## 2<sup>nd</sup> Session on Leveraging International University Rankings

NAFSA 2013 Conference

The Illuminate Consulting Group

28 May 2013

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## AGENDA

Housekeeping

Welcome by the Chair

A Perspective on Rankings

**Overview of Major International Ranking Systems** 

**Country and Institutional Perspectives on Rankings** 

A Strategic Approach to International Rankings

Discussion

- The session will be chaired by Randall Martin (BCCIE).
- The presentation is geared to run for about 40 minutes.
- About 20 minutes are allocated for discussion.
- Additional sources of information on international university rankings are listed at the end of the presentation.

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## THE USAGE OF INTERNATIONAL UNIVERSITY RANKINGS

- Rankings are utilized by a broad range of stakeholders:
  - Students and parents (and agents).
  - Institutional management, donors, funding bodies.
  - Public organizations (ministries, scholarship/research funding bodies).
  - Employers.
- What is it that these groups care about?
  - Global rankings?
  - Regional or national rankings?
  - Subject-based rankings?
  - Best "party school" rankings?
- Different groups have different decision making patterns domestic vs. international students, undergraduate vs. graduate, administrators vs. policy makers vs. employers, etc.
- The above patterns drive interests in different types of rankings.

## INTERNATIONAL UNIVERSITY RANKINGS CONCEPTS

- ARWU released the first true international university ranking in 2003 thus methodologies and experiences with rankings are fairly recent.
- The very idea that universities worldwide can be definitively ranked still remains controversial. There is no one perfect or even flawless survey.
- Rankings approaches differ fundamentally:
  - "Hard" performance data (ARWU).
  - Blended, including hard performance data, institutional metrics, and surveys (QS, THE).
  - Citation-based (Leiden).
  - Web-based technical metrics (Webometrics).
  - Broad-based program information available for user search (U-Multirank).

Rankings and their components serve different purposes – from overtly commercial (QS, THE) to academic (Leiden) to technical (Webometrics).

Regardless of ranking, Harvard is still doing well...

"...students attending highly ranked universities will place more importance on rankings... Rankings will never be the holy grail... but no one can argue that a good ranking certainly helps seal the deal."

- Head of Development for the EAIE, Netherlands

# "Students from Korea, Japan and China look for famous universities which can be good on his/her cv."

- Director of Kyung Hee University, South Korea

"The higher the degree pursued, the more attention will be paid to rankings."

- Former Dean of International Affairs at Freie Universität, Germany

"In Asia they are "important" though most people have no idea what they mean, they just think they are important."

- Kemeixin Education Consultant, China

## **RANKINGS' GROWING ROLE IN DRIVING STAKEHOLDER BEHAVIOR**

- Despite the inherent problems associated with rankings, their acceptance amongst stakeholders continues to grow and shape behavior.
- Examples of the increasing role of rankings:
  - Certain employers only consider applicants from programs which fall within specified ranks.
  - Chinese Scholarship Council funding eligibility is based on the ranking of the student's prospective institution in the ARWU.
  - Institutions undertake organizational redesign in order to boost critical mass of research activity to improve rankings.
  - Some research partnerships are now predicated on a prospective partner's rankings.
- Rankings' increasing role as an information and decision-making tool makes them an important consideration for institutions.

### LIMITATIONS OF INTERNATIONAL UNIVERSITY RANKINGS

- All major international education rankings (ARWU, QS, THE) cover less than 1,000 universities combined. This leaves more than 15,000 universities unranked (i.e. a 5% situation).
- Many subject/area/field rankings of faculties and departments cover only 50 (THE) to 200 (ARWU) institutions.
- Some rankings agencies have pushed into regional (e.g. Asia) or age group (Top 100 under 50) based rankings. Some of the regional rankings are simply break outs, only (QS) cover hitherto unranked institutions.
- International business school rankings have been around for a while (FT, Forbes, BusinessWeek, The Economist, etc.) and can produce very different results.
- There is no international rankings of colleges owing to the highly disparate nature of colleges (from mass vocational to small liberal arts).

## SUMMARY PERSPECTIVES

- Rankings are here to stay their reach and impact is too large by now (and too profitable).
- Rankings will continue to proliferate for political, economical, and competitive reasons.
- The issue is not whether and how deeply existing rankings are flawed, the issue is how universities interact/respond to the underlying dynamic of being "globally measurable".
- Rankings have increased in methodological scope. It is likely that they will continue to do so.
- All rankings can be influence or modulated, and some can be outright manipulated (not recommended).

#### Understanding rankings is a strategic necessity



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## **INTRODUCTION TO INTERNATIONAL RANKING SYSTEMS**

- While national rankings are well established in many countries (e.g. US Bureau began classifying institutions in 1870), global rankings are just less than one decade old.
- The Academic Rankings of World Universities (aka as the Shanghai ranking) was introduced in 2003, followed by the THE-QS ranking in 2004.
- Global rankings forerunners such as the ARWU have put a large amount of emphasis on research and peer-review surveys (THE-QS), however this is beginning to change (move to outcome and multi-factorial models).
- As new rankings are entering the market, older rankings are beginning to shift their methodologies.
- The diversification of rankings includes different foci academicallyfocused, research-focused, multi-focused (teaching, mission, community outreach, etc...) as well as different objectives – provide comparable data, produce awareness of Web presence, etc.

Туре	Ranking Names	Publisher
Academic Rankings that	Academic Ranking of World Unis.	Shanghai Consultancy
	THE World University Ranking	THE-Thomson Reuters
Publish League Tables	World's Best Universities Ranking	QS (partnership with USN)
	Global Universities Ranking	Reitor
Research Performance Focused with/without League Tables	Leiden Ranking	Leiden University
	Performance Rankings of Scientific Papers	Taiwan Higher Education Accredi- tation and Evaluation Council
	Assessment of University-Based Research	European Commission
Multirankings	CHE University Rankings	Centre for Higher Education Development/Die Zeit
	European Multidimensional Uni. Ranking System (U-Multirank)	Funded by the European Union
Web Rankings	Webometrics Ranking of World Universities	Cybermetrics Lab (National Research Council of Spain)
Benchmarking Based on Learning Outcomes	Assessment of Higher Education Learning Outcomes Project (AHELO)	OECD

Source: European University Association.

