

Contracts & Grants Q313 Award Report

Can Other Sources Offset the Federal Funding Decline?

Summary

UC's award funding for Q3 of FY 2012-2013 totaled \$1.04 billion, marking the second quarter in a row that awards slightly exceeded last year's quarterly amounts by about 6%. These relatively small increments, while welcome, failed to erase the precipitous \$270M shortfall reported for this year's first quarter. For the year to date, the award total of \$3.82 billion is still about \$140M, or 3.5%, below last year's amount.

Governing this decline is a decrease in federal funding, which for the fiscal year to date is running \$330M, or 14%, behind last year's pace. These award figures suggest a number of key questions about UC's external funding prospects.

First, why does the federal funding decline appear so much steeper than the 6 to 7% impact widely predicted for the Sequester? What other factors may be involved in the federal fall-off, and will they have long-term consequences?

Secondly, what combination of non-federal sponsors is currently offsetting close to half of the federal shortfall? Are these sources likely to be as reliable as federal funding had been, up until the recent budgetary crisis?

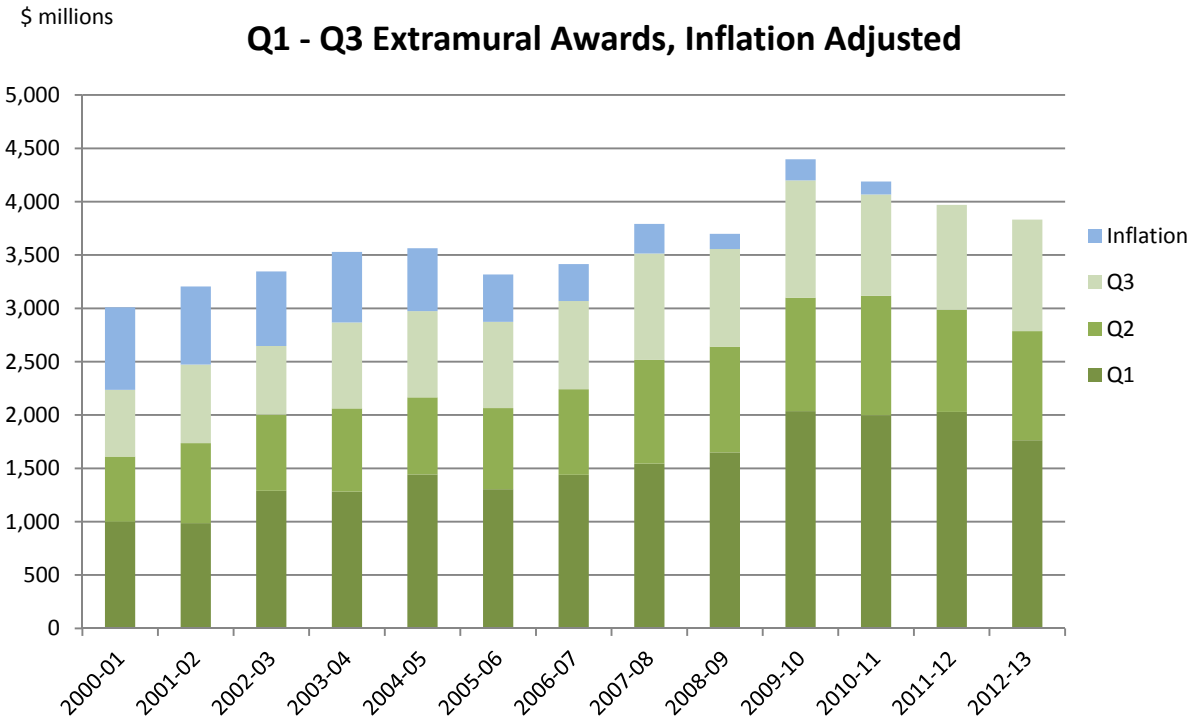
Finally, if these non-federal sources of support become more important over time, will this shift in sponsorship have any structural consequences for the direction of UC's research enterprise and for its workforce?

