The best university in the world? What ranking can and can’t tell us

Duncan Ross,
Data and Analytics Director
Times Higher Education
What is the best university in the world?

- US News
- QS
- Shanghai
- CWRU
- Fifa
- Webometrics
- Times Higher Education
Why have them at all? My thoughts:

• Education is global, information is local
• Universities are amongst the last great institutions to be held to public account
• Rankings generate (and use) data that can provide insight
• It’s too late now
Why the difference?

- Different methodologies
- Different data
- Different ideas of what a world class university should be
<table>
<thead>
<tr>
<th></th>
<th>Times Higher Education</th>
<th>QS</th>
<th>Shanghai ARWU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teaching environment</strong></td>
<td>Faculty-student ratio 4.5%</td>
<td>Faculty-student ratio 20%</td>
<td>Alumni Nobels 10%</td>
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<td></td>
<td>Institutional income 2.25%</td>
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<td>Doctorates to academic staff ratio 6%</td>
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<td>Doctorates to bachelor’s ratio 2.25%</td>
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<td></td>
<td>Reputation Survey 15 %</td>
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<tr>
<td><strong>Research</strong></td>
<td>Citation impact 30%</td>
<td>Citation per faculty 20%</td>
<td>Faculty Nobels 20%</td>
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<td>Reputaiton survey 18%</td>
<td>Reputation 40%</td>
<td>Papers in Nature and Science 20%</td>
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<td></td>
<td>Research income 6%</td>
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<td>Highly cited researchers 20%</td>
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<td>Research productivity 6%</td>
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<td>Papers in Science Citation Index 20%</td>
</tr>
<tr>
<td><strong>International Outlook</strong></td>
<td>International students 2.5%</td>
<td>International students 5%</td>
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<td></td>
<td>International faculty 2.5%</td>
<td>International faculty 5%</td>
<td></td>
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<td></td>
<td>International research papers 2.5%</td>
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<tr>
<td><strong>Knowledge transfer</strong></td>
<td>Industry income 2.5%</td>
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<tr>
<td><strong>Employer reputation</strong></td>
<td></td>
<td>Employer reputation 10%</td>
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<tr>
<td><strong>Productivity</strong></td>
<td></td>
<td></td>
<td>Per capita performance 10%</td>
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</tbody>
</table>
What are the similarities?

- Research focus
- Reputation - subjective
- Bibliometrics – objective(ish)
- Scope – “top” 1000 universities
  - Global research institutions
THE Methodology and data
A brief overview of THE methodology

Data Sources
- Portal
- Reputation Survey
- Scopus

13 Metrics (Not published)
- Doctorates to Academic Staff ratio
- Doctorates to Bachelor degree ratio
- Field Weighted Citations
- Income to Academic Staff ratio
- Industry Research Income to Academic Staff ratio
- International to Domestic staff ratio
- International to Domestic student ratio
- Papers to Academic Staff ratio
- Publications with at least one international author
- Research Income to Academic Staff ratio
- Research Reputation
- Staff to Student ratio
- Teaching Reputation

5 Pillars (Published)
- Citations
- Industry Income
- International Outlook
- Research
- Teaching

THE Data Points
Criteria for entry: have more than 1000 scholarly articles

- From Elsevier’s Scopus database
- Articles, reviews, conference papers, books
- 200 per year (some scope for movement)
- 2011-2015 (for this year)
  - Data collated in July
Criteria for entry: be universal

• We require activity in more than one of the subject areas

Criteria for entry: teach at undergraduate level

• Evidence of significant number of undergraduate students
## Thirteen metrics

<table>
<thead>
<tr>
<th>%</th>
<th>Relative Body</th>
<th>Norm</th>
<th>Subject Weight</th>
<th>PPP</th>
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<tbody>
<tr>
<td>6</td>
<td>Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>2.25</td>
<td>Student Body</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>15</td>
<td>Staff</td>
<td>Exp</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2.25</td>
<td>Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4.5</td>
<td>Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Papers</td>
<td>Z</td>
<td>Yes*</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Academic Staff</td>
<td>Exp</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>18</td>
<td>Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>30</td>
<td>Papers</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2.5</td>
<td>Academic Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>2.5</td>
<td>Academic Staff</td>
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<tr>
<td>2.5</td>
<td>Academic Staff</td>
<td>Z</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Doctorates to academic staff**

