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Rankings and the (re)Construction of Knowledge

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'It's a reputation race/game, and in this – research is sexy. Reputation, unfortunately, is always based on research,...and research attracts the best talent.'

'Research matters more now, not more than teaching necessarily but it matters more right now at this point in time'.

'The easiest way to boost rankings is to kill the humanities'.

'Concentrating research in a few elite institution will maximize involvement in world science'.

Rankings provide a 'plausible' measurement of research and knowledge creation (Marginson and van der Wende, 2007).

Themes

1. How Rankings Measure Research
2. Institutional Responses to Rankings
3. Policy Responses to Rankings
4. Implications for Research and Knowledge Production

1. How Rankings Measure Research



Inevitability of Global Rankings

- Globalisation and Knowledge/Smart Economy
 - Linear model of economic growth and innovation
 - HE = issue of geo-political dimensions.
- Demographic Change
 - 'Battle for Brainpower' (Economist, 2006) or 'Skilled Migration' (OECD, 2008)
- 'New Public Management'/'Modernisation' Agenda
 - Emphasis on value for money, efficiency and investor confidence
 - Research not simply an intellectual pursuit but a funded-enterprise
- Student = savvy participant/consumer/customer as link between HE and career/salary grows
 - Internationalisation replaced by 'Scramble for students' (Matsumoto and Ono, 2008, p1)



Rankings and the K-economy

- If HE is the engine of the economy, then productivity, quality and status of HE/HE research is vital indicator;
- Global competition reflected in the rising significance and popularity of rankings:
 - Provide a framework or lens through which the global economy and national (and supra-national) positioning can be understood;
 - Measure national competitiveness as expressed by number of HEIs in top 20, 50 or 100...
 - Attempt to measure knowledge-producing and talent-catching capacity of HEIs;
 - Appear to (re)order global knowledge by giving weight and prominence to particular disciplines/fields of investigation, and their outputs and impact.

Comparing What Rankings Measure

SJT ARWU	<ul style="list-style-type: none"> ■ Quality of Education ■ Quality of Faculty <ul style="list-style-type: none"> No. Nobel Prize/Field Medal No. HiCi Researchers ■ Research Output <ul style="list-style-type: none"> No. Articles in Nature/Science No. Articles in Citation Index ■ Size of Institution 	10% 20% 20% 20% 20% 10%
Times QS	<ul style="list-style-type: none"> ■ Peer Appraisal ■ Graduate Employability ■ Teaching Quality/SSR ■ International Students ■ International Faculty ■ Research Quality/Citations per Faculty 	40% 10% 20% 5% 5% 20%
Taiwan	<ul style="list-style-type: none"> ■ Research Productivity <ul style="list-style-type: none"> No. Articles in last 11 years No. Articles in current year ■ Research Impact <ul style="list-style-type: none"> No. Citations in last 11 years No. Citations in last 2 years Avr. no Citations in last 11 years ■ Research Excellence <ul style="list-style-type: none"> HiCi index of last 2 years No. HiCi Papers, last 10 years No. Articles in High-Impact Journals in Current Year No. of Subject Fields where University Demonstrates Excellence 	10% 10% 10% 10% 10% 20% 10% 10% 10%

Indicators used for Research	Ranking System (Country)
Overall grants (money amount)	Slovakia
Grants per faculty (money amount)	Austria, Germany, Italy
Grants per faculty (absolute numbers)	Italy
Research projects funded by EU	Italy
Participation in int'l research programmes	Poland
No. of publications	Sweden
Publications per researcher	Germany, Slovakia, Switzerland
Citations per faculty	UK
Citations per publication	Germany, Slovakia, Switzerland
No. of int'l publications	Poland
% articles cited within 1 st two years after publication	Sweden
No. of publications with 5+ citations	Slovakia
% articles belonging to top 5% most cited articles (HiCi)	Sweden
No. of patents (absolute number)	Germany
Patents per faculty	Germany
Ratio of pg research students	UK
Research quality	Germany, UK
Reputation for research	Austria, Germany

SJT as 'gold standard'?