Key findings for Q313 are as follows:

- Of the \$1.045 billion UC received in extramural awards during Q313, research awards, including clinical trials, amounted to \$911M, or 87.2% of the award total.
- Of the \$330M decline in federal funding to date, \$320M, or almost the entire amount, represents a drop in research sponsorship.
- Two of the most significant non-federal sponsors this quarter were the California Institute for Regenerative Medicine (CIRM), with awards totaling \$104M, and the MARCO electronics research consortium, which provided \$32M.
- Current estimates for the annual decrease in federal funding due to the sequester are on the order of 6%. However, the year-to-date decline in federal support is much greater than that, currently at about 14%. Other factors are contributing to the federal fall-off, including changes in budgetary processes at federal agencies and delays in the release of funds by agencies after the notification of award has been received.

I. Quarterly Performance Metrics

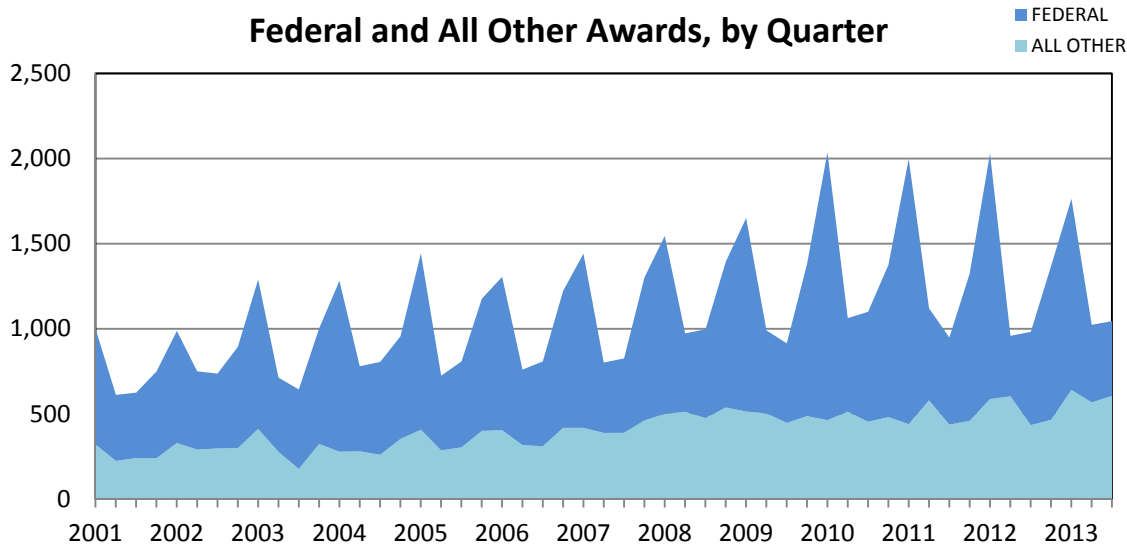
Extramural awards for Q313 totaled about \$1.045 billion, \$63 million (6.39%) above the amount reported during Q312. Year-to-date, however, funding is \$140M or 3.5% below last year's total.



Quarterly Extramural Awards, FY 2001 – 2013 (\$ millions)

PERIOD	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Q1	999	987	1,290	1,282	1,442	1,305	1,440	1,545	1,650	2,037	1,998	2,030	1,763
Q2	612	750	713	780	724	760	802	972	991	1,063	1,120	958	1,023
Q3	625	737	644	805	809	808	826	997	915	1,099	949	982	1,045
Q4	750	894	1,002	956	1,177	1,223	1,301	1,395	1,383	1,374	1,324	1,369	-
FY	2,986	3,367	3,649	3,823	4,151	4,096	4,370	4,909	4,938	5,574	5,391	5,340	3,832

Award totals for UC's first and fourth fiscal quarters are always higher than in Q2 and Q3. This is a function of the federal funding cycle, which awards the largest amounts in the final two quarters of the federal fiscal year (corresponding to UC's Q4 and Q1 of the following year). With direct federal sponsorship providing about two-thirds of all UC's awards, this produces sharp quarterly spikes in funding.



