The Top American Research Universities

2013 Annual Report

The Center for Measuring University Performance

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Table of Contents

The following tables are now provided online at mup.asu.edu/2013reports

INTRODUCTION

Over the years, *The Top American Research Universities* annual report has published an extensive set of indicators associated with the competitive success of American university campuses in achieving high levels of research performance. In addition, we have maintained a website that includes the data developed by the Center for Measuring University Performance (MUP) in downloadable Excel spreadsheets. This year, the MUP Center's annual report publishes the set of tables we have traditionally provided in Part I of our annual report that identify the top 50 American research universities using our standard criteria. These include the tables identifying the top 25 and top 26 to 50 institutions overall, the top 25 and top 26 to 50 private institutions, and the top 25 and top 26 to 50 public institutions. We also include some additional tables that show Medical and Specialized Research Universities Ranking in the Top 25, Private Medical and Specialized Research Universities Ranking in the Top 25, and Public Medical and Specialized Research Universities Ranking in the Top 25. The other tables traditionally provided in the printed report are now available online. Those tables previously published in Part II of the annual report include all the MUP universities, and those previously in Part III include the tables on the top 200 institutions. The extensive Data Notes previously in the printed report are now online although we have included the Source Notes in this printed version.

We have made this change because it is now possible to provide a rich set of analytical tools on the website that permit users to construct a range of comparative analyses using the data we have developed. This is possible through the use of the *Tableau* set of analytical tools that enable users to select subsets of data and construct special purpose tables that illustrate relationships of particular interest. While much of this may have been possible using the Excel tables previously available on our website, this new tool simplifies the process on line and will serve many users for whom the process of downloading, extracting subsets, and analyzing the Excel data may have served as a significant barrier. Of course, all the underlying data tables are available for downloading and analysis off line should that prove more convenient for some users.

As has been our commitment from the beginning, the MUP Center seeks to provide comparable data from reliable sources, on occasion adjusted or corrected to improve their quality. We now have a relatively long series of comparable data that permits those interested in the competitive context for university research to explore a range of topics. Each year we offer an essay on a topic of interest, and this year we have made an experimental foray into the ranking process. As many observers will know, the MUP Center has had much to say over the years about ranking, much of it offering reasons to deemphasize the highly publicized league tables produced around the world. Still, we thought that it might be instructive to develop a variety of ranking schemes using our own data, in part to illustrate the sensitivity of ranking results to the subjective decisions of their compilers.

The MUP Center directors and staff continue to rely on the wisdom and comments of its Board members. Our colleague Lloyd Armstrong has retired from our Board as he pursues a number of other initiatives. We are especially pleased that Chaouki T. Abdallah, Provost and Executive Vice President of Academic Affairs at the University of New Mexico has agreed to join our board. We are grateful for the continued support of Arizona State University and the University of Massachusetts Amherst as the joint institutional home for this project.

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2014

The Best American Research Universities Rankings: Four Perspectives

by Diane D. Craig and John V. Lombardi

Nothing stirs the public imagination about higher education more than rankings, unless it's football. Rankings are a major national sport themselves, feeding an insatiable market searching for the best universities and colleges in America, and even should they be so interested, abroad.

These league tables, so named to link them with the also ever-popular sports team rankings, purport to identify institutions that students and parents, alumni and donors, governments and foundations should look to for quality, accessibility, economy, and employability. The notion is that a ranking purveyor can find just the right mix of indicators, weight each one in the proper amount, mix them together, and produce an ordered list from one to over 100 that can serve as a guide to institutional merit.

Merit, however, is in the eyes of the beholders who differ significantly in what they see as important about universities. Merit as a calculated quantity suffers from the illusion of mathematical accuracy because the process is numerical. Many people fail to remember that the statistics are only as good as the numbers going in and the appropriateness of the formulas that deliver the output. Because educational data are often difficult to interpret and their meaning varies greatly depending on the context of the institutions involved (large or small, rich or poor, public or private, for examples), the process of amalgamating data from widely differentiated colleges and universities is fraught with ample opportunity for misinterpretation and meaningless statistics. Worse yet, many ranking schemes use opinion survey data to pad out the list of variables fed into their sometimes obscure sorting formulas. These, especially when they ask presumed experts to provide their opinions about many institutions, are almost always flawed in many ways.

The literature pointing out the errors, difficulties, and fallacies of these rankings is extensive, persuasive, well-documented, and largely ignored by the consuming public for whom the annual appearances of various highly publicized rankings is awaited with the enthusiasm of the results of the latest lottery. The staff of The Center for Measuring University Performance has written about the issue of the mythical number one and other ranking concerns. [http://mup.asu.edu/publications] We have looked at more useful benchmarking projects that offer a much better opportunity, at least for research universities, for improving and assessing the productivity of these institutions. Still, for all our effort, we find that our friends and colleagues still ask us:

> "You have all that good data in *The Top American Research Universities* annual report and on your website. Why don't you give us a ranking of the best research universities?"

Taking the high road, we have usually responded:

> "Ranking can obscure more than it illustrates by combining quite different things into single indexes that can be misleading and susceptible to manipulation."

We have always taken the position that what counts is campus-based institutional performance. We collect data on the elements that appear to support superior success among research universities, using only public and verifiable data, and we identify clusters of institutions that appear to deliver one or many performance elements at the highest levels. The difference, in our minds at least, between universities with similar characteristics is quite small, and to put them in a rank order that implies an even distribution along a linear scale can distort the actual differences between similar institutions and hide some important elements that distinguish each of them.

Indeed, the significant distinctions between more or less similar academic institutions will be of variable importance to different consumers. Students, parents, government, industry, foundations, and others will have widely varying opinions on the importance of research, large or small classes, emphasis on science or business or technology, community engagement, and student life activities. For some price is critical, for others the characteristics of the student body matter more. For some small scale is an advantage, while for others the range of alternatives available at a large institution is an important asset. These differences in perspective should help us recognize the overemphasis on rankings that can encourage colleges and universities to invest in activities simply for the purpose of influencing what are, in the end, highly subjective markers of presumed universal quality or effectiveness.

The MUP Center and Rankings

Still, we sometimes feel overwhelmed by the mindless enthusiasm for commercial rankings, although we do recognize the profitable industry they represent and the employment for academics and compilers they provide. So this year, we thought we should throw caution to the wind and experiment with alternative rankings of the *Best American Research Universities* to demonstrate the variable results that different methodologies can have on a ranking, even when, as in this case, the data are all public and verifiable.

To show the variation in ranking that different perspectives on the importance of different measures can cause, we produce not just one ranking, but four. It has always been our belief that people should focus on those aspects of an institutional profile that matter to them. An added complication to ranking exercises is that some things that may make a significant difference to many people are not easily captured in any consistent publicly available data. Indeed, as the examples of the commercial rankings listed below indicate, some of these organizations offer multiple views of the best institutions, demonstrating how much of ranking merit is highly subjective.

In our case, we have constructed four rankings, using our well-developed and validated data set, with different audiences in mind. This exercise has the added advantage of illustrating the importance of the underlying methodology used to weight the various measures in determining the resulting order of institutions in any single-list ranking.

We begin with The MUP Center's nine measures, carefully collected data validated using the experience of over a decade working with this information. These measures are as follows:

Federal Research: This is the amount of money spent annually by the institution from federal sources, most of which are peer reviewed. This data is sourced from the National Science Foundation and is a good indicator of a university's faculty and staff's performance compared to other research universities in peer-reviewed competition.

Total Research: This is the total amount of money spent annually by the institution from all sources on research. This includes not only federal money but all corporate, state, foundation, private, institutional, and other funds spent on research during the year. Some of this may be legislatively provided, some from research contracts with corporations, some from foundation grants. This is a good indicator of the research scale of the institution.

Endowment Assets and Annual Giving: These two indicators speak to the success of the institution in competing for the private funding that supports the university's work. As research and quality instructional programs at all levels almost always require additional support from the university, the ability of an institution to accumulate an endowment (a historical indicator of financial strength) and to sustain its private giving through annual fundraising both indicate a capacity for sustaining a research university.

National Academy Members and Faculty Awards: These two indicators speak to the institution's ability to recruit and retain the most competitive faculty members. Together they speak to both scientific fields and the humanities and social sciences. We do not include Nobel prize winners in large part because there are so few that it is not a good indicator for the many institutions in the country and in part because the work for which a Nobel prize is awarded often reflects work done at another institution in the past. Faculty awards, however, capture the exceptional work of many faculty including those early in their career.

Postdoctoral Appointees: While post-docs are more prevalent in science related fields, they serve the institution in many research roles much like the faculty themselves and represent a quasi-faculty resource.

Doctoral Degrees and Median SAT: Education is, of course, one of the prime functions of a research university and the number of doctoral degrees awarded annually is a useful indicator of advanced education and training. Undergraduate quality is a characteristic of research universities because the quality of the faculty and their research programs attract outstanding undergraduates. In addition, it is clear that exceptionally competitive faculty regard the presence of a high quality undergraduate student body as a major institutional asset. Although the SAT and similar standardized test scores may not accurately predict student success, they are nonetheless indicators closely followed by observers of selective institutions such as the research universities in these rankings.

The group of research universities ranked here includes those institutions with a federal research expenditure of over $40 million per year. There are 137 of these institutions in the country that meet our criteria. The details of this list are discussed in the materials available on The MUP Center's website. [http://mup.asu.edu] A further caveat is in order. We do not include specialized institutions such as health science centers or independent standalone research centers like the Scripps Research Institute and

Woods Hole Oceanographic Institution. We also do not include systems, but only single campus performance for those institutions that meet our criteria included within a university system.

The MUP Center's Four Rankings

With this background we can construct our four rankings. We'll name them as follows:

Rank I: Power
Rank II: Resources, Faculty, and Education
Rank III: Resources and Education
Rank IV: Education

A description of the methodology used in this exercise is included below and describes the statistical calculations that produced the rankings. We also include references to additional resources related to rankings and their critics.

Rank I, the **Power** ranking of the 137 top American research universities uses all nine measures and weights them equally. This ranking emphasizes the broad performance of research universities in all areas of research, resources, faculty, and education. These high power universities compete against the best in all the areas measured by our nine indicators. Table 1 that includes all 137 research universities highlights the top twenty-five universities in the **Power** ranking in bold numbers. This helps illustrate the changes in rank position among the top twenty-five that result from changes in criteria used in the next three rankings.

The second ranking, Rank II-**Resources, Faculty, and Education**, excludes federal research and total research and weights the remaining measures equally. This ranking takes the position that what really matters for research university quality are the resources available, the performance of the faculty, the scale of postdoctoral engagement, and productivity of doctoral degrees, and the quality of undergraduates. Research, while important, is mostly a function of faculty quality and resources in this ranking's perspective. With this set of criteria, two institutions move up into or down out of the top twenty-five as defined by the Rank I-**Power** list. The changes in the top twenty-five from Rank I to Rank II are marked in gray boxes (illustrating a decline in rank), or black boxes (illustrating an improvement in rank).

However, as this and the subsequent rankings show there is some movement up or down in rank from the order in Rank I to the order in Rank II among all 137 institutions. Given the institutional sensitivity to small changes, it is clear that changes in ranking criteria can produce changes in rank position at all levels. In fact, no university ranks the same in all four rankings included in this table, although some of the changes across the rankings are quite small.

The third ranking, Rank III-**Resources and Education**, excludes the two research measures, the two measures of faculty strength, and the postdoctoral measure. This ranking weights the remaining measures equally. The rationale here is that what matters in a research oriented educational institution are the resources available, the scale of graduate training for doctoral degrees, and the quality of undergraduates. Two institutions move into or fall out of the top twenty-five as defined by the Rank I-**Power** list. Again, many institutions in this ranking change their position, usually by relatively small amounts, compared to the **Power** list.

