U-Multirank

PESHES workshop 12 June 2018

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- A brief history
- Position among global rankings
- How to use it

A brief history

2009

European Commission: feasibility study of making a multidimensional ranking

2009-2010: Design

Design principles:
- comparability (like with like)
- multi-dimensional
- multi-level
- user-driven
- methodological sound
- Participatory approach

A brief history

2010-2011: Feasibility study (150 HEIs)

2012-2014: First edition (850 HEIs)
focus on feasibility and coverage

2015: Second edition (1000 HEIs)
2016: Third edition
2017: Fourth edition (prefilling 2 countries); applied research indicators)
2018: Fifth edition (prefilling 4 countries)

A brief history

2019: Challenges regarding indicators

- Social inclusion
- Alternative education models (part time, distance, online)
- Quality of data

Questions/remarks

- General
- From a Serbian/ Eastern European perspective

Position among global rankings

Since 2003 twenty global rankings have emerged

GLOBAL UNIVERSITY RANKINGS IN ALPHABETICAL ORDER

- CWTS Leiden Ranking
- CWUR World University Rankings
- Emerging/Trendence Global University Employability Ranking
- Nature Index
- NTU Ranking
- QS Graduate Employability Rankings
- QS World University Rankings
- Ranking Web of Universities (Webometrics)
- Reuters Top 100: The World's Most Innovative Universities
- RUR Round University Ranking
- SCImago Institutions Ranking
- ShanghaiRanking's Academic Ranking of World Universities (ARWU)
- THE World Reputation Rankings
- THE World University Rankings
- THE Young University Ranking
- U-Multirank
- UI GreenMetric Ranking of World Universities
- uniRank University Ranking™
- URAP University Ranking by Academic Performance
- US News Best Global Universities Rankings

Major broad rankings:
ARWU – (Shanghai Ranking)
QS World University Rankings
THE World University Rankings

Global rankings in higher education

- Why?
  - Multiple users; multiple purposes
- How?
  - What universities
  - What activities/performances
  - What indicators
  - How to present results
- Impact on behavior.

Why rank?

- Users
  - (Prospective) students
  - University
  - Funding agency
  - Policy maker
  - Employer
  - Society at large

How: What universities?

- Research intensive vs teaching oriented
- Level of programmes
- Comprehensive vs specialized
- Size and age
- Other…….(public vs private?)

How: what dimensions of performance

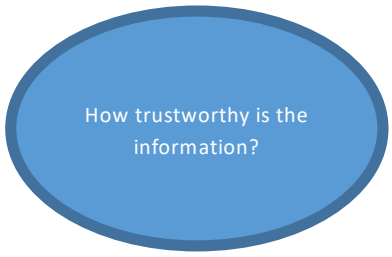
- Teaching
- Research
- Knowledge transfer
- International orientation
- Regional contribution

How: type of indicators

- Indicators
  - Objective information
    - Statistics on students
    - Statistics on staff
    - Statistics on finance
    - Statistics on publications
    - Statistics on employment
  - Subjective information
    - User ratings
    - Prestige/ reputation scores

How: sources of information

- Questionnaires
  - Institutional
  - Department
  - Students
  - Graduates
  - 'Experts'
- International databases
  - ETER
  - Worldbank
  - IAU
  - Eurograduate
- National databases
  - Statistical offices
  - University associations
- Other sources
  - Institutional websites



How: presentation

- Sorted lists of scores
  - Create overall score
    - + easy to communicate
    - - weighting the indicators
    - - over simplification
  - Create multiple lists (user driven)
    - + user determines weights
    - -difficult to communicate
  - Categorised scores

Effects of global rankings

- On students
- On universities
  - Institutional benchmarking/profiling
  - Gaming the results
  - Focus on what can be measured
- On policy makers
  - Funding
  - Quality assurance
- Reputation race
- Matthew effect

Assignment: assessing global ranking

- Describe one of the global rankings in terms of:
  - Dimensions
    - What dimensions do the other global rankings use?
  - Indicators
    - What indicators do the other global rankings use?
  - Definitions:
    - are there any peculiar definitions?
    - Are they valid for what you want to measure?
  - Data
    - What data are used
    - Types of sources
  - Impact (in Serbia)

ACADEMIC RANKING OF WORLD UNIVERSITIES — http://www.shanghairanking.com/

THE WORLD UNIVERSITY RANKINGS — https://www.timeshighereducation.com/world-university-rankings

QS WORLD UNIVERSITY RANKINGS — https://www.topuniversities.com/university-rankings