- Shanghai Ranking Consultancy, *Academic Ranking of World Universities* (ARWU); the "Shanghai Ranking".
- First global multi-indicator ranking of universities.
- Originally developed by a Chinese research team at Shanghai Jiao Tong University (SJTU) performing a gap analysis of top Chinese Universities against major US research universities.
- Since 2009, published by the independent "Shanghai Ranking Consultancy".
- Annual publication of four rankings:
  - "Universities Top 500" (since 2003)
  - "National" (since 2003)
  - "Field Top 100" (since 2007) (now Top 200)
  - "Subject Top 100" (since 2009) (now Top 200)

Weight (Area)	Area	Indicator	Weight (Indicator)
10%	Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	10%
40%	Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	20%
		[Top 200] highly cited researchers in 21 broad subject categories	20%
40% Researc		Papers published in <i>Nature</i> and <i>Science</i>	20%
	Research Output	Papers indexed in Science Citation Index- expanded/Social Science Citation Index	20%
10%	Per Capita Performance	Per capita academic performance of an institution	10%

#### Four areas of investigation; six indicators (60% weight on citation data)

Source: ARWU.

- Data obtained from publicly available sources.
- Rankings are constructed by weighting all the scores for each indicator at each institution. Highest scoring institution is assigned "100" and following institutions are calculated as a percentage:

E.g. University X has 352 publications in Nature or Science (N&S), but university Y holds the best result - 398 publications). The score of University X in indicator N&S will be N&S<sub>x</sub> = 352/398\*100 = 88.4.

- "Field" and "Subject" rankings calculated similarly.
- Criticisms: English-language bias, favors large institutions, natural science bias.
- Praises: non-survey, transparent, methodology consistent over time.

## **QS – DEVELOPMENT AND SUMMARY**

- Quacquarelli-Symonds (QS), in partnership with US News and World Report (USN), QS World University Rankings/World's Best Universities.
- In 2009, after splitting with Times Higher Education, QS began a partnership with USN and published the USN-QS 2009 rankings with the same data as published for THE-QS 2009 (including Top 400 instead of Top 200).
- Rankings are published sequentially with no "groupings" (i.e. 101-150).
- In addition to providing a rankings, overall scores and individual indicator scores are published.
- Annual publication of three rankings:
  - "Universities Top 400" (2009) (Top 700 can be retrieved)
  - "Regional" (2010)
  - "Subject" (2010)

## **QS – INDICATORS AND WEIGHTING**

Weighting (Area)	Area	Indicator	Weighting (Indicator)
60%	Research	Academic Peer Review	40%
		Citations per Faculty	20%
10%	Graduate Employability	Employer Review	10%
20%	Teaching	Faculty Student Ratio	20%
10%	International Outlook	International Faculty	5%
		International Students	5%

#### Four areas of investigation; 6 indicators (50% weight on survey data)

Source: QS-USN.

- Non-survey data are collected from the institutions as well as from third-party sources.
- Academic peer review survey data was aggregated across three years because of low numbers of survey responses 15,050 total (2010).
- Employer review survey data was also aggregated across three years and geographical weightings applied 5,007 total (2010).
- Normalization method also uses Z-scores (like the THE-TR). Final score multiplies each indicator score by weights, sums together results and scales to the top performing institution (final score out of 100).
- Criticisms: Peer review methodology is highly intransparent and receives a too high weighting, selection method of universities is arbitrary.
- Praises: captures more dimensions than ARWU.

## THE – DEVELOPMENT AND SUMMARY

- Times Higher Education, in partnership with Thomson Reuters (THE), World University Rankings.
- Development credited to former Times Higher Education Ed. John O'Leary; originally partnered with Quacquarelli-Symonds (QS).
- Since 2009, new agreement formed with Thomson Reuters serving the data collection and processing engine.
- New methodology (including new academic survey) developed in partnership with Thomson Reuters.
- Annual publication of four rankings:
  - "Universities Top 200" (2004; major redesign 2010)
  - "Regional" (2010)
  - "Subject" (2010)
  - "Reputation" (March 2011)

## THE – INDICATORS AND WEIGHTING

Weight (Area)	Area	Indicators	Weight (Indicators)
2.5%	Innovation	Research income from industry (per staff)	2.5%
5.0%	Internationalization	Ratio of international to domestic staff	3.0%
		Ratio of international to domestic students	2.0%
		Reputation survey – teaching	15.0%
30.0%	Teaching	PhDs awarded (scaled)	6.0%
		Undergraduates admitted per academic	4.5%
		PhD awards/bachelor awards	2.3%
		Income per academic	2.3%
		Reputation survey – research	19.5%
30.0%	Research	Research income (scaled)	5.3%
		Papers per academic and research staff	4.5%
		Research income (public/total)	0.8%
32.5%	Citation	Citation impact (avg. citations/per paper)	32.5%

#### Five areas of investigation; 13 indicators (34.5% weight on survey data)

Source: THE-Thomson Reuters.

- Non-survey data are collected from the institutions (institutions receive pre-populated sheets with third-party data to confirm or change).
- Survey data collected to inform research and teaching indicators was based on 13,388 respondents in 2010. 2011 "Reputation Rankings" based on survey data.
- Indicator data are standardized into Z scores which are then turned into a "cumulative probability score" in order to calculate the final totals:
  - E.g. if university X has a score of 98, then a random institution from the same distribution of data will fall below this university 98 percent of the time.
- Criticisms: Problematic citation weighting, reputation highly unreliable, survey respondents non-transparent.
- Praises: Attempts to rectify problems identified with 2004-09 methodology, addresses teaching.