The final ranking, Rank IV-**Education**, uses two measures, doctorates awarded and median SAT scores, equally weighted. This ranking assumes that what really indicates the quality of a research university is its ability to attract the best undergraduate students possible and produce advanced doctoral graduates. This ranking highlights the competitiveness of research universities in constructing the highest quality undergraduate student body and recognizes the significance of research university training of advanced students for doctoral degrees. Of particular note here, of course, is that seven institutions in the top twenty-five in the **Power** Rank I fall out of this top category while seven other institutions move up into the top twenty-five group. Moreover, even those who stay in the top twenty-five group see their position within this group change significantly. Again, we have marked the positive changes (moving into the top twenty-five group) in black and the negative changes (moving out of the top twenty-five group) in gray.

TABLE 1 – The Best American Research Universities: Four Perspectives on Ranking

Control	Institution	Power Score	Rank I: Power	Resources, Faculty, and Education Score	Rank II: Resources, Faculty, and Education	Resources and Education Score	Rank III: Resources and Education	Education Score	Rank IV: Education
Private	Harvard University	**100.0**	**1**	100.0	1	100.0	1	89.7	7
Private	Stanford University	**74.5**	**2**	69.2	2	96.4	2	93.8	5
Private	Johns Hopkins University	**63.9**	**3**	34.5	9	46.2	12	72.1	24
Private	Yale University	**52.8**	**4**	48.4	3	72.3	3	68.8	31
Public	University of Michigan - Ann Arbor	**50.7**	**5**	38.8	7	55.4	7	98.4	2
Private	Massachusetts Inst. of Technology	**50.6**	**6**	46.1	4	56.6	5	81.4	14
Private	Columbia University	**48.1**	**7**	40.6	6	56.8	4	80.1	15
Public	University of California - Berkeley	**47.7**	**8**	44.8	5	53.4	9	100.0	1
Public	University of Washington - Seattle	**47.1**	**9**	34.4	10	42.0	19	83.0	12
Private	University of Pennsylvania	**45.0**	**10**	36.6	8	52.1	10	75.8	20
Public	Univ. of California - Los Angeles	**40.1**	**11**	32.1	12	45.6	14	86.4	9
Public	University of Wisconsin - Madison	**39.0**	**12**	30.0	14	45.6	13	91.4	6
Private	Duke University	**38.9**	**13**	29.8	15	45.3	16	71.3	26
Public	University of California - San Diego	**38.0**	**14**	28.4	17	29.6	36	71.3	25
Public	University of Texas - Austin	**35.3**	**15**	32.1	13	53.7	8	94.9	4
Private	University of Southern California	**34.3**	**16**	29.7	16	51.5	11	82.6	13
Public	Univ. of Minnesota - Twin Cities	**34.1**	**17**	27.2	18	41.8	20	85.3	10
Private	Princeton University	**33.2**	**18**	34.0	11	56.3	6	66.1	35
Public	Univ. of North Carolina - Chapel Hill	**32.1**	**19**	24.7	23	37.5	25	70.4	28
Public	Ohio State University - Columbus	**31.0**	**20**	24.1	25	45.4	15	87.4	8
Private	Northwestern University	**30.9**	**21**	26.4	20	41.5	21	66.6	33
Public	University of Pittsburgh - Pittsburgh	**30.4**	**22**	20.9	30	30.9	33	68.2	32
Private	University of Chicago	**29.9**	**23**	26.8	19	42.4	18	69.2	30
Public	Texas A&M Univ. - College Station	**28.1**	**24**	23.9	26	43.7	17	79.4	17
Private	Cornell University	**28.1**	**25**	24.8	22	40.2	23	73.7	21
Public	Univ. of Illinois - Urbana-Champaign	28.0	26	24.6	24	38.9	24	96.0	3
Private	Washington University in St. Louis	27.6	27	21.2	29	34.6	30	57.8	50
Private	New York University	27.3	28	25.1	21	41.2	22	66.5	34
Public	University of Florida	26.2	29	21.6	28	36.1	27	83.2	11
Private	Emory University	25.8	30	21.7	27	34.4	31	55.6	55
Public	Pennsylvania State Univ. - Univ. Park	24.9	31	19.2	34	32.8	32	76.5	19
Public	University of California - Davis	24.4	32	18.8	36	28.6	39	72.6	22
Public	Georgia Institute of Technology	24.3	33	18.4	38	30.2	35	70.4	27
Private	Vanderbilt University	24.1	34	19.0	35	29.2	37	58.8	48
Public	Purdue University - West Lafayette	23.3	35	20.2	31	34.9	29	77.2	18
Private	California Institute of Technology	22.4	36	19.4	33	24.1	52	54.2	59
Public	University of Maryland - College Park	21.8	37	17.9	39	30.6	34	79.6	16
Public	University of Virginia	21.3	38	20.1	32	37.5	26	64.6	40
Private	Boston University	20.9	39	18.4	37	28.1	42	70.3	29
Public	University of Arizona	20.5	40	15.8	42	27.7	43	60.8	47
Public	Michigan State University	18.3	41	15.9	41	29.0	38	66.1	36
Public	University of Iowa	18.3	42	15.1	44	25.9	48	62.3	44
Public	University of Colorado - Boulder	18.1	43	15.0	45	22.4	62	56.3	54
Public	University of Utah	17.8	44	14.9	46	23.6	56	53.6	61
Public	Rutgers University - New Brunswick	17.1	45	14.5	49	23.8	53	61.4	45
Private	University of Rochester	16.8	46	13.0	56	23.7	54	55.4	56
Public	Arizona State University	16.6	47	15.3	43	28.4	40	72.3	23
Public	University of California - Irvine	15.9	48	14.1	50	23.4	57	61.0	46
Public	North Carolina State University	15.7	49	14.1	51	25.6	50	63.4	42
Private	Case Western Reserve University	15.4	50	11.3	66	22.0	65	49.7	76
Private	University of Notre Dame	15.2	51	16.4	40	35.2	28	55.0	57
Public	Virginia Polytechnic Inst. & State Univ.	15.1	52	12.6	59	25.4	51	65.7	37
Public	University of Cincinnati - Cincinnati	15.1	53	11.7	60	20.9	73	47.6	83
Private	Brown University	15.0	54	14.8	47	28.3	41	54.4	58
Public	University of California - Santa Barbara	14.8	55	14.6	48	23.0	61	56.9	53
Private	Carnegie Mellon University	14.7	56	13.6	53	23.7	55	58.7	49
Public	University of Georgia	13.9	57	13.4	55	25.6	49	65.0	38
Public	University of Illinois - Chicago	13.5	58	10.8	71	19.9	78	53.2	63
Private	University of Miami	13.4	59	11.3	65	23.1	59	48.6	80
Public	University of Colorado - Denver	13.2	60	9.6	82	17.0	96	35.4	117
Private	Dartmouth College	13.0	61	12.7	58	26.5	47	45.5	90
Public	University of Kentucky	12.9	62	10.9	69	21.6	67	53.6	62
Public	Indiana University - Bloomington	12.8	63	13.5	54	27.0	45	64.3	41
Private	Rice University	12.6	64	13.6	52	26.8	46	52.7	64
Public	University of Tennessee - Knoxville	12.4	65	12.9	57	27.1	44	65.0	39
Public	University at Buffalo	12.4	66	10.6	73	20.5	75	52.5	65
Public	University of Alabama - Birmingham	12.1	67	7.2	106	16.7	99	42.0	104
Private	Yeshiva University	11.9	68	10.2	75	18.5	86	42.2	103

TABLE 1 – The Best American Research Universities: Four Perspectives on Ranking (cont.)

Control	Institution	Power Score	Rank I: Power	Resources, Faculty, and Education Score	Rank II: Resources, Faculty, and Education	Resources and Education Score	Rank III: Resources and Education	Education Score	Rank IV: Education
Public	Iowa State University	11.8	69	11.2	67	22.0	66	57.4	51
Public	Florida State University	11.8	70	11.3	64	23.4	58	62.7	43
Public	University of South Florida - Tampa	11.4	71	9.0	87	18.4	87	50.1	75
Private	George Washington University	11.3	72	11.1	68	21.4	69	51.2	70
Public	Washington State University - Pullman	11.2	73	9.7	79	18.9	84	42.6	100
Public	University of Missouri - Columbia	11.2	74	11.5	61	23.1	60	57.3	52
Public	Virginia Commonwealth University	11.2	75	10.9	70	21.6	68	52.3	66
Public	Oregon State University	11.1	76	10.4	74	18.4	88	43.0	96
Public	University of Kansas - Lawrence	10.9	77	11.4	63	22.3	63	50.1	74
Private	Georgetown University	10.7	78	10.6	72	21.1	70	46.4	88
Public	Louisiana State Univ. - Baton Rouge	10.7	79	10.0	77	22.3	64	54.2	60
Public	Colorado State University - Fort Collins	10.5	80	8.0	97	16.7	100	46.8	86
Public	University of Houston - University Park	10.4	81	11.5	62	20.2	77	50.9	71
Public	University of South Carolina - Columbia	10.2	82	10.1	76	20.9	74	51.6	69
Public	University of Hawaii - Manoa	10.1	83	8.0	99	16.1	108	42.9	97
Public	Indiana U.-Purdue U. - Indianapolis	10.1	84	8.5	90	16.3	106	28.7	132
Public	Stony Brook University	10.1	85	9.6	81	20.3	76	51.8	67
Public	University of Nebraska - Lincoln	10.0	86	9.7	80	21.0	72	48.2	81
Public	University of Delaware	9.9	87	9.9	78	19.1	82	48.6	79
Private	Tufts University	9.4	88	9.3	83	19.9	79	49.3	77
Public	University of Massachusetts - Amherst	9.3	89	9.2	84	18.1	90	50.8	72
Public	University of New Mexico - Albuquerque	8.9	90	7.8	102	16.3	103	41.5	106
Public	University of Louisville	8.5	91	8.7	89	17.7	92	42.7	99
Public	University of California - Riverside	8.2	92	8.9	88	16.5	102	46.4	87
Public	Wayne State University	8.2	93	7.1	107	16.2	107	42.8	98
Public	University of Connecticut - Storrs	8.1	94	8.4	93	18.5	85	51.7	68
Public	University of Oregon	8.1	95	9.0	86	18.3	89	41.5	107
Private	Tulane University	8.0	96	7.9	100	17.9	91	44.6	94
Public	University of Oklahoma - Norman	8.0	97	9.1	85	21.0	71	47.4	84
Public	Oklahoma State University - Stillwater	7.9	98	8.0	98	19.0	83	45.2	92
Private	Drexel University	7.8	99	8.4	94	17.6	93	44.0	95
Public	Clemson University	7.8	100	8.4	91	19.3	81	48.9	78
Public	Auburn University	7.5	101	7.9	101	19.5	80	50.4	73
Private	Rensselaer Polytechnic Institute	7.4	102	8.4	92	17.4	94	47.2	85
Public	West Virginia University	7.4	103	7.5	104	16.9	97	40.5	109
Public	Temple University	7.4	104	7.8	103	16.3	105	44.9	93
Private	Brandeis University	7.2	105	8.3	95	17.0	95	42.4	102
Private	Northeastern University	7.2	106	8.0	96	16.8	98	45.4	91
Public	University of Central Florida	6.7	107	7.4	105	16.3	104	48.1	82
Public	University of California - Santa Cruz	6.5	108	6.5	108	14.8	110	42.6	101
Public	Mississippi State University	6.5	109	5.9	113	14.9	109	38.6	111
Public	University of Vermont	6.3	110	6.4	110	12.9	114	36.3	114
Public	University at Albany	6.3	111	5.9	112	13.9	111	41.0	108
Public	George Mason University	5.7	112	6.5	109	16.6	101	45.8	89
Public	Florida International University	5.6	113	6.2	111	13.3	113	39.1	110
Public	Utah State University	5.2	114	4.7	121	12.8	116	35.7	116
Public	San Diego State University	4.9	115	5.6	114	12.8	115	32.3	130
Public	University of New Hampshire - Durham	4.9	116	4.9	119	11.6	125	33.5	126
Public	New Mexico State Univ. - Las Cruces	4.7	117	4.6	122	11.3	128	33.3	127
Public	University of Nevada - Reno	4.6	118	5.4	115	12.7	117	35.9	115
Private	Wake Forest University	4.6	119	3.1	133	3.7	135	0.5	136
Public	University of Rhode Island	4.4	120	4.8	120	11.6	124	34.5	121
Public	Univ. of Maryland - Baltimore County	4.2	121	4.9	118	12.6	118	37.8	112
Public	University of Wyoming	4.1	122	5.0	116	12.6	119	34.8	119
Public	Montana State University - Bozeman	4.0	123	4.2	124	11.4	127	34.0	124
Public	University of Maine - Orono	4.0	124	4.4	123	11.7	122	32.8	128
Public	University of Southern Mississippi	3.8	125	4.9	117	13.7	112	41.6	105
Public	North Dakota State University	3.8	126	4.1	126	11.6	123	34.9	118
Private	University of Dayton	3.6	127	4.0	127	12.1	121	34.2	122
Public	U.S. Air Force Academy	3.5	128	4.2	125	12.6	120	36.6	113
Public	University of Idaho	3.4	129	4.0	128	11.2	130	32.6	129
Public	University of Alabama - Huntsville	3.3	130	3.9	130	11.2	131	34.1	123
Public	New Jersey Institute of Technology	3.3	131	3.9	129	11.4	126	34.6	120
Public	University of North Dakota	3.1	132	3.8	131	11.3	129	33.9	125
Public	Cleveland State University	2.6	133	3.5	132	9.2	133	28.6	133
Public	South Dakota State University	2.2	134	3.0	134	9.5	132	30.0	131
Public	Kansas State University	2.2	135	1.8	135	5.3	134	7.9	134
Public	University of Alaska - Fairbanks	0.5	136	0.0	137	0.0	137	0.0	137
Public	University of Toledo	0.0	137	0.6	136	0.9	136	3.7	135

