas reinforces the need to develop a strategy that priorities these topics and targets those countries where demand is greatest.
- 8.11** There has been considerable decline over the last few years in the recruitment of PGR students from some key countries, notably Japan, Singapore, Mexico, Israel, Greece and Malaysia – although there was some increase in numbers from Malaysia last year following new Malaysian government investment. While it is inevitable that there will be source country fluctuations over time, there is good potential for increasing marketing efforts in these countries.

- 8.12** For the UK to maintain its competitive advantage in the international PGR student market, policy-makers should consider the following:
- Top priority countries are China, India, Malaysia, Greece and the US.
  - EU students should be prioritised in both national and institutional strategies.
  - Middle East countries (particularly Saudi Arabia, Libya, Egypt, Jordan) are important. Students from these countries are concentrated in physical sciences and engineering disciplines.
  - Pakistan and Nigeria are increasingly important for student recruitment at all levels. Pakistani students are concentrated in sciences and engineering while Nigerians tend to be spread across subject areas.
  - Other consistently important countries over the last few years for the UK have been Canada, Taiwan, Thailand, Mexico and South Korea.
  - Efforts should be made to reverse the decline in PGR student numbers from Japan, given their particular profile in arts, humanities and social sciences.

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### Funding

**8.13** Funding was identified as the biggest problem by almost all respondents (institutions and students) in our surveys. The ISB survey clearly indicates that the UK is perceived to be the most expensive destination country by PGR students.

**8.14** The majority of the UK's competitors provide generous support (fees plus living costs) for all international PGR students. Only Australia charges fees at an international student rate but they generally balance this by having more scholarships available (which are heavily promoted). New Zealand charges international PhDs at the domestic rate and provides scholarships. Among emerging European competitors (particularly France, Germany, Netherlands, Denmark, Sweden), very few charge fees for PGR students and most offer support for living costs.

**8.15** The UK might learn from aspects of the American approach. This involves support for almost all PGR students in US priority subjects (eg engineering, technology, sciences). Support includes fees and assistance toward securing part-time employment.

**8.16** Our research indicates that only 36% of PGR students in the UK receive funding support from UK sources, mainly from institutions in the form of fee waivers or discounts. There are widely differing institutional policies: some institutions supporting more than 50% of their international PGR students and others less than 10%. It was difficult to identify any clear institutional policy for the strategic use of these resources, either for prioritising countries or subjects. But a number of UK institutions have indicated that they will be making more funds available to support international PGR students in the future.

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**8.17** At the national level less than 10% of international PGR students receive funding from UK government sources. Given the importance of recruiting these students, a review of funding considerations should be undertaken and this might include the following options:

- Increasing the investment in scholarships in nationally important subject areas.
- Offering fees-only scholarships and awards, rather than full support, to provide for more students.
- Offering fee discounts to encourage master's students to progress to PhD study.
- Making more funds available to institutions to use flexibly in combination with their own funds, eg for fee discounts.
- Allowing greater provision for PGR students within Research Council-supported research projects.
- Investigate extending student-loan provision to national and international PGR students.

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**8.18** Overseas governments and employers support about 15% of international PGR students in UK and for a few countries (Malaysia, Mexico and Middle East) over 50% of their students in the UK are provided for by them. A number of UK institutions have been successful at maintaining recruitment from these countries by negotiating fee discounts. One possible future strategy is to consider direct approaches to governments with the aim of negotiating bilateral agreements on fees. The embassy or British Council in the country, in cooperation with Universities UK and GuildHE, might undertake this. For this to be successful there needs to be a clear demonstration that institutions can respond to sponsors' expectations, including the provision of a composite skills package for students with transcripts and accreditation stated.

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**8.19** The majority of international PGR students fund their studies themselves and therefore seek part-time work to supplement resources. This needs to be recognised more explicitly by institutions and reflected in approaches to support and recruitment. This could be facilitated through clear statements in promotional materials, suggesting or advertising employment opportunities and explaining to potential research supervisors that this is essential.

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## **Employment**

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**8.20** A significant proportion of international PGR students (probably 40%) intend to remain in the UK to continue with professional and research related employment. The need to encourage these professionals to work in the UK on completing their programmes has been identified by policy-makers and employers, particularly given the shortfalls in certain skill areas in the UK economy.