#### EUROPEAN MULTIDIMENSIONAL UNIVERSITY RANKING (U-MULTIRANK) – OVERVIEW

- Funded by the European Commission, it was constructed by the Consortium for Higher Education and Research Performance Assessment (CHERPA).
- The Ranking seeks to rectify problems with existing ranking system, with three objectives:
  - Taking a multidimensional approach (i.e. equal emphasis on humanities and social sciences, innovation, community outreach, research, etc.)
  - Being independent from any institution or government agency
  - Having a global scope (both inside and outside of Europe)
- Indicators are largely based on those currently used in German CHE Rankings.
- Expected in two versions:
  - "Focused Institutional Ranking"
  - "Field-based Ranking"

The EU greenlighted a 500 institution-strong roll out in December 2012

#### WEBOMETRICS – DEVELOPMENT AND SUMMARY

- Since 2004, the Webometric Ranking of World Universities (WRWU) has been published semi-annually by the Cybermetrics Lab (Spain).
- The goal of the rankings is to "convince academic and political communities" that "web publication is not only for dissemination of academic knowledge but for measuring scientific activities, performance and impact".
- The Rankings measure the "size" (number of pages, publications and rich files on a website) and the "visibility" (the number of inward links to the University's website).
- Data for the size of the university's website is taken from Google, Yahoo, Live Search, and Exalead.
- More than 20,000 higher education institutions are analyzed 12,000 are included in the Ranking (all available on the Website).

Weight	Indicator	Definition
50%	Visibility (external links)	Total number of unique external links received (inward links) by a site can be only received (inward links) by a site confidently obtained from Yahoo Search
20%	Size of University Web	Number of pages recovered from: Google, Yahoo, Live Search and Exalead
15%	Rich Files	Number of Adobe Acrobat (.pdf), Adobe PostScript (.ps), Microsoft Word (.doc) and Microsoft PowerPoint (.ppt) files
15%	Scholar	Number of papers and citations from Google Scholar

#### Half of the weighting depends upon "visibility"

Source: Webometrics.

- This sampling illustrates a diversifying and changing rankings landscape.
- While AWRU has remained stable, THE has changed its methodology a number of times; the most recent change in data providers and methodology in 2010 has resulted in a fundamentally different ranking system.
- QS has decided not to substantially revise its methodology, thus past THE-QS rankings are broadly comparable to new QS standalone rankings.
- The development of U-Multirank will be another fundamentally different type of ranking system which will move away from the league table style of some of the biggest ranking to a more comparative approach,

ICG white paper and articles will be published during the summer



Housekeeping

Welcome by the Chair

A Perspective on Rankings

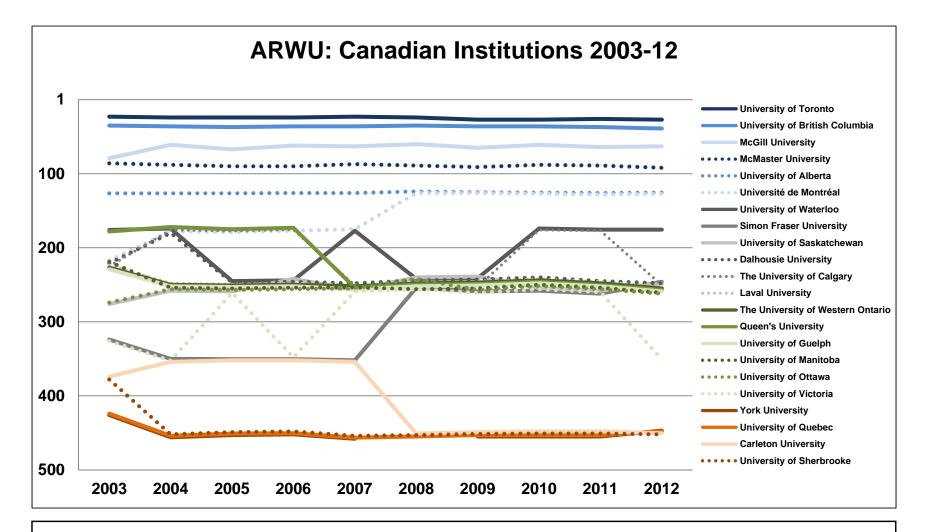
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## **CANADA IN THE RANKINGS: ARWU**

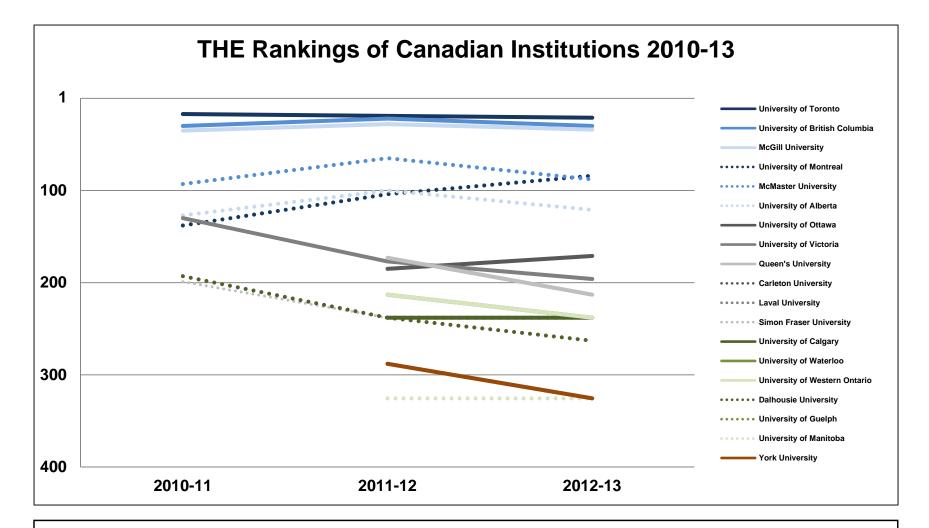


#### 22 Canadian universities ranked in the Top 500 (2012)

Notes: Ranges have been displayed with their mid point value.

