Research Careers

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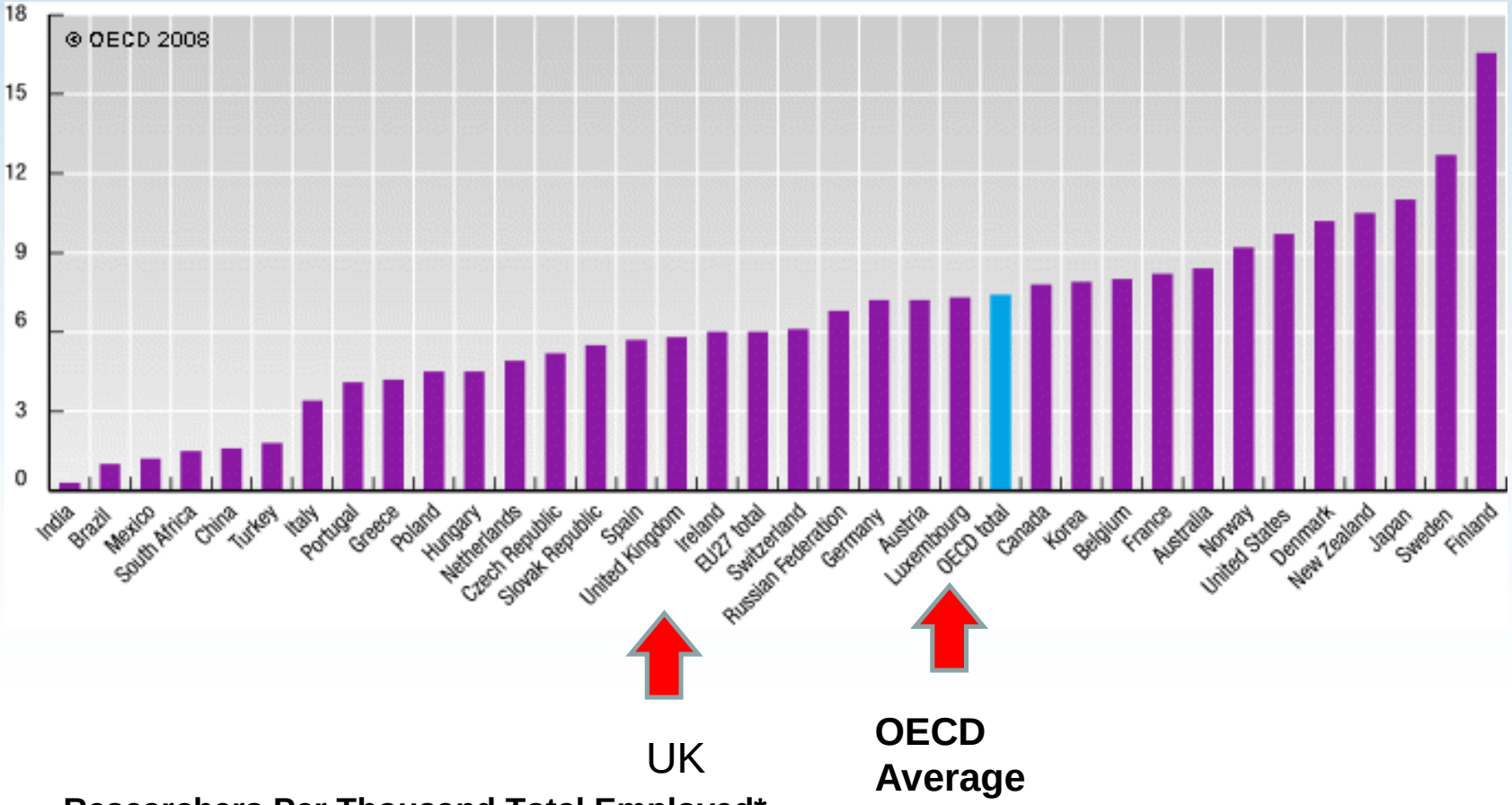
The Brief