- SJT pioneered global rankings in 2003 in order to leverage funding from Chinese government;
- Publication reverberated around the world, as government leaders saw gap between stated ambition and rankings;
- While rankings have provoked both praise and loathing, they are simply the hierarchical ordering of assessment of HE performance
- Subsequent rankings are refinement of SJT.
 - 'Europe should develop its own university ranking system in order to avoid the influence of university tables such as the Shanghai rankings, which offer an imperfect assessment of quality' ('Les Rapports du Sénat' Bourdin, July 2008)
- Despite differences, research and 'traditional' outputs dominate:
 - Only existing publicly available cross-national/jurisdiction data
 - Research used as proxy for HE excellence – because of role of HE as economic driver.

2. Institutional Responses to Rankings

How Institutions are Responding

63% HE leaders have taken strategic, organisational, managerial or academic actions in response to the results

Of those,

- Overwhelming majority took either strategic or academic decisions and actions,
- Only 8% respondents indicated they had taken no action.

Translating Rankings into Action (1)

- Identify indicators easiest to influence, and set targets for different units and levels of organisation.
- Simplest, most cost-neutral actions affect brand, institutional data, and choice of publication or language:
 - Ensure 'best' data presentation,
 - Publish in English language highly cited/international journals,
 - Ensure common institutional brand on all publications.
 - Encourage colleagues to cite each other.
- Because size matters, organisation of research important:
 - Aggregate departments and abolish weak performing departments,
 - Focus on research institutes and graduate schools,
 - Separate undergraduate and postgraduate activity.
- Direct resources (physical & human) to particular units, build new dedicated labs and other facilities, reward productive & successful departments.

Translating Rankings into Action (2)

■ Education

- Develop/expand English-language facilities and capacity through specialist language centres, new programmes esp. at pg level, recruitment of international scholars and students,
- Preference postgraduate over undergraduate activity.

■ Research

- Bio-sciences best represented in international data bases,
- Focus resource allocation towards fields which are more productive, better performers, and indicator sensitive/responsive,
- Arts, humanities and social sciences feel vulnerable, but also professional disciplines without strong tradition of peer-reviewed publications.

■ Faculty and Students

- Head-hunt and reward Hi-Ci faculty,
- Positively affect staff-student ratio,
- Recruit more high-achieving student, preferably at PhD level.



	Specific Actions	Weightings
Research	<ul style="list-style-type: none">• Relatively develop/promote bio-sciences rather than arts, humanities & social sciences• Allocate additional faculty to internationally ranked departments• Reward publications in highly-cited journals• Publish in English-language journals• Set individual targets for faculty and departments	SJT = 40% Times = 20% Taiwan = 70%
Organisation	<ul style="list-style-type: none">• Merge with another institution, or bring together discipline-complementary departments• Incorporate autonomous institutes into host HEI• Establish Centres-of-Excellence & Graduate Schools• Develop/expand English-language facilities, international student facilities, laboratories	SJT = 40% Times = 20%
Curriculum	<ul style="list-style-type: none">• Harmonise with EU/US models• Discontinue programmes/activities which negatively affect performance• Grow postgraduate activity in preference to undergraduate• Favour science disciplines• Positively affect student/staff ratio (SSR)	SJT = 10% Times = 20%
Students	<ul style="list-style-type: none">• Target high-achieving students, esp. PhD• Offer attractive merit scholarships and other benefits	Times = 15%
Faculty	<ul style="list-style-type: none">• Head-hunt international high-achieving/HiCi scholars• Create new contract/tenure arrangements• Set market-based or performance/merit based salaries• Reward high-achievers• Identify weak performers• Enable best researchers to concentrate on research/relieve them of teaching	SJT = 40% Times = 25% Taiwan = 30%
Academic Services	<ul style="list-style-type: none">• Professionalise Admissions, Marketing and Public Relations• Ensure common brand used on all publications• Advertise in high-focus journals, e.g. <i>Science</i> and <i>Nature</i>	Times = 40%

3. Policy Responses to Rankings




Globalisation & National Competitiveness

If rankings measure national competitiveness, then gap between ambition and global positioning of national HEIs is a 'wakeup call'.