**Doctorates to bachelor’s degrees awarded**

**Teaching reputation**

**Income to academic staff**

**Staff to student ratio**

**Papers to academic staff**

**Research income to academic staff**

**Research reputation**

**Field Weighted Citations**

**Industry research income to academic staff**

**International to domestic staff**

**International to domestic student body**

**Publications with international author**
Coverage

• 2004 - 200 Universities
• 2010 - 400
• 2015 - 800
• 2016 - 980
Our subjects 2016

• Physical Sciences
• Life Sciences
• Clinical and Medical
• Social Sciences
• NEW SUBJECT: Business
• Arts and humanities
• Engineering and Technology
• NEW SUBJECT: Information Technology
Subject groupings

<table>
<thead>
<tr>
<th>ARTS AND HUMANITIES</th>
<th>ENGINEERING AND TECHNOLOGY</th>
<th>SOCIAL SCIENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Art, Performing Arts &amp; Design (inc. Creative Arts)</td>
<td>• General Engineering</td>
<td>• Communication &amp; Media Studies</td>
</tr>
<tr>
<td>• Languages, Literature &amp; Linguistics</td>
<td>• Electrical and Electronic Engineering</td>
<td>• Education</td>
</tr>
<tr>
<td>• History, Philosophy &amp; Theology (inc. Classics)</td>
<td>• Mechanical and Aerospace Engineering</td>
<td>• Law</td>
</tr>
<tr>
<td>• Architecture</td>
<td>• Civil Engineering (inc. Construction &amp; Materials Science)</td>
<td>• Politics &amp; International Studies (inc. Development Studies)</td>
</tr>
<tr>
<td>• Archaeology</td>
<td>• Chemical Engineering</td>
<td>• Sociology (inc. cultural studies, population &amp; anthropology)</td>
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<td></td>
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<td>• Psychology</td>
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<td></td>
<td></td>
<td>• Geography</td>
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<td></td>
<td></td>
<td><strong>BUSINESS AND ECONOMICS</strong></td>
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<tr>
<td></td>
<td></td>
<td>• Business &amp; Management</td>
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<td></td>
<td></td>
<td>• Accounting &amp; Finance</td>
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<tr>
<td></td>
<td></td>
<td>• Economics &amp; Econometrics</td>
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<tr>
<td></td>
<td></td>
<td><strong>PHYSICAL SCIENCES</strong></td>
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<tr>
<td></td>
<td></td>
<td>• Mathematics &amp; Statistics</td>
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<tr>
<td></td>
<td></td>
<td>• Physics &amp; Astronomy</td>
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<tr>
<td></td>
<td></td>
<td>• Chemistry</td>
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<td></td>
<td></td>
<td>• Geology, Environmental, Earth &amp; Marine Sciences</td>
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<td></td>
<td></td>
<td><strong>LIFE SCIENCES</strong></td>
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<td></td>
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<td>• Agriculture &amp; Forestry (inc. food)</td>
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<td></td>
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<td>• Biological Sciences (inc. biochemistry)</td>
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<td></td>
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<td>• Veterinary Science (inc. zoology)</td>
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<tr>
<td></td>
<td></td>
<td>• Sports Science</td>
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<tr>
<td></td>
<td></td>
<td><strong>CLINICAL, PRE-CLINICAL AND HEALTH</strong></td>
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<tr>
<td></td>
<td></td>
<td>• Medicine &amp; Dentistry</td>
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<tr>
<td></td>
<td></td>
<td>• Other Health (inc. Nursing &amp; Healthcare Services)</td>
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</tbody>
</table>
Published Rankings

• World University Ranking (October)
  • Subject rankings
  • Regional rankings
  • BRICS and Young rankings

