

PERFORMANCE-BASED FUNDING FOR PUBLIC RESEARCH IN TERTIARY EDUCATION INSTITUTIONS

WEB ANNEX: ADDITIONAL COUNTRY DETAIL

This web-only annex provides additional detail of the performance-based funding systems in place in Australia, Austria, Belgium (Flemish Community), the Czech Republic, Denmark, Finland, Germany, New Zealand, Norway, Poland and the United Kingdom. It complements the information published in OECD (2010), *Performance-Based Funding for Public Research in Tertiary Education Institutions: Workshop Proceedings*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264094611-en> (print: ISBN 978-92-64-09460-4, pdf: ISBN 978-92-64-09461-1). Further information about the publication is available at www.oecd.org/document/25/0,3746,en_2649_33703_46622745_1_1_1_1,00.html

Australia

Australia has a number of block grants that are subject to performance-based funding arrangements. They include:

- The Joint Research Engagement (JRE) scheme (from 2002-2010 operated as the Institutional Grants Scheme – IGS). This is aimed at building greater collaboration between universities and the business and non-government sectors.
- The Research Infrastructure Block Grants (RIBG) scheme, introduced in 1995.
- The Sustainable Research Excellence in Universities (SRE) scheme, announced in the Australian Government's 2009-2010 Budget. This is aimed at helping universities meet the indirect costs of conducting research (e.g. human capital, maintaining infrastructure) and implement best practice financial management, performance and reporting frameworks.

These schemes are managed by the Department of Innovation, Industry, Science and Research.

Australia has also introduced a new initiative to evaluate the quality of research in Australian higher education providers. Funding for the development and implementation of the Excellence in Research for Australia (ERA) system was allocated in the 2009-2010 Budget and is being managed by the Australian Research Council. A 2009 trial evaluated two discipline clusters (Physical, Chemical and Earth Sciences, and Humanities and Creative Arts) and a full ERA process will begin from June 2010. The ERA initiative will undertake evaluations of research in Australian higher education providers across eight discipline clusters. Research Evaluation Committees, formed of experienced, internationally-recognised experts, will evaluate the overall research performance of disciplines within institutions, drawing on a variety of indicators. One of the uses of the results will be to inform the performance-based funding component of the Sustainable Research Excellence in Universities (SRE) scheme, and higher education providers will be

required to take part in the ERA in order to be eligible for funds under the SRE. The Australian Government will determine how the ERA may inform funding decisions for other block grant schemes.

Performance-based block funding also applies to grants to support training for students undertaking Doctorate and Masters degrees by research. Schemes include the Research Training Scheme, the Commercialisation Training Scheme, the Australian Postgraduate Awards and the International Postgraduate Research Scholarships.

Data for the performance-based indicators are collected by the Department of Innovation, Industry, Science and Research (which manages the Higher Education Research Data Collection) and the Department of Education, Employment and Workplace Relations (which manages the Higher Education Student Data Collection and Higher Education Staff Data Collection).

The performance indices for the block grants are as follows:

- JRE (former IGS): research income (60%), research publications (10%), HDR student load (30%)
- RIBG: research income derived from Australian Competitive Grants (100%)
- SRE: research income from Australian Competitive Grants is a primary driver. A performance moderator, based on number of Research Active staff and publications, also affects allocations.
- Grants for supporting training for students: successful completions of HDR degrees by students in HEIs.

The funding pools are fixed and the annual allocation of grants is based on each university's performance relative to others.

More information about research block grants can be found at:

www.innovation.gov.au/Section/Research/Pages/ResearchBlockGrants.aspx

More information about the ERA can be found at:

www.arc.gov.au/pdf/ERA2010_sub_guide.pdf

Austria

The indicator-based budget for public universities in Austria is used for the institution as a whole. Aside from research, it also includes weighted indicators for the areas of education and social objectives. The weighting of the different indicators is set out in law (see Bundesgesetzblatt, Teil II, 120. *Verordnung der Bundesministerin für Bildung, Wissenschaft und Kultur über das formelgebundene Budget der Universitäten* (Formelbudget-Verordnung-FBV), 16 März 2006).