**8.21** There is, however, a perception by institutions and international students that the UK immigration system does not take into account the specific needs for recruiting and supporting PGR students. Their needs are different: they are normally older, may have families, are the most likely to undertake part-time work, length of study is more variable (and can require visa extensions) and a significant proportion stay to seek work after completion.

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### **The student experience**

**8.22** International PGR students now expect more – they want better access to funding opportunities and to employment (both during and post-study), closer work-related experiences and applicability within their studies, better academic and other support, and a more ‘rounded’ university experience. Given that the competition for this limited group can only continue to increase, then the institutions and countries likely to succeed will be those able to respond to the mix of student needs.

**8.23** An area of inconsistency for UK universities is the time devoted to supervision of research students. Some institutions report that they have no policy. The highest level of student contact reported was about 200 hours per year whilst the least was ‘a minimum of 10 hours per annum’ or ‘eight meetings per annum’. The median for all the respondents was 30 hours per year. While there is no specific QAA guidance it is an area to consider for establishing guidelines as it does cause difficulties. International students want to know what to expect for the fees they pay.

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### **Marketing and promotion**

**8.24** The PGR recruitment market is changing. Among the most obvious and far-reaching of these changes are the higher expectations of students and the increasing levels of competition. The UK would be unwise to assume that its leadership in international PGR student recruitment will persist in the future unless steps are taken to strengthen it.

**8.25** There are no marketing or promotion programmes that specifically focus on international PGR students at national or institutional levels. UK websites provide little guidance. Greater thought must be given to the development of an explicit marketing strategy underpinned by a framework embracing approaches to market segmentation, targeting and positioning, and to the management of the elements of the product, price/fees, promotion and place of delivery.

**8.26** There is a need for clarity on appropriate recruitment targets and how the UK (and UK universities) might want to position in the market over the next few years. Positioning has traditionally been based upon quality and it is important to build on this. However, far greater emphasis might be given to what this means at PGR level in the 21st century when PGR student needs, expectations and pressures are changing.

## 8.27

Current recruitment is dependent upon a relatively small number of countries and because of the capacity building efforts being pursued within many of these (China is an obvious example), and the entry to the market of a variety of new and aggressive players, there is a need to develop far stronger and more meaningful profiles and recruitment patterns in a spread of other countries. It is therefore important to assess how the UK's capacity and areas of expertise might most effectively be married to the (changing) needs of these new markets.

## 8.28

In what is referred to as the marketing mix, greater thought must be given to:

- The nature of the **product** and whether the current model is appropriate and relevant to the needs of different markets. In raising this issue, we are not in any way suggesting a lowering of standards, but simply asking whether the product might be modified to meet different needs. As an example of this, the taught doctorate represents the sort of change that is more suited to particular groups of students and in some subject areas.
- **Price-fees** and the overall costs of studying. The UK's current approach to fees is a reflection of what has existed for several decades and although some scholarships are available, the question of whether or what level of fees should be levied for PGR students must be considered. This is particularly so when comparing the UK's approach with that of other European countries, that are increasingly positioning themselves as attractive study destinations. If fees are retained, greater thought needs to be given to the nature and availability of scholarships, how these are promoted and how students might access them
- **Distribution** or how and where students pursue their study. Given the need to develop a stronger presence in a variety of new markets, many of which are poorer than some of those in which we have operated in the past, there is scope for some subject areas for new forms of delivery, with part or all of the supervisory process taking place in-country, with supervisors travelling to their students or operating jointly with in-country supervisors. This could most obviously be achieved through stronger in-country partnerships with local universities.
- The more explicit and coordinated **promotion** of the UK for PGR study. To date this has been driven in the main by individual institutions, and whilst this has met with success for the limited number that currently dominate PGR recruitment, there is a strong case for a sector-led, sector-coordinated approach. In the absence of this, we run the risk of perpetuating what is essentially a fragmented approach. If this is to be achieved, however, a far more explicit UK doctorate brand must be developed, with lessons being learnt from the Education UK brand and the PMI experiences. As part of a more effective promotional strategy, clearer national and institutional approaches for website development are necessary and also better use of alumni as ambassadors for UK research should be ensured.
- A review of the student experience and approaches to **process management** (ie how the student relationship is managed from point of first contact through to the point of last contact).