To illustrate the significant difference the choice of criteria make in determining an institution's position in any ranking, and to highlight the way preferences and values of ranking compilers determine the final rank order, we include a change-in-rank list in Table 2. This shows the difference in rank between the **Power** Rank I and the **Education Rank** IV. The range of change is large with some institutions increasing by over 25 places and others declining in position by 25 or more places. A few universities have the same place in the **Power** Rank I and the **Education** Rank IV but different locations in the other two rankings.

TABLE 2 – Rank Shifts: Four Power Rank vs. Education Rank

Institution	Rank I: Power	Rank IV: Education	Change in Rank from Power to Education
Harvard University	1	7	-6
Stanford University	2	5	-3
Johns Hopkins University	3	24	-21
Yale University	4	31	-27
Univ. of Michigan - Ann Arbor	5	2	3
Massachusetts Inst. of Tech.	6	14	-8
Columbia University	7	15	-8
Univ. of California - Berkeley	8	1	7
Univ. of Washington - Seattle	9	12	-3
University of Pennsylvania	10	20	-10
Univ. of California - LA	11	9	2
Univ. of Wisconsin - Madison	12	6	6
Duke University	13	26	-13
Univ. of California - San Diego	14	25	-11
University of Texas - Austin	15	4	11
Univ. of Southern California	16	13	3
Univ. of Minnesota - Twin Cities	17	10	7
Princeton University	18	35	-17
U. of North Carolina - Chapel Hill	19	28	-9
Ohio State Univ. - Columbus	20	8	12
Northwestern University	21	33	-12
Univ. of Pittsburgh - Pittsburgh	22	32	-10
University of Chicago	23	30	-7
Texas A&M U. - College Station	24	17	7
Cornell University	25	21	4
U. of Illinois - Urbana-Champaign	26	3	23
Washington University in St. Louis	27	50	-23
New York University	28	34	-6
University of Florida	29	11	18
Emory University	30	55	-25
Penn State Univ. - Univ. Park	31	19	12
University of California - Davis	32	22	10
Georgia Institute of Technology	33	27	6
Vanderbilt University	34	48	-14
Publicurdue Univ. - West Lafayette	35	18	17
California Institute of Technology	36	59	-23
Univ. of Maryland - College Park	37	16	21
University of Virginia	38	40	-2
Boston University	39	29	10
University of Arizona	40	47	-7
Michigan State University	41	36	5
University of Iowa	42	44	-2
University of Colorado - Boulder	43	54	-11
University of Utah	44	61	-17
Rutgers Univ. - New Brunswick	45	45	0
University of Rochester	46	56	-10
Arizona State University	47	23	24
University of California - Irvine	48	46	2
North Carolina State University	49	42	7
Case Western Reserve University	50	76	-26
University of Notre Dame	51	57	-6
Virginia Polytech. Inst. & St. Univ.	52	37	15
University of Cincinnati - Cincinnati	53	83	-30
Brown University	54	58	-4
Univ. of California - Santa Barbara	55	53	2
Carnegie Mellon University	56	49	7
University of Georgia	57	38	19
University of Illinois - Chicago	58	63	-5
University of Miami	59	80	-21
University of Colorado - Denver	60	117	-57
Dartmouth College	61	90	-29
University of Kentucky	62	62	0
Indiana University - Bloomington	63	41	22
Rice University	64	64	0
University of Tennessee - Knoxville	65	39	26
University at Buffalo	66	65	1
Univ. of Alabama - Birmingham	67	104	-37
Yeshiva University	68	103	-35
Iowa State University	69	51	18
Florida State University	70	43	27
University of South Florida - Tampa	71	75	-4
George Washington University	72	70	2
Washington State Univ. - Pullman	73	100	-27
University of Missouri - Columbia	74	52	22
Virginia Commonwealth University	75	66	9
Oregon State University	76	96	-20
University of Kansas - Lawrence	77	74	3
Georgetown University	78	88	-10
Louisiana State U. - Baton Rouge	79	60	19
Colorado State Univ. - Fort Collins	80	86	-6
University of Houston - Univ. Park	81	71	10
Univ. of South Carolina - Columbia	82	69	13
University of Hawaii - Manoa	83	97	-14
Indiana U.-Purdue U.-Indianapolis	84	132	-48
Stony Brook University	85	67	18
University of Nebraska - Lincoln	86	81	5
University of Delaware	87	79	8
Tufts University	88	77	11
Univ. of Massachusetts - Amherst	89	72	17
Univ. of New Mexico - Albuquerque	90	106	-16
University of Louisville	91	99	-8
University of California - Riverside	92	87	5
Wayne State University	93	98	-5
University of Connecticut - Storrs	94	68	26
University of Oregon	95	107	-12
Tulane University	96	94	2
University of Oklahoma - Norman	97	84	13
Oklahoma State Univ. - Stillwater	98	92	6
Drexel University	99	95	4
Clemson University	100	78	22
Auburn University	101	73	28
Rensselaer Polytechnic Institute	102	85	17
West Virginia University	103	109	-6
Temple University	104	93	11
Brandeis University	105	102	3
Northeastern University	106	91	15
University of Central Florida	107	82	25
Univ. of California - Santa Cruz	108	101	7
Mississippi State University	109	111	-2
University of Vermont	110	114	-4
University at Albany	111	108	3
George Mason University	112	89	23
Florida International University	113	110	3
Utah State University	114	116	-2
San Diego State University	115	130	-15
Univ. of New Hampshire - Durham	116	126	-10

TABLE 2 – Rank Shifts: Four Power Rank vs. Education Rank (cont.)

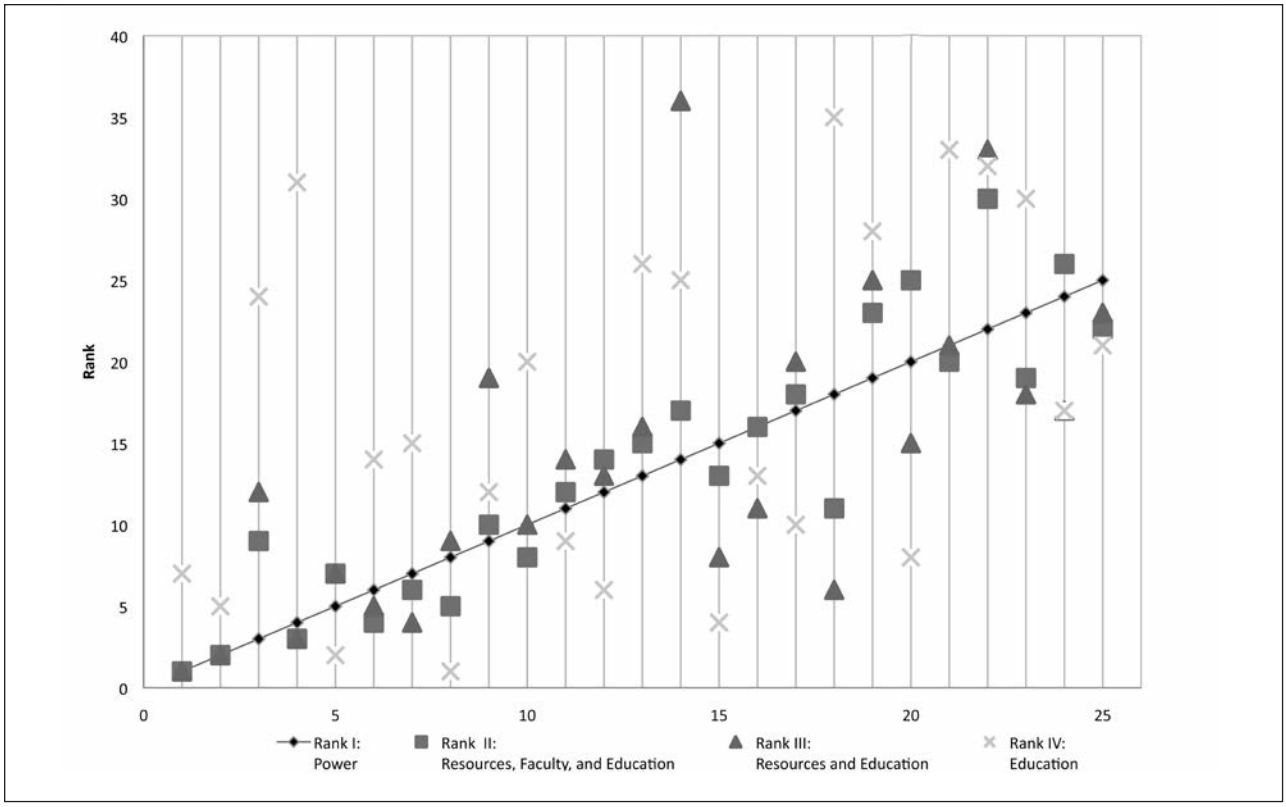
Institution	Rank I: Power	Rank IV: Education	Change in Rank from Power to Education
New Mexico St. Univ. - Las Cruces	117	127	-10
University of Nevada - Reno	118	115	3
Wake Forest University	119	136	-17
University of Rhode Island	120	121	-1
U. of Maryland - Baltimore County	121	112	9
University of Wyoming	122	119	3
Montana State Univ. - Bozeman	123	124	-1
University of Maine - Orono	124	128	-4
University of Southern Mississippi	125	105	20
North Dakota State University	126	118	8
University of Dayton	127	122	5
U.S. Air Force Academy	128	113	15
University of Idaho	129	129	0
University of Alabama - Huntsville	130	123	7
New Jersey Institute of Technology	131	120	11
University of North Dakota	132	125	7
Cleveland State University	133	133	0
South Dakota State University	134	131	3
Kansas State University	135	134	1
University of Alaska - Fairbanks	136	137	-1
University of Toledo	137	135	2

Figure 3 provides a good illustration of the fluctuation in rank for each university within the top twenty-five. The blue line represents the **Power** rank of the top twenty-five institutions, ranging from Harvard at number 1 and Cornell University at 25 (see Table 1). The other symbols represent the position of each of the top twenty-five within the other three rankings. Even in this high performing group, the variation in position depending on the indicators used in a ranking is easily visible.

