

RAE Analysis and REF
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Deputy Chair Panel F23
Member REF Advisory Group

Outputs Submitted to RAE

Type	Number	%	4	3	2	1
Journal	4970	66.3%	22%	47%	27%	4%
Conference	1990	26.5%	16%	40%	33%	11%
Chapter	199	2.6%	5%	38%	37%	20%
Internet Js	155	2.1%	8%	58%	28%	5%
Book	75	1.0%	49%	35%	9%	7%
Software	33	0.4%	39%	45%	12%	3%
Exhibition	19	0.3%	11%	53%	26%	11%
Patent	18	0.2%	22%	39%	17%	17%
Ed Book	9	0.1%	11%	22%	22%	44%
Overall Outputs	7492		20%	45%	28%	6%

Number of Different Journals Submitted = 1247

Number of Journals with <5 outputs = 976

Correlation between GS citations & RAE Ratings

GS 21% 0 citations;

RAE *Rating vs Google Scholar Citations				
GS pa	1st quartile < 0.4 pa	2nd quartile 0.4 - 1.8 pa	3rd quartile 1.8 – 5 pa	4th quartile > 5 pa
% 4* in quartiles	6.7%	5.4%	21.1%	66.9%
% 3* in quartiles	17.3%	26.2%	34.3%	22.2%
% 2* in quartiles	40.3%	36.8%	17.5%	5.3%
% 1* in quartiles	66.4%	25.5%	5.8%	2.3%
Google Scholar Citations vs RAE *Rating				
GS pa	1*	2*	3*	4*
% 4th quartile in * rating	0.6%	6.1%	39.9%	53.4%
% 3rd quartile in * rating	1.5%	19.9%	61.7%	16.8%
% 2nd quartile in * rating	6.6%	41.9%	47.2%	4.3%
% 1st quartile in * rating	17.1%	45.9%	31.2%	5.3%

Correlation between ISI (>0) per annum and RAE output Ratings

- ISI 63% 0 citations. Compare 37% non-zero.

ISI pa	1st quartile < 0.5 pa	2nd quartile 0.5 - 1 pa	3rd quartile 1 - 2 pa	4th quartile > 2 pa
% 4* in quartiles	9.0%	16.4%	28.4%	46.2%
% 3* in quartiles	25.8%	30.1%	26.3%	17.8%
% 2* in quartiles	44.6%	26.9%	18.4%	10.1%
% 1* in quartiles	61.5%	23.1%	11.5%	3.8%