Indicators in the area of research and development:

- Number of PhD graduates, grouped by field of study
- Level of external funding for requesting research (local research funds, EU...)

- Level of contract research

Indicators in the area of education:

- Number of regular, active students, grouped by field of study
- Number of graduates, grouped by field of study
- Percentage of graduates that finished within their designated years of study
- Percentage of regular students that graduate

Indicators in the area of social objectives:

- Percentage of female university professors
- Number of female PhD graduates, grouped by field of study
- Number of regular students that take part in mobility programmes
- Number of students in master and PhD programmes with foreign bachelor and master diplomas

Belgium (Flemish Community of Belgium)

There are three mechanisms by which university performance affects funding in Flanders:

- The BOF (Bijzonder onderzoeksfonds – “Special Research Fund”), created in 1985, aims to finance basic research at Flemish universities.
- The IOF (Industrieel onderzoeksfonds – “Industrial Research Fund”), created in 2005, aims to fund strategic basic research and applied research.
- The research component of the structural operational funding (“operational remittance”) of universities, which represents 25% of this funding pool, also incorporates an element of performance-based funding.

Each of the performance-based systems uses an allocation key for distributing funds. Weights are applied for different disciplines. Indicators and overall weightings for 2010 are as follows:

- BOF: Institution’s proportion of: bachelor and initial masters diplomas (25%); doctorates (35%); annual operational remittance/number of scientific personnel (2%); publications (17%); and citations (17%). To this is added a mobility and diversity parameter (4%). A weighting factor for disciplines is applied to the indicator for bachelors and masters diplomas and doctorates, and the impact factors of publications within the different disciplines are taken into account.
- IOF: Institution’s proportion of: doctorates (weighted) (15%); publications and citations (15%); industrial contract income (30%); income from the European Framework Programme (10%); patents (15%); and spin-offs (15%).

- Research component of operational remittance: takes into account number of PhD degrees awarded and a publications parameter.

The Ministerial Order on the BOF expires on 31 December 2012. The mechanism will need to be renewed at this time, and some fine-tuning or larger changes may be made on the basis of effects and impacts of the allocation key.

Czech Republic

The higher education sector in the Czech Republic comprises 72 HEIs¹: 26 public, 44 private and 2 state. In 2008, there were approximately 374 000 students studying at HEIs, of which over 85% were at public HEIs. Two models of performance-based funding that apply to these institutions exist in the Czech Republic: one for specific university research (performed by students as part of accredited doctoral or masters study programmes); and one for institutional support for public research. Both are described within the Act No. 130/2002 Coll. on the support of research and development from public funds, and its related amendments.

The formula for the 2010 calculation of specific university research funding is below:

$$P_i = \frac{U_i}{\sum_{j=1}^N U_j} \cdot 100 \quad U_i = \left(\frac{V_i}{\sum_{j=1}^N V_j} \right)^{0,64} \left(0,65 \frac{D_i}{\sum_{j=1}^N D_j} + 0,22 \frac{M_i}{\sum_{j=1}^N M_j} + 0,13 \frac{A_i}{\sum_{j=1}^N A_j} \right)^{0,36}$$

Each university U_i gets a share of total funding, based on:

- V_i : research results of the applicant, based on bibliometric indicators, published annually by the Council for Research, Development and Innovation
- D_i : the number of PhD students in accredited study programmes
- M_i : the number of Magister (Master) degrees awarded in the last academic year
- A_i : the number of PhD degrees awarded in the last academic year
- N : the number of applicants asking for the provision of specific university research support in the current fiscal year.

¹ The Czech response to the questionnaire noted that the terminology commonly used in the Czech Republic is different to that used in this study. The Czech questionnaire responses refer to a grouping called “higher educational institutions”, which have activities devoted to research, development and innovation (defined by Act No. 111/1998 Coll.). This grouping appears to best match the intended focus of the study. “Tertiary education institutions” as defined in the Czech Republic take in a wider group of institutions, including tertiary professional schools that do not provide any research and focus on practical knowledge at the level of post-secondary education (defined by Act No. 561/2004 Coll.).