- Only 10 European universities featured in top 50 compared with 35 for the US in 2004 SJT:

- Europe 'behind not just the US but other economies' (Dempsey, 2004).

- 'What are the universities people talk about internationally – Oxford, Cambridge, Harvard, Stanford – but no German universities...We look back decades and people came to German universities; today they go to US universities.'



Translating Rankings into Action (1): Policy Choices

1. Neo-liberal model: Create greater *vertical* (reputational) differentiation (e.g. German, Japan, France, Korea, Russia):
 - 'Excellence Initiatives' to boost no. HEIs in top 20, 50, 100:
 - Designate/elevate small no. of universities to world-class status,
 - Concentrate resources in few 'Centres of Excellence',
 - System re-structuring/mergers to enhance critical mass/visibility,
 - Allocate resources according to performance or rankings.
 - Rankings as free-market mechanism to:
 - Induce competition
 - Foster differentiation/profiling, e.g. teaching vs. research.
 - 2 Models
 - A: Jettisons traditional equity values (e.g. Germany);
 - B: Upholds traditional status/hierarchical values (e.g. Japan) .



Translating Rankings into Action (1): Policy Choices

2. Social-democratic model: Create greater *horizontal* (mission) differentiation:

Recognizing and rewarding excellence wherever it occurs to underpin social and regional equity (e.g. Australia, Ireland, Norway):

- 'Create diverse set of high performing, globally-focused HEIs'
- 'Move towards self-declaration of mission, setting own metrics and a corresponding funding model'
- 'Brand Australia'/'Brand Ireland'



Translating Rankings into Action (2) Legacy

- Cross-national/jurisdictional comparisons are inevitable by-product of globalisation and will intensify in the future:
 - QA tool to aid/ensure accountability/accreditation,
 - Policy instrument to influence/incentivise behaviour,
 - Performance measurement to improve quality/productivity and value-for-money/investor confidence
 - Shift from input → outcome/output → impact
 - Increasing evaluation
 - Link between indicators and resource allocation
- Actions will intensify as economies/financial situation tightens.
 - If neo-liberalism was driving HE reforms prior to 2008, then global financial crisis enforcing/quicken pace of HE reforms thereafter.
 - 'Never waste a good crisis' (R Emmanuel, Obama Chief-of-Staff, 2009)

Translating Rankings into Action (3)

- To Perfect Methodology (inter alia)
 - EU Classification Project
 - OECD AHELO project
 - Teaching and Learning Assessments
 - Rankings Journals
- To Improve Position/Drive Performance
 - EU Expert Group: Assessment of University-Based Research
 - EU Ranking of European Higher Education Institutions
 - Research Assessment Exercises

4. Some Implications for Knowledge Production



Knowledge Production: What We Know

- Trend from simple to complex knowledge reflected in rise of new disciplines, methodologies and ways of thinking:
 - Mode 1
 - Disciplinary or “curiosity-oriented” research
 - Achieves accountability and quality control via peer-review process
 - Mode 2
 - Intellectual/strategic importance of collaborative and interdisciplinary work focused on useful application, with external partners including the wider community.
 - Achieves accountability and quality control via social accountability and reflexivity.
- ‘Grand Challenges’ are not bound by borders or discipline
 - Research via bi-lateral, inter-regional and global networks
 - Complex world problems dependent upon collaborative solutions
 - Inter-locking innovation systems



(re)Constructing Knowledge? (1)

Focus on classical definition of knowledge and scientific achievement:

- Over-reliance on research that is currently easily measured
- Over-emphasis on bio-sciences, with limited accuracy for social science, and no humanities and arts;
- Emphasis on quantification as proxy for quality;
- Difficulty measuring interdisciplinary research.

