Research Assessment Exercises

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HERDC (Higher Education Research Data Collection)

- Provides funding via a Research Block Grant
- Includes various forms of research income but also publication volume, which accounts for 7.6% of the grant
- Includes books, book chapters, journal articles and conference papers from any data source
- Based on a single year of data but contributions averaged over the last two
- Claiming institution must be credited on publication

Publications must:
- Arise from substantial scholarly activity
- Represent original research
- Be peer reviewed or subject to commercial publication
- Make a significant contribution to knowledge

- Books weighted 5:1
- Everything but book chapters pro-rated by author contribution; for book chapters, 1\textsuperscript{st} in chapter book pro-rated as one, 2\textsuperscript{nd} and subsequent pro-rated but scaled to total of 4
- Does not count manuals, textbooks, novels, translations, editing
- No academic impact metric (i.e. citations are not considered)
Australian Publication Output 1996-2013
ERA (Excellence for Research in Australia)

- Based on academic impact, where enough publications produced (50+) in 158 Fields of Research (FoR)
- Decides 4.4% of Research Block Grant – but is considered valuable for reputation
- Relies on Scopus data, though repackaged and recalculated by ERA
- Based on author’s current affiliation (or publication credit to institution where less than 0.4 FTE)

- Must submit 30% of publications of each pub type in each 4-FoR for peer review.
- Includes books, chapters, peer reviewed conference papers, peer reviewed journal articles and non traditional works
- Publications are allocated to FoR by the institution
- Covers 6 years, ending two years before year of analysis (e.g. 2015 went 2008-2013) due to citation patterns
- Includes income measures, applied measures, esteem measures as well as biblionmetrics – all of which are reviewed by a panel

Not all fields use bibliometric data – maths, computer science, arts, humanities and social science subjects do not

Evaluation panels look at publishing profile and citation metrics
- Citation percentiles vs world and Australian averages
- NCI vs world and Australian averages
- NCI distributions vs bands
Australian and US Normalised Citation 1996-2013
Strategic Research Priorities

• Recently (re)launched by the Chief Scientist of Australia, Professor Ian Chubb

• Identifies 9 broad areas (Food, Soil & Water, Transport, Energy, Resources, Cybersecurity, Advanced Manufacturing, Environmental Change, Health) and around 3 specific challenges within each

• Mapping and analysis of publications, citations, grants, expenditure and IP in progress.

• PFRAs will be required to demonstrate that an as-yet-undetermined share of effort is going to these SRPs. This may include publication volume but may not include academic impact (i.e. citations). It is unclear whether universities will need to demonstrate this, but it is likely some account of ARC and NHMRC funding will be taken.
Bibliometrics in Research Assessment Abroad

Research Excellence Framework (UK)
- Although many assessment panels use Scopus citation data, metrics are not mandatory
- Focus is instead on impact of research and peer review of academic quality – which has come under attack

BOF Key (Belgium)
- Since 2003 has allocated funding via an assessment including bibliometrics
- 31.5% of the assessment is determined by publications and citations

Valutazione Quinquennale della Ricerca (Italy)
- Since 2003 has allocated funding but originally only using peer review
- Publications and citations now used to inform peer review panels

STAR Metrics (USA)
- A 2-phase project intended to measure return on investment for Federally-funded research, contribution to scientific knowledge is one of its four success criteria
- However, the metrics used are extremely basic, looking only at the number of times work claimed as relevant to a project has been cited

Chinese Academy of Sciences (China)
- Until recently, formally relied on a calculation with a large number of variables, in which WoS-indexed output and citations were very important
- This approach is no longer formally used, but evaluation and rewards are still influenced by it
Institutional Rankings

World University Rankings (Times Higher Education, Thomson Reuters Data but moving to Scopus)
• Includes output measure, scaled to institutional size and subject (6% of result)
• Includes Normalised Citation Impact for institutions with 200+ publications (30% of result)

World University Rankings (QS, Scopus Data)
• Counts for 20% of result.
• Uses average citations per faculty member

Academic Ranking of World Universities (Shanghai Jiao Tong, Thomson Reuters Data)
• Includes number of highly cited researchers in 21 broad subject categories (20% of result)
• Includes count of papers published in Nature and Science (20% of result)
• Includes count of papers indexed on Web of Science SCIE and SSCI (20% of result)

CWTS Ranking (Leiden University, Thomson Reuters Data)
• Includes share of research Top 1%, 10% and 50% of articles globally
• Includes normalised total and average citations
• Includes collaboration metrics (% of publications with external and international co-authors)

Scimago Institution Report (Scimago Group, Scopus Data)
• Ranked by individual elements – including output, international collaboration, share of top 10% of publications globally, Normalised Citation Impact, Specialisation Index and share of publications in top 25% of SJR rankings