The performance-based institutional funding system for public research in research organisations (including HEIs) is based on annual assessment of bibliometric indicators (carried out by the Council for Research, Development and Innovation). The model is based on an assessment of results achieved, in order that a TEI's share of total institutional support for research organisations from the state budget reflects their share of the value of results achieved by all research organisations over the past five years. The grantor of funds may then adjust the level of support to reflect a more detailed assessment using internationally recognised methods (the model of assessment and rules must be published before the support is provided). The grantor may also take into account the level of indirect support that was provided to the institution in previous years in the form of tax relief.

Overall, the performance-based funding for public research forms a small part of the total budget allocated annually for research, development and innovation. The total level of institutional support and targeted support include:

- Targeted support for applied research, development and innovation programmes;
- Targeted support for specific university research (discussed above);
- Institutional support for research organisations on the basis of achieved results (discussed above); and
- Institutional support for international co-operation by the Czech Republic in R&D.

Denmark

In Denmark, the “restructuring fund” has historically been allocated in a 50-40-10 model, with 50% allocated on the basis of an institution's share of educational resources, 40% allocated on the basis of institution's external research funding and 10% allocated according to the number of PhD graduates from the institution. From 2010, 10% of the restructuring fund will be allocated according to a bibliometric indicator. This share will increase to 15% in 2011 and 25% in 2012. Thus in 2012, the allocation of the restructuring fund will be based on:

- Educational resources (45%), external research funding (20%), number of PhD graduates (10%) and bibliometric research indicator (25%).

The funding based on external research funds, PhD graduates and bibliometrics is regarded as performance-based. Institutions receive a share of the funding pool in accordance with their share of total external research funds, total PhD graduates, and total publication output. The funding for education also has an element of performance assessment, as it takes into account the exams passed by students.

Finland

Finland's universities receive their basic funding as core funding, with 75% calculated on the basis of the quality and extent of activities in education and research and researcher education, and 25% based on other education and science policy considerations. The broad allocations are set out below. Essentially, around 34% of total core funding is based on a performance-based assessment of the extent of activities and the quality and effectiveness of research and researcher education.

Finnish core funding for universities

Formula-based core funding based on the quality, extent and impact 75%				Other education and science policy considerations	
Education 55%		Research and researcher education 45%		25%	
Extent of activities 85%	Quality and effectiveness 15%	Extent of activities 75%	Quality and effectiveness 25%	Education and discipline structure 75%	Strategic development 25%

Source: Finnish response to the OECD RIHR Questionnaire on Performance-based Funding for Public Research in Tertiary Education Institutions (February 2010).

The indicators are created as follows:

- Extent of activities in research and researcher education: Teaching and research person-years (50%); total number of doctoral degrees determined in the agreement between the Ministry and the university (25%); and the number of doctoral degrees completed at the university (25%).
- Quality and effectiveness of research and researcher education:
 - Nationally competed research funding (60%): of which Academy of Finland funding for the university (50%), funding allocated to the university on the basis of the Academy’s decisions on Centres of Excellence (30%) and Tekes funding for the university (20%)
 - Scientific publications (20%): of which number of refereed international publications (60%) and number of other scientific publications (40%)
 - Internationalisation of research (20%): of which amount of internationally competed research funding (60%) and the overall extent of teacher and researcher mobility (40%).

Germany

Germany’s performance-based funding systems, administered at the state level, encompass both teaching and research performance. The weighting of the two areas differs by type of TEI, *e.g.* universities of applied science, with their practically-oriented profile, are often assigned models with a stronger weighting of teaching over research than for universities. In addition to teaching and research, models often include indicators covering equality and/or internationalisation.

