HIGHER EDUCATION FUNDING COUNCIL FOR ENGLAND

ASSESSING THE QUALITY OF RESEARCH IN THE UK

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A successful UK research base

- 11 UK universities in the World universities ranking top 100 (second only to US)
- UK attracts 5% of all international doctoral students (second only to US)
- 3rd in G8 (behind US and Germany) for production of PhD qualifiers
- UK produces more publications and citations per pound spent on research than other G8 nations
- with 1% world population we produce 7.9% of world publications, receive 11.8% of citations and 14.4% of citations with highest impact

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National Policy

- A strong and innovative national research base is essential to support national prosperity in a globalised knowledge based economy
- Need to strengthen links between undertaking research and developing new products and services
- Our strategic aim is to develop and sustain a dynamic and internationally competitive research sector that makes a major contribution to economic prosperity, national wellbeing and the expansion and dissemination of knowledge.

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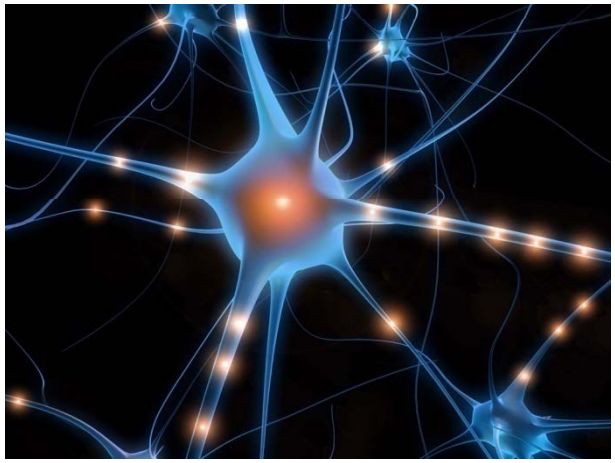
Funding for research



- More than 50 universities with a serious research mission, funded through a system called Dual Support
- investment in the UK research base enables innovation and commercialisation activities and is essential to the UK's economic success
- plurality of funding for university-based research is a major strength of UK

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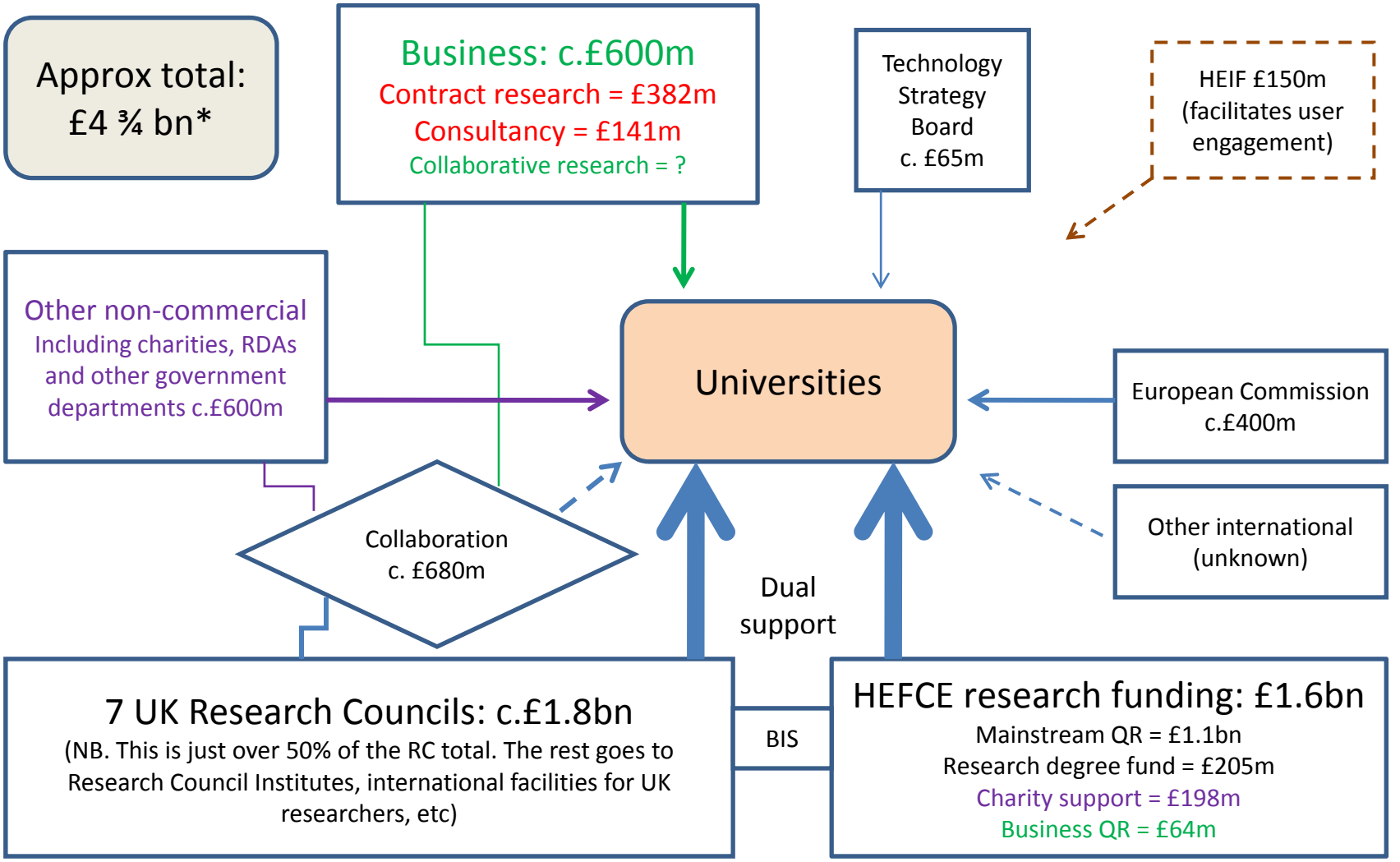
Research and innovation