**8.29** Websites (national and institutional) are the main sources of information for prospective PGR students. Our survey of a random sample of websites indicated that few targeted specifically this important group. There is a need for universities to review critically their websites, in the light of the various factors identified here. In particular research pathways and funding sources should be made far clearer than is currently the case. There is also a strong need for the development of PGR portals within national websites.

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### **National-level recommendations**

To maintain a competitive advantage, the UK requires a more coherent approach to the recruitment of international PGR students at national level. This approach should:

- 1** Develop a clear and attractive UK doctoral brand with emphasis on quality, innovation and the attractions of the UK as a study destination. This should be consistent with the broader and existing branding within the British Council's Education UK Partnerships.
- 2** More clearly define the benefits of a UK doctorate to an international audience. This approach should be designed to counter international perceptions of the UK as an expensive location, particularly since a UK PhD can be completed more quickly than elsewhere.
- 3** Critically review current international-facing websites to ensure PGR-specific information is relevant, useful and attractively presented. All such websites should include up-to-date details on funding and scholarships for international students.
- 4** Establish a UK PGR marketing strategy based on a framework for market segmentation, pricing and scholarships. Targets should be set on a market-by-market and subject-by-subject basis. Seven countries provide about 40% of international PGR students. Over-reliance on few subjects and few markets should be minimised.
- 5** Review national funding and scholarship provision to align funds to country and subject priorities. Offering more 'fees-only' scholarships should be considered as a means of boosting international recruitment in key (eg STEM) subjects.
- 6** Consider direct approaches to governments that provide scholarships for their nationals to study on PGR programmes abroad. It may be possible for the UK to negotiate fee agreements in subjects identified as priorities by those other governments. Some universities already do this.
- 7** Establish a campaign to target international students currently studying in the UK to encourage them to stay for PGR study. About four in ten of international students who apply for PGR programmes in the UK are already studying in the UK.
- 8** Counter perceptions among prospective international students that the UK immigration system is difficult and does not take into account the needs of international PGR students (eg family visas, part-time work). This could include specifying and driving home the benefits of the new immigration system.

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### **Institutional recommendations**

To maintain a competitive advantage, UK universities should review their international strategies to ensure that the specific needs of PGR students are clearly addressed. The following recommendations are not revenue-neutral but will require appropriate investment:

- 1** Re-examine target markets for each major subject area in which the university possesses strength. Not all UK universities need to be chasing the same markets and some diversification will also have benefit throughout the UK sector.
- 2** Revamp websites to provide the necessary material required by prospective international PGR students and make that material easily accessible. Institutional websites are crucial sources of information for all international students.
- 3** Develop on-campus PGR recruitment strategies that focus on existing international students. International students cite the influence of a lecturer where they previously studied as the most important information source for PGR study.
- 4** Organise overseas presentational visits by 'big-name' staff to build upon a university's reputation. International students cite such presentations as an important source of information, and the quality of lecturers is a key factor associated with an overseas student's learning experience.
- 5** Assist international PGR students in their attempts to secure part-time work to help fund studies. Most international PGR students need such work. Living costs and financial support are key factors associated with the learning experience.
- 6** Augment fee support in specific subject areas to compete with the recruitment strategies of overseas competitor universities, in particular in those countries considered as alternatives to the UK (ie, the US, Canada, Australia and other EU countries).
- 7** Establish guidelines for minimum levels of student-supervisor contact and convey this information clearly to prospective students. International students – and their sponsors – are demanding and are influenced by value-for-money arguments.



The International Unit would like to thank the following members of the project steering group for their expert advice:

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We would also like to thank

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**July 2008**

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The UK's Competitive Advantage: The Market for International Research Students is published by the UK Higher Education International Unit. The authors of this report are Neil Kemp, Will Archer, Colin Gilligan and Christine Humfrey.

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The UK Higher Education International Unit has been established to coordinate, promote and undertake activities designed to support UK universities in a globally competitive world.

The UK HE International Unit is funded by the Higher Education Funding Council for England, the Scottish Funding Council, the Higher Education Funding Council for Wales, the Department for Employment and Learning (Northern Ireland), GuildHE and Universities UK.

### Supported by



We gratefully acknowledge the financial support from the Prime Minister's Initiative for International Education (PMI2)

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