The indicators used differ by state, with all *Länder* using measures of third party funding and number of completed doctorates, and individual *Länder* incorporating further indicators as deemed appropriate. The table below, reproduced from the German questionnaire response, outlines the indicators used:

Research-related indicators used in German performance-based allocation models, by state

State	Research-related indicators
Baden-Württemberg	<ul style="list-style-type: none"> * Amount of third party funding by subject area and source * Total increase in third party funding * Relative increase in third party funding * Number of doctorates
Bavaria	Universities: <ul style="list-style-type: none"> * Third party funding (weighted) relative to number of professors (unweighted) * Amount of third party funding by source * Number of doctorates and post-doctorates (<i>Habilitationen</i>) University clinics: <ul style="list-style-type: none"> * Amount of third party funding by source * Publications by impact factors * Number of doctorates and post-doctorates (<i>Habilitationen</i>) in clinical departments
Berlin	<ul style="list-style-type: none"> * Amount of third party funding * Participation in special research area (DFG – German Research Foundation) * Participation in excellence clusters and research centres of the DFG * Participation in graduate schools * Participation in graduate colleges * Participation in EU/EIT target programmes * Number of doctorates * Stipends and awards from the Alexander von Humboldt Trust The following indicators are used for universities of applied science (<i>Fachhochschulen</i>): <ul style="list-style-type: none"> * Third party expenditure * Co-operative contracts with regional business and commercial institutions * Publications The following indicators are used for art colleges: <ul style="list-style-type: none"> * Third party expenditure * Artistic projects and events
Brandenburg	<ul style="list-style-type: none"> * Amount of third party funding * Number of doctorates
Hamburg	Universities and universities of applied science (<i>Fachhochschulen</i>): <ul style="list-style-type: none"> * Amount of third party funding by number of professors Technical university: <ul style="list-style-type: none"> * Number of doctorates Colleges of art and music: <ul style="list-style-type: none"> * Artistic projects and events
Hesse	<ul style="list-style-type: none"> * Amount of third party funding * Participation in co-ordinated research programmes * Number of doctorates and post-doctorates (<i>Habilitationen</i>)
Lower Saxony	Universities: <ul style="list-style-type: none"> * Third party funding in a university in a subject area by total third party funding in the respective subject area in Lower Saxony * Number of doctorates in a university by total number of doctorates in Lower Saxony * Number of Alexander von Humboldt trust stipend and award holders in the host university by the total number in Lower Saxony Universities of applied science (<i>Fachhochschulen</i>): <ul style="list-style-type: none"> * Third party funding in a <i>Fachhochschule</i> in a subject area by total third party funding in the respective subject area in Lower Saxony
North Rhine-Westphalia	<ul style="list-style-type: none"> * Amount of third party funding * Number of doctorates
Rhineland-Palatinate	<ul style="list-style-type: none"> * Amount of third party funding * Number of doctorates and post-doctorates (<i>Habilitationen</i>)

In the small city-states (*Staatstaaten*) such as Hamburg, it is not possible to have competitive mechanisms for each type of HEI, as in some cases there is only one of each type. The Hamburg model thus includes an agreement between individual institutions and the state on institution-specific performance indicators, chosen from a pool of possible indicators. The weighting of these indicators is also determined by institution.

New Zealand

New Zealand's Performance-Based Research Fund (PBRF) distributes funding to tertiary education organisations according to their relative performance on three elements: quality; research degree completions; and external funding. It uses a mixture of peer review of individual researcher performance and quantitative indicators of institutional performance. The results of the peer review indicator are valid each year until the next periodic evaluation, while the quantitative indicators are calculated each year. The indicators are formulated as follows:

- Quality Evaluation (QE) (60%): This periodic peer review exercise aims to reward and encourage the quality of researchers at eligible institutions. It is undertaken by interdisciplinary peer review panels consisting of disciplinary experts from New Zealand and overseas. Each panel provides expert coverage of the subject areas within their field of responsibility. Panels assess an evidence portfolio (EP) for each participating staff member and assign these to Quality Categories, which are then given a numerical weighting (a "quality weighting"). Results are also weighted by the subject-area to which EPs have been assigned and the staff member's full-time-equivalent status. The assessment criteria used by the panels are:
 - Research output (70% weighting): of up to four nominated outputs and up to 30 other outputs;
 - Peer esteem (15% weighting): assessed through prizes, awards, invitations etc; and
 - Contribution to research environment within the organisation and beyond (15% weighting): assessed through supervision, research grants etc.
- Research Degree Completions (RDC) (25%): This is a yearly measurement of the number of PBRF eligible postgraduate research-based degrees (*e.g.* masters and doctorates) completed at participating institutions. The indicator reflects the connection between staff research and research training, thereby providing some assurance of the future capability of tertiary education research, and also provides a proxy for research quality (based on the assumption that students who choose to undertake advanced degrees tend to seek departments and supervisors who have reputations for high-quality research and research training). The indicator uses degree completion statistics from previous years to create a rolling average, which is then used to determine this component of funding (*e.g.* in 2009, the funding allocation ratio for each institution was 15% of its RDC figure for 2005, 35% of RDC figure for 2006, and 50% of its RDC figure for 2007). The funding formula for the RDC component includes weightings for the subject area, Māori and Pacific student completions and the volume of research associated with the degree programme.
- External Research Income (ERI) (15%): This is a yearly measurement of the amount of total research income received by participating tertiary education organisations (and/or any wholly-owned subsidiary) from external sources for research purposes. Research funding from outside the tertiary sector and contestable funding from within the tertiary sector can be included as ERI.

ERI is included as a performance measure on the basis that it provides a good proxy for research quality (assuming external research funders allocate their limited resources to high quality researchers). As with degree completions, a rolling average is used to determine funding allocations (*e.g.* in 2009 the funding allocation ratio for each institution was 15% of its ERI figure for 2005, 35% of its ERI figure for 2006, and 50% of its ERI figure for 2007).

More information can be found in the PBRF User Manual and the 2006 PBRF Guidelines (see www.tec.govt.nz).

Norway

Norway's Performance-Based Reallocation (PBR) system is used to distribute a portion of core funding to tertiary institutions (comprising 7 public universities, 5 public specialised university institutions, 3 private specialised university institutions, 2 public national academies of the arts, 23 public university colleges and 21 private university colleges). It uses four indicators, created in accordance with one of the five main objectives for tertiary education institutions, namely: "Universities and university colleges should obtain results of high international quality in research and development work". The indicators are:

- **Publication points (30%):** This indicator is divided into two levels, with scientific publications in highly respected channels triggering larger allocations than other publications. Approximately 20% of publications must be defined as being of higher quality. Books trigger larger allocations than articles, and allocations are adjusted for the number of authors per publication.
- **Funds from the EU Framework Programme for research (20%):** This indicator provides an incentive for institutions to compete in the European research arena. With funds awarded through competition, it is regarded as a sign of quality when Norwegian research communities are granted funds from this programme.
- **Funds from the Research Council of Norway (20%):** The Research Council is the most important national competitive arena for research funds and receiving funding is regarded as a signal of quality.
- **Number of doctoral degrees awarded (30%):** The institutions receive a lump sum for each doctoral degree awarded. This indicator is aimed at encouraging institutions to move PhDs through the doctoral program according to schedule.

The public national academies of the arts, the Oslo School of Architecture and Design and the Norwegian Academy of Music are not included in the competition for publication points or resources from the EU Framework Programme or Research Council of Norway, as the character of their artistic output differs from those of other academic disciplines.

Institutions receive a share of the funding pool in accordance with their share of total publications (weighted by points), total funds from the Framework Programme and Research Council, and total number of doctoral degrees awarded. The publication points are as follows:

	<i>Channels at level 1 (normal)</i>	<i>Channels at level 2 (high)</i>
<i>Articles in ISSN titles</i>	1	3
<i>Articles in ISBN titles</i>	0.7	1
<i>Books (ISBN titles)</i>	5	8

Level 2 channels include only the leading and most selective international journals, series and book publishers, and this categorisation is revised annually in collaboration between the national councils in each discipline or field of research and the National Publishing Board.

Poland

The Polish system covers all types of research and all disciplines, including art (although with some limitations, *e.g.* concerts and art exhibitions are not taken into account).