What do the *Best American Research University Rankings* tell us? Single list ranking is a fool's game, the results of which are highly dependent on the way the ranking compilers use and weight the data, which, in every case, is done in accord with the biases, opinions, and values of the compilers. Unlike the won-lost records of football teams, the league tables of universities reflect only what we want them to show, not some impartial score resulting from a visible unambiguous performance within a highly structured environment.

Still it is useful to explore the mechanics of constructing rankings, and The Center for Measuring University Performance website provides all the data needed to rank and rate research universities using any combination of a wide range of data points and preferences. The resulting customized ranking will be a better match to individual values about higher education institutions than the commercial rankings.

FIGURE 3 – Variation in Four Ranks Among Power Rank Top 25



Methodological Notes

The Top American Research Universities: Four Perspectives on Ranking is based on the *Top American Research Universities* tables available on The Center for Measuring University Performance website. As mentioned above, the four rankings use the institutions with at least $40 million in federal research expenditures per year, excluding special purpose units and medical centers. This gives a data set of 137 institutions.

We then calculate each institution's z-score for each of the nine indicators. A z-score is a simple statistic used to standardize the data so that different types may be combined into a single score. A positive z-score means the institution's data point is above average for the group of 137 institutions, a negative z-score means it is below average, and a z-score of zero means that the institution's data point is equal to the average of the group.

Next we sum the institution's z-scores for the indicators relevant to each ranking. To make comparisons easier we recalculate the summed z-scores to range from 0 (worst) to 100 (best). This is the score reported in the accompanying tables. Scores are then ranked from high to low, with 1 the top rank and 137 the lowest rank.

The most important element here is that the underlying data, coming from The Top American Research Universities project at The Center for Measuring University Performance have been carefully collected from reliable sources and, wherever there are aggregated or missing data, The MUP Center staff has carefully adjusted the data and included a methodological note on our website.

For further discussion of these issues of data please see the publications included on The MUP Center website at [http://mup.asu.edu].

Further Information on College and University Ranking

For those interested in college and university ranking activity, the best starting point is always the University of Illinois (Urbana-Champaign) library's informative review at College and University Rankings [http://www.library.illinois.edu/sshel/specialcollections/rankings].

The following items provide a very good perspective on the continuing conversation about the pitfalls of university and college rankings, the challenges of methodology, and the pernicious effects of the ranking craze. This sampler includes items from 2008 to 2014.

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A Sampler of Rankings

The following are but a sample of some of the more prominent college and university rankings. A review of these will make clear how idiosyncratic these systems are. All seek to provide a unique view, or in many cases multiple views of university performance seen from a wide variety of perspectives.

Money Magazine: Top 50 Colleges At a Glance [http://time.com/money/3024906/moneys-best-colleges-top-50/] offers online a variety of ways of sorting and categorizing institutions as they indicate on their website "In addition to our overall ranking, we've sorted schools by additional criteria (public vs. private, liberal arts, affordability, and more...."

U.S. News & World Report: National Universities Rankings [http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/national-universities] is the portal to the US News education site that offers many ways to view colleges through their ranking methodology. It reflects the significant business of providing advice and guidance to prospective college students and their parents.

U.S. News & World Report: Best Global Universities Rankings [http://www.usnews.com/education/best-global-universities/rankings] reflects the U.S. News & World Report entrance into the growing international university ranking marketplace.

Kiplinger: Best Values in Public Colleges, 2014 [http://www.kiplinger.com/article/college/T014-C000-S002-best-values-in-public-colleges-2014.html] offers a number of ways of manipulating their data even after it identifies what it regards as the best values. This site, while identifying what its compilers think are the best of the best, also offer ways for individuals to seek their own college match using different criteria.

Forbes: America's Top Colleges [http://www.forbes.com/top-colleges/list/] is another list that offers various ways to approach college ranking results.

QS World University Rankings 2013 [http://www.topuniversities.com/university-rankings/world-university-rankings/2013] takes an international view of world universities and also offers various ways of sorting and understanding the underlying data. They announce the purpose is to "compare the world's top universities, sort by region and subject, find the best universities in your academic field, and create your own personalized ranking based on what matters most to you."

CWTS Leiden Ranking 2014 [http://www.leidenranking.com/ranking/2014] provides a very sophisticated website that permits the construction of world university rankings using a wide range of criteria and selection mechanisms. It describes its focus as "The CWTS Leiden Ranking 2014 ranks the 750 universities in the world with the largest contribution in international scientific journals in the period of 2009–2012. The ranking is based on data from the Web of Science bibliographic database produced by Thomson Reuters."

Academic Ranking of World Universities [http://www.shanghairanking.com/ARWU2013.html] otherwise known as the Shanghai ranking offers scores from the most recent ranking back to 2003. Its website identifies its purpose as "ARWU uses six objective indicators to rank world universities, including the number of alumni and staff winning Nobel Prizes and Fields Medals, number of highly cited researchers selected by Thomson Reuters, number of articles published in journals of Nature and Science, number of articles indexed in Science Citation Index - Expanded and Social Sciences Citation Index, and per capita performance of a university."

The Times Higher Education University Rankings [http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking] provides its own view of its work as "The Times Higher Education World University Rankings 2013-2014 powered by Thomson Reuters are the only global university performance tables to judge world class universities across all of their core missions - teaching, research, knowledge transfer and international outlook. The top universities rankings employ 13 carefully calibrated performance indicators to provide the most comprehensive and balanced comparisons available...." Its website like the others above, offers a discussion of methodology and various commentaries on the nature of university performance. It has rankings from 2010-11 to the most recent versions.

Niche Rankings: 2015: College Rankings [https://colleges.niche.com/rankings/] this enterprising ranking organization produces multiple rankings of colleges that express a wide range of preferences. Niche Rankings offers the following perspectives on its website: *Best Academics* *Best Administration* *Best Athletics* *Best Campus* *Best Campus Food* *Best Dorms* *Best Greek Housing* *Best Greek Life* *Best Location* *Best Off-Campus Dining* *Best Off-Campus Housing* *Best Overall* *Best Parking* *Best Party Schools* *Best Students* *Best Students - Girls* *Best Students - Guys* *Best Technology* *Best Transportation* *Best Weather* *Friendliest Students* *Hardest to Get In* *Hottest Girls* *Hottest Guys* *Largest Colleges* *Most Applicants* *Most Diverse Campus* *Most Drug-Free Campus* *Most Expensive* *Safest Campus* *Smartest Students*.

Part I – The Top American Research Universities

The Center for Measuring University Performance determines the Top American Research Universities by their rank on nine different measures: Total Research, Federal Research, Endowment Assets, Annual Giving, National Academy Members, Faculty Awards, Doctorates Granted, Postdoctoral Appointees, and SAT scores. (The Source Notes section of this study provides detailed information on each of the nine indicators.) The tables group research institutions according to how many times they rank in the top 25 on each of these nine measures. The top category includes those universities that rank in the top 25 on all nine indicators. The bottom category includes universities with only one of the nine measures ranked in the top 25. Within these groups, institutions are then sorted by how many times they rank between 26 and 50 on the nine performance variables, with ties listed alphabetically. A similar methodology produces a second set of institutions—those ranked 26 through 50 on the same nine measures.

For the purpose of this study, *The Center for Measuring University Performance* includes only those institutions that had at least $40 million in federal research expenditures in fiscal year 2011. This is the same dollar cutoff used since the 2008 report. There were 171 institutions who met our criteria, 123 public and 48 private.

The first two tables list each institution with the most current data available for each measure and its corresponding national rank (i.e., rank among all institutions regardless of whether they are privately or publicly controlled). The third through sixth tables provide the same nine data measures but with the groupings determined by the control rank (i.e., rank among all private or all public institutions). Institutions ranking in the top 25 on at least one measure are included in the tables with the (1-25) identifier, while those ranking 26 through 50 are found in the tables labeled with the (26-50) header. Many research universities rank highly both nationally and among their public or private peers, and therefore appear in more than one table.

- **The Top American Research Universities (1-25)** identifies the 47 institutions (23 private, 24 public) that rank in the top 25 nationally on at least one of the nine measures.
- **The Top American Research Universities (26-50)** identifies the 28 institutions (8 private, 20 public) that rank 26 through 50 nationally on at least one of the nine measures.
- **The Top Private Research Universities (1-25)** identifies the 33 private institutions that rank in the top 25 among all private universities on at least one of the nine measures.
- **The Top Private Research Universities (26-50)** identifies the 7 private institutions that rank 26 through 50 among their private counterparts on at least one of the nine measures.
- **The Top Public Research Universities (1-25)** identifies the 42 public institutions that rank in the top 25 among all public universities on at least one of the nine measures.
- **The Top Public Research Universities (26-50)** identifies the 29 public institutions that rank 26 through 50 among their public counterparts on at least one of the nine measures.
- **The Top Medical and Specialized Research Universities** tables identify the institutions that have at least one measure that ranks in top 50 nationally and among their private and public counterparts.

Data found in these tables may not always match the figures published by the original source. *The Center for Measuring University Performance* makes adjustments, when necessary, to ensure that the data reflect the activity at a single campus rather than that of a multiple-campus institution or state university system. When data are missing from the original source, *The Center for Measuring University Performance* may substitute another figure, if available. A full discussion of this subject, and the various adjustments or substitutions made to the original data, is in the Data Notes section of this report.

The Center for Measuring University Performance presents these tables, along with prior years' top universities, in Microsoft Excel spreadsheets on its website [http://mup.asu.edu].