Source: ARWU.

## CANADA IN THE RANKINGS: THE

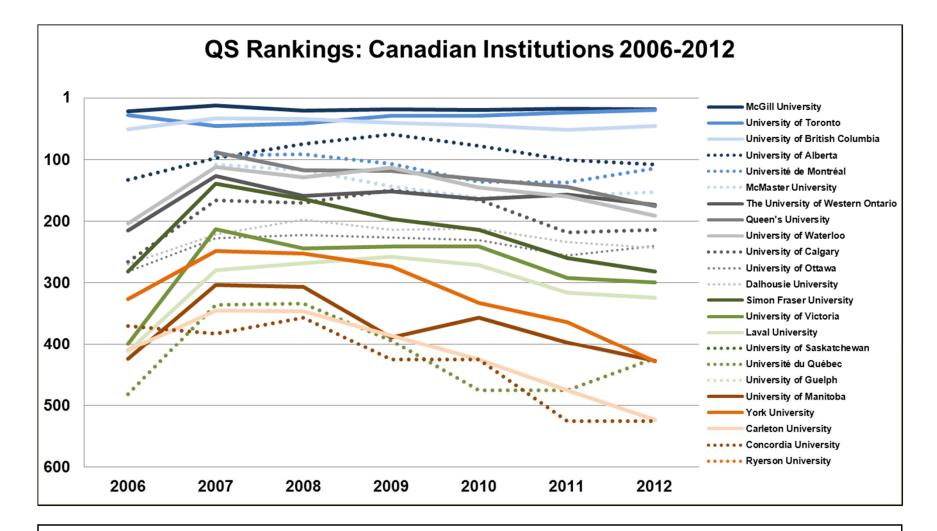


#### 19 Canadian universities ranked in the Top 400 (2012-13)

Notes: Ranges have been displayed with their mid point value.

Source: THE. ICG © 2013

## CANADA IN THE RANKINGS: QS



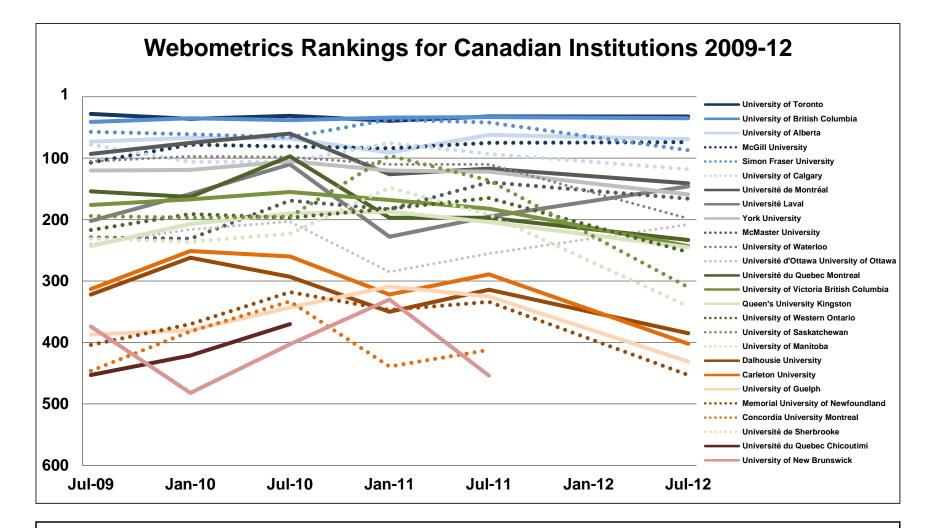
#### 23 Canadian universities ranked in the Top 600 (2012)

Notes: Ranges have been displayed with their mid point value.

Source: QS. **ICG** © 2013

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## **CANADA IN THE RANKINGS: WEBOMETRICS**

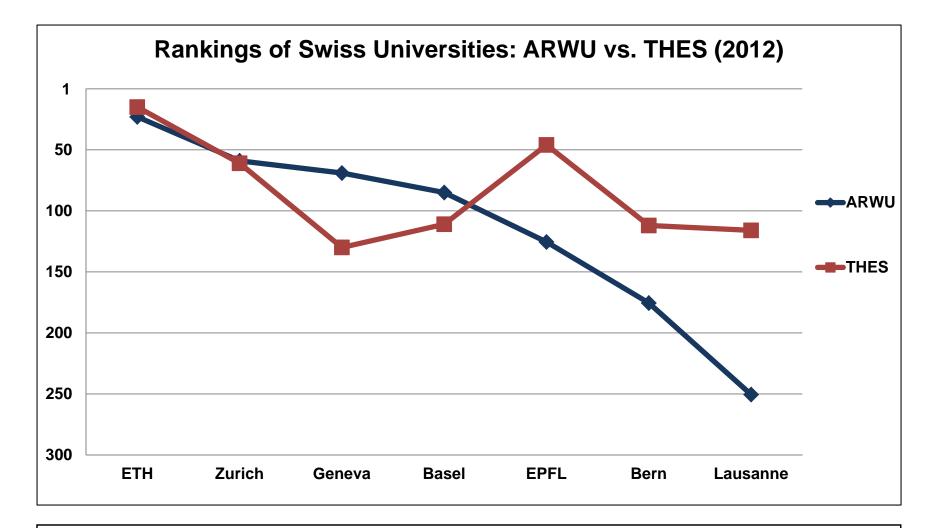


#### UofT (32<sup>nd</sup>) and UBC (35<sup>th</sup>) are Canada's top university web destinations

Notes: Ranges have been displayed with their mid point value. Source: Webometrics. ICG © 2013 2<sup>nd</sup> Session on Leveraging Ir