Institutions are assessed at the level of research units. These fall under 19 categories of “homogenous units”, which may be further grouped under three broad categories: humanities, social sciences and arts; exact and engineering sciences; and life sciences.

Information is gathered via annual questionnaires (the “Unit questionnaire”) prescribed by the Ministry of Science and Higher Education. The questionnaires seek information on research (*e.g.* peer-reviewed papers, monographs and handbooks, participation in international research projects, authorisation for granting research degrees) and practical applications of R&D (*e.g.* new technologies and materials, etc, implementation of R&D projects, contracts with industry, patents, copyrights, accredited laboratories). They also seek information on other issues such as employment, finances and infrastructure (both physical and information). The questionnaires are differentiated according to the three broad categories of homogenous units, and seek information on the key categories of performance indicators as follows:

Information gathered for Poland's performance assessment system

Differentiation by field

<i>Humanities, social sciences and arts</i>	<i>Exact and engineering sciences</i>	<i>Life sciences</i>
RESULTS OF SCIENTIFIC ACTIVITY AND AUTHORISATION FOR GRANTING RESEARCH DEGREES		
Reviewed publications		
YES	YES	YES
International research projects		
YES	YES	YES
Authorisation for Granting Research Degrees		
YES	YES	YES
PRACTICAL APPLICATIONS		
New technologies, materials, products, systems, services, methods and software		
YES	YES	NO
Patents and utility models granted, copyrights		
NO	YES	YES

Source: Polish response to the OECD RIHR Questionnaire on Performance-based Funding for Public Research in Tertiary Education Institutions (February 2010).

The scoring of the indicators for “results of scientific activity and authorisation for granting research degrees” is also differentiated according to the broad category to which units belong, as follows:

Scoring of Polish indicators for results of scientific activity and authorisation for granting research degrees

<i>Humanities, social sciences and arts</i>	<i>Exact and engineering sciences</i>	<i>Life sciences</i>
RESULTS OF SCIENTIFIC ACTIVITY AND AUTHORISATION FOR GRANTING RESEARCH DEGREES		
Reviewed publications		
Publications in journal registered in Journal Citation Reports (JCR) from 10 to 30 points		
Publications in journal registered in ERIH - 8, 12 or 15 points	NOT APPLICABLE	NOT APPLICABLE
Publications in journal registered in domestic or foreign journal registered at Minister`s list - from 1 to 6 points		
Main editor of the journal – number of points depends on the ranking at Minister`s list		
Scientific monographs		
Scientific monograph or academic handbook in English (for philology – also in relevant language) - 24 points		
Scientific monograph or academic handbook in other languages than English – 12 points		
Chapter in Scientific monograph or academic handbook in English (for philology – also in relevant language) – 7 points		
Chapter in Scientific monograph or academic handbook in other languages than English 3 points		
Main editor of monograph, academic handbook or book series – 5 points English (for philology – also in relevant language), other languages than English – 3 points.		
International research Project		
Employment of the laureate of European Science Council competition "Ideas" - 700 points		
Participation in Framework Programme projects		
- coordination or guidance - 400 points		
- participation - 150 points		
Authorisation for Granting Research Degrees		
Authorisation for granting doctor degree - 50 points, habilitation - 150 points		

Source: Polish response to the OECD RIHR Questionnaire on Performance-based Funding for Public Research in Tertiary Education Institutions (February 2010).

The scoring of “practical applications” is further differentiated, and evaluating commissions weight answers according the type of unit being assessed. For instance, practical applications receive less weight in humanities than they do in mining and geology. The overall weighting system is as follows:

Weighting of Polish indicators, by type of research unit

Commission for the Research for Scientific Development		
„Homogenous units”	Results of scientific activity	Practical applications
Humanities	7	1
Arts science	5	3
Social science	6	2
Exact science (mathematics, physics, astronomy, informatics)	6	2
Chemistry	6	2
Biology	6	2
Geology	5	3
Agriculture and Forestry	5	3
Medical science	5	3
Health prevention	4	4
Commission for the Research for the Economic Development		
„Homogenous units”	Results of scientific activity	Practical applications
Mechanics, materials, chemical and process engineering	4	4
Machinery and equipment – design, production and exploitation	3	5
Material and chemical technologies	3	5
Building and architecture	3	5
Electrotechnics, automation, electronics and IT	4	4
Mining, technical geology, geodesy	3	5
Energy, transport and environmental engineering	3	5
Agricultural and forest Technologies	3	5
Other general technology areas	4	4

Source: Polish response to the OECD RIHR Questionnaire on Performance-based Funding for Public Research in Tertiary Education Institutions (February 2010).