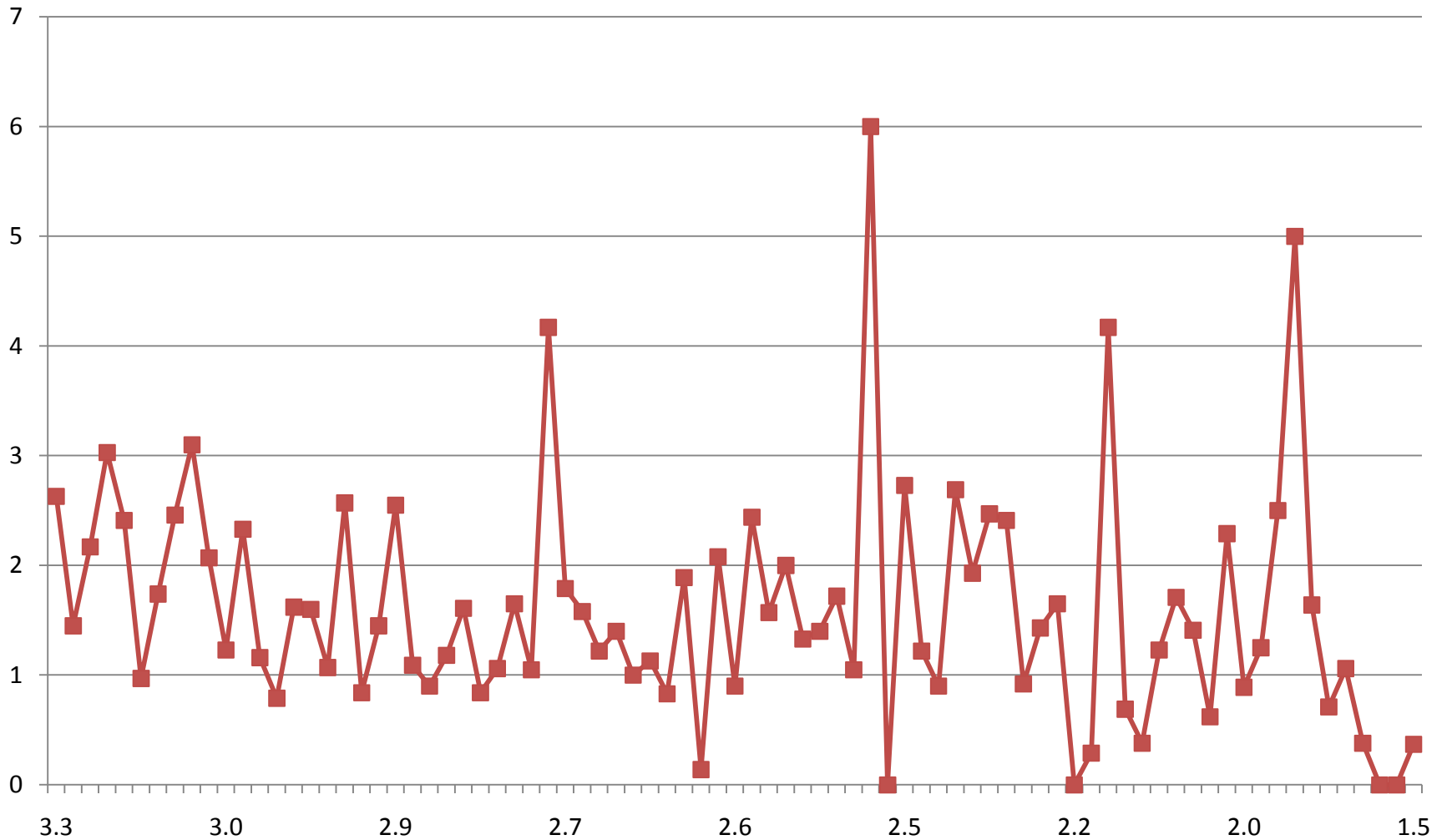
Conference and Journal Rankings

- Computing Research & Education (CORE)
Australia – association of CS Depts.
- Used by Excellence in Research Australia – Oz
RAE
- <http://www.core.edu.au/>