II. Award Trends by Sponsor Category

Even though awards from state and private sources are significantly higher than last year, the decline in federal agency support has been so severe that overall funding remains well behind last year. Sections VII and VIII of this report will consider trends in private and state funding in greater detail.

Direct federal award funding for Q1 through Q3 amounted to just over \$2 billion, or about 53% of the award total, compared to \$2.35 billion a year ago, which represented 59% of the total. The peak in federal funding during 2010 and 2011 was due principally to Recovery Act (ARRA) awards. For the year to date, federal funding has dropped below pre-Recovery Act levels, even before inflation is taken into account.

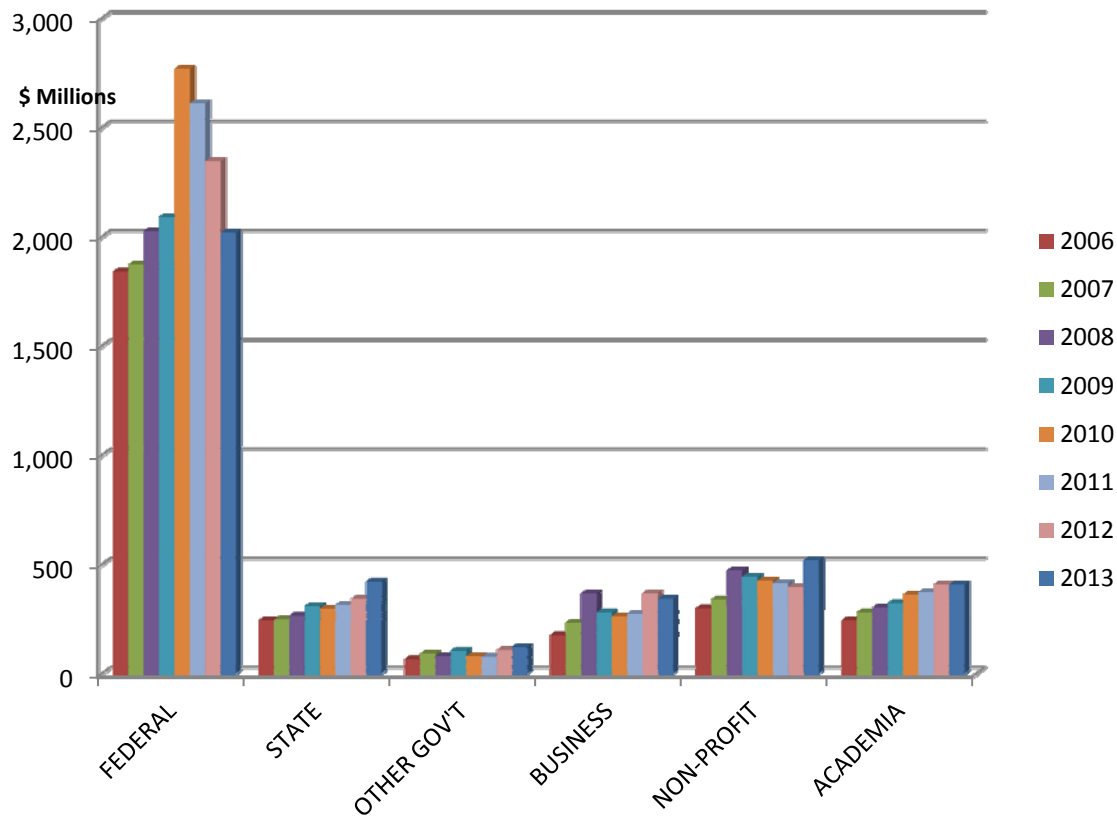
Q1-Q3 Awards by Sponsor Category, FY 2006-2013 (\$ Millions)

SPONSOR	2006	2007	2008	2009	2010	2011	2012	2013
<i>Federal</i>	1,841	1,873	2,027	2,091	2,768	2,611	2,346	2,018
<i>State</i>	245	249	266	310	299	316	343	422
<i>Other Gov't*</i>	66	91	80	106	81	78	108	123
<i>Business</i>	177	234	367	282	264	274	368	342
<i>Non-Profit</i>	300	341	472	444	425	415	398	519
<i>Academia**</i>	244	281	303	323	362	374	409	408
TOTAL	2,873	3,069	3,514	3,556	4,199	4,067	3,971	3,832

* *Other Gov't* includes Agricultural Market Order Boards.