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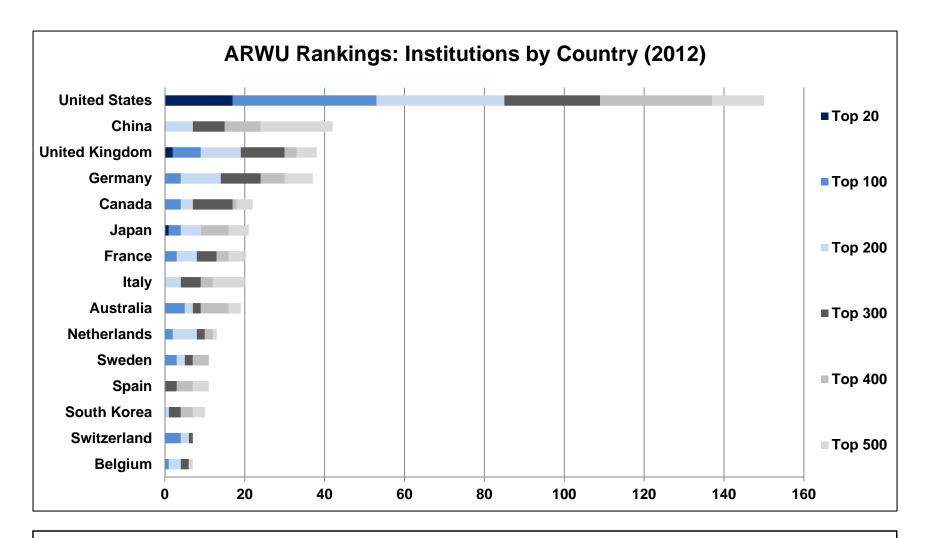
## SWITZERLAND IN THE RANKINGS: ARWU vs. THE



#### Large differences in rankings for institutions based on methodology

Notes: Ranges have been displayed with their mid point value. Sources: ARWU, THE. ICG © 2013 2<sup>nd</sup> Session on Leveraging International University Rankings – 28 May 2013

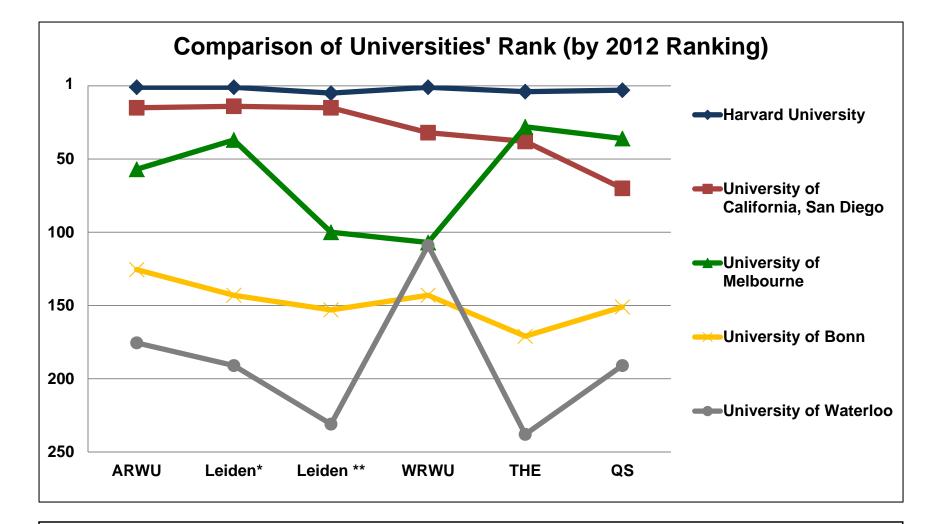
## NATIONAL COMPARISON (ARWU)