• Reputation Rankings (May)

• Specialised country rankings (New)
So what can we see?
Average of Research Score

Note: countries with only one institution in the ranking have been excluded from this table.
AVERAGE OF INDUSTRY INCOME SCORE

Note: countries with only one institution in the ranking have been excluded from this table.
Worldwide
Australia
USA
China

[Diagram showing various metrics and data points related to China, including doctorate awards, teaching reputation, institutional income, student-to-staff ratio, paper count, research reputation, citation impact, industry income, percentage of international staff, and international co-authorship.]
Going a bit deeper: Reputation
Superbrands: where do they get support?

• One of the features of the superbrand Universities is the breadth of their support

• All receive large votes from every region

• Harvard receives stronger recognition from Asia than from North America
The Eurovision Effect: Do countries vote for themselves?

- There is some evidence that academics vote for universities in their country or region
- Some countries rely heavily on this
- Others are hugely international
What subjects are they known for?

- We see some very different styles of reputation
- Which universities are seen as the most “well rounded”?
The view from out there…

- How you are seen in your home country is not always how you are seen elsewhere
2017 COLLEGE RANKINGS

WSJ THE

A new US college ranking
The challenge

Reward colleges that educate students better, not just

• Those that do research
• Those that are the most selective – “colleges that educate better students”
A new approach to understanding US colleges

Focused on measuring teaching performance
• Title IV Colleges
• Over 1000 students
• Public and Private
• No more than 20% distance learning
3Ps of the learning process – Biggs, Gibbs et al

**Presage**

- **Student factors**
  - Prior knowledge
  - Ability
  - Motivation

- **Teaching Context**
  - Objectives
  - Assessment
  - Climate/ethos
  - Teaching procedures

**Process**

- Learning focused activities

**Product**

- Learning outcomes
  - Skills
  - Facts
  - Involvement
Presage

Resources

Engagement

Outcomes

Environment

Teaching Context
Objectives
Assessment
Climate/ethos
Teaching procedures

Student factors
Prior knowledge
Ability
Motivation

Teaching Context
Objectives
Assessment
Climate/ethos
Teaching procedures

Learning focused activities

Learning outcomes
Skills
Facts
Involvement
### WSJ/THE College Rankings Methodology

<table>
<thead>
<tr>
<th>6 Sources</th>
<th>15 Metrics</th>
<th>4 Pillars</th>
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</thead>
<tbody>
<tr>
<td>IPEDs</td>
<td>Finance per student</td>
<td>Resources</td>
</tr>
<tr>
<td>THE Student Survey</td>
<td>Faculty per student</td>
<td>Engagement</td>
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<tr>
<td>College Scorecard</td>
<td>Papers per faculty</td>
<td>Outcomes</td>
</tr>
<tr>
<td>THE Reputation Survey</td>
<td>Student engagement</td>
<td>Environment</td>
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<tr>
<td>Elsevier Scopus</td>
<td>Student recommendation</td>
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<tr>
<td>BEA</td>
<td>Student interaction</td>
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<td></td>
<td>Subject breadth</td>
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<td></td>
<td>Graduate salary (VA)</td>
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<td></td>
<td>Graduation rate</td>
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<td>Reputation</td>
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<td>Debt repayment (VA)</td>
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<td>Student diversity</td>
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<td>Faculty diversity</td>
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<td>International student %</td>
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<td>Student inclusion</td>
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</table>
**THE US Student Survey**

- Current students in taught courses
- Around 1,300 colleges targeted
- Focused samples
- Engagement managed by established market research organizations

**The result:** 100,000 students in over 1,111 colleges
THE US Student Survey – creating indicators

- Measures used in the ranking
  - Faculty interaction
  - Collaborative learning
  - Recommendation
  - Practical application
  - Reflection / connection
  - Critical thinking
  - Challenging classes

- Other measures
  - Choice, career impact, value
  - Social engagement
Top 10 to 6

5  Yale University
4  University of Pennsylvania
3  Columbia University
2  MIT
1  Stanford
Thank you