Top American Research Universities (1-25)				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 Nationally	Number of Measures in Top 26-50 Nationally	2011 Total Research x $1000	2011 National Rank	2011 Federal Research x $1000	2011 National Rank	2012 Endowment Assets x $1000	2012 National Rank
Private	Columbia University	9	0	841,173	12	634,973	7	7,654,152	8
Private	Massachusetts Institute of Technology	9	0	693,714	18	482,544	17	10,149,564	5
Private	Stanford University	9	0	868,393	10	633,287	8	17,035,804	3
Private	University of Pennsylvania	9	0	851,522	11	689,571	4	6,754,658	11
Private	Duke University	8	1	1,018,241	5	584,161	9	5,555,196	14
Private	Harvard University	8	1	623,116	26	530,908	14	30,435,375	1
Public	University of Michigan - Ann Arbor	8	1	1,212,990	2	801,194	3	7,691,052	7
Private	Yale University	8	1	654,259	24	518,195	15	19,345,000	2
Public	University of California - Berkeley	7	2	670,926	22	326,120	34	3,031,896	23
Public	University of California - Los Angeles	7	1	942,450	8	545,882	13	2,449,838	29
Public	University of Washington - Seattle	7	1	1,112,526	3	921,399	2	2,111,332	32
Public	University of Wisconsin - Madison	7	1	1,022,723	4	568,389	11	2,082,181	33
Private	Johns Hopkins University	6	3	2,135,547	1	1,875,410	1	2,593,316	26
Private	Northwestern University	6	3	595,202	28	393,449	24	7,118,595	9
Private	University of Southern California	6	3	579,717	29	443,458	20	3,488,933	20
Public	University of Minnesota - Twin Cities	6	2	824,489	13	482,639	16	2,494,050	27
Public	University of California - San Diego	6	1	1,003,584	6	635,223	6	567,772	127
Private	Cornell University	5	4	514,843	35	314,371	37	3,850,426	19
Private	University of Chicago	5	4	446,512	39	365,824	26	6,570,875	12
Public	University of North Carolina - Chapel Hill	5	3	762,620	15	559,620	12	2,179,177	31
Public	University of Pittsburgh - Pittsburgh	5	3	880,425	9	647,060	5	2,618,436	25
Public	University of Texas - Austin	5	3	558,377	30	334,240	32	8,209,163	6
Private	New York University	4	5	402,327	50	289,172	45	2,755,000	24
Private	Emory University	4	4	522,900	32	369,945	25	5,461,158	15
Private	Vanderbilt University	4	4	534,806	31	434,213	21	3,399,293	22
Private	Washington University in St. Louis	4	4	707,404	16	460,282	19	5,225,992	16
Public	Ohio State University - Columbus	4	3	794,023	14	471,331	18	2,366,033	30
Public	Texas A&M University - College Station	4	3	682,553	20	281,063	47	7,034,588	10
Private	Princeton University	4	2	255,483	78	162,491	73	16,954,128	4
Public	Georgia Institute of Technology	3	4	650,588	25	426,088	22	1,608,248	43
Public	Pennsylvania State Univ. - Univ. Park	3	4	677,082	21	400,294	23	1,299,369	54
Public	Univ. of Illinois - Urbana-Champaign	3	4	522,769	33	312,796	39	1,137,035	60
Public	University of California - Davis	3	3	698,193	17	359,704	27	713,180	94
Public	University of Virginia	3	2	287,259	70	227,937	58	4,788,852	17
Public	University of Florida	2	5	686,048	19	296,950	42	1,263,277	55
Private	California Institute of Technology	2	4	374,636	53	340,131	30	1,746,526	37
Public	Purdue University - West Lafayette	2	4	520,001	34	246,116	51	1,916,968	34
Private	Boston University	2	2	348,593	60	300,923	40	1,103,652	61
Private	Dartmouth College	2	1	210,274	93	131,518	87	3,486,383	21
Private	Rice University	2	1	109,197	138	78,249	128	4,418,595	18
Private	University of Notre Dame	2	1	121,466	130	79,003	125	6,329,866	13
Public	University of Maryland - College Park	1	5	485,078	37	333,879	33	408,984	162
Public	University of Utah	1	4	410,392	48	263,623	50	670,411	100
Public	University of Colorado - Boulder	1	3	372,034	56	313,531	38	431,593	155
Public	Arizona State University	1	1	323,567	65	178,153	68	500,667	138
Private	Tufts University	1	0	154,760	114	120,864	95	1,351,166	52
Public	University of California - Santa Barbara	1	0	217,877	87	132,490	86	206,032	256

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 National Rank	2012 National Academy Members	2012 National Rank	2012 Faculty Awards	2012 National Rank	2012 Doctorates Granted	2012 National Rank	2011 Post Docs	2011 National Rank	2011 Median SAT	2011 National Rank
490,311	5	120	6	37	7	558	21	1,276	7	1480	8
379,058	10	269	3	29	14	573	19	1,345	4	1490	5
1,034,849	1	297	2	45	2	764	6	1,798	2	1455	14
440,603	7	110	9	35	8	514	23	978	13	1440	16
350,944	11	62	18	30	13	450	36	784	19	1440	16
650,243	2	355	1	93	1	691	12	6,120	1	1490	5
291,335	17	95	13	40	5	857	4	1,121	10	1390	35
543,905	3	110	9	45	2	390	47	1,307	5	1500	2
405,435	8	230	4	40	5	892	1	1,286	6	1360	49
344,201	12	94	14	28	16	725	9	1,062	12	1300	81
295,564	16	109	12	42	4	708	10	1,186	9	1225	145
315,278	15	68	16	29	14	813	5	797	18	1260	110
479,654	6	90	15	28	16	479	30	1,649	3	1400	29
233,746	25	42	27	25	20	378	48	813	17	1455	14
491,854	4	50	23	26	18	634	15	447	41	1385	41
254,855	22	38	29	33	10	734	8	640	25	1240	125
135,543	40	115	8	35	8	523	22	1,260	8	1270	104
263,358	19	61	19	22	25	501	25	487	38	1400	29
255,764	21	60	20	26	18	401	45	562	32	1485	7
286,710	18	35	31	25	20	495	26	878	14	1305	79
118,700	49	32	33	22	25	479	30	818	16	1270	104
258,308	20	67	17	31	12	867	3	369	48	1250	117
395,510	9	45	25	25	20	417	42	493	37	1360	49
211,589	26	27	43	22	25	243	78	691	23	1405	28
126,367	43	28	40	19	34	273	64	720	22	1440	16
205,687	27	44	26	18	35	251	73	559	33	1460	11
334,509	13	30	36	11	56	756	7	617	27	1260	110
180,886	30	23	49	22	25	663	13	316	56	1210	169
246,035	23	117	7	21	31	351	51	471	39	1500	2
118,429	50	30	36	22	25	483	29	295	62	1335	65
145,186	38	24	47	20	32	629	17	380	47	1195	197
137,059	39	55	22	24	23	869	2	548	34	1280	96
93,977	69	41	28	14	45	566	20	819	15	1210	169
237,221	24	27	43	8	84	393	46	643	24	1350	53
173,385	33	24	47	20	32	696	11	625	26	1260	110
99,983	65	110	9	16	37	172	107	573	30	1525	1
170,449	35	26	45	22	25	649	14	297	61	1170	234
86,181	76	19	56	23	24	507	24	600	28	1275	101
170,847	34	15	62	6	101	73	187	199	86	1465	10
80,676	84	23	49	9	70	190	100	165	99	1430	20
203,250	28	4	105	9	70	210	92	182	93	1460	11
93,736	71	30	36	16	37	632	16	431	42	1290	88
134,011	41	18	58	12	50	339	56	732	21	1110	372
86,295	75	29	39	12	50	344	53	770	20	1190	200
98,844	66	20	54	14	45	611	18	204	83	1095	439
48,937	126	10	70	4	129	143	125	205	82	1430	20
105,362	57	60	20	11	56	346	52	291	63	1205	176

Top American Research Universities (26-50)			Research				Private	
Institutions in Order of Top 26-50 Score, then Alphabetically		Number of Measures in Top 26-50 Nationally	2011 Total Research x $1000	2011 National Rank	2011 Federal Research x $1000	2011 National Rank	2012 Endowment Assets x $1000	2012 National Rank
Public	Michigan State University	6	423,766	45	222,937	60	1,721,100	38
Public	University of Arizona	6	597,988	27	324,751	35	563,655	129
Public	University of Iowa	5	433,088	41	280,989	48	981,104	69
Private	University of Rochester	5	428,144	44	337,312	31	1,581,773	45
Public	Rutgers University - New Brunswick	4	415,502	47	235,178	54	645,556	104
Public	University of California - Irvine	4	328,870	64	204,134	63	300,220	206
Private	Brown University	3	223,455	85	123,649	92	2,460,131	28
Private	Carnegie Mellon University	3	240,956	81	200,878	65	987,054	68
Private	Case Western Reserve University	3	428,206	43	352,938	28	1,600,013	44
Public	Indiana University - Bloomington	3	160,038	111	69,298	136	772,185	88
Public	University of Cincinnati - Cincinnati	3	419,456	46	286,003	46	976,814	70
Public	University of Colorado - Denver	3	407,517	49	299,230	41	339,727	186
Public	North Carolina State University	2	374,446	54	152,790	78	635,326	108
Public	University of Alabama - Birmingham	2	497,680	36	340,342	29	349,290	181
Public	University of Georgia	2	239,594	82	134,273	83	744,305	90
Public	University of Tennessee - Knoxville	2	151,814	116	99,712	109	647,826	101
Public	Virginia Polytechnic Institute and State University	2	445,302	40	187,269	67	594,776	121
Public	Florida State University	1	216,869	90	136,332	81	497,709	139
Private	George Washington University	1	189,427	100	115,463	99	1,305,892	53
Private	Georgetown University	1	164,301	106	122,802	93	1,141,752	59
Public	Indiana University-Purdue University - Indianapolis	1	314,004	69	154,966	77	634,979	110
Public	Iowa State University	1	261,016	77	116,109	97	604,897	115
Public	Oregon State University	1	227,752	84	146,069	79	403,606	165
Private	Rensselaer Polytechnic Institute	1	84,346	156	58,951	148	583,350	124
Public	University of Houston - University Park	1	98,231	143	57,090	150	579,264	126
Public	University of Kansas - Lawrence	1	156,028	113	78,884	126	922,220	75
Private	University of Miami	1	321,830	66	223,870	59	678,694	97
Public	University of Missouri - Columbia	1	130,269	126	113,072	100	622,209	113

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 National Rank	2012 National Academy Members	2012 National Rank	2012 Faculty Awards	2012 National Rank	2012 Doctorates Granted	2012 National Rank	2011 Post Docs	2011 National Rank	2011 Median SAT	2011 National Rank
122,883	45	9	73	13	47	491	27	455	40	1170	234
180,317	31	28	40	15	40	446	37	270	67	1100	427
104,392	59	21	52	15	40	437	39	368	50	1170	234
85,415	79	28	40	6	101	265	68	413	43	1345	56
69,238	99	34	32	16	37	414	43	240	70	1195	197
77,236	87	31	35	13	47	413	44	369	48	1185	220
178,065	32	17	60	11	56	232	81	279	65	1390	35
79,141	85	32	33	12	50	284	62	234	73	1410	26
90,584	73	18	58	8	84	186	101	194	87	1340	60
122,489	46	10	70	12	50	468	33	125	113	1165	256
105,168	58	9	73	10	67	242	79	410	45	1140	303
133,993	42	16	61	9	70	107	151	284	64	1050	625
100,324	64	19	56	12	50	446	37	318	54	1185	220
70,130	97	7	88	0	551	174	106	245	69	1110	372
81,568	82	6	96	12	50	453	35	279	65	1225	145
124,196	44	3	113	9	70	461	34	171	96	1205	176
75,120	89	14	63	8	84	469	32	202	84	1210	169
54,942	116	7	88	7	97	428	41	218	78	1205	176
73,070	94	11	68	13	47	224	86	68	138	1300	81
113,721	52	11	68	10	67	116	143	112	119	1395	32
164,444	36	6	96	8	84	35	272	239	71	995	965
60,716	109	7	88	11	56	376	49	152	105	1150	277
101,634	62	3	113	15	40	197	98	189	91	1090	449
32,058	159	8	83	8	84	136	129	77	134	1375	45
72,850	95	9	73	15	40	301	61	213	79	1110	372
121,186	47	6	96	11	56	273	64	172	95	1150	277
163,978	37	9	73	7	97	181	104	227	76	1315	73
88,689	74	7	88	9	70	367	50	219	77	1170	234