#### The United States still dominates rankings, China building strength

Source: ARWU. ICG © 2013

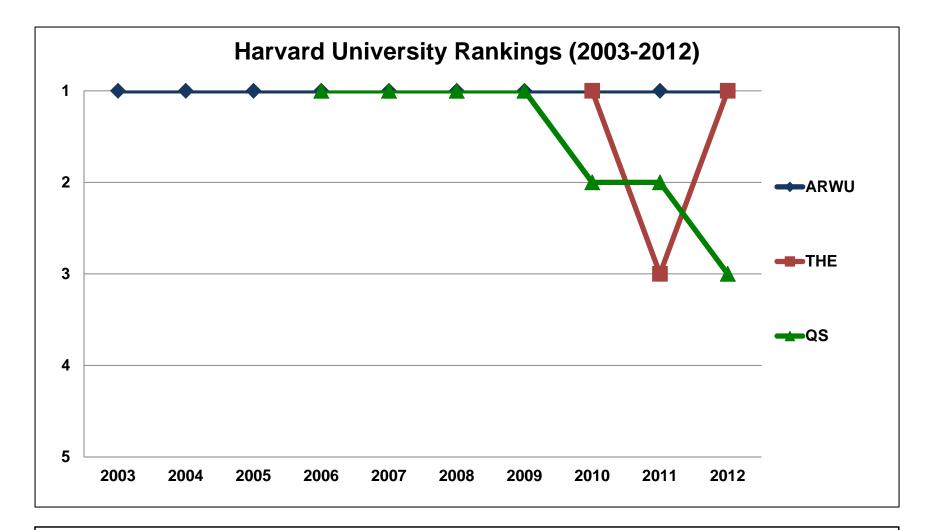
## COMPARISON OF UNIVERSITIES' RANK



#### Some institutions are consistent across all rankings, others fluctuate

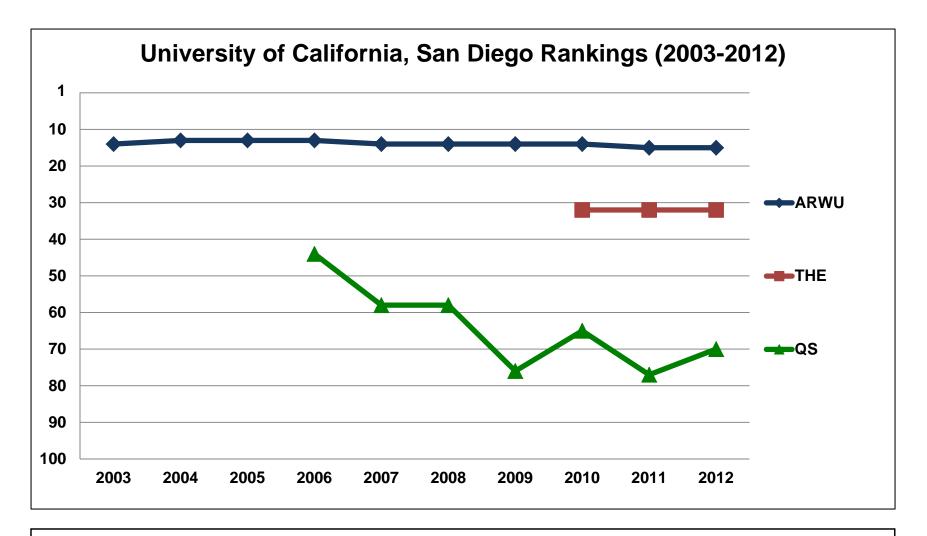
Notes: Ranges have been displayed with their mid point value. Two variations of the Leiden Rankings have been utilized. Sources: ARWU, Leiden, QS, THE, WRWU. ICG © 2013 2<sup>nd</sup> Session on Leveraging International University Rankings – 28 May 2013

# HARVARD IN THE RANKINGS



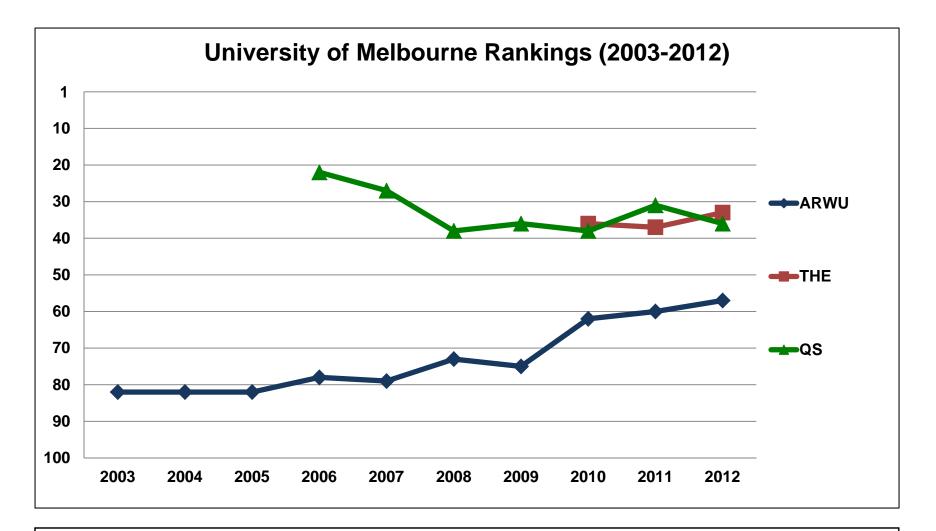
#### Harvard has been consistently strong

## UNIVERSITY OF CALIFORNIA, SAN DIEGO IN THE RANKINGS



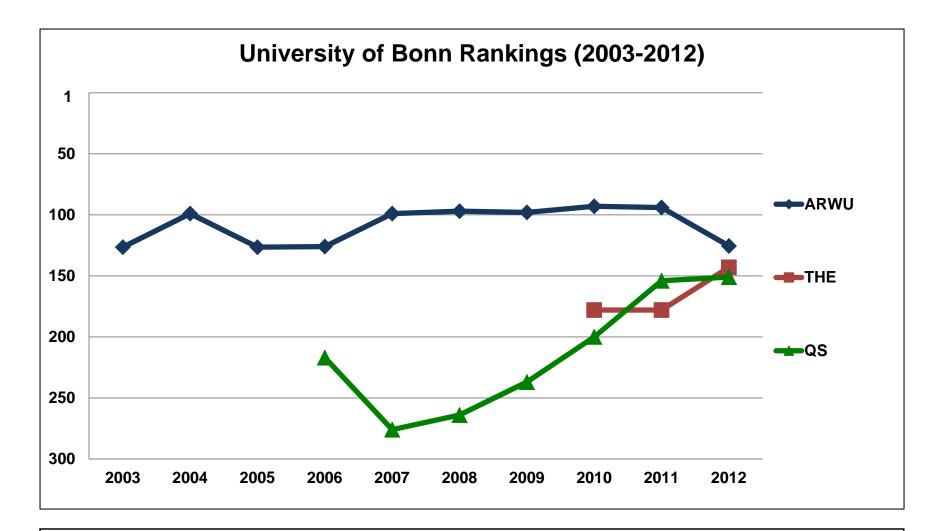
### Consistency in ARWU and THE, fluctuation in QS