***Academia* includes the categories of Higher Education, DOE Labs, Campuses and UCOP.

Q1-Q3 Awards by Sponsor Category, FY 2006 - 2013



III. Federal Agency Award Trends

Direct federal funding to UC during Q313 was \$439M million, about \$109M below the amount reported during Q3 of the previous year. To date, federal funding lags behind last year's pace by about \$330 million, or about 14%. The year-to-date federal funding picture would appear even more dire had it not been for an isolated reporting issue related to staffing and system changes at UCSF that effectively transferred at least \$50M in federal funds from Q4 of FY 2012 to the FY 2013 reporting period. This elevated UCSF's federal award amounts for Q113, and masks a significant part of the recent federal funding decline.

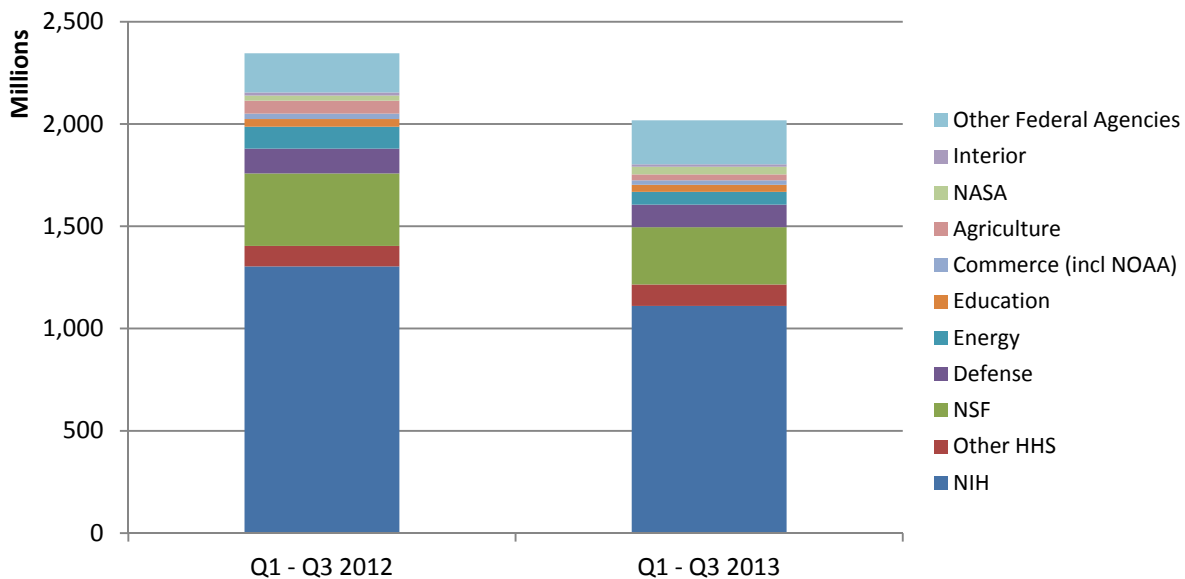
The sequester only took formal effect in March of 2013, so it can hardly account for the decline in federal award funding that appeared as early as the middle of last fiscal year. For some time, federal agencies have been preparing for appropriations cutbacks by conserving funds, issuing fewer and/or smaller awards, and in some cases providing less than the initially budgeted award amount. These changes have already contributed to a climate of uncertainty regarding federal support, which is only likely to deepen as the full impact of the sequester begins to be felt.

Much of the decrease in federal award funding reported for the fiscal year to date is directly attributable to the National Institutes of Health, which is UC's largest single source of

project funds. NIH generally provides nearly 60% of UC's federal funding, and any changes in NIH appropriations or funding practices will inevitably have a significant impact on UC. NIH funding during FY 2012-13 has been affected by federal budget issues and the sequester, but also by procedural changes in agency's Conflict of Interest requirements. Implementing these new requirements lengthened the processing cycle for NIH awards on several campuses, and as a consequence, many awards received during Q113 were not reported until Q213, when the funds were actually released by NIH. This reporting delay increased the federal funding total for Q213, accounting for essentially all of the \$65 million positive differences in federal awards between Q213 and Q212.