Research funding flows to HE



* This is an estimate. Excludes informal flows, funding in kind and other funding streams that universities themselves may channel into research.

Quality-Related (QR) Funding

- Universities are also funded by Government to build and sustain baseline capacity of high quality
- Undertaking research often chosen by the priorities of the researcher – ground-breaking and innovative 'blue-skies' research
- Stable base on which to undertake research commissioned by other funders.
- Allows exploration of new areas of research, looking at connections between disciplines, support of early-career staff, doctoral students, support of staff between grants and research facilities
- Expenditure at discretion of senior university staff

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How to Allocate QR – The RAE

- Decision taken 25 years ago to allocate on basis of quality – those universities who do the best research are rewarded
- National research assessment system – Research Assessment Exercise designed, implemented and refined – the RAE
- Universities choose which staff to submit for assessment
- Four (best) research outputs submitted for each member of staff (fewer for early-career staff)
- Statements about the research environment and research esteem
- Discipline panels assess using peer review

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RAE: a UK-wide framework

- Aiming to maintain the capacity of higher education to undertake world-leading research across a range of academic disciplines, promote economic growth and national well-being and the expansion and dissemination of knowledge

- **The RAE:**
  - Drives our selective allocations of research funding, supporting excellence wherever it is found
  - Provides international benchmarks and reputational yardsticks
  - Provides accountability and demonstrates the benefits of public investment in research

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RAE: First Steps in 1986

- Expert assessment of research in discipline units, based on written evidence from universities
- Evidence base included statistics of outputs and income, limited reading of research papers
- Later exercises read more and more of the papers and broadened to consider wide range of research outputs
- Assessments of research in 150 subject units – reduced to 67, now 36
- in 40 UK universities originally, now 130
- Originally results not published, now are public.

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RAE: History

- Exercises took place in 1986, 1992, 1996, 2001, 2008, next exercise in 2014
- Still a written exercise based on expert review
- Changes to the exercise were made primarily by universities and academics although influenced by government.
- Exercise owned by government and universities
- Research 'Users' – business and industry increasingly involved
- Assesses best research not all research and no reward of volume of publication

RAE: Reporting

- Research Outputs assessed against standards such as ‘world-leading’, ‘internationally-excellent’, ‘internationally recognized’, ‘nationally recognized’ by panels including international members.
- Results combined with assessments on research environment and research esteem to provide final assessment for each unit which is submitted – essentially university departments
- Assessment used to be a grade (1-5 where 5 was the best) now a profile indicated the percentage of submitted work in each of four categories (1-4 where 4 is best).
- Results are very important for a university’s reputation but are then used directly to determine the funding for the next 5-7 years.

