



Factors Influencing the Stability and Instability of International Rankings in Higher Education

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Research Questions:

- How international rankings define world class universities?
- What cause the rises or drops in universities' rankings?

Background:

Universities are competing for human and financial resources and reputation.

Rankings — The Referees of the World Class University Competition

There are two influential international rankings:

- The **Academic Ranking of World Universities (ARWU)** —Shanghai Jiao Tong University
 - Alumni Prize Winners 10%
 - Staff Prize Winners 20%
 - Highly Cited Researchers 20%
 - Articles Published in Nature and Science 20%
 - Publication 20%
 - Size 10%
 - International Staff 5%
- The **World University Rankings (WUR)** —Times Higher Education-QS
 - Peer Review 40%
 - Employer Review 10%
 - Student to Staff Ratio 20%
 - Citation 20%
 - International Staff 5%
 - International Students 5%

Methodology:

Case Study

Three Campuses of University of California are chosen to illustrate how the criteria and ranking method influence the ranking results, the reliability and validity of the two rankings.

Case 1 University of California —Berkeley (UCB)

UCB's Rankings	2003	2004	2005	2006	2007	2008
ARWU Ranking	4	4	4	4	3	3
WUR Ranking		2	6	8	22	36

UCB in the ARWU

The increase of UCB's rank in the 2007 ARWU is attributed to the one-place rise in the Alumni Prize Winners, which is the results of three years' accumulation of alumni Nobel Prizes wins from 2004 to 2006.

UCB	2003	2004	2005	2006	2007	2008
Ranking by Alumni Prize Winners		6	6	6	5	5
Ranking by Staff Prize Winners	6	6	6	6	7	7

UCB in the WUR

The continuous drops in the UCB's rankings are not supported by its indicators, which results from the frequent changes of methodology.

UCB	Ranking by Peer Review	Ranking by Employer Review	Ranking by Student to Staff Ratio	Ranking by Citation	Ranking by International Staff	Ranking by International Students
2004	1		112	7	107	106
2008	1	1	120	1	36	104

Case 2: University of California — Los Angeles (UCLA)

UCLA's Rankings	2003	2004	2005	2006	2007	2008
ARWU Ranking	15	16	14	14	13	13
WUR Ranking		26	37	31	41	30

UCLA in the ARWU

In UCLA's case, the increase of rank in the 2007 ARWU is attributed to the big rise in the Alumni Prize Winners, which is the results of the win of Fields Medal in 2006.

UCLA	2003	2004	2005	2006	2007	2008
Ranking by Staff Prize Winners	20	27	29	29	14	15

UCLA in the WUR

UCLA's Shifts in Indicator cannot be verified by data from other source.

UCLA	2004	2005	2006	2007	2008
Ranking by Students to Staff Ratio	77	81	70	83	96
Common Data Set Student to Staff Ratio	17.6 to 1	18 to 1	17.62 to 1	16 to 1	16 to 1

Case 3: University of California — San Francisco (UCSF)

UCSF	2003	2004	2005	2006	2007	2008
ARWU Ranking	13	17	18	18	18	18
WUR Ranking		20	17			

UCSF in the ARWU

In UCSF's case, it is disadvantaged by the ranking methodology change in 2004. In 2003, UCSF ranks higher than UCLA. But after the introduction of a new indicator, Alumni Prize Winners, UCSF drops behind the UCLA.

UCSF	2003	2004	2005	2006	2007	2008
Alumni Prize Winners	3	0	0	0	0	0
Ranking by Alumni Prize Winners		80	80	80	81	81

UCSF in the WUR

UCSF ranks quite high in the WUR from 2004 to 2005 but disappears out of top 500 universities since then. One possible reason could be the WUR decided to exclude UCSF as a university specialised in the medicine with only graduate programmes.

Conclusions

The ARWU provides relatively reliable rankings based on prestigious indicators. The Factors Influencing the ARWU's Rankings are:

- **Alumni Prize Winners and Staff Prize Winners are the main contributors of rises of rankings.**
- **The methodology change, adding Alumni Prize Winners, disadvantages universities without Alumni Prize Winners.**

There are serious problems of the WUR jeopardising its validity and reliability. The Factors Influencing the WUR's Rankings are:

- **Frequent changes of ranking methodology.**
- **The use of incorrect data.**

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