The final results inform the level of institutional funding² of an institution, by establishing its “category” (a rating on a scale of 1 to 5, held for 5 years). To do this, the number of points allocated under

² Institutional funding is defined by article 11 of the Act of 8 October 2004 on the Principles of Financing Science as covering: primary statutory activity of a research entity, comprising R&D included in its tasks schedule, purchase or construction of research equipment involved in conducting R&D, domestic and foreign scientific co-operation required for conducting R&D, research-supporting activities and maintenance of a research entity; particular research carried out by a higher education institution; maintenance of a special research facility; and joint research pursued by a scientific research network.

the assessment procedures outlined above is divided by the number of researchers, to obtain an “effectiveness indicator” for each research unit. This is compared to the average indicator achieved in the homogenous unit to which the research unit belongs in its institution, in the following way:

- Category 1 research unit: has an effectiveness indicator that is more than 30% above the average of the homogenous unit (*e.g.* if the average score in the homogenous unit was 10.5, a category 1 unit would have a score larger than $10.5 \times 1.3 = 13.65$);
- Category 2 research unit: has an effectiveness indicator that is between 10% and 30% above the average of the homogenous unit;
- Category 3 research unit: has an effectiveness indicator that lies between 90% of the average and 10% above the average of the homogenous unit;
- Category 4 research unit: has an effectiveness indicator that lies between 70% and 90% of the average of the homogenous unit; and
- Category 5 research unit: has an effectiveness indicator of less than 70% of the average of the homogenous unit.

However, the annual funding decision also takes into account: an assessment of the institution’s annual application for statutory funding; all information provided in the “Unit questionnaire”; and opinions of the assessed unit by the rector of the university. The final decision rests with the Minister of Science and Higher Education. Research units have the right to appeal this decision. Under this system, the financing of an institution may depart from that determined by the effectiveness indicator by as much as 30%. In essence, it is a system based partially on indicators and partially on a form of peer-review.

United Kingdom

The United Kingdom’s Research Assessment Exercise (RAE) looks at performance based on the quality and volume of research. Institutions make submissions to the RAE every 5-7 years, with the submission made up of self-selected information from units of assessment within the institution (roughly equivalent to a department). Within each unit of assessment, individual researchers may only submit a fixed number of outputs for assessment. Assessment is by peer review, with a total of 67 discipline-specific panels undertaking the assessment of submissions for the 2008 RAE round.

The classification system currently has four quality grades and an “unclassified” category. They are:

4*	Quality that is world-leading in terms of originality, significance and rigour
3*	Quality that is internationally excellent in terms of originality, significance and rigour but which nonetheless falls short of the highest standards of excellence
2*	Quality that is recognised internationally in terms of originality, significance and rigour
1*	Quality that is recognised nationally in terms of originality, significance and rigour
Unclassified	Quality that falls below the standard of nationally recognised work. Or work which does not meet the published definition of research for the purposes of this assessment.

Source: See www.rae.ac.uk/aboutus/quality.asp

Results are published as a profile of each unit of assessment, showing the percentage of research falling within each quality grade. The results of the assessment are then combined with other metrics to derive an allocation of funds (the QR allocation) for each institution. The peer review provided by the RAE accounts for 65-70% of the allocation. The balance of the allocation is determined by other indicators in the funding formula: charity income; volume of business research (income); and volume of postgraduate research supervision. Indicators are not weighted differently across disciplines, although the funding formula takes account of the extra costs associated with laboratory based disciplines and other similar issues.