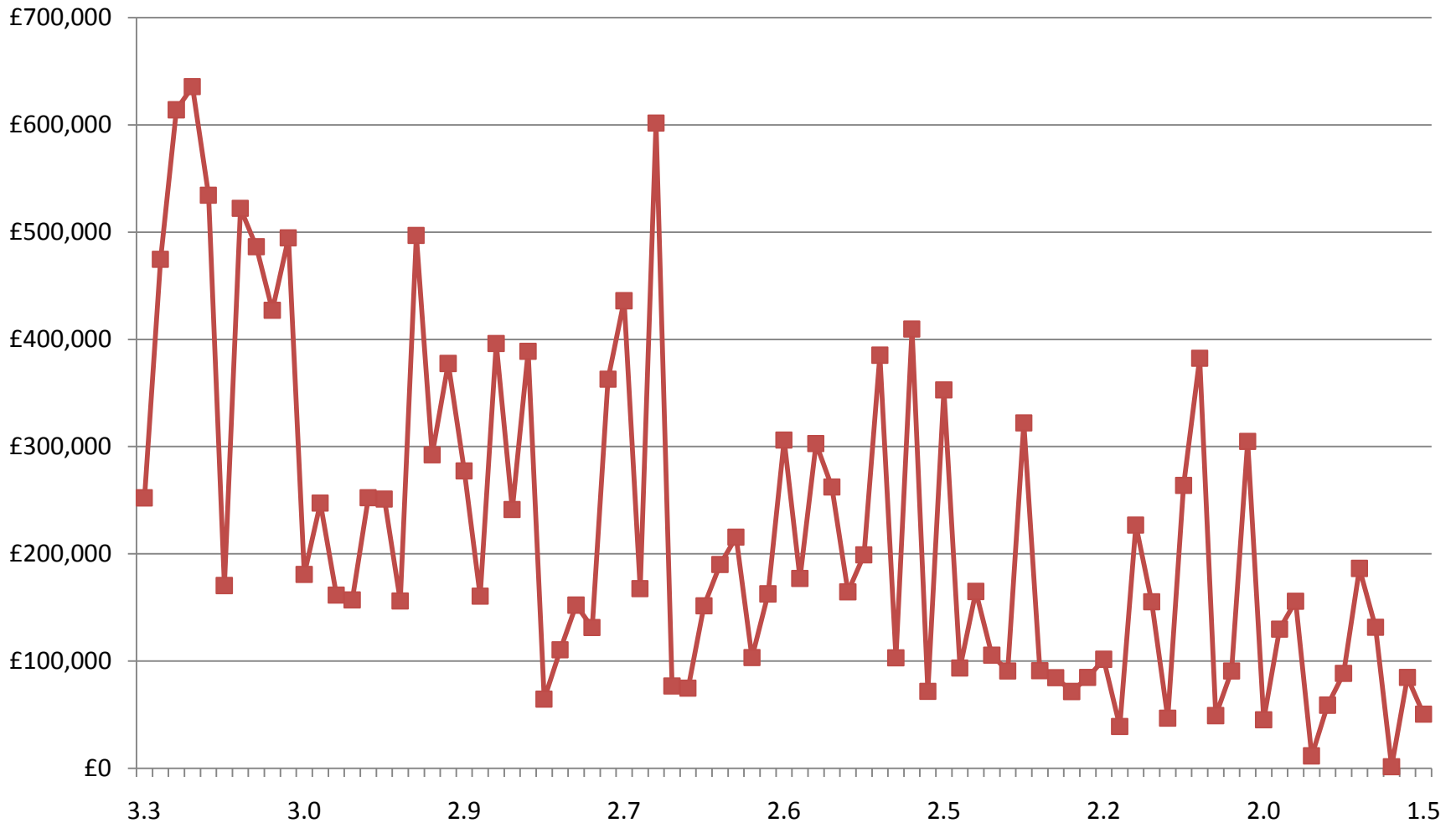
RAE 08 Output Ratings vs CORE Journal Rating

	4	3	2	1		Total
A*	50.0%	41.1%	7.6%	1.1%		462
A	30.5%	54.3%	14.7%	0.6%		1233
B	10.9%	51.5%	33.4%	4.0%		734
C	10.2%	35.3%	47.1%	7.4%		323

PhDs Awarded vs Overall GPA



Research Income vs Overall GPA



HEFCE on REF Elements of Assessment

- “Output quality *should be the dominant element* of assessment for all subjects. This could be assessed through expert review, bibliometric indicators of research quality or a combination of these.
- Impact/engagement. We propose that research and related activity that has a positive impact on the economy, society or public policy should be explicitly recognised in the REF. This could potentially be assessed through some combination of expert review, indicators and/or narrative evidence.
- Other elements such as research environment and esteem. We suggest the research environment element should capture in particular post-graduate research students and early career researchers. We have some reservations about continuing to assess esteem as a distinct element, although some of the indicators used to assess esteem in the 2008 RAE could inform other elements where relevant.”