NIH reporting issues aside, it has been clear for some time that many federal agencies, operating under budgetary constraints and anticipating the sequester, have reduced their levels of funding. The overall decline of 14% spans nearly all the major federal agencies.

Federal Agency Funding, FYTD Comparison



Q1 – Q3 Federal Agency Funding, FY 2012 and 2013

AGENCY	Q1 – Q3 2012	Q1 – Q3 2013	\$\$ DIFFERENCE	% CHANGE
NIH	1,303,578,116	1,110,854,491	-192,723,625	-14.8%
Other HHS	100,289,619	104,431,402	4,141,783	4.1%
NSF	354,509,593	279,936,882	-74,572,711	-21.0%
Defense	121,243,930	111,021,490	-10,222,440	-8.4%
Energy	107,125,883	62,007,510	-45,118,373	-42.1%
Education	37,501,492	34,306,270	-3,195,222	-8.5%
Commerce (incl. NOAA)	26,890,243	22,234,419	-4,655,824	-17.3%
Agriculture	63,171,150	29,113,494	-34,057,656	-53.9%
NASA	25,177,963	37,128,490	11,950,527	47.5%
Interior	14,845,019	11,968,478	-2,876,541	-19.4%
Other Federal Agencies	191,302,022	214,905,524	23,603,502	12.3%
TOTAL	2,345,635,030	2,017,908,450	-327,726,580	-14.0%

IV. Award Trends by Project Type

Research awards during Q313 amounted to \$911 million, including \$106 million in clinical trial sponsorship. Training, service and other awards came to about \$134 million. Most of the increase in research funding compared to last year is due to larger award amounts for clinical trials, the majority of which are sponsored by industry rather than the federal government.

Q3 Award Amounts by Project Type, FY 2006-2013 (\$ millions)

PROJECT TYPE	Q306	Q307	Q308	Q309	Q310	Q311	Q312	Q313
Research	610	683	787	700	863	748	787	805
Clinical Trials	30	40	40	37	49	32	59	106
Training	46	27	55	34	50	61	47	36
Service	81	39	59	85	58	69	46	46
Other	40	37	56	59	81	39	43	52
TOTAL	808	826	997	915	1,099	949	982	1,045

V. Major Awards Over \$5M

During Q313, UC received 13 awards for amounts of \$5M or more, totaling over \$177M. Of these, four awards were from the California Institute for Regenerative Medicine (CIRM), amounting to \$67M, and two awards were from the Microelectronics Advanced Research Corporation (MARCO), an industry research consortium, amounting to \$32M. Major awards of this magnitude may be intended to support ongoing programs, centers, or affiliation agreements rather than specific research projects, and may involve funding that extends over several fiscal years.

LOCATION	SPONSOR CATEGORY	SPONSOR	PROJECT TITLE	AMOUNT
Berkeley	Interest Group	Microelectronics Advanced Research Corporation (MARCO)	The Terraswarm Research Center	27,573,125
Davis	State	California Department of Social Services	UC Calfresh Nutrition Education Program (UC Calfresh NEP)	24,551,075
Davis	State	California Institute for Regenerative Medicine (CIRM)	Treatment of Osteoporosis With Endogenous Mesenchymal Stem Cells	19,999,867
Davis	State	California Institute for Regenerative Medicine (CIRM)	BDNF-Secreting MSC for Huntington's Disease	17,857,797
Irvine	State	California Institute for Regenerative Medicine (CIRM)	Retinal Progenitor Cells for Treatment of Retinitis Pigmentosa	17,144,825
San Diego	Corporate	Southern California Edison Company	Collaborative Geophysical Survey Offshore Southern California	12,343,635

