Journal rankings and the RQF

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Presentation Outline

- The context
- Publications: Volume versus impact
  - Results of a recent study I conducted on Australian publication patterns in Economics & Business
- Research Quality Framework
- Journal rankings

The context (1)

- Academic journals are an important outlet for dissemination of academic research
- Other outlets are important too and more so than in the Sciences
- However, printed refereed journals were seen as essential by 97% of the academics in the Social Sciences
- Only in Arts and Humanities books are seen as more important than journals

The context (2)

- Until 1993 the Australian government used mostly input measures (i.e. competitive research grants to evaluate research performance)
- In 1994 the formula for distributing infrastructure funding was supplement with research output measures (i.e. the number of publications)
- Quality of publications was not taken into account; all journal articles, conference proceedings and book chapters were measured equally
- As early as 1996 there were calls to develop measures for discriminating between journals

Volume versus impact?

- The Research Evaluation and Policy Project by ANU researchers shows that Australia's share of ISI publications has increased significantly in the 1990s from 2.2% to nearly 2.8%
- Australia's share of citations is falling further behind most other comparable OECD countries
- Since the introduction of publications as a quantitative indicator of research output, university output jumped considerably in spite of stable staff number and tight funding
- Between 1993 and 1999 Australian universities share of SCI publications rose about 20% in the top two quartiles, 50% in the 3rd quartile and doubled in the 4th quartile
- Social Sciences were excluded from these analyses. Hence I conducted a study into the volume (number of publications) and impact (number of citations) of Australian research output in Economics & Business

Methodology

- Quantity/volume: number of papers
- Quality/impact: number of citations/paper
  - not a perfect measure, but there is a strong correlation between journal impact scores and perceived journal quality
- Measures sourced from the ISI Web of Knowledge Essential Science Indicators January 1994-June 2004
- 22 Disciplines covered
- Top-20 countries in terms of either quantity or quality
  - Countries with < 500 papers excluded
- Full results published in "Australian Research Output in Economics & Business: High Volume, Low Impact?" *Australian Journal of Management*, December 2005

Volume versus impact: Australia ranked by discipline

Discipline	Rank by no of papers	Rank by citations per paper	Change of position (quality - quantity ranking)
Economics & Business	4/5	19	**-14/-15**
Agricultural Sciences	9	14	-5
Biology & Biochemistry	10	14	-4
Chemistry	16	12	**+4**
Clinical Medicine	9	13	-4
Computer Science	11	16	-5
Engineering	13	16	-3
Environment/Ecology	5	10	-5
Geosciences	8	6	**+2**
Immunology	10	9	**+1**
Materials Science	15	16	-1
Mathematics	11	8	**+3**
Microbiology	10	13	-3
Molecular Biology & Genetics	12	15	-3
Neuroscience & behaviour	11	17	-6
Pharmacology & toxicology	11	11	-
Physics	19	20	-1
Plant & Animal Science	7	13	-6
Psychiatry/Psychology	5	13	-8
Social Sciences/General	4	11	-7
Space Sciences	11	5	**+6**

Volume versus impact: Australia in Economics & Business

Country	Rank by no of papers	Rank by citations per paper	Change of position (quality – quanity)
USA	1	1	--
UK	2	5	-3
Canada	3	4	-1
Germany	4/5	21	**-16/17**
Australia	4/5	19	**-14/15**
France	6	10	-4
Netherlands	7	8	-1
Italy	8	12	-4
Spain	9	17	-8
Japan	10	20	**-10**
Sweden	11	3	**+8**
Israel	12	2	**+10**
Belgium	13	6	+7
China	14	22	-8
Switzerland	15	7	+8
Denmark	16	14	+2
South Korea	17	9	**+8**
Norway	18	11	+7
Taiwan	19	23	-4
New Zealand	20	18	+2
Austria	22	13	**+9**
Singapore	23	16	**+8**
Ireland	26	15	**+11**

- Rank 4/5 in volume
- Rank 19 in impact
- Only Germany, Japan, China and Taiwan score lower in impact
- All major Western countries score higher

Volume versus impact: by university

- Drop in ranking also apparent for individual universities

Table 3: Ranking of three Australian universities in Economics & Business

University	Rank no of papers	Rank no of citations	Rank citations/paper
Australian National University	48	116	148
University of Melbourne	59	135	149
University of New South Wales	67	103	141