## UNIVERSITY OF MELBOURNE IN THE RANKINGS



#### Strong improvement in ARWU reflects increased research performance

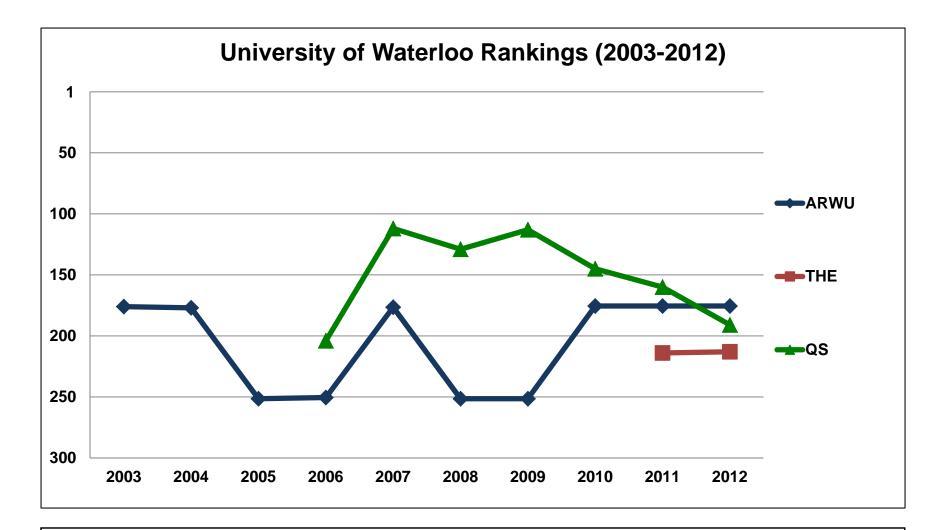
## UNIVERSITY OF BONN IN THE RANKINGS



### Improvement in QS, holding steady in ARWU and THE

Notes: Ranges have been displayed with their mid point value. Sources: ARWU, QS, THE. ICG © 2013 2<sup>nd</sup> Session on Leveraging Interr

## UNIVERSITY OF WATERLOO IN THE RANKINGS



### Large fluctuations across rankings

Notes: Ranges have been displayed with their mid point value. Sources: ARWU, QS, THE. ICG © 2013 2<sup>nd</sup> Session on Leveraging Int



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#### Discussion

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### WHY DOES A STRATEGIC APPROACH TO RANKINGS MATTER?

- Rankings are here to stay.
- Rankings if aggregated and properly unpacked contain useful data and sentiments which can be (highly) informative.
- Given the inherent performance assessment nature of rankings, any institution that wishes to improve its practices can utilize rankings to establish feedback loops.
- With more and more universities competing towards similar goals (from "Top 100" to "ranked" to, well, "world-class"), dealing with rankings is becoming a strategic imperative rather than an ad hoc exercise.

### USES AND ABUSES OF RANKINGS Examples (I)

- Manipulating Peer Reviews at the University College Cork? (*Inside Higher Ed*, March 2013)
  - In March 2013, the president of University College Cork (UCC) requested that academic staff contact faculty from other universities and ask them to register to vote in the QS survey in order to improve UCC's academic peer review in the QS rankings.
  - The academic peer review counts for 40 percent of an institution's ranking in the QS formula.
- Misreported Data for the US News & World Report Rankings (US News & World Report, January 2013)
  - Recently several US universities admitted to misreporting data used in the US News & World Report rankings, including admissions data such as SAT scores, to improve their positions.
  - In 2012, institutions that disclosed misreported data were Claremont McKenna College, Emory University, George Washington University, and Tulane University's Freeman School of Business.

### USES AND ABUSES OF RANKINGS Examples (II)

- Potential Conflicts of Interest for Rankings Organizations (*NY Times,* December 2012)
  - Quacquarelli Symonds offers a fee-based assessment service for universities, the "QS Stars" initiative, and rates them from one to five stars based on more than 30 criteria.
  - Critics suggest this paid rating system presents a conflict of interest with the QS World University Rankings.
- Skewing Indicators at Alexandria University (*NY Times,* November 2010)
  - In the 2010 QS World University Rankings, Egypt's Alexandria University ranked surprisingly high at 147 overall and fourth based on the "citations" indicator.
  - The indicator was skewed by the output of one Alexandria scholar, who published more than 300 of his own articles in a scientific journal of which he was also the editor.

### ETHICALLY LEVERAGING INTERNATIONAL UNIVERSITY RANKINGS

- It is perfectly acceptable to strive for high performance in international university rankings.
- There are number of ethical approaches to improve international university ranking performance, such as:
  - Report all data correctly and completely to rankings organizations.
  - Assess gaps in rankings organizations data collection, and address these gaps directly.
  - Networking with other higher education institutions on survey based components of rankings can be accomplished ethically.
- Abusing the ranking process will compromise the brand an institution is trying to build when found out.

- Selecting a set of rankings is highly specific to each institution especially since the vast majority of institutions is not covered by the major "league table-style" rankings.
- Picking the "most favorable" ranking is an often observed approach. It gambles on performance in a single ranking, and assumes stakeholders assent to this choice.
- From a global marketing perspective, the following three rankings command the largest attention: ARWU, QS, THES-TR.
- The new wave of self-service rankings such as U-Multirank and Leiden appeal to very different stakeholders and do not offer a "definitive" rank.
- Specialist rankings such as Webometrics can offer useful, specific insights (Webometrics especially given its broad coverage).

Selection factors: Purpose, stakeholders, insights, performance improvements

### WHAT IS THE POINT OF AN INSTITUTIONAL RANKINGS STRATEGY? Key Drivers

- Address stakeholder interests
  - Students and parents (awareness, attraction, validation)
  - Institutional management, donors (performance)
  - Public organizations (ministries, funding bodies) (policy, funding)
  - Agents (marketing, recruiting funnel)
  - Employers (cut-off, binary)
  - Academics (feedback)
- Utilize information offered by rankings
  - Rankings measure "something" useful
  - Educate the whole institution about the impact and importance of rankings
  - Create feedback loops
- Improve rankings performance
  - For the sake of a rank unto itself (on some level)
  - To improve internal processes, organizational design, and goal setting

Not having a ranking strategy is no longer an option for many institutions

- International Rankings Evaluation Group (IREG): <u>www.ireg-observatory.org</u>.
- Academic Ranking of World Universities (ARWU, aka Shanghai Ranking): <u>www.arwu.org</u>.
- Quacquarelli Symonds (QS): <u>www.qs.com/ranking.html</u>.
- Times Higher Education World Reputation Rankings (THES): <u>www.timeshighereducation.co.uk/world-university-rankings</u>.
- Leiden Ranking: <u>www.leidenranking.com</u>.
- U-Multirank: <u>www.u-multirank.eu</u>.
- Webometrics: <u>www.webometrics.info</u>.
- ICG (presentations, papers): <u>www.icg.ac</u>.