- **Concern that research careers are not attractive to bright graduates**
- **Particular consideration of:**
  - the influence of current incentives
  - the flexibility of research careers
  - the influence of research assessment
- **Make recommendations which could improve the quality and quantity of talented graduates choosing to enter long-term sustainable research careers**

Scope of the Review

- Recognition that much work already exists – opportunity to build on this
- Research is a global industry – not just ‘home grown’ talent
- UK research base in its widest sense - not just academia
- Must consider initial attractiveness of research careers and retention and advancement at more senior levels
- Key roles for government, funding councils, universities and business/industry

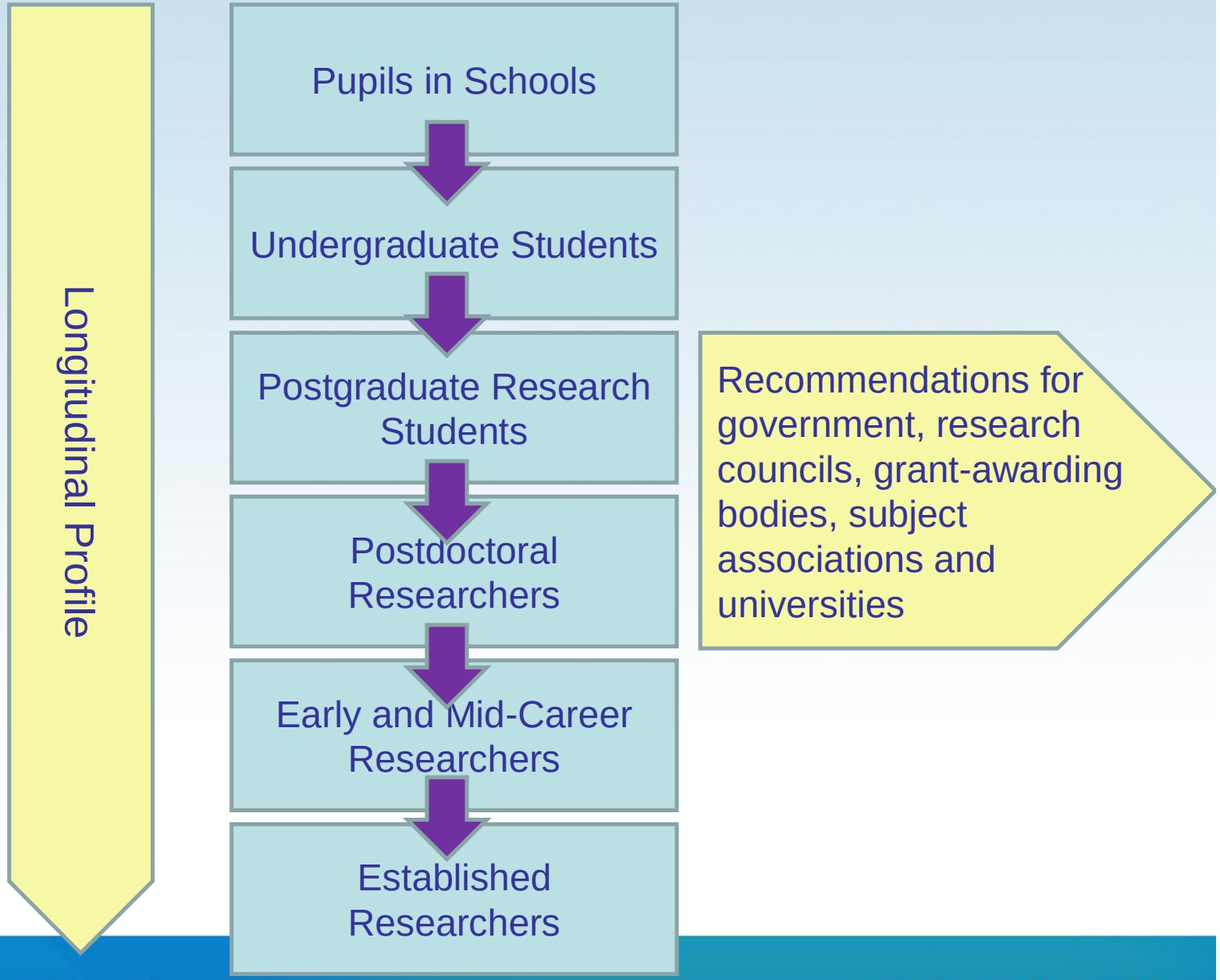


UK

OECD Average

Researchers Per Thousand Total Employed*

Source: OECD Science, Technology and Industry Scoreboard 2008 (OECD Factbook 2008).