- Number of average citations for UM article in E/B is:
  - about one fifth of that of top US universities (Harvard, MIT, Stanford, Princeton)
  - about one third of the University of Virginia, Melbourne's benchmark university and top European universities (INSEAD, LBS, Oxford)
  - below all Dutch universities with a Faculty of Economics & Commerce

Volume versus Impact: Explanations

- Do Australians publish less in high impact journals?
- Do Australian pubs attract fewer cites even in high-impact journals?
- I analysed publications of Australian academics in high-ranking journals

Finance & accounting	JCR 2003	Marketing	JCR 2003
Journal of Accounting Economics	3.844	Journal of Marketing	2.611
Journal of Finance	3.267	Journal of Consumer Research	2.585
Journal of Financial Economics	2.723	Journal of Marketing Research	2.143
Review of Finance Studies	2.200	Marketing Science	1.898
Journal of Accounting Research	1.524	Journal of the Academy of Marketing Science	1.321
Management		**Economics**	
Academy of Management Review	4.415	Journal of Economic Literature	5.243
Academy of Management Journal	3.343	Quarterly Journal of Economics	4.756
MIS Quarterly	2.811	Journal of Economic Perspectives	2.677
Strategic Management Journal	2.723	Economic Policy*	2.250
Administrative Science Quarterly	2.721	Econometrica*	2.250

Publications in top-20 journals in Economics & Business and resulting citations for five countries

	Australia	USA	Canada	England	Netherlands
Sub-disciplines					
Economics	74 (32%)	3,841 (22%)	247 (20%)	430 (49%)	61 (28%)
Finance & Accounting	54 (23%)	5,472 (31%)	342 (28%)	173 (20%)	24 (11%)
Management	58 (25%)	4,197 (24%)	388 (32%)	195 (22%)	57 (26%)
Marketing	44 (19%)	4,334 (24%)	249 (20%)	82 (9%)	78 (35%)
Total	230	17,844	1,226	880	220
Top publications per 1million inhabitants	11.55	60.90	37.71	18.43	13.48
Year of publications					
1956-1980	55	4,315	301	183	15
1980-1984	34	2,180	172	112	10
1985-1989	24 (-29%)	2,374 (+9%)	193 (+12%)	83 (-26%)	10 (-%)
1990-1994	27 (+13%)	2,735 (+15%)	170 (-12%)	84 (+1%)	22 (+120%)
1995-1999	37 (+37%)	2,913 (+7%)	180 (+6%)	173 (+106%)	65 (+195%)
2000-2004	53 (+43%)	3,327 (+7%)	210 (+17%)	245 (+42%)	98 (+51%)
Growth in top publications 2000-2004/1980-1984	56%	53%	22%	119%	880%
Top publications/total publications (1994-2004)	97/4,131 = 2.4%	6,783/61,128 = 11.1%	424/6,935 = 6.1%	439/13,868 = 3.2%	169/3,787 = 4.5%
Citations					
Average number of citations/article	22.88	32.26	35.67	32.17	19.58
Idem, excluding top 10% most cited articles	11.24	15.66	16.61	14.05	9.83
Average citations/article for **all** SSCI listed articles 1994-2004	2.56	5.83	4.17	4.02	3.75

Volume versus impact: Conclusions

- Australian academics in EcBus publish less in top journals and even if they do attract fewer cites than academics from the US, Canada, the UK and the Netherlands
- This competitive disadvantage has only increased over the decades, especially in the second half of the nineties Australia lags behind the UK and the Netherlands
  - The start of this period coincides with the introduction of quantity-based research evaluation in Australia
  - The Netherlands and the UK have introduced research assessments that focused more on quality
- Of the 10 most highly cited articles with Australian authors in top-20 journals, 7 had a UK/US co-author, two had a UK author with a secondary Australian affiliation, only one article had only Australian authors (and even then the first author was born and trained outside Australia)

Reasons for Australian publication pattern (1)?

- Lack of resources for research
  - Australian public universities match US private universities in terms of proportion of income drawn from tuition fees
    - Tuition fees generally not invested in research
    - Universities spend a lot of time and resources on attracting fee-paying (international) students
    - Student/staff ratios are very high
- Australian universities generally do not reward academic high-flyers
- Australian context might be less interesting to international researchers
  - This doesn't explain why the articles in top journals that didn't deal with Australia also received few citations

Reasons for Australian publication pattern (2)?

- Business education in Australia has shorter history than NA and UK
- Local management practices might lag behind and hence provide for less innovative research
- **BUT:** all these reason apply to some extent to the Netherlands and the UK as well
- What is unique to Australia:
  - Focus on quantity over quality of research (1 DEST point for an ASQ publication, 1 DEST point for ANZIBA conference paper)

Reasons for Australian publication pattern (3)?

