

New Academic Research on the U.S. News Ranking Methodology

In May 2014, “Modeling Change and Variation in *U.S. News & World Report* College Rankings: What would it really take to be in the Top 20?” was published in *Research in Higher Education*¹. The authors include two administrators (Falciano and Kuncl) from the University of Rochester. The purpose of the paper was to examine what amount of change among indicators might be considered year-to-year noise, and what amount of improvement would be required for a research university to move from a mid-30s ranking to a top-20 ranking.

Significant findings from this research include the following:

- Universities that rank in the top 40 (and which experience little change in overall rank from year to year) should expect plus or minus 2 rank positions to be “noise”.
- Simulation modeling based on the U.S. News methodology shows that “meaningful rank changes for top universities are difficult and would occur only after long-range and extraordinarily expensive changes, not through small adjustments” of individual indicators.
- A university’s reputation score changes very little over time regardless of rank (as shown by the standard deviation of the scores over eight years). [note: Berkeley has ranked 20 or 21 for 15 years.]
- The U.S. News’ predicted graduation rate can vary from an institution’s actual graduation rate by as much as 20% even though both rates are re-centered to zero to eliminate bias.

In their literature review, they point out that prior studies have suggested that the ranking process magnifies insignificant sub-factor changes that create little variation in overall rank which adds to stakeholder confusion around the impact of change among indicators. Others report that private universities have altered behavior in response to rankings, and while an improvement in rank can yield more high-income and high-ability student applicants “making changes to pursue a change in rank might alter the very nature of the university”.

The authors conclude that rankings will continue because of strong consumer demand, but given the inability (and potentially negative impact) of institutions to affect change in their overall rank, they are better served by focusing on their own institutional goals and measuring success among “their unique student population”. For the original article, please visit <http://link.springer.com/article/10.1007%2Fs1162-014-9336-9>.

¹Gnolek, S., Falciano, V., & Kuncl, R. (2014). Modeling change and Variation in *U.S. News & World Report* college Rankings: What would it really take to be in the Top 20? *Research in Higher Education*, published online: May 18, 2014.

Berkeley in Other Rankings Released in 2014

Rankings are indicator/weighting dependent. Berkeley continues to rank among the top 10 worldwide when the indicators focus on academic excellence, faculty and research quality. The table below shows other results for this year.

ranking name	Berkeley's Rank		publisher
	Global	U.S. Public	
Academic Ranking of World Universities	4th	1st	Shanghai Jiao Tong Univ. (China)
THE World Reputation Rankings	6th	1st	Times Higher Education (U.K.)
Center for World University Rankings	7th	1st	CWUR (Saudi Arabia)
Money Magazine's Best Colleges	na	2nd	Money Magazine (U.S.)
THE World Rankings	8th	6th	Times Higher Education (U.K.)
QS World University Rankings	27th	15th	Quacquarelli Symonds (U.K.)

The Office of Planning & Analysis responds to the USNWR survey for *America’s Best Colleges* each April by providing responses to all questions used as ranking indicators, any admissions related information and any question that appears in the Common Data Set. For more information, please visit our website at <http://opa.berkeley.edu>, or send email to alanu@berkeley.edu.

UC Berkeley in the U.S. News & World Report’s 2015 Guide to America’s Best Colleges

September, 2014

The U.S. News and World Report (U.S. News) annual rankings of undergraduate institutions in the United States were released September 9, 2014. **U.C. Berkeley was again ranked 1st among public National Universities** (those offering doctoral degrees and emphasizing faculty research), marking 17 years in the top position. UCLA and Virginia were second among publics (both 23rd nationally) followed by Michigan (29th nationally). **Berkeley remained 20th overall**, with the same composite score of 79. Princeton was top ranked, followed by Harvard 2nd, Yale 3rd, and Columbia, Chicago and Stanford tied at 4th. MIT was 7th, Duke and Pennsylvania 8th, and CalTech 10th. Top schools are shown in the two lists below. Berkeley peers are shown in green.