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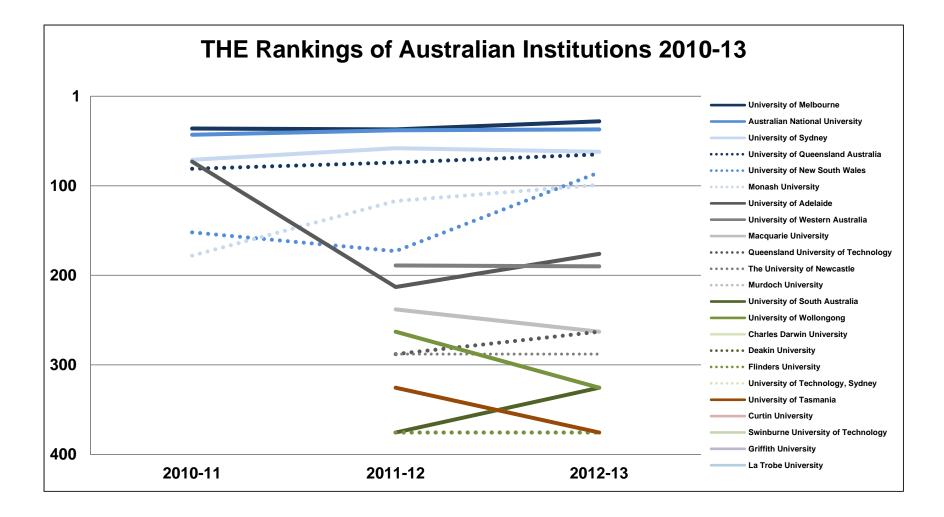
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# AUSTRALIA IN THE RANKINGS: THE

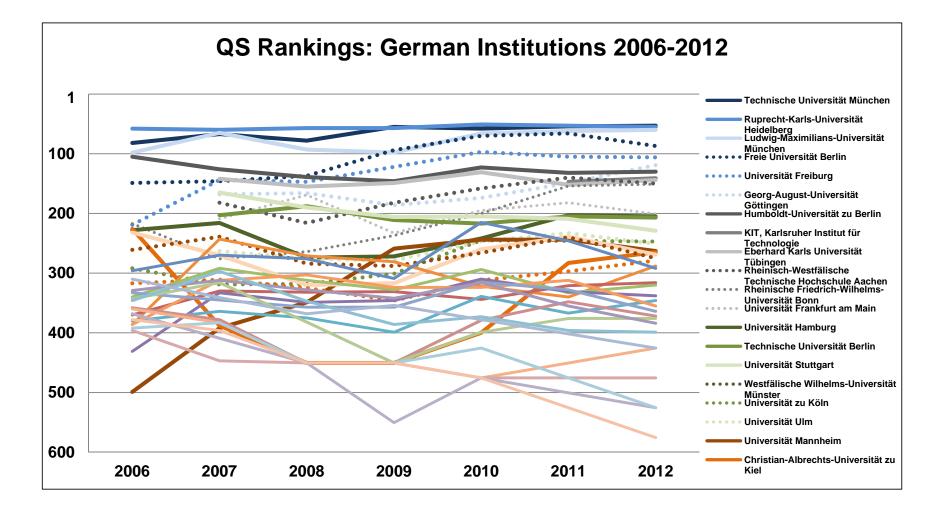


### 23 Australian universities ranked in the Top 400 (2012-13)

Notes: Ranges have been displayed with their mid point value. Source: THE.

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# **GERMANY IN THE RANKINGS: QS**

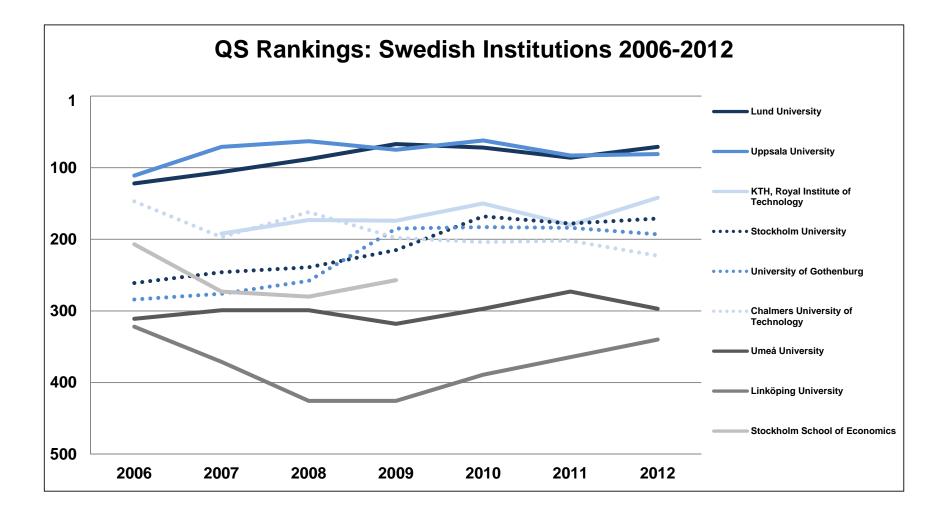


### 21 German universities ranked in the Top 600 (2012)

Notes: Ranges have been displayed with their mid point value.

Source: QS. **ICG © 2013** 

# SWEDEN IN THE RANKINGS: QS



#### 9 Swedish universities ranked in the Top 600 (2012)

Notes: Ranges have been displayed with their mid point value.

Source: QS.

### **ENGAGEMENT AVENUES FOR INSTITUTIONS**

- Institutions gain value from
  - Research on rankings and change dynamics
  - The education of internal stakeholders who are not rankings specialists (or reject rankings)
  - The professionalization of response approaches and feedback loops
  - A better communication of rankings issues and performance (internally as well as externally)
- Engagement parameters
  - Small is beautiful
  - Detailed research
  - Focus on actionable advice
  - Connect internal stakeholders with external stakeholders and experts to start/facilitate continued dialogue

#### A rankings strategy is an enabler – not a goal in itself