→ Values some disciplines and research as more valuable than other work;

→ Distorts focus of research towards that which is more predictable/less risky and more easily measured.

'Not all path-breaking innovations gain early peer recognition and some are sidelined precisely because they challenge established ideas.'
(Marginson, Beijing Forum, 2008, p17).

(re)Constructing Knowledge?(2)

Focus on traditional outputs, e.g. peer-publication & citations:

- Narrowly defines 'impact' as something which occurs only between academic 'peers';
 - Academics act as 'gatekeepers' of new knowledge and methodologies;
 - Shift from inputs → outputs → outcomes → impact.
- Role of HE more diffuse in its impact on knowledge, e.g. social and economic impact.
- Tension between focus on traditional outputs and 'real' policy requirements;
 - Global economic climate shifting emphasis to 'research, innovation and commercialization eco-system' (*Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal*, p61; HEA, *PRTL Terms of Reference*, 2008)



(re)Constructing Knowledge?(3)

Focus on bio-sciences and related (sub)disciplines :

- Re-balancing education and research provision, and re-defining mission;
 - Size and age matters.
- Restructuring teaching/research and academic profession:
 - ‘...research is the activity that differentiates among institutions [and individual faculty], conferring high status and prestige’ (Slaughter and Leslie, 1997, p. 117)
- Ranking journals to define hierarchy of quality.

→ Hierarchically orders/stratifies theoretical and conceptual knowledge, and their institutions (see Howard, *Chronicle of HE*, 2008).

→ Reinforces academic division of labour – and transforms/intensifies language of academic power.

(re)Constructing Knowledge?(4)

Measuring 'fundamental' or 'basic' research:

- Boundaries across RDI spectrum have blurred.
- Misrepresents research/innovation process (Rothwell, 1994).
- Emphasis on short-term outputs
 - Can 'inhibit open source potential or weaken transfers between open source domain and the formal research sector' (Marginson, 2008, p17)
- Not obvious this kind of investment will create breadth of patentable knowledge that can be exploited.

→ Fetishisation of particular forms of knowledge, contributors and outputs.

→ Disregards other contributions to innovation, e.g. social and economic innovation, and threatens return to Mode 1 (NESTA, <http://www.nesta.org.uk/>).



(re)Constructing Knowledge?(5)

Building World-Class Universities vs. World-Class Systems

- World-class research does not only occur in world-class universities; world-class researchers do not only exist in world-class universities?
 - Many now accept it is not possible to develop sustainable applied or industrial-relevant research without research excellence in the underpinning sciences, and a 'presence in international publications.'
- Concentration could reduce national research capacity with 'knock-on consequences for regional economic performance and the capacity for technology innovation' (Lambert, 2003, p6).
- Shapes notion of what constitutes knowledge and which HEIs contribute most.



To summarise...

- Rankings are manifestation of globalization and marketisation of HE,
- They have gained popularity because they (appear to) gauge world class status, provide accountability and measure national competitiveness,
- Because linear assumptions of innovation position HE research as the engine, rankings induce governments and HE to adopt simplistic solutions and skew research agendas/policies,
- Rankings value some research more highly than other research, and influence how performance is measured and evaluated – especially in periods of economic crisis,
- At the extreme, rankings provoke
 - Return to classical conceptions of knowledge conducted by elites in selected institutions and
 - Retreat from new ways of thinking, Mode 2 knowledge and interdisciplinary solutions to global problems.

Therefore...

- If metrics/weightings are not value-free but rather represent the values/ambitions/goals of the producer, and
- If rankings – and other evaluation systems (as an unofficial/official policy instrument) – incentivise behaviour, decisions and opinions, then...

The choice of metrics and purpose is critical.

- Align metrics and policy,
- Need for more complex set of indicators that embrace all disciplines across full RDI spectrum to encourage more diverse/innovative activity,
- Consider the unintentional consequences.

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<http://www.oecd.org/edu/imhe/rankings>