Top Private Research Universities (1-25)				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 Control	Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Private	Columbia University	9	0	841,173	5	634,973	3	7,654,152	6
Private	Duke University	9	0	1,018,241	2	584,161	5	5,555,196	11
Private	Harvard University	9	0	623,116	9	530,908	6	30,435,375	1
Private	Massachusetts Institute of Technology	9	0	693,714	7	482,544	8	10,149,564	5
Private	Northwestern University	9	0	595,202	10	393,449	12	7,118,595	7
Private	Stanford University	9	0	868,393	3	633,287	4	17,035,804	3
Private	University of Chicago	9	0	446,512	16	365,824	14	6,570,875	9
Private	University of Pennsylvania	9	0	851,522	4	689,571	2	6,754,658	8
Private	Vanderbilt University	9	0	534,806	12	434,213	11	3,399,293	18
Private	Washington University in St. Louis	9	0	707,404	6	460,282	9	5,225,992	13
Private	Yale University	9	0	654,259	8	518,195	7	19,345,000	2
Private	California Institute of Technology	8	1	374,636	21	340,131	16	1,746,526	24
Private	Cornell University	8	1	514,843	14	314,371	19	3,850,426	15
Private	Emory University	8	1	522,900	13	369,945	13	5,461,158	12
Private	Johns Hopkins University	8	1	2,135,547	1	1,875,410	1	2,593,316	20
Private	New York University	8	1	402,327	19	289,172	23	2,755,000	19
Private	University of Southern California	8	1	579,717	11	443,458	10	3,488,933	16
Private	Princeton University	7	2	255,483	28	162,491	29	16,954,128	4
Private	Boston University	5	3	348,593	23	300,923	20	1,103,652	41
Private	University of Rochester	5	3	428,144	18	337,312	17	1,581,773	30
Private	Brown University	4	5	223,455	30	123,649	33	2,460,131	21
Private	Carnegie Mellon University	4	5	240,956	29	200,878	25	987,054	46
Private	Rice University	3	6	109,197	41	78,249	42	4,418,595	14
Private	University of Notre Dame	3	6	121,466	39	79,003	41	6,329,866	10
Private	Dartmouth College	3	5	210,274	32	131,518	32	3,486,383	17
Private	University of Miami	3	4	321,830	24	223,870	24	678,694	62
Private	Case Western Reserve University	2	6	428,206	17	352,938	15	1,600,013	29
Private	George Washington University	2	6	189,427	35	115,463	36	1,305,892	36
Private	Yeshiva University	2	6	283,673	25	192,241	26	1,054,052	43
Private	Georgetown University	1	8	164,301	36	122,802	34	1,141,752	40
Private	Tufts University	1	8	154,760	37	120,864	35	1,351,166	35

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	2012 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank	2011 Median SAT	2011 Control Rank
490,311	5	120	4	37	4	558	5	1,276	6	1480	8
350,944	10	62	10	30	6	450	11	784	9	1440	16
650,243	2	355	1	93	1	691	2	6,120	1	1490	5
379,058	9	269	3	29	7	573	4	1,345	4	1490	5
233,746	14	42	17	25	11	378	15	813	8	1455	14
1,034,849	1	297	2	45	2	764	1	1,798	2	1455	14
255,764	12	60	12	26	9	401	13	562	15	1485	7
440,603	7	110	6	35	5	514	6	978	7	1440	16
126,367	21	28	19	19	17	273	19	720	10	1440	16
205,687	16	44	16	18	18	251	21	559	16	1460	11
543,905	3	110	6	45	2	390	14	1,307	5	1500	2
99,983	25	110	6	16	19	172	31	573	13	1525	1
263,358	11	61	11	22	14	501	8	487	19	1400	29
211,589	15	27	21	22	14	243	23	691	11	1405	28
479,654	6	90	9	28	8	479	10	1,649	3	1400	29
395,510	8	45	15	25	11	417	12	493	18	1360	48
491,854	4	50	13	26	9	634	3	447	21	1385	40
246,035	13	117	5	21	16	351	16	471	20	1500	2
86,181	27	19	27	23	13	507	7	600	12	1275	87
85,415	29	28	19	6	38	265	20	413	22	1345	53
178,065	18	17	29	11	22	232	24	279	27	1390	35
79,141	32	32	18	12	21	284	18	234	28	1410	26
80,676	31	23	23	9	27	190	28	165	35	1430	20
203,250	17	4	44	9	27	210	26	182	34	1460	11
170,847	19	15	30	6	38	73	66	199	31	1465	10
163,978	20	9	37	7	36	181	30	227	29	1315	67
90,584	26	18	28	8	31	186	29	194	32	1340	56
73,070	34	11	34	13	20	224	25	68	44	1300	73
86,032	28	12	32	9	27	129	41	321	25	1225	116
113,721	22	11	34	10	26	116	46	112	39	1395	32
48,937	47	10	36	4	46	143	36	205	30	1430	20

Top Private Research Universities (26-50)			Research				Private	
Institutions in Order of Top 26-50 Score, then Alphabetically		Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Private	Drexel University	7	109,729	40	81,424	39	555,381	84
Private	Rensselaer Polytechnic Institute	7	84,346	45	58,951	45	583,350	80
Private	Tulane University	7	154,530	38	110,222	37	960,972	48
Private	Wake Forest University	7	208,460	33	173,004	27	1,000,133	45
Private	Brandeis University	6	71,638	48	47,793	48	674,522	64
Private	Northeastern University	6	81,230	46	65,757	44	566,767	82
Private	University of Dayton	2	89,037	44	69,847	43	397,794	101

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	2012 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank	2011 Median SAT	2011 Control Rank
67,459	37	7	40	8	31	163	32	54	48	1205	133
32,058	65	8	38	8	31	136	38	77	43	1375	44
53,572	43	2	56	5	45	120	44	124	38	1325	61
73,797	33	5	43	9	27	57	77	192	33		
60,768	39	12	32	7	36	82	60	102	40	1340	56
34,512	61	3	49	8	31	125	43	100	41	1340	56
17,308	114	0	85	0	217	23	131	14	72	1205	133

Top Public Research Universities (1-25)				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 Control	Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Public	University of California - Berkeley	9	0	670,926	15	326,120	17	3,031,896	5
Public	University of California - Los Angeles	9	0	942,450	6	545,882	8	2,449,838	8
Public	University of Florida	9	0	686,048	12	296,950	22	1,263,277	19
Public	Univ. of Illinois - Urbana-Champaign	9	0	522,769	20	312,796	20	1,137,035	20
Public	University of Michigan - Ann Arbor	9	0	1,212,990	1	801,194	2	7,691,052	2
Public	University of Minnesota - Twin Cities	9	0	824,489	8	482,639	9	2,494,050	7
Public	Univ. of North Carolina - Chapel Hill	9	0	762,620	10	559,620	7	2,179,177	10
Public	University of Texas - Austin	9	0	558,377	19	334,240	15	8,209,163	1
Public	University of Wisconsin - Madison	9	0	1,022,723	3	568,389	6	2,082,181	12
Public	Ohio State University - Columbus	8	1	794,023	9	471,331	10	2,366,033	9
Public	University of California - San Diego	8	1	1,003,584	4	635,223	4	567,772	46
Public	University of Pittsburgh - Pittsburgh	8	1	880,425	7	647,060	3	2,618,436	6
Public	University of Washington - Seattle	8	1	1,112,526	2	921,399	1	2,111,332	11
Public	Pennsylvania State Univ. - Univ. Park	8	0	677,082	14	400,294	12	1,299,369	18
Public	Georgia Institute of Technology	7	2	650,588	17	426,088	11	1,608,248	15
Public	University of Maryland - College Park	7	1	485,078	23	333,879	16	408,984	66
Public	Texas A&M University - College Station	6	3	682,553	13	281,063	24	7,034,588	3
Public	Purdue University - West Lafayette	6	2	520,001	21	246,116	28	1,916,968	13
Public	University of California - Davis	5	4	698,193	11	359,704	13	713,180	35
Public	University of Arizona	5	3	597,988	18	324,751	18	563,655	47
Public	University of Virginia	5	3	287,259	46	227,937	35	4,788,852	4
Public	Michigan State University	4	4	423,766	27	222,937	36	1,721,100	14
Public	University of Iowa	4	4	433,088	25	280,989	25	981,104	23
Public	University of Cincinnati - Cincinnati	3	4	419,456	28	286,003	23	976,814	24
Public	University of Colorado - Boulder	3	4	372,034	35	313,531	19	431,593	61
Public	University of Utah	2	6	410,392	30	263,623	27	670,411	36
Public	Rutgers University - New Brunswick	2	5	415,502	29	235,178	31	645,556	38
Public	University of California - Irvine	2	4	328,870	41	204,134	39	300,220	81
Public	University of Colorado - Denver	2	4	407,517	31	299,230	21	339,727	75
Public	Virginia Polytechnic Inst. and State Univ.	2	4	445,302	24	187,269	41	594,776	44
Public	Indiana University - Bloomington	2	3	160,038	75	69,298	93	772,185	29
Public	University of Tennessee - Knoxville	2	3	151,814	78	99,712	72	647,826	37
Public	University of Alabama - Birmingham	2	2	497,680	22	340,342	14	349,290	72
Public	Arizona State University	1	6	323,567	42	178,153	42	500,667	50
Public	University of California - Santa Barbara	1	5	217,877	57	132,490	55	206,032	102
Public	Indiana Univ.-Purdue Univ. - Indianapolis	1	4	314,004	45	154,966	47	634,979	41
Public	University of Georgia	1	4	239,594	53	134,273	53	744,305	31
Public	University of Houston - University Park	1	4	98,231	101	57,090	104	579,264	45
Public	University of Delaware	1	3	160,503	74	112,523	66	1,087,870	21
Public	University of Kansas - Lawrence	1	3	156,028	77	78,884	85	922,220	25
Public	Oregon State University	1	2	227,752	55	146,069	49	403,606	67
Public	U.S. Air Force Academy	1	0	70,285	122	60,292	98	56,600	207

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	20112 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank	2011 Median SAT	2011 Control Rank
405,435	1	230	1	40	2	892	1	1,286	1	1360	2
344,201	2	94	6	28	9	725	8	1,062	6	1300	9
173,385	15	24	25	20	16	696	10	625	15	1260	18
137,059	19	55	10	24	11	869	2	548	18	1280	14
291,335	7	95	5	40	2	857	4	1,121	4	1390	1
254,855	10	38	12	33	5	734	7	640	14	1240	25
286,710	8	35	14	25	10	495	18	878	7	1305	8
258,308	9	67	8	31	7	867	3	369	25	1250	23
315,278	5	68	7	29	8	813	5	797	10	1260	18
334,509	3	30	18	11	35	756	6	617	16	1260	18
135,543	20	115	3	35	4	523	17	1,260	2	1270	15
118,700	28	32	16	22	12	479	21	818	9	1270	15
295,564	6	109	4	42	1	708	9	1,186	3	1225	30
145,186	18	24	25	20	16	629	14	380	24	1195	51
118,429	29	30	18	22	12	483	20	295	36	1335	6
93,736	46	30	18	16	19	632	13	431	21	1290	11
180,886	13	23	27	22	12	663	11	316	30	1210	39
170,449	16	26	24	22	12	649	12	297	35	1170	64
93,977	44	41	11	14	26	566	16	819	8	1210	39
180,317	14	28	22	15	21	446	26	270	40	1100	122
237,221	11	27	23	8	54	393	33	643	13	1350	3
122,883	24	9	37	13	28	491	19	455	20	1170	64
104,392	37	21	28	15	21	437	28	368	27	1170	64
105,168	36	9	37	10	42	242	56	410	22	1140	87
86,295	49	29	21	12	30	344	37	770	11	1190	53
134,011	21	18	31	12	30	339	39	732	12	1110	107
69,238	64	34	15	16	19	414	31	240	43	1195	51
77,236	55	31	17	13	28	413	32	369	25	1185	57
133,993	22	16	32	9	44	107	103	284	38	1050	201
75,120	57	14	33	8	54	469	22	202	54	1210	39
122,489	25	10	35	12	30	468	23	125	76	1165	74
124,196	23	3	65	9	44	461	24	171	62	1205	44
70,130	63	7	49	0	293	174	76	245	42	1110	107
98,844	41	20	29	14	26	611	15	204	53	1095	130
105,362	35	60	9	11	35	346	36	291	37	1205	44
164,444	17	6	55	8	54	35	172	239	44	995	340
81,568	53	6	55	12	30	453	25	279	39	1225	30
72,850	61	9	37	15	21	301	44	213	50	1110	107
45,796	81	8	46	11	35	228	60	124	79	1205	44
121,186	26	6	55	11	35	273	46	172	61	1150	79
101,634	39	3	65	15	21	197	71	189	58	1090	134
22,077	113	0	136	0	293	0	274	0	230	1340	5