- Focus on quantity over quality might be aggravated by lack of research funding especially for Management & Commerce
  - M&C get 2.1% of ARC Discovery grants for 12.6% of total academic staff in Australia
  - Engineering & Technology get 14.5% of ARC Discovery grants for 6.9% of total academic staff in Australia
  - Dollar value of average **successful** grant is 66% higher for E&T
  - Forty times as many fellowships were awarded in E&T while there are only half as many academic staff in this area as in M&C
- The new RQF might redress the focus on volume. However, additional measures (e.g. research funding) are necessary to allow academics in Economics & Business to catch up with their international colleagues

Research Quality Framework

- The aim of the Research Quality Framework initiative is to develop the basis for an improved assessment of the **quality** and **impact** of publicly funded research and an effective process to achieve this. The Framework should:
  - be transparent to government and taxpayers so that they are better informed about the results of the public investment in research;
  - ensure that all publicly funded research agencies and research providers are encouraged to focus on the quality and relevance of their research; and
  - avoid a high cost of implementation and imposing a high administration burden on research providers.
- Issues paper has led to no less than 165 submissions from universities, representative organisations and individuals

RQF: not necessarily about journal quality alone

Table 1: Allen Consulting Group's examples of possible metrics differentiated for two broad discipline groups

Discipline grouping	Quality indicators relating to impact	Knowledge diffusion indicators relating to impact
Physical and biological sciences	• the number of highly cited papers published; • the number of papers in high quality journals; • the number of highly cited patents; • success rates in securing competitively allocated research grants; • invitations received to act on government advisory boards; • the value of research funding donations from industry; and • the value of research funding contracts from industry.	• presentations given at industry sponsored conferences; • presentations given at academic conferences; • presentations given at learned societies; • distribution of research newsletters to industry stakeholders; • meetings attended with potential industry adopters of research; • results from surveys of government and industry research managers as to who they regard as 'high impact' academic researchers; and • the number of research students that are subsequently employed within industry.
Social sciences and humanities	• the number of books published with high quality publishers; • the number of highly cited papers published; • the number of papers in high quality journals; • success rates in securing competitively allocated research grants; • invitations received to act on government advisory boards; • the value of research contracts received from industry and government; and • the number of citations of papers within papers published in high quality journals.	• presentations given at learned societies; • presentations given at academic conferences; • submissions made to government inquiries; • citations of research in government policy publications; • citations of research in court judgements; • articles published in the popular press; • research cited in articles in the popular press; • results from surveys of heads of policy sections in government departments as to who they regard as 'high impact' academic researchers; and • the number of research students that are subsequently employed within government departments, Ministerial offices and industry.

Source: Allen Consulting Group (2005), *Measuring the Impact of Publicly Funded Research*, DEST: Canberra, pp. 41-43.

Table 3: Example of Possible Frameworks for Measuring Impact

Element	*Description*	*Possible Metrics*
• Knowledge Diffusion	Universities and research organisations generating useful economic and social outcomes via encouraging the broad industry-wide adoption of research findings through communication, building capacity within industry through extension, education and training, creating standards relating to production and distribution.	• Communication activities • Capacity building activities • Extension and education activities • Standard setting activities • Industry output data
• Knowledge Production	Universities and research organisations generating useful economic and social outcomes by selling or licensing the results of research in the form of commodified knowledge—directly exploiting 'knowledge products' embedded in intellectual property and other explicitly codified formats. This is a 'standard' model of research commercialisation.	• **Academic publication activities** • Patenting and licensing activities • Income streams relating to the above • Spin-off company formation activities
• Knowledge Relationships	Universities and research organisations generating useful economic outcomes by providing services that indirectly exploit broad IP platforms consisting of trade secrets, know-how and other forms of tacit knowledge. This approach centres on cooperation, collaboration, joint ventures and partnerships.	• Contract research and consultancy activities • Income streams • Staff and students working on interchange with industry • Industry research staff with sessional and adjunct appointments in universities • University appointed 'visitors' from industry
• Knowledge Engagement	Universities and research organisations generating useful economic outcomes as a by-product of shared interests and concerns that transcend the boundaries of the university *per se*.	• Participation in non-academic community and economic activities • Jointly owned and operated technology property infrastructure—technology and research parks, buildings, equipment, instruments, etc • University organised events for community and regional economic and social benefit (workshops, seminars, etc) • University facilities available for non-academic purposes (eg, libraries, cultural centres, sports grounds)

Source: Howard, J. (2005), *The Emerging Business of Knowledge Transfer: Creating Value From Intellectual Products and Services*, DEST: Canberra [Forthcoming].