All National Universities

1. Princeton
 2. Harvard
 3. Yale
 4. Columbia
 4. Chicago
 4. Stanford
 7. MIT
 8. Duke
 8. Pennsylvania
 10. Cal Tech
 11. Dartmouth
 12. Johns Hopkins
 13. Northwestern
 14. Washington St.Louis
 15. Cornell
 16. Brown
 16. Notre Dame
 16. Vanderbilt
 19. Rice
 20. **UC Berkeley**
 21. Emory
 21. Georgetown
 23. **UCLA**
 23. **Virginia**
 25. Carnegie Mellon
 25. USC
 27. Tufts
 27. Wake Forest
 29. **Michigan**
 30. North Carolina
 37. **UC San Diego**
 42. **Illinois**
 47. **Wisconsin**
 53. **Texas**
- Private institutions are shown in italics.
- Berkeley peers are shown in green.

National Public Universities

1. **UC Berkeley**
2. **UCLA**
2. **Virginia**
4. **Michigan**
5. North Carolina
6. William and Mary (VA)
7. Georgia Tech
8. **UC San Diego**
9. UC Davis
10. UC Santa Barbara
11. UC Irvine
11. **Illinois**
13. **Wisconsin**
14. Penn State
14. Florida
14. Washington
17. **Texas**
18. Ohio State
19. Connecticut
20. Clemson
20. Georgia
20. Maryland
20. Pittsburgh
20. Purdue
25. Texas A&M
26. Rutgers
27. Iowa
27. Minnesota
27. Virginia Tech
30. (5-way tie)
35. UC Santa Cruz
53. UC Riverside

Among public institutions, six University of California campuses ranked among the top eleven. (UCSF and UC Merced are not included in this category.) Nationally, UC San Diego moved up to two spots to 38th and UC Davis and UC Santa Barbara moved up one spot to 39th and 40th. UC Irvine recovered from 49th last year to rank 42nd. UC Santa Cruz improved one position to 85th. UC Riverside fell one position to 113th.

Again this year, U.S. News lists Berkeley as 2nd to UCLA in percentage of undergraduates receiving Pell grants, and 9th among national universities with the least student debt upon graduation. Berkeley also received recognition for undergraduate research, and a top choice among high school guidance counselors. These metrics are not incorporated into the rankings of undergraduate education.

U.S. News will also post a global ranking by European-based QS, which places Berkeley 27th in the world this year using six indicators including reputation and portion of international faculty and students.

This page describes U.S. News and World Report's Methodology for the 2015 Guide.

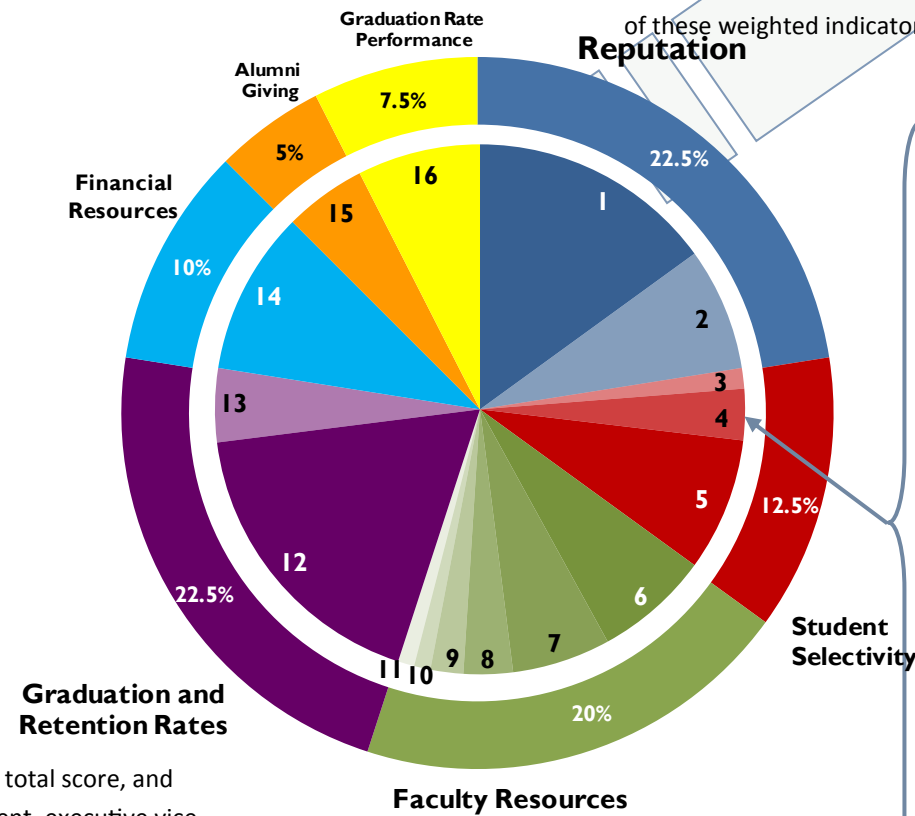
Sixteen indicators grouped into seven categories are used to develop a composite score for each school. Indicator data is manipulated in various ways, and each data element is weighted to determine its contribution to the composite score. There were no changes in the indicators used or their associated weightings from the prior year.