Longitudinal Profile
Pupils in Schools
Undergraduate Students
Postgraduate Research Students
Postdoctoral Researchers
Early and Mid-Career Researchers
Established Researchers
Recommendations for government, research councils, grant-awarding bodies, subject associations and universities

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Recommendations for Government

1. Develop a more sophisticated long-term understanding of the supply of and demand for researchers across all sectors and disciplines

2. Work through existing programmes and international relationships between universities, learned societies and professional bodies to identify and support talented young scholars from around the world

3. Work in partnership with universities and industry to extend existing scholarships for high-quality international postgraduate students wishing to study in the UK

4. Establish a working group comprising senior stakeholders with an interest in university-business collaboration, and specifically the transferability of researchers, to take forward a Lambert Agreement Round 2

5. Consider the introduction of industry match-funding awards for early career researchers

Recommendations for Research Councils, Grant-awarding bodies and Subject Associations

1. Subject associations should work in partnership to promote careers in research at an early stage by working more intensively with school teachers

2. Research councils should work with universities, research institutes, charities and industry to develop a national Research Experiences Programme for undergraduate students

3. The Roberts funding for universities should be sustained over the long-term to ensure high-quality researcher development programmes become embedded across the sector

4. Research councils should develop consistent mechanisms to record the demographic characteristics of their researcher communities and track early career researchers in order to inform future funding strategies

5. Research councils and grant-awarding bodies should consider the provision of awards of longer-duration for early career researchers, providing high-quality performance is demonstrated

Recommendations for Universities

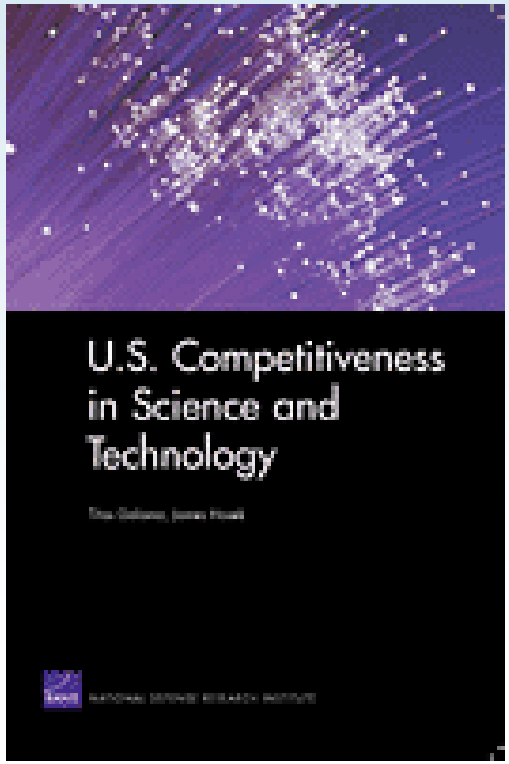
1. Consider whether the widening participation agenda applies to postgraduate study and, if so, what might realistically be done to improve matters

2. Encourage wide dissemination of the good practice which already exists in some universities with regard to holistic support for postdoctoral and early career research staff

3. Consider whether institutions could do more to encourage greater transferability of researchers between academia and industry where appropriate

Understanding Supply and Demand

- Elite Researchers – brain drain or net gain for the UK?
- Aggressive policies of competitor countries
- We must develop a more sophisticated long-term understanding of the supply of and demand for researchers