Top Public Research Universities (26-50)			Research				Private	
Institutions in Order of Top 26-50 Score, then Alphabetically		Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Public	North Carolina State University	8	374,446	33	152,790	48	635,326	40
Public	University at Buffalo	6	337,783	39	176,923	43	511,020	49
Public	University of Illinois - Chicago	6	373,750	34	245,323	29	217,195	96
Public	University of Missouri - Columbia	6	130,269	88	113,072	64	622,209	42
Public	Iowa State University	5	261,016	50	116,109	62	604,897	43
Public	University of Kentucky	5	364,175	36	175,801	44	900,158	26
Public	Washington State University - Pullman	5	363,678	37	115,775	63	737,409	32
Public	Florida State University	4	216,869	60	136,332	51	497,709	51
Public	University of Hawaii - Manoa	4	318,316	44	201,700	40	211,970	98
Public	University of South Carolina - Columbia	4	196,820	64	100,045	71	513,936	48
Public	University of South Florida - Tampa	4	343,366	38	220,931	37	334,132	77
Public	Virginia Commonwealth University	4	185,566	66	134,431	52	438,140	59
Public	Colorado State University - Fort Collins	3	321,130	43	230,661	33	225,362	95
Public	Louisiana State University - Baton Rouge	3	281,221	47	96,050	75	357,602	70
Public	Stony Brook University	3	206,207	62	124,938	57	155,172	125
Public	University of California - Riverside	3	125,902	90	59,351	101	138,816	130
Public	University of Oregon	3	87,161	110	71,344	91	477,599	54
Public	University of Connecticut - Storrs	2	148,614	80	84,901	80	227,272	93
Public	University of Louisville	2	166,918	70	84,557	82	726,244	34
Public	University of Massachusetts - Amherst	2	176,545	67	106,315	67	233,317	92
Public	University of Nebraska - Lincoln	2	220,141	56	104,240	68	790,011	28
Public	University of Oklahoma - Norman	2	87,260	109	46,027	116	820,724	27
Public	Auburn University	1	161,785	73	59,061	102	461,727	57
Public	Clemson University	1	135,681	83	49,365	114	482,866	53
Public	Oklahoma State University - Stillwater	1	162,786	72	81,855	84	452,171	58
Public	University of California - Santa Cruz	1	149,702	79	95,015	76	116,800	146
Public	University of Maryland - Baltimore County	1	83,155	112	61,110	96	59,996	199
Public	University of New Mexico - Albuquerque	1	217,206	59	161,950	45	343,321	74
Public	University of Vermont	1	132,107	87	101,465	69	325,555	79

Support		Faculty				Advanced Training				Undergraduate	
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	2012 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank	2011 Median SAT	2011 Control Rank
100,324	40	19	30	12	30	446	26	318	29	1185	57
68,104	66	7	49	8	54	305	43	299	33	1155	77
59,017	72	8	46	11	35	342	38	257	41	1090	134
88,689	48	7	49	9	44	367	35	219	48	1170	64
60,716	70	7	49	11	35	376	34	152	69	1150	79
73,788	58	3	65	8	54	322	41	303	32	1150	79
105,469	34	9	37	9	44	203	68	184	59	1065	188
54,942	74	7	49	7	62	428	30	218	49	1205	44
50,267	79	9	37	5	73	196	72	238	45	1090	134
85,566	50	2	81	9	44	279	45	144	73	1185	57
43,613	83	3	65	5	73	270	47	304	31	1155	77
101,716	38	5	58	9	44	333	40	232	47	1080	158
29,925	98	5	58	5	73	235	57	233	46	1130	93
105,784	33	2	81	5	73	322	41	158	66	1170	64
82,276	52	14	33	4	84	263	50	202	54	1230	28
33,837	91	7	49	11	35	263	50	167	64	1050	201
109,529	31	9	37	9	44	170	78	67	96	1105	118
35,371	90	1	99	6	64	265	49	125	76	1220	35
73,547	59	2	81	9	44	185	73	135	75	1110	107
32,017	95	8	46	8	54	268	48	209	51	1185	57
109,388	32	3	65	6	64	246	54	159	65	1150	79
115,172	30	1	99	5	73	218	63	80	91	1190	53
63,712	68	1	99	3	101	247	53	42	117	1220	35
71,304	62	2	81	6	64	220	62	44	114	1235	27
95,230	43	3	65	4	84	212	65	58	100	1130	93
22,766	109	9	37	2	122	172	77	150	70	1135	90
11,776	159	0	136	3	101	72	122	36	123	1210	39
64,063	67	3	65	6	64	202	70	193	57	1030	228
21,728	114	2	81	9	44	62	135	68	95	1185	57

Top Medical and Specialized Research Universities				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 National	Number of Measures in Top 26-50 National	2011 Total Research x $1000	2011 National Rank	2011 Federal Research x $1000	2011 National Rank	2012 Endowment Assets x $1000	2012 National Rank
Public	University of California - San Francisco	6	1	995,226	7	570,116	10	1,541,415	46
Public	Univ. of Texas MD Anderson Cancer Ctr.	1	2	663,279	23	236,400	53	1,056,878	64
Private	Rockefeller University	1	1	272,491	73	97,710	111	1,661,571	40
Public	Univ. of Texas SW Medical Ctr. - Dallas	0	6	431,883	42	231,639	55	1,465,375	48
Private	Baylor College of Medicine	0	3	466,061	38	295,529	43	789,997	86
Private	Icahn School of Medicine at Mount Sinai	0	2	363,091	59	295,291	44	594,968	120
Private	Scripps Research Institute	0	2	400,768	51	317,201	36		
Public	Univ. of Mass. Med. Sch. - Worcester	0	2	262,714	75	208,244	62	144,846	333
Public	Oregon Health & Science University	0	1	334,324	63	268,777	49	433,288	154

Top Private Medical and Specialized Research Universities				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 Control	Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Private	Baylor College of Medicine	4	2	466,061	15	295,529	21	789,997	58
Private	Icahn School of Medicine at Mount Sinai	4	2	363,091	22	295,291	22	594,968	77
Private	Scripps Research Institute	4	0	400,768	20	317,201	18		
Private	Rockefeller University	2	4	272,491	26	97,710	38	1,661,571	26
Private	Weill Cornell Medical College	1	6	264,966	27	161,792	30	1,096,528	42
Private	Medical College of Wisconsin	0	4	215,358	31	133,929	31	470,510	91
Private	Thomas Jefferson University	0	4	104,923	42	80,027	40	314,152	121
Private	Woods Hole Oceanographic Institution	0	4	198,775	34	165,819	28		
Private	Cold Springs Harbor Lab-Watson School	0	3	95,984	43	55,450	47		
Private	Rush University	0	3	79,212	47	57,978	46	457,217	93

Top Public Medical and Specialized Research Universities				Research				Private	
Institutions in Order of Top 25 Score, then Top 26-50 Score, then Alphabetically		Number of Measures in Top 25 Control	Number of Measures in Top 26-50 Control	2011 Total Research x $1000	2011 Control Rank	2011 Federal Research x $1000	2011 Control Rank	2012 Endowment Assets x $1000	2012 Control Rank
Public	University of California - San Francisco	7	0	995,226	5	570,116	5	1,541,415	16
Public	Univ. of Texas SW Medical Ctr. - Dallas	4	3	431,883	26	231,639	32	1,465,375	17
Public	Univ. of Texas MD Anderson Cancer Ctr.	4	1	663,279	16	236,400	30	1,056,878	22
Public	Univ. of Mass. Med. Sch. - Worcester	2	2	262,714	48	208,244	38	144,846	126
Public	Oregon Health & Science University	0	6	334,324	40	268,777	26	433,288	60
Public	University of Maryland - Baltimore	0	4	391,685	32	228,637	34	206,582	101
Public	University of Texas HSC - Houston	0	2	261,172	49	156,790	46	201,989	106
Public	Medical University of South Carolina	0	1	213,346	61	143,464	50	239,472	89

Support		Faculty				Advanced Training			
2012 Annual Giving x $1000	2012 National Rank	2012 National Academy Members	2012 National Rank	2012 Faculty Awards	2012 National Rank	2012 Doctorates Granted	2012 National Rank	2011 Post Docs	2011 National Rank
329,477	14	125	5	32	11	134	132	1,091	11
186,667	29	5	100	1	271			509	36
28,192	173	46	24	11	56	40	253	318	54
120,844	48	37	30	17	36	98	158	582	29
80,736	83	21	52	4	129	83	174	572	31
103,111	60	14	63	6	101	41	250	536	35
		26	45	11	56			0	340
3,584	672	5	100	15	40	66	199	386	46
91,560	72	9	73	10	67	57	220	298	60

Support		Faculty				Advanced Training			
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	2012 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank
80,736	30	21	25	4	46	83	59	572	14
103,111	23	14	31	6	38	41	91	536	17
		26	22	11	22			0	111
28,193	73	46	14	11	22	40	93	318	26
67,578	36	20	26	8	31	57	77	344	24
19,197	101	3	49	1	98	38	96	136	37
30,299	68	4	44	1	98	17	150	163	36
		3	49	1	98			99	42
		4	44	2	122	5	234	0	111
7,474	254	2	56	0	217	7	209	51	49

Support		Faculty				Advanced Training			
2012 Annual Giving x $1000	2012 Control Rank	2012 National Academy Members	2012 Control Rank	2012 Faculty Awards	2012 Control Rank	2012 Doctorates Granted	2012 Control Rank	2011 Post Docs	2011 Control Rank
329,477	4	125	2	32	6	134	94	1,091	5
120,844	27	37	13	17	18	98	108	582	17
186,667	12	5	58	1	173			509	19
3,584	270	5	58	15	21	66	128	386	23
91,560	47	9	37	10	42	57	144	298	34
77,984	54	9	37	6	64	75	120	343	28
48,552	80	3	65	2	122	127	96	209	51
40,197	85	3	65	3	101	130	95	194	56

Source Notes

Total Research Expenditures
Federal Research Expenditures
Source: Higher Education Research and Development (HERD) Survey

Each year, the National Science Foundation (NSF) collects data from hundreds of academic institutions on expenditures for research and development in science and engineering fields and classifies them by source of funds (e.g., federal government, state and local government, industry, etc.). These data are the primary source of information on academic research and development (R&D) expenditures in the United States. Included in this survey are all activities specifically organized to produce research outcomes that are separately budgeted and accounted for. This "organized research" may be funded by an external agency or organization ("sponsored research") or by a separately budgeted organizational unit within the institution ("university research"). This report excludes activities sponsored by external agencies that involve instruction, training (except training in research techniques, which is considered organized research), and health service, community service or extension service projects.