Controversies over rankings most frequently relate to methodology: the indicators chosen and what they are meant to measure, the rationale for assigning relative weights to each indicator, the concept of measuring the quality of complex organizations through a small set of data points.

Indicators: The 16 indicators suggest overlaps and gaps in an overall assessment of undergraduate education. Student graduation and retention rates appear in three indicators (11, 12 and 15), while class size is used twice (6 and 8) with 6% of the total score based on percentage of small classes and 2% on percentage of large classes. The potential gaps depend on one's concerns, but might include the value of research, student and faculty diversity, major and course offerings, level of financial aid, or exposure to graduate-level education. Alumni giving is used as a proxy for alumni satisfaction, but perhaps it more readily measures wealth after graduation, or the success of a university relations office. Indicator choice and weighting in any ranking should be examined for integrity and validity.

Academic Reputation: This indicator is again valued at 22.5% of total score, and contains two components. Three top administrators (the president, executive vice president and director of admissions) from each national university are asked to rate every national institution on a 5-point scale, worth 15% of the 22.5%. The other 7.5% comes from the same ratings by high school guidance counselors. The two highest and lowest scores for each school are eliminated, and one value is reported for the indicator. UC Berkeley scored a 4.7 in the academic reputation ranking 6th.

Graduation Rate Performance: The weighting of this indicator is 7.5%. According to U.S. News, "This indicator of added value shows the effect of the college's programs and policies on the graduation rate of students after controlling for spending and student characteristics such as test scores and the proportion receiving Pell grants." A predicted six-year graduation rate is calculated and compared to the actual rate. This year, Berkeley's predicted rate was 87% (two percentage points lower than last year) while the actual rate was 91%.



Assigned Weights: As shown below, U.S. News assigns a weight to each indicator. The rationale behind the chosen weightings is not made public. The list to the right shows that each university is given a composite score derived from a tally of these weighted indicators, which is then normalized to the highest score (Harvard and/or Princeton usually score 100).

15 Component Indicators (center pie)	Weight	Berkeley	Data Source
Academic Reputation			
1 Academic Reputation	15.0%	4.7 of 5.0	survey (see text box for detail)
2 H.S. Counselor Reputation	7.5%	4.7 of 5.0	survey (see text box for detail)
Student Selectivity			
3 Admit Rate	1.25%	18%	Common Data Set
4 % in Top 10% in HS	3.125%	98%	Common Data Set
5 SAT/ACT Scores	8.125%	1250/1500	Common Data Set
Faculty Resources			
6 Average Faculty Compensation	7.0%	est. \$189,000	AAUP (2 year avg COLA adjusted)
7 % Classes Under 20	6.0%	60%	Common Data Set
8 % Faculty w/Terminal Degree	3.0%	99%	OPA estimate
9 % Classes Over 50	2.0%	16%	Common Data Set
10 % Full-Time Faculty FTE	1.0%	89%	UCOP (PT = .333 FTE)
11 Student/Faculty Ratio	1.0%	17/1	Common Data Set
Graduation & Retention Rates			
12 6 Year Graduation Rate	18.0%	91%	Common Data Set (2 year average)
13 1st Year Retention Rate	4.5%	97%	Common Data Set (2 year average)
14 Expenditures per Student	10.0%	est. \$45,000	IPEDS (2 fiscal year avg; logarithmic transformed then standardized)
15 % Alumni Who Gave	5.0%	13%	University Relations; USNWR calculates 2 year average
16 Predicted vs Actual Grad. Rate	7.5%	87% v 91%	USNWR calculates; regression model using 4 variables for "predicted" rate