1. Pupils in Schools

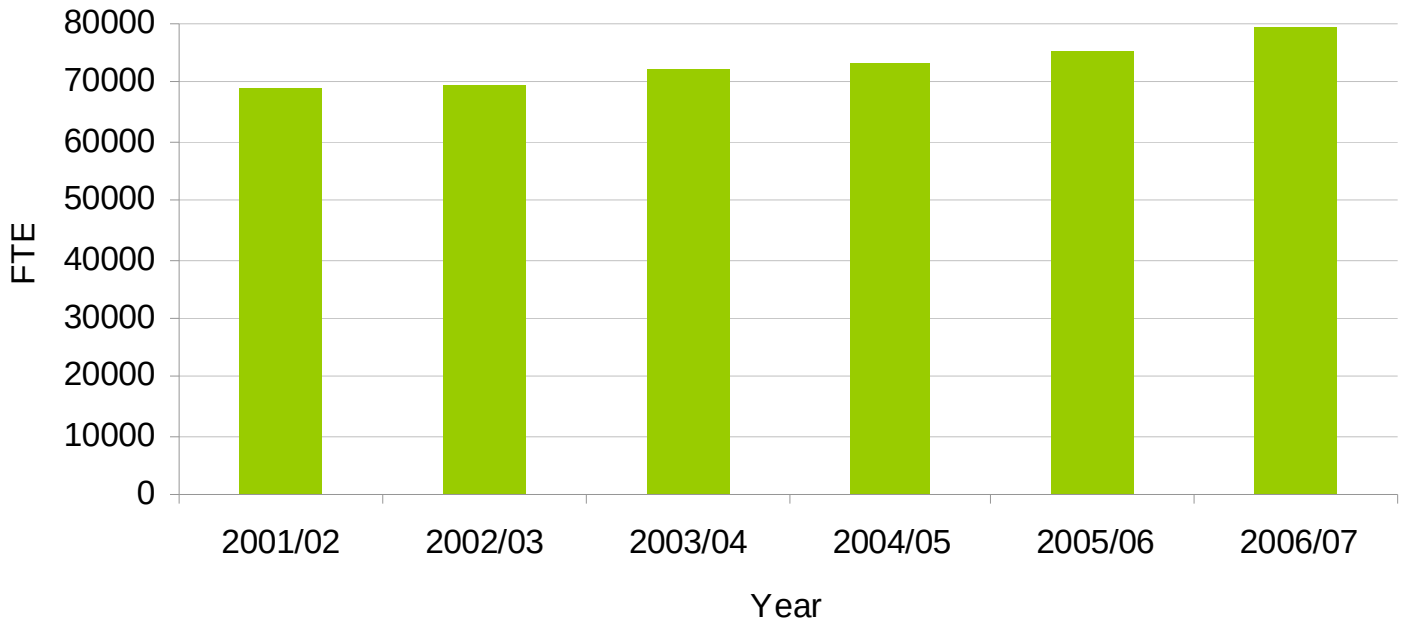
- **Raise awareness of research careers through work with teachers and pupils in schools**
  e.g. extension of the Researchers in Residence programme
- **National scholarship schemes and global talent search** e.g. Singapore A* STAR Young Researchers Attachment Programme, International Gateway for Gifted Youth