All Federally Funded Research Labs (FFRLs) are excluded from these academic expenditures data, including the following: Jet Propulsion Laboratory (California Institute of Technology); Los Alamos National Lab, Lawrence Livermore Lab, Lawrence Berkeley Lab (University of California); Software Engineering Institute (Carnegie Mellon); Argonne National Laboratory (University of Chicago); National Astronomy and Ionospheric Center (Cornell); Ames Laboratory (Iowa State University); Lincoln Laboratory (MIT); Plasma Physics Lab (Princeton); and SLAC National Accelerator Laboratory (Stanford). The NSF data no longer classify the Applied Physics Lab (APL) at Johns Hopkins as an FFRL, but federal funds support the vast majority of research conducted there. The APL makes up more than one-half of Johns Hopkins' total federal R&D expenditures.

While inconsistencies in reporting (known and unknown) do exist here, as in any survey of this type, problems arise mostly when one breaks out the data by source of funds. NSF expects institutions to use year-end accounting records to complete this report, and there are nationally recognized accounting guidelines for higher education institutions. However, there are also countless variations in institutional policy that determine whether the university reports a particular expenditure as coming from one source or another, or possibly not counted at all. Take federal formula funds for agriculture (e.g., Hatch-McIntire, Smith-Lever) as an example. We conducted an informal survey of the appropriate institutions in the Association of American Universities (AAU) and found that two out of eleven land grants did not include any of these federal funds in their 1997 NSF data, while others included all or some of these monies. Because these funds make up a very small percentage of the total research expenditures in any given year, the impact on our total research rankings is slight. The agriculture formula funds will have a somewhat greater, but still small, impact on the federal research rankings. NSF notes, "An increasing number of institutions have linkages with industry and foundations via subcontracts, thus complicating the identification of funding source. In addition, institutional policy may determine whether unrestricted state support is reported as state or as institutional funds." [1]

We believe that the reporting inconsistencies in the data are relatively minor when using the total research expenditures and the federal research expenditures component. Federal and state government audits of institutional accounting make deceptive practices highly unlikely, even though these entities do not audit the NSF data directly. NSF goes to great lengths to verify the accuracy of the data, especially federal expenditure data—checking them against several other federal agencies that collect the same or similar information. In fact, all major federal agencies and their subdivisions submit data to NSF identifying research obligations to universities each year. Historically, the NSF data have tracked very closely the data reported by universities. Further, for their National Patterns of R&D Resources series, NSF prefers to use the figures reported by the performers of the work (that is, academic institutions, industry, nonprofits) because they believe that the performers are in the best position to accurately report these expenditures.

In some sections of this report, these expenditure data are deflated to constant 1983 dollars to show real change over time. While NSF uses the Gross Domestic Price (GDP) implicit price deflator in its reports on federal trends in research, we use the Higher Education Price Index (HEPI) because of its narrower focus. Originally developed by Research Associates of Washington and currently managed by Commonfund Institute, the HEPI illustrates the effect of inflation on college and university operations. [2] In contrast, the GDP implicit price deflator is based on change in the entire U.S. economy and, as noted by NSF itself, "[its] use more accurately reflects an 'opportunity cost' criterion [i.e., the value of R&D in terms of the amount of other goods and services that could have been spent with the same amount of money], rather than a measure of cost changes of doing research." [3]

Endowment Assets

Source: NACUBO Endowment Study, endowment market value as of June 30, 2012.

Institutions report the market value of their endowment assets as of June 30 to three different sources, and they quite often use three different values. For this project, we use the National Association of College and University Business Officers (NACUBO) Endowment Study because of NACUBO's long history of reporting endowments of higher education institutions, their emphasis on using audited financial statements, and their focus on net assets (i.e., includes returns on investments and excludes investment fees and other withdrawals). NACUBO conducts its study annually and reports the results each February in the Chronicle of Higher Education.

Another source for endowment assets is the Council for Aid to Education's (CAE) annual Voluntary Support of Education (VSE) survey, cosponsored by the Council for Advancement and Support of Education (CASE) and the National Association of Independent Schools. The VSE survey is useful as a secondary resource because it provides more single-campus data than the other two sources. For those institutions that report a system-wide total to NACUBO, we often use the VSE data to calculate a campus' percentage contribution to the entire system, applying that factor to the NACUBO figure. In other cases, we may substitute the VSE figure when the institution indicates that this is a good data source.

The National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) Finance Survey also collects information on endowment assets. IPEDS data are released later than other two sources and are used when NACUBO nor VSE figures are unavailable.

In our inaugural report of *The Top American Research Universities* in 2000, we noted the wide variation in the reporting of endowment market value between all three sources. An examination of the 1997 endowment figures showed only one university (University of North Carolina at Chapel Hill) had submitted the same figure to each of the three organizations. In a more recent study of major research universities, we found about one-third of the all institutions report identical figures but just seven universities in our over $40 million federal research group. In the earlier study, we found that endowment assets reported to IPEDS tended to be lower than NACUBO or VSE data, but this is no longer true. In general, the greater the endowment the likelihood that the figures reported to the three sources will vary. Both studies found no consistent pattern to explain reporting variations among the institutions.

Annual Giving

Source: Council for Aid to Education's Voluntary Support of Education (VSE) Survey, FY 2012.

The Council for Aid to Education (CAE), formerly an independent subsidiary of RAND, has produced the Voluntary Support of Education (VSE) Survey since 1957. The annual giving data include all contributions actually received during the institution's fiscal year in the form of cash, securities, company products, and other property from alumni, non-alumni individuals, corporations, foundations, religious organizations, and other groups. Not included in the totals are public funds, earnings on investments held by the institution, and unfulfilled pledges.

CAE's VSE Data Miner service, available online, provides 11 years of data for all participating institutions. Although this is a subscription-based service and requires a user ID and password, limited access is available online at [http://www.cae.org/vse].

National Academy Members

Source: National Academy of Sciences, National Academy of Engineering, and Institute of Medicine membership directories for 2012.

One of the highest honors that academic faculty can receive is membership in the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), or the Institute of Medicine (IOM). All three are private, nonprofit organizations and serve as advisors to the federal government on science, technology, and medicine. Nominated and voted on by active members, newly elected members of these organizations receive life terms. Individuals elected to membership come from all sectors—academia, industry, government, and not-for-profit agencies or organizations. Member election dates are in February (NAE), April (NAS), and October (IOM).

The data collected for these rankings use active or emeritus members at their affiliated work institution, as reported in the online membership directories. In all cases, we were able to determine the specific campus for individual members. We re-check institutional affiliation annually to account for established members who have changed employers or whose membership is no longer active.

Faculty Awards in the Arts, Humanities, Science, Engineering, and Health

Source: Directories or web-based listings for multiple agencies or organizations.

For this category, we collect data from several prominent grant and fellowship programs in the arts, humanities, science, engineering, and health fields. Included in this measure are:

- American Council of Learned Societies (ACLS) Fellows, 2011-12
- Beckman Young Investigators, 2012
- Burroughs Wellcome Fund Career Awards, 2012
- Cottrell Scholars, 2012
- Fulbright American Scholars, 2012-13
- Getty Scholars in Residence, 2012-13
- Guggenheim Fellows, 2012
- Lasker Medical Research Awards, 2012
- MacArthur Foundation Fellows, 2012
- National Endowment for the Humanities (NEH) Fellows, 2013
- National Humanities Center Fellows, 2012-13
- National Institutes of Health (NIH) MERIT (R37) FY 2012

- National Medal of Science and National Medal of Technology, 2011
- NSF CAREER awards (excluding those who are also PECASE winners), 2012
- Newberry Library Long-term Fellows, 2012-13
- Pew Scholars in Biomedicine, 2012
- Presidential Early Career Awards for Scientists and Engineers (PECASE), 2012
- Robert Wood Johnson Policy Fellows, 2012-13
- Searle Scholars, 2012
- Sloan Research Fellows, 2012
- Woodrow Wilson Fellows, 2012-13

While the vast majority of these programs clearly identify a particular campus, in a few instances we used the institution's web-based phone directory to determine the correct campus.

Doctorates Awarded

Source: NCES IPEDS Completions Survey, doctoral degrees awarded between July 1, 2011, and June 30, 2012.

Each year, universities report their degrees awarded to the NCES in the IPEDS Completions Survey. IPEDS provides straightforward instructions for reporting doctoral degrees awarded, and we do not find any inconsistencies in reporting among the universities included in our rankings. IPEDS asks each institution to identify the number of Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and Doctor of Philosophy degrees awarded between July 1 and June 30.

Most institutions in our study submit degree data by campus or offer doctoral degrees solely or primarily at the main campus.

In addition to doctorate degrees, we present degrees awarded at other levels—associate's, bachelor's, master's, and professional degrees—in the Student Characteristics table.

Postdoctoral Appointees

Source:NSF/Division of Science Resource Statistics (SRS) Survey of Graduate Students and Postdoctorates in Science and Engineering, Fall 2011.

Each year, NSF and NIH collect data from all institutions offering graduate programs in any science, engineering, or health field. The Survey of Graduate Students and Postdoctorates in Science and Engineering (also called the Graduate Student Survey or GSS) reflects graduate enrollment and postdoctoral employment at the beginning of the academic year. Postdoctorates are defined in the GSS as "individuals with science and engineering PhD's, MD's, DDS's or DVM's and foreign degrees equivalent to U.S. doctorates who devote their primary effort to their own research training through research activities or study in the department under temporary appointments carrying no academic rank." The definition excludes clinical fellows and those in medical residency training programs unless the primary purpose of their appointment is for research training under a senior mentor.

In the methodological notes for this survey,[4] NSF indicates that it verifies the data with the institutional coordinator when dramatic year-to-year fluctuations are noted. In addition, in this data set, it is unclear whether an institution has actually reported zero postdocs or NSF has simply assigned a zero for non-response (rather than imputing by using prior-year or peer data, as described in NSF methodological notes). This year, in cases where we suspect it is not a true zero, we left the field blank.

Although each doctorate-granting campus submits data separately, NSF often aggregates them in its published reports. In all cases, we obtain the single-campus data for these schools directly from NSF.

SAT Scores

Source: NCES IPEDS Survey, SAT and ACT scores for Fall 2011.

IPEDS reports the 25th and 75th percentiles for verbal and quantitative SAT I scores for most institutions in our study. For our measure, we calculated the median of that range. Some institutions report the ACT instead of the SAT to IPEDS and some report both. We selected the test which has the greatest percentage of students reporting. To convert ACT scores, we use a conversion table provided by The College Board[5] to generate a comparable SAT equivalent score. When an institution submits neither an SAT nor ACT score, we substitute data from other national data sources.

Footnotes

1 Academic R&D Expenditures, FY 2009: Technical Notes (Online: http://www.nsf.gov/statistics/nsf11313/)

2 About HEPI, Commonfund Institute (Online: http://www.commonfund.org/CommonfundInstitute/HEPI)

3 National Patterns of R&D Resources, 2003: Technical Notes (Online: http://www.nsf.gov/statistics/nsf05308/appa.htm)

4 Survey Methodology: Survey of Graduate Students and Postdoctorates in Science and Engineering (Online: http://www.nsf.gov/statistics/srvygradpostdoc/)

5 ACT and SAT Concordance Tables, November 6, 2009 (Online: http://www.research.collegeboard.org/publications)

The Center for Measuring University Performance Publications

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(MUP Center Reports, 2000 , 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013). [http://mup.asu.edu/research.html]

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