Learning from experience

- New Zealand PBRF
  - All academics included and evaluated individually
  - Has led to considerable frustration
  - Can our NZ colleagues share some experience?
- UK RAE
  - Only a selection of academics included
  - Leads to game-playing and 2nd rate citizens
  - Does not use journal quality as proxy, but panels read all articles submitted

Journal rankings: why?

- Being refereed is not enough as quality control measure
  - SMJ/AMJ/ASQ, three reviewers, reviews each 2-5 pages long, three revisions taking several weeks each
  - Unnamed, 1 reviewer, 10-line review, one 3-hour revision OR
  - Unnamed, ? reviewer, editor accepts without changes
- Acceptance rates give some indication
  - Difficult to calculate and compare across journals
  - Lower-level journals generally get lower-level submissions, so their acceptance rate might still be low
- Two main measures
  - Impact ratings (average citation per article)
  - Peer evaluation through surveys
  - The two measures show reasonably strong correlations

Journal rankings: impact versus peer evaluation

		VHB03	Hkb00	Wie01	Ast03	UQ03	BJM04	Cra04	CI03
VHB03	Pearson Correlation	1	.574(**)	.527(**)	.465(**)	.542(**)	.584(**)	.559(**)	-.294(**)
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.000	.000
	N	371	180	279	272	233	113	206	226
Hkb00	Pearson Correlation	.574(**)	1	.400(**)	.484(**)	.622(**)	.443(**)	.561(**)	-.395(**)
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000	.000	.000
	N	180	245	210	207	150	82	168	180
Wie01	Pearson Correlation	.527(**)	.400(**)	1	.398(**)	.446(**)	.492(**)	.412(**)	-.258(**)
	Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.000	.000
	N	279	210	411	298	201	126	224	276
Ast03	Pearson Correlation	.465(**)	.484(**)	.398(**)	1	.596(**)	.594(**)	.705(**)	-.336(**)
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.000	.000
	N	272	207	298	444	225	124	251	289
UQ03	Pearson Correlation	.542(**)	.622(**)	.446(**)	.596(**)	1	.553(**)	.679(**)	-.504(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.000	.000
	N	233	150	201	225	363	107	180	153
BJM04	Pearson Correlation	.584(**)	.443(**)	.492(**)	.594(**)	.553(**)	1	.554(**)	-.464(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.000	.000
	N	113	82	126	124	107	159	129	88
Cra04	Pearson Correlation	.559(**)	.561(**)	.412(**)	.705(**)	.679(**)	.554(**)	1	-.563(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.	.000
	N	206	168	224	251	180	129	294	201
CI03	Pearson Correlation	-.294(**)	-.395(**)	-.258(**)	-.336(**)	-.504(**)	-.464(**)	-.563(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.
	N	226	180	276	289	153	88	201	393

Journal Quality List (www.harzing.com)

- Originally developed in 2000 as response to ranking used by my then employer that ranked JIBS as “C” and MIR as “D/E”
- Continuously expanded and updated, now in its 15th edition
- Contains 13 different rankings of 840 journals; SSCI impact scores excluded after warning from Thomson
  - Includes British, US, Dutch, Hong Kong and Australian rankings
- Is used all over the world
  - > 5,000 downloads every year
  - Downloaded by academics at e.g.: McGill, Toronto, MIT, Harvard, Standford, INSEAD, Copenhagen Business School, Stockholm School of Economics, IESE, IMD, Chinese University of Hong Kong, Erasmus, Cranfield, Strathclyde, Warwick and LSE
  - Has been cited in five academic publications
  - Half of the people I meet at conferences know my JQL rather than my research :-)

Do we need an ANZIBA survey?

- It is a significant investment of resources
- Will we get enough responses?
- There are hundreds of lists: do we need another one?
- The ANZAM experience
  - 98 responses, 72 journals
  - Top-5 ASQ, AMJ, JVB, JAP, AMR
  - JANZAM, APJHRM, AJPA bottom 5, AJM bottom 10
  - Results very similar to other journal rankings
- Will the ANZAM list be used to evaluate IB research?
  - JWB is ranked higher (10) than JIBS (19)
  - MIR is ranked 62 (only just above AJM)
  - IBR/JIM/TIBR/ISMO are not ranked