Davis	State	California Institute for Regenerative Medicine (CIRM)	Phase I Study of Intra-muscular Injection of VEGF Producing MSC for the Treatment of Critical Limb Ischemia (CLI)	12,113,602
San Diego	Federal	National Institute on Aging	Alzheimer's Disease Cooperative Study	11,288,568
San Francisco	Charity	American Association for Cancer Research	Targeting Adaptive Pathways in Resistant CRPC	10,000,000
San Francisco	Federal	National Inst of Allergy and Infectious Diseases	UZ-UCSF Clinical Trials Unit	6,601,879
Santa Cruz	Campuses/Op	University Affiliated Research Center (UARC)	TO.100: ATM Software Development And Testing	6,443,345
Los Angeles	Interest Group	Microelectronics Advanced Research Corporation (MARCO)	Function Accelerated Nanomaterial Engineering (FAME)	5,808,854
Berkeley	Federal	Smithsonian Institution	Support of the Solar Wind Electrons Alphas and Protons (SWEAP) Investigation for Solar Probe Plus Phase B	5,455,417

VI. Award Trends by Recipient Location

Award totals for the first three quarters of FY 2012-13 were about 3.5% under last year. This drop was unevenly divided, with UCLA, UCSB and UCR showing the largest percentage declines. The FYTD increase at UCSF is, as noted above, a reporting artifact that shifted at least \$50M in award funds from Q412 (not represented here) into FY 2103

Q1 – Q3 Awards by Location

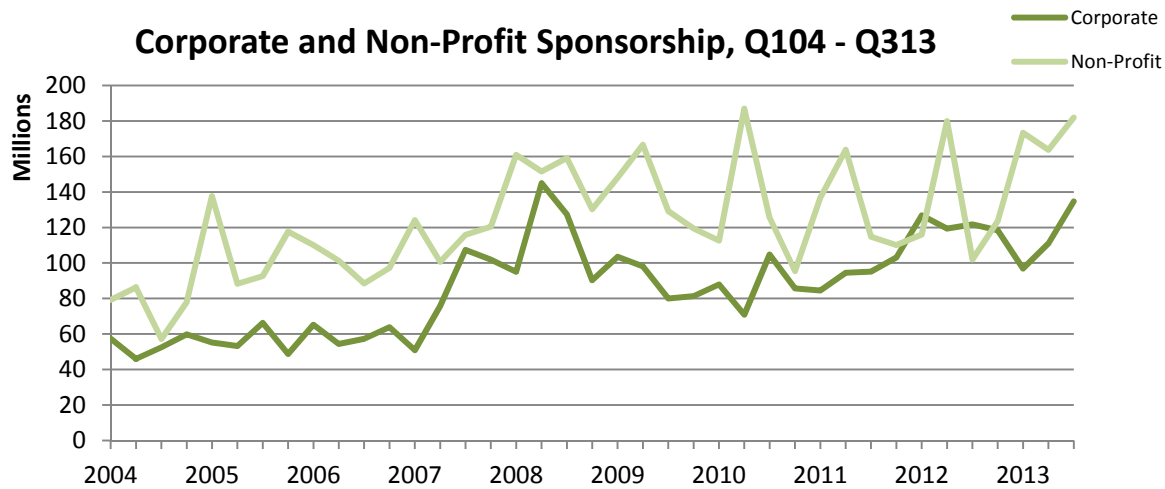
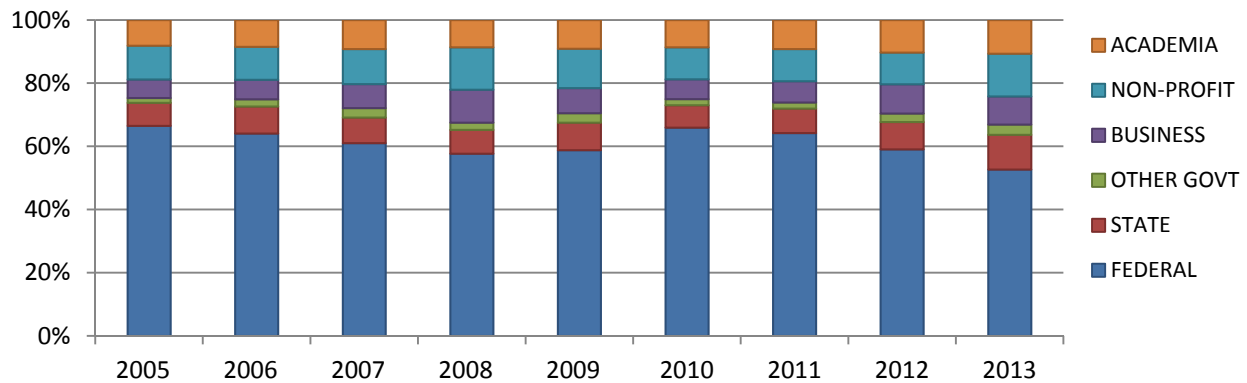
<i>UC LOCATION</i>	<i>FYTD 2012</i>	<i>FYTD 2013</i>	<i>Change</i>
<i>BERKELEY</i>	575,588,524	584,437,070	<i>1.54%</i>
<i>SAN FRANCISCO</i>	721,768,990	817,563,724	<i>13.27%</i>
<i>DAVIS</i>	573,462,646	570,158,592	<i>-0.58%</i>
<i>LOS ANGELES</i>	690,849,130	559,503,408	<i>-19.01%</i>
<i>RIVERSIDE</i>	83,437,144	69,346,086	<i>-16.89%</i>
<i>SAN DIEGO</i>	689,070,291	646,608,849	<i>-6.16%</i>
<i>SANTA CRUZ</i>	107,335,724	100,620,666	<i>-6.26%</i>
<i>SANTA BARBARA</i>	169,731,212	130,875,390	<i>-22.89%</i>
<i>IRVINE</i>	212,117,385	209,136,302	<i>-1.41%</i>
<i>MERCED</i>	12,647,562	14,237,056	<i>12.57%</i>
<i>UCOP</i>	29,113,226	27,634,514	<i>-5.08%</i>
<i>LBNL</i>	97,059,528	87,534,769	<i>-9.81%</i>
<i>AG & NAT RES</i>	8,607,635	14,601,122	<i>69.63%</i>
TOTAL	3,970,788,997	3,832,257,548	-3.49%