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RAE: Outcomes

- Research assessment since 1986 has had a major impact on academic research in the UK
- Driving up standards through increasingly selective funding
- A powerful tool for research management within universities
- Helping to secure increased funding, by showing what this buys
- Public information – identifying the best departments

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RAE: Criticism

- Why not use bibliometrics? Or financial metrics? Why use peer review?
- Expensive and lots of hard work – but costs less than 1% of funding
- Discriminates against work which is not best described by peer-reviewed research output.
- Led to…
- Introduction of Research Excellence Framework from 2014 – a modified version the RAE

Incorporating impact in the REF

- The aim is to identify and reward the contribution that high quality research has made to the economy and society:
  - Making these explicit to the government and wider society
  - Creating a level playing field between applied and theoretical work
  - Encouraging institutions to achieve the full potential contribution of their research in future

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The REF Framework

Overall excellence profile

Outputs

(60%?)

Maximum of 4 outputs per researcher

Impact

(25%?)

Case studies

Environment

(15%?)

Narrative template + income and student data

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Impact Pilot: initial consultations

- Widespread acceptance of the principle of incorporating impact in the REF, and agreement that the impact assessment should:
  - Be based on expert review
  - Review historical impacts, not predict future impact
  - Focus on the impact of submitted units' research, not individual researchers
  - Be underpinned by high quality research
  - Take a wide view of impact, inclusive of all disciplines

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The impact pilot exercise

- Tested and developed a case study approach to assessing the impact of research
- Five units of assessment (UOAs)
- 29 UK universities, each submitting to 2 UOAs
- Each submission included:
  - An 'impact statement' for the submitted unit as a whole
  - Case studies illustrating examples of impacts achieved (a total of one case study per 10 research staff)
- Impacts that occurred during 2005-09, underpinned by research since 1993

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The pilot panels

- Membership drawn from academia and research users from the private, public and third sectors
- The panels tested the methodology by:
  - Assessing the case studies in terms of 'reach and significance' of the impacts
  - Considering the wider 'impact statements'
  - Producing impact profiles
  - Reflecting on the process, identifying issues and making recommendations on how to improve the process

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Pilot reports

- Publications on www.ref.ac.uk:
  - The findings of the five pilot panels
  - Feedback from the 29 pilot HEIs (by Technopolis)
  - Examples of good practice case studies
  - A summary of workshops to explore impact in the arts, humanities and social sciences
  - Guidance documents used in the pilot exercise

Key findings

- The process made explicit a range of benefits that research in each discipline has brought to society

Benefits of research

Clinical Medicine

- Impacts on patient outcomes, health policy and practice, medical technology and the pharmaceutical industry

Physics

- Impacts on high-tech products and services, public engagement with science and defence and energy policy

Earth systems & environmental sciences

- Impacts on environmental policy, conservation, managing the environmental, utilities, risks and hazards, exploration of resources, public health

Social work & social policy

- Impacts on social policy, public services, third sector, practitioners and public debate

English language & literature

- Impacts on creative industries, cultural enrichment, civil society, English as a global product, policy development

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Key findings

- The process makes explicit the benefits that research in each discipline brings to society
- It is possible to assess the impacts of research through expert review of case studies, and differentiate effectively between submissions

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Impact profiles

Clinical Medicine					
	4*	**3***	**2***	**1***	**U**
UOA average	**17**	**25**	**34**	**12**	**12**
Institution A	0	40	35	25	0
Institution B	25	10	30	15	20
Institution C	0	40	40	10	10
Institution D	0	55	45	0	0
Institution E	20	45	25	0	10
Institution F	25	25	25	0	25
Institution G	25	30	45	0	0
Institution H	20	25	25	10	20
Institution I	0	0	75	25	0

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Key findings

- The process makes explicit the benefits that research in each discipline brings to society
- It is possible to assess the impact of research, through expert review of case studies
- A number of refinements are needed for full implementation
- A generic approach is workable, with scope for REF panels to tailor the criteria as appropriate to their disciplines
- The weighting should be significant to be taken seriously by all stakeholders, and needs careful consideration

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Recommendations

Choose a system which

- Reflects what you want to use it for – allocating funds, quality improvement, public information?
- Reflects the scale of activity to be assessed – the UK system assesses over 50,000 people so we can afford some complexity
- Is designed and operated in close collaboration with researchers – done by them or with them, not to them
- Is transparent and well understood by researchers and funders alike

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Thank you for listening

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