CWTS Leiden Ranking — http://www.leidenranking.com/

multirank — http://www.umultirank.org/

The league tables differ substantially from U-Multirank

	Shanghai	QS	THE	UMR
Organisation	University spin-off (Shanghai Ranking Consultancy), (largely) Not-for- profit	HE Services (Fairs); Commercial	Publisher Commercial; Private equity owned	Non-commercial
	???	> 250 staff (whole company)	??? Offices in UK, US, Australia, Singapore	~ 12-15 staff
Main business	Ranking	Fairs & conferences	Publisher	Ranking
Business with ranking	Benchmarking services	Data services, Summits	Conferences, consulting, data services	(Benchmarking Services)
Coverage	Research universities	Research universities	Research universities	Diversity of institutions
• Institutional	800 universities	950 universities	1,000 universities	1,500 HEIs
• Subjects	53 subjects	48 subjects		17 subjects
Full Access	Free	Registration	Registration	Free
Web traffic (Oct 2017)				
Monthly unique visitors	885.000	4.5 mio*	2,4 mio**	10.300
Average visit duration	2:18 minutes	2:52 minutes	2:35 minutes	3:00 minutes

Indicators and Weights for ARWU

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Per capita academic performance of an institution	PCP	10%
Total			100%

Indicators and Weights for ARWU - FIELD

Code	Weight	SCI	ENG	LIFE	MED	SOC
Alumni	10%	Alumni of an institution winning Fields Medals in mathematics and Nobel Prizes in Chemistry and Physics since 1961	Not Applicable	Alumni of an institution winning Nobel Prizes in Physiology or Medicine since 1961	Alumni of an institution winning Nobel Prizes in Physiology or Medicine since 1961	Alumni of an institution winning Nobel Prizes in Economics since 1961
Award	15%	Staff of an institution winning Fields Medals and Nobel Prizes in Chemistry and Physics since 1971	Not Applicable	Staff of an institution winning Nobel Prizes in Physiology or Medicine since 1971	Staff of an institution winning Nobel Prizes in Physiology or Medicine since 1971	Staff of an institution winning Nobel Prizes in Economics since 1971
HiCi	25%	Highly cited researchers in 5 categories: • Mathematics • Physics • Chemistry • Geosciences • Space Sciences	Highly cited researchers in 3 categories: •Engineering •Computer Science •Materials Science	Highly cited researchers in 8 categories: •Biology& Biochemistry •Molecular Biology& Genetics •Microbiology •Immunology •Neuroscience •Agricultural Sciences •Plant&Animal Science •Ecology/ Environment	Highly cited researchers in 3 categories: •Clinical Medicine •Pharmacology •Social Sciences, General(Partly)	Highly cited researchers in 2 Categories: •Social Sciences, General(Partly) •Economics/ Business
HiCi	25%	• Physics • Chemistry • Geosciences • Space Sciences	•Engineering •Computer Science •Materials Science	•Microbiology •Immunology •Neuroscience •Agricultural Sciences •Plant&Animal Science •Ecology/ Environment	•Clinical Medicine •Pharmacology •Social Sciences, General(Partly)	•Social Sciences, General(Partly) •Economics/ Business
PUB	25%	Papers Indexed in Science Citation Index-Expanded in SCI fields	Papers Indexed in Science Citation Index-Expanded in ENG fields	Papers Indexed in Science Citation Index-Expanded in LIFE fields	Papers Indexed in Science Citation Index-Expanded in MED fields	Papers Indexed in Social Science Citation Index in SOC fields
TOP	25%	Percentage of papers published in top 20% journals of SCI fields to that in all SCI journals	Percentage of papers published in top 20% journals of ENG fields to that in all ENG journals	Percentage of papers published in top 20% journals of LIFE fields to that in all LIFE journals	Percentage of papers published in top 20% journals of MED fields to that in all MED journals	Percentage of papers published in top 20% journals of SOC fields to that in all SOC journals
Fund	25%	Not Applicable	Total engineering-related research expenditures	Not Applicable	Not Applicable	Not Applicable

- **Definition of Indicators**

Indicators	Definition
PUB	PUB is the number of papers authored by an institution in an Academic Subject during the period of 2011-2015. Only papers of 'Article' type are considered. Data are collected from InCites database. Papers in different Web of Science categories are grouped into relevant Academic Subjects (**Classification of Web of Science Categories into Academic Subjects**).
CNCI	Category Normalized Citation Impact (CNCI) is the ratio of citation of papers published by an institution in an Academic Subject during the period of 2011-2015 to the average citation of papers in the same category, of the same year and same type. A CNCI value of 1 represents world-average performance while a value above 1 represents performance above the world average. Only papers of 'Article' type are considered. Data are collected from InCites database.
IC	International collaboration (IC) is the number of publications that have been found with at least two different countries in addresses of the authors divided by the total number of publications in an Academic Subject for an institution during the period of 2011-2015. Only papers of 'Article' type are considered. Data are collected from InCites database.
TOP	TOP is the number of papers published in Top Journals in an Academic Subject for an institution during the period of 2011-2015. Top Journals are identified through **ShanghaiRanking's Academic Excellence Survey** or by Journal Impact Factor. In 2017, 94 top journals selected by the Survey are used in rankings of 33 Academic Subjects. The list of the top journals can be found **here**. For Academic Subjects that do not have journals identified by the Survey, the JCR top 20% journals are used. Top 20% journals are defined as their