2. Undergraduate Students

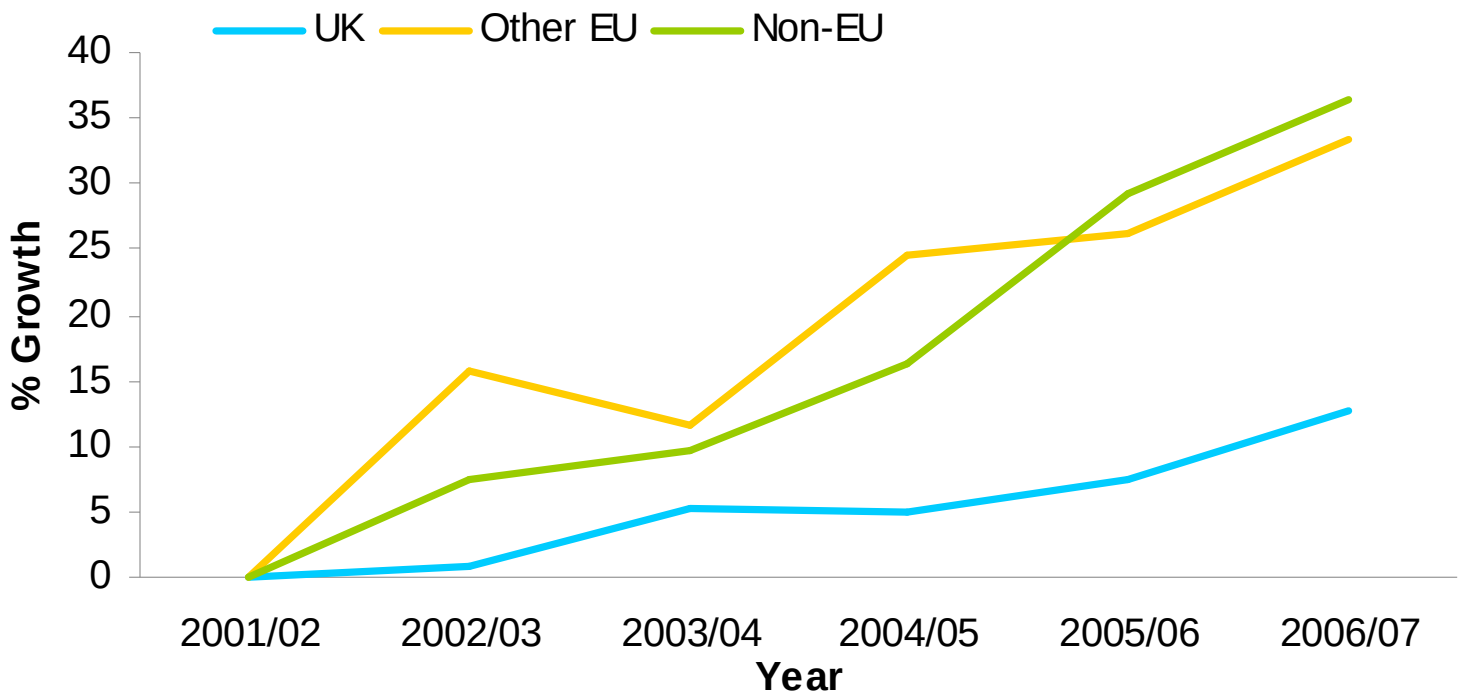
- **Good examples at undergraduate level** e.g. Warwick/Oxford Brookes Reinvention Centre, Imperial's Undergraduate Research Opportunities Programme, NSF Research Experiences for Undergraduates in US
- **Nationwide research experiences programme** – partnership between government, universities and business/industry