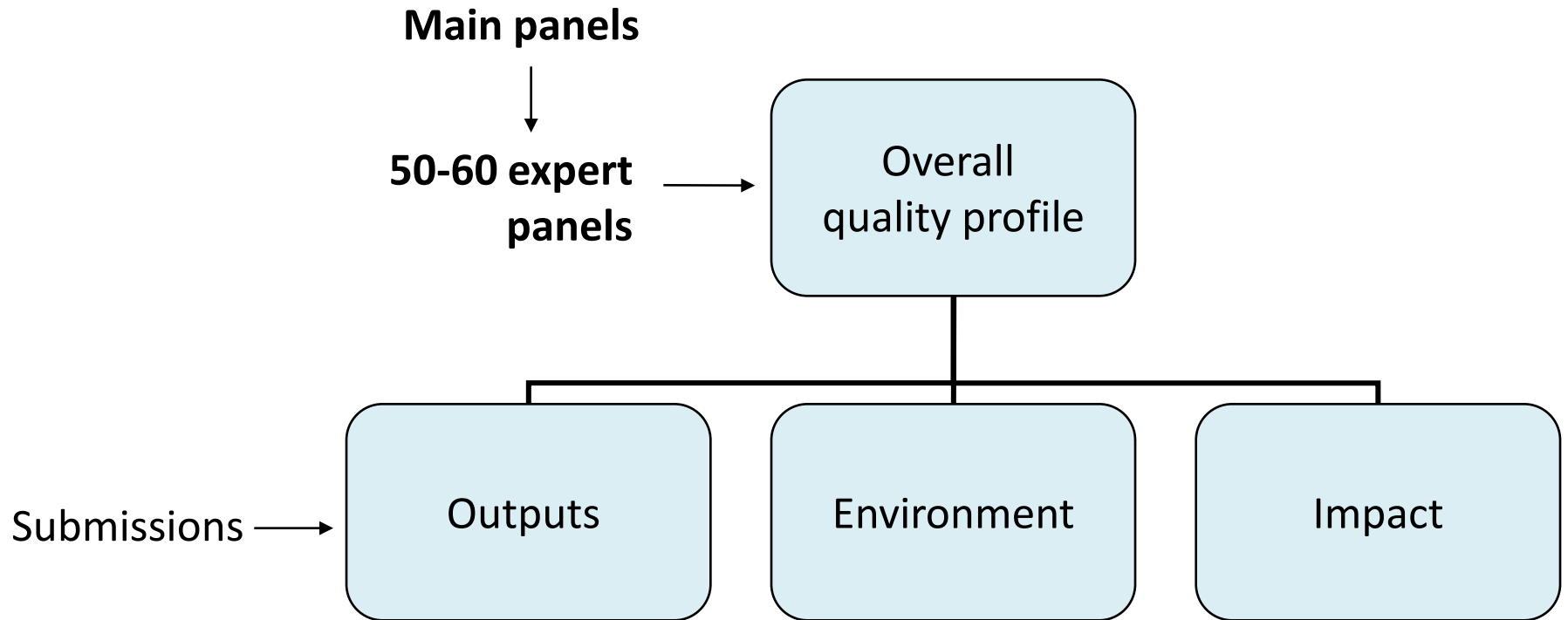
REF: Indicators for Elements of Assessment

- To be discussed at future REF advisory group meetings
- Environment Assessment
 - Metrics as in 2008
 - PhD completions,
 - Research funding data etc.
 - Textual Commentary on
 - Research strategy
 - Support for Research students
 - Support for early career researchers
 - Management of research impact
- Use more prescriptive template, less free text.