VII. Private Funding Increases

With direct federal awards significantly below last year's total to date, private sources of extramural funding are once again increasing in relative. During the first three quarters of FY 2012-13, funding from industry and the non-profit sector provided about \$861M, or nearly \$100M more than last year. That increase, combined with the sharp decline in agency funding experienced for Q113, has pushed the federal contribution to a record low of 52.7% for the year's first three fiscal quarters.

Q1- Q3 Extramural Funding Sources, % of Total

	2005	2006	2007	2008	2009	2010	2011	2012	2013
FEDERAL	66.5%	64.1%	61.0%	57.7%	58.8%	65.9%	64.2%	59.1%	52.7%
STATE	7.3%	8.5%	8.1%	7.6%	8.7%	7.1%	7.8%	8.6%	11.0%
OTHER GOV'T	1.5%	2.3%	3.0%	2.3%	3.0%	1.9%	1.9%	2.7%	3.2%
BUSINESS	5.9%	6.2%	7.6%	10.5%	7.9%	6.3%	6.7%	9.3%	8.9%
NON-PROFIT	10.7%	10.4%	11.1%	13.4%	12.5%	10.1%	10.2%	10.0%	13.5%
ACADEMIA	8.1%	8.5%	9.2%	8.6%	9.1%	8.6%	9.2%	10.3%	10.6%