3. Postgraduate Research

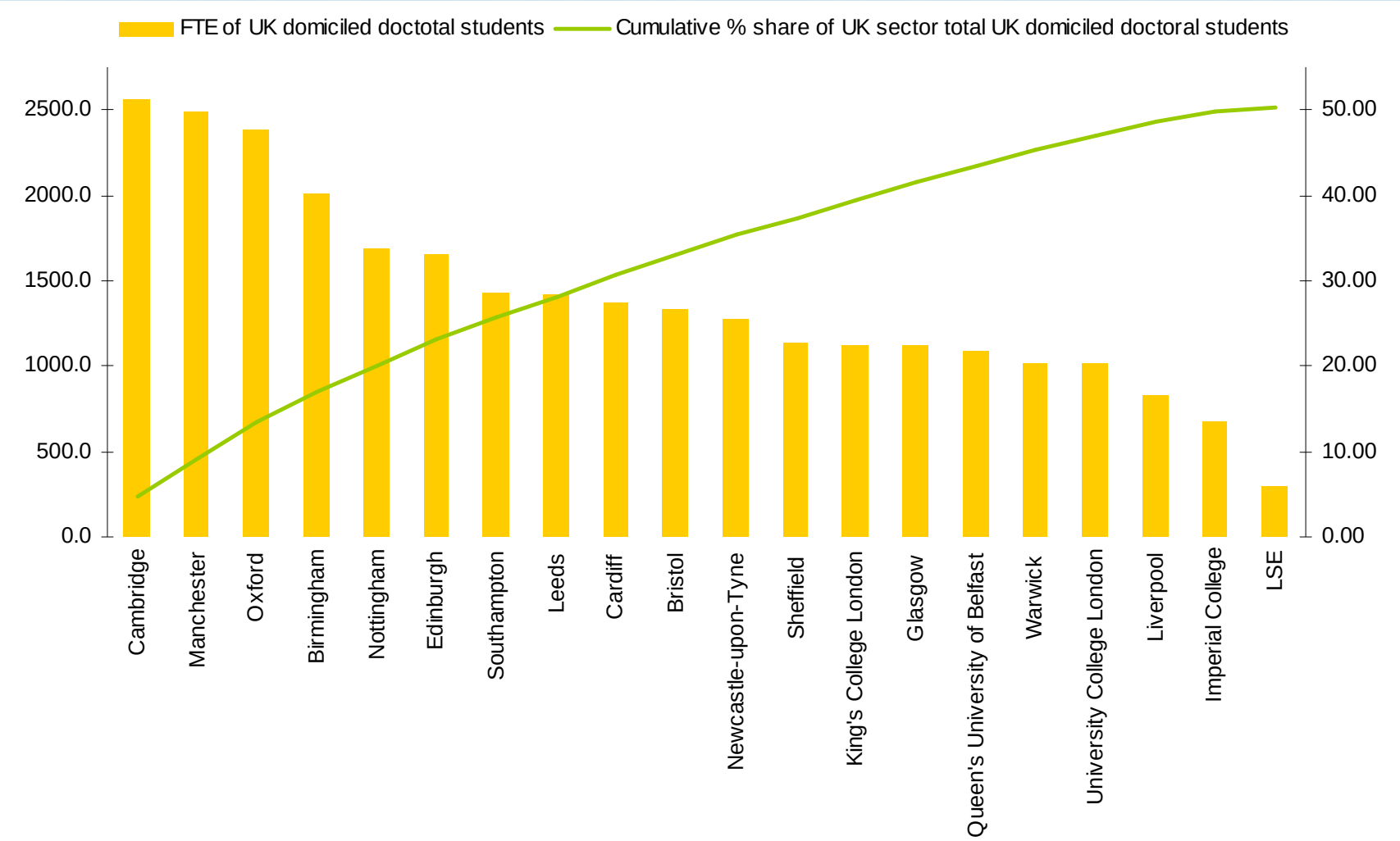
- **Recruitment and progression of postgraduate research students** – some concerns
- **Aggressive policies of O/S competitors** – need to extend funding scheme for high-quality international students
- **Universities to consider whether the WP agenda applies to postgraduate study**



Student FTE Postgraduate Research – UK Sector Totals
Source: HESA 2006/7



Year-on-Year Percentage Growth in PhD Qualifiers by Domicile
Source: HESA



Distribution of UK-Domiciled Doctoral Students by Institution (2006)

Source: HESA

4. Postdoctoral Research

- **Over 50% of UK PhD graduates move out of the HE sector**
- **Holistic approach to personal and professional development for early career researchers** - Career management and coaching, PDP, mentoring, networking support, research staff representatives
- **Some examples of good practice within universities** e.g. Bristol, Manchester, support provided by universities' Institutes of Advanced Study
- **Dissemination of best practice and sustained funding is vital**

5. Early-Career Researchers

- **The role of research councils in tracking of research communities**
- **ARISE Report** - *'budding researchers are best served by large, multiyear awards'*

6. Greater Transferability Between Industry and Academia

– **Match funding schemes (e.g. NSF Research Award Match Program)**

– **Lambert Agreement Round 2**

"Establish dual appointments in the more productive middle years where both industry and academia could probably benefit more"

(Industry Representative)

Attracting and Retaining World-Class Talent

- Importance of attracting elite senior level researchers
- Powerful role models for early-career researchers
- Positive clustering effect
- **The UK must act now to develop a coherent policy at all stages of the research career**

Thank You