REF: Impact Assessment

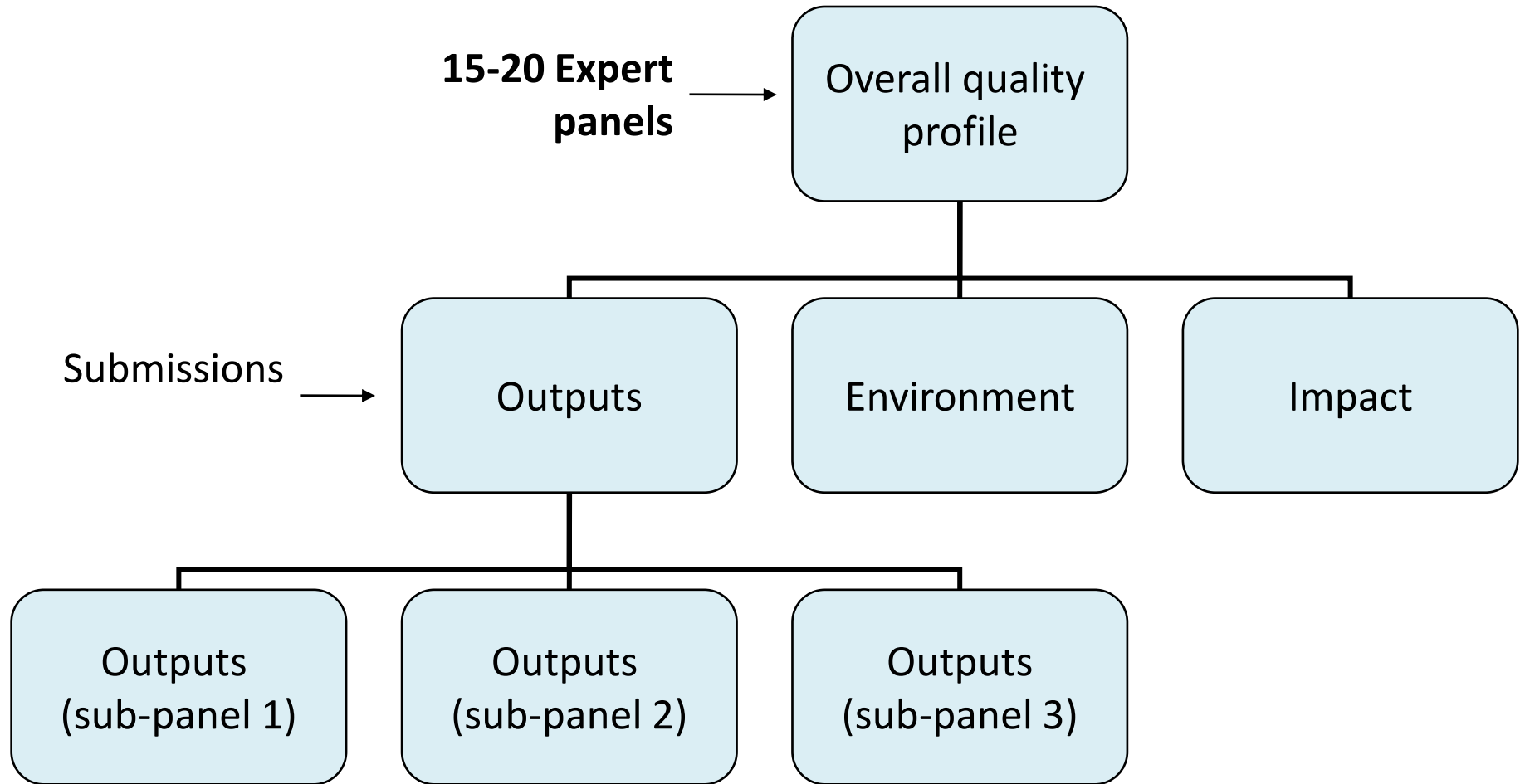
- Economic
 - Consultancies, spinouts, industrial roles ,
 - Exhibitions, industry/conference tutorials, industrial funding, ...
 - Open source tools
- Societal and Political
 - Advisory committees, evidence provided to parliamentary committees, media presentations ...
 - Research Council advisory committees, Fellows of learned societies
- **Academic**
 - Typical esteem indicators e.g. conference organisation etc.
 - Major textbooks from research
- Strict template guidelines essential
 - Limit number as in 2008 e.g. 3 x number of people, max 4 per person
 - Limited textual description

Panels – Current structure



Computing in Maths Panel

Panel structure – Possible alternative?



Computing in Engineering Panel

REF Issues

- Evaluation profiles to stay
- Outputs credited to Institution or author?
 - Transfer market
 - Track record vs future potential
 - Attribution issues eg new appointments from overseas
- Subject specific sub-panels as in 2008 or broader panels?
Computing with Engineering?
- Number of outputs submitted.
Books c.f. papers
- Number of assessors per output or submission

Pilot Bibliometrics

- Analysis by Evidence – Leeds spinout, taken over by Thomson so have to use ISI/WOS
- 22 Universities
- Difficulties in providing data led to delays
- Bibliometrics Options
 - All publications in Dept (not linked to staff) – averaging issues, means more selectivity in publications?
 - Select x% of pubs with highest citation counts – evaluate pubs from small subset of people?
 - Universities/Departments select n pubs to be evaluated – can n vary between disciplines?

Conclusion

- Metrics can be used as input but cannot replace human judgment
- REF \approx RAE 2008 with fine tuning ?
- Need to reduce output assessment workload in Computing