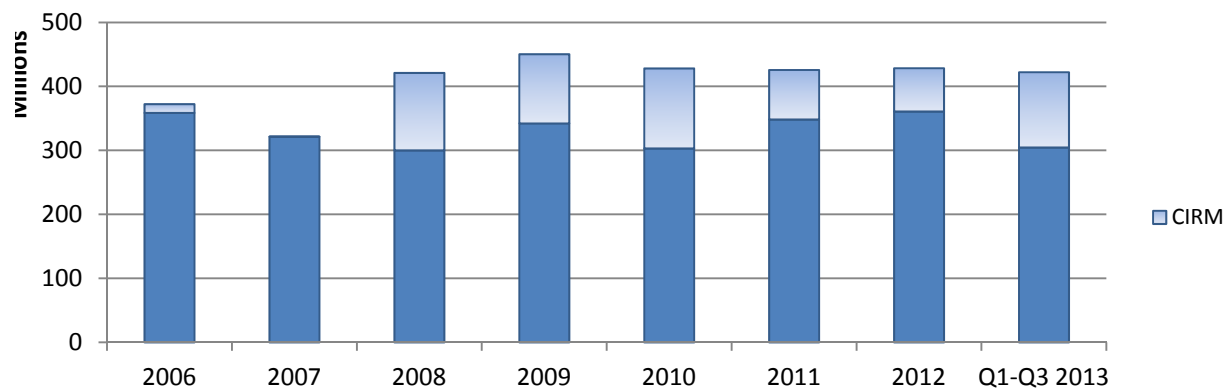


In comparing the Q313 totals for corporate and non-profit sponsorship, it's important to note that about \$32M of the non-profit total was contributed by the Microelectronics Advanced Research Corporation (MARCO), an industry organization affiliated with the Semiconductor Industry Association, which is a non-profit organization. The Contracts & Grants system categorizes such organizations as interest groups, to differentiate them from foundations and charities, but they are still technically non-profit entities.

VIII. CIRM's Contribution to State Funding

The California Institute for Regenerative Medicine (CIRM) continues to provide substantial research and infrastructure funding to UC, and represents a substantial proportion of all state awards. During Q313, CIRM awarded UC \$10-4M, a record for a single quarter, bringing the lifetime total to nearly \$630 million. The FY 2013 CIRM award amount is about \$50 million above the FY 2012 full-year total, while funding from other state agencies matches last year's pace.

CIRM's Contribution to UC's State Funding



CIRM and Other State Agency Funding

Sponsor	2006	2007	2008	2009	2010	2011	2012	2013
State Agencies	359	321	300	342	303	348	361	305
CIRM	14	0	121	108	125	77	68	118
State Total	373	321	421	450	428	425	429	423
CIRM %	3.70%	<0.01%	28.74%	24.02%	29.21%	18.18%	15.78%	27.86%

In addition to the research and training awards reported here, CIRM has provided nearly \$200M in infrastructure grants to UC, which are not reported through Sponsored Projects Offices. CIRM awards have, since FY 2008, contributed a significant percentage of UC's state award total. But CIRM's funding was intended to last only ten years, so UC cannot count on CIRM to supplement other state sources and compensate for declining federal funding beyond FY 2015.

IX. Implications for the Research Enterprise

Recent estimates of the sequester's effect on federal academic R&D suggest an overall reduction in the range of 6-7%. Last year, federal funding to UC amounted to \$3.25 billion, suggesting a decline in federal support for FY 2013 of about \$200-210M. It is likely that UC's Q4 data (federal Q3) will show some improvement in the federal funding picture, because the annual federal funding cycle has become increasingly backloaded over the past several years. But with agencies issuing smaller awards than in the past, and releasing funds more slowly, the full-year decline may still exceed 6-7%.

What is certain, though, is that as the overall economy improves, a combination of state and private funding is making up part of the drop in federal support. Even so, the decrease in UC's award funding will be substantial, resulting in lessened research activity, reduced professional research staffing levels, and a decline in support for graduate and post-doctoral training.

The shift in award funding has further implications for UC's research. The state and private sources that are, for the moment, taking up some of the funding slack are not as reliable as the proposal-driven, federal award system. CIRM funding will last only two more years; industry and non-profit funding is highly opportunistic. The uncertainty of these sources makes it more difficult for UC to maintain continuity in its research programs and a stable research enterprise.

Moreover, the character of UC's research and the composition of its research workforce are likely to change. State and private sources sponsor different types of research from federal agencies, and may target a different pool of departments and investigators. Many members of the UC research community who depend on extramural research awards, including graduate students, post-doctoral fellows and professional research staff, may not be able to follow the funding. Continued shifts in funding sources are therefore likely to result in some structural dislocation for UC's research community.

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July, 2013*