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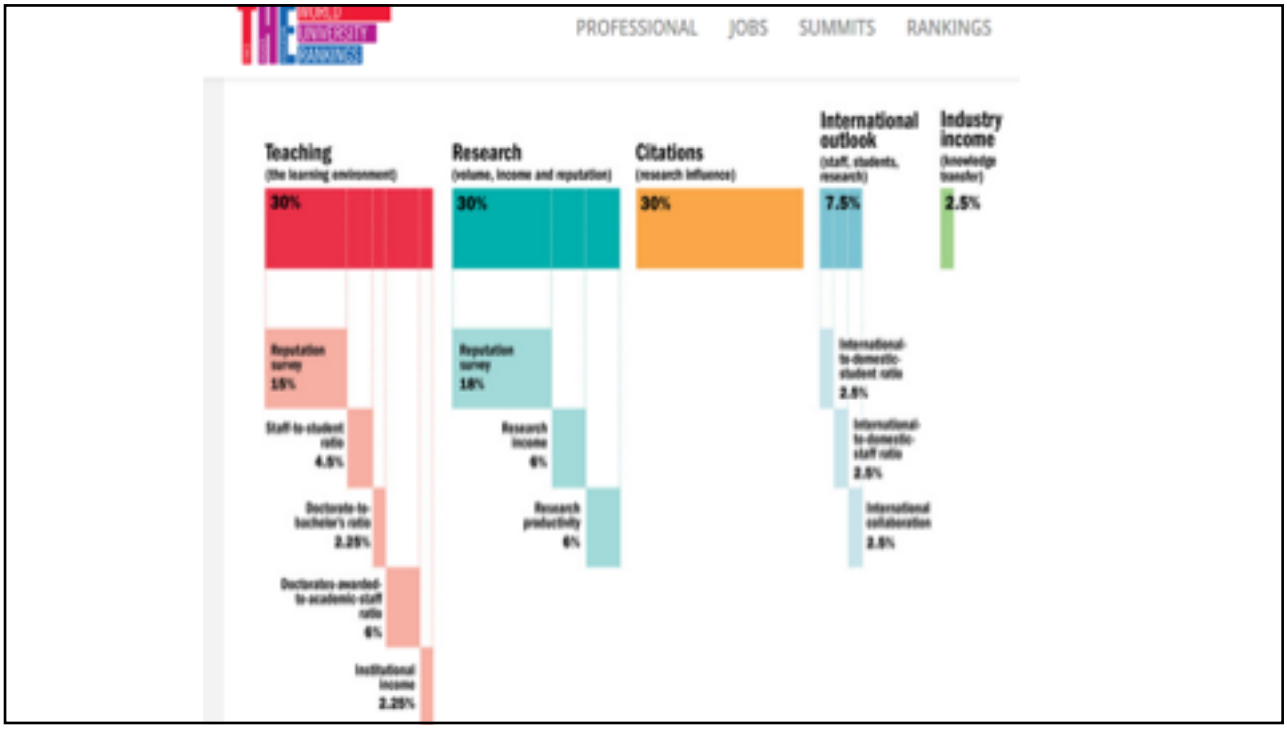
AWARD	AWARD refers to the total number of the staff of an institution winning a significant award in an Academic Subject. Staff is defined as those who work full-time at an institution at the time of winning the prize. If a researcher was retired at the time of winning the award, we count the institution where the researcher's last full-time academic position was at. The significant awards in each subject are identified through **ShanghaiRanking's Academic Excellence Survey**. The list of the significant awards in each subject can be viewed **here**. If a winner is affiliated with more than one institution at the time of winning the award, each institution is assigned the reciprocal of the number of institutions. If the award is awarded to more than one winner in one year, weights are set for winners according to their proportion of the prize. Different weights are set according to the periods of winning the prizes. The weight is 100% for winners in 2011-2015, 75% for winners in 2001-2010, 50% for winners in 1991-2000, and 25% for winners in 1981-1990.



QS WORLD UNIVERSITY RANKINGS

Thus, universities continue to be evaluated according to the following six metrics:

1. Academic Reputation
2. Employer Reputation
3. Faculty/Student Ratio
4. Citations per faculty
5. International Faculty Ratio
6. International Student Ratio

Assignment; UMR for institutional benchmarking

- List three institutional strategic indicators of your institution
- Search U-Multirank for indicators that could provide information on those indicators

- 15 min.