Berkeley Rankings - 2015 Guide

(composite score = 79)

- 20 Overall Ranking
- 1 Public University Ranking
- 6 Academic Reputation
- 20 Student Selectivity
- 32 Faculty Resources
- 22 Graduation & Retention Rates
- 38 Financial Resources
- 98 Alumni Giving

Berkeley's Data: This table shows Berkeley's rank for each of the seven categories of indicators, which are translated into a normalized composite score (79) that is then rank ordered (20th) in the list of national universities to the right.

2015 Guide National Rankings		
Composite Score	University	Rank
100	Princeton	1
99	Harvard	2
98	Yale	3
95	Columbia	4
95	Chicago	4
95	Stanford	4
93	MIT	7
92	Duke	8
92	Pennsylvania	8
91	Cal Tech	10
90	Dartmouth	11
89	Johns Hopkins	12
88	Northwestern	13
86	Washington StL	14
85	Cornell	15
84	Brown	16
84	Notre Dame	16
84	Vanderbilt	16
82	Rice	19
79	UC Berkeley	20
77	Emory	21
77	Georgetown	21
76	UCLA	23
76	Virginia	23
75	Carnegie Mellon	25
75	USC	25
73	Tufts	27
73	Wake Forest	27
72	Michigan	29
71	N Carolina	30

Academics Rank Specialties with Undergraduate Business and Engineering. U.S. News surveys peer academics in the ranking of undergraduate Business and Engineering programs, and the specialty or sub-discipline units within these disciplines. These surveys are based solely on scoring peer universities on a 1 to 5 scale. As shown below, **Berkeley remained 2nd in Business and remained 3rd in Engineering overall.** Values in parenthesis indicate change in Berkeley's rank from the 2014 survey; zero indicates no change.

BUSINESS (survey responses from business deans and senior faculty)

1. Pennsylvania 4.8
2. UC Berkeley 4.6 (0)
2. MIT 4.6
3. Michigan 4.5
5. NYU 4.4

Business specialty fields:

- Finance** Penn, NYU, Michigan, MIT, UCB 5th (0)
- Management** Michigan, Penn, Virginia, UCB 4th (0)
- Marketing** Michigan, Penn, Texas, Indiana, UCB 5th (0)
- Quant. Analysis/Meth.** MIT, CMellon, Penn, Purdue, UCB 5th (0)
- Real Estate** Penn, Wisconsin, UCB 3rd (0)

ENGINEERING (survey responses from engineering deans and senior faculty)

1. MIT 4.8
2. Stanford 4.7
3. UC Berkeley 4.6 (0)
4. Cal Tech 4.5
4. Georgia Tech 4.5

Engineering specialty fields:

- Chemical** MIT, UCB 2nd (0)
- Civil** Illinois, Ga Tech, UCB 3rd (-2)
- Comp. Engr.** MIT, Stanford, CMellon, UCB 4th (0)
- Electrical/Elect./Com.** MIT, Stanford, UCB 3rd (0)
- Eng. Sci/Eng. Physics** Illinois, UCB 2nd (+1) tied MIT & Stanford
- Env'l/Env'l Health** UCB 1st (0) tied Stanford
- Industrial/Manuf.** GaTech, Michigan, UCB 3rd (0)
- Materials** MIT, Illinois, UCB 3rd (0)
- Mechanical** MIT, Stanford, Michigan, UCB 4th (0)