

# Contracts & Grants FY 2013-14 Award Report

## Focus on Federal Funding

### Summary

Award funding during Q4 of 2013-14 reached a record fourth-quarter total of almost \$1.7 billion, pushing the yearly total to over \$5.7 billion, also a record amount. These high totals are a welcome change from last year's grim award figures, and represent an increase for the year of about 8% over 2012-13.

One likely reason for the record high Q4 award amount is that the US Congress finally passed a budget in January 2014, and this appears to have increased the flow of federal funds. During Q4, UC received about \$1 billion in federal awards, which is about \$125 million more in constant dollars than last year, when budget constraints were at their peak, and almost \$60 million more than two years ago, just before the federal budget crisis. In addition, funding from state, non-profit and higher education sources also surpassed the Q4 levels of previous years, contributing significantly to the quarterly and yearly record totals.

However, given the current status of the federal budget, and UC's continued dependence on federal agency funding, the long-term prospects for the academic research enterprise at UC and nationwide remain uncertain. Federal funding is key; when the effects of inflation are taken into account, the high award totals this year signify only that UC's federal funding is regaining lost ground. Overall, award funding has finally recovered to about where it was in the pre-recessionary period of 2008-09. And, given inflation, the current yearly award total of \$5.7 billion is still well below the amounts received during 2009-10 and 2010-11, when stimulus funds were available through the American Recovery and Reinvestment Act.

While state and private sources of funding are increasing in importance, federal sources still contribute at least two-thirds of UC's award funding. Two agencies—the National Institutes of Health and the National Science Foundation—are critical to the research enterprise. This Quarterly Award Report will take an in-depth look at agency funding patterns and their impact on the University's research enterprise.

## I. Research Award Data Visualization

Research sponsorship generally makes up about 75-80% of the extramural support UC receives each year. The data visualization on the following page provides an interactive view of the research component of UC's extramural funding since FY 2002-03. (Note that all dollar amounts in this visualization and throughout this report are adjusted for inflation.) The visualization automatically opens when the page following this one is visible, and closes when the page is no longer on-screen. Right-clicking on the dashboard allows several other viewing options, including full-screen and floating window. (The visualization is in Flash, which may be an issue on some tablet systems.)

### University of California Research Awards by Sponsor Category

By Campus

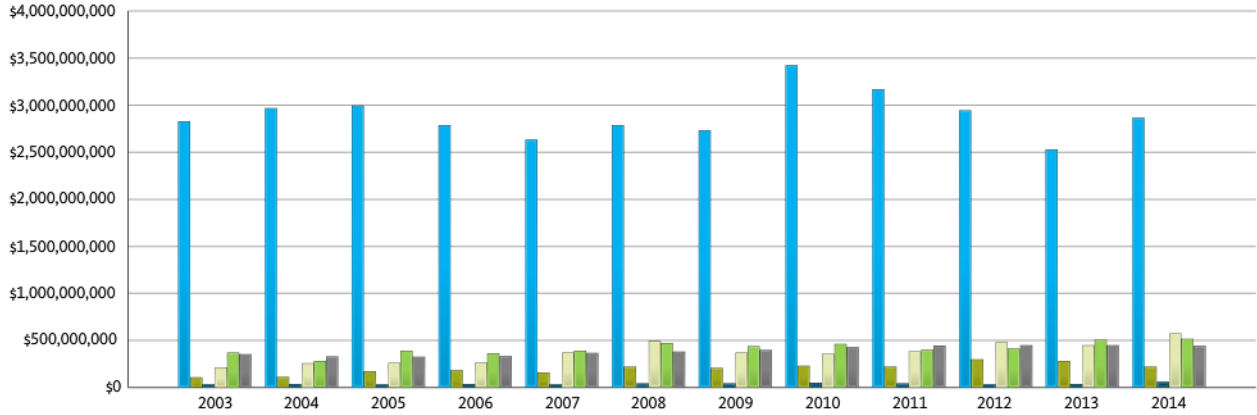
Universitywide

[View Description](#)  
[Print](#)

By Year

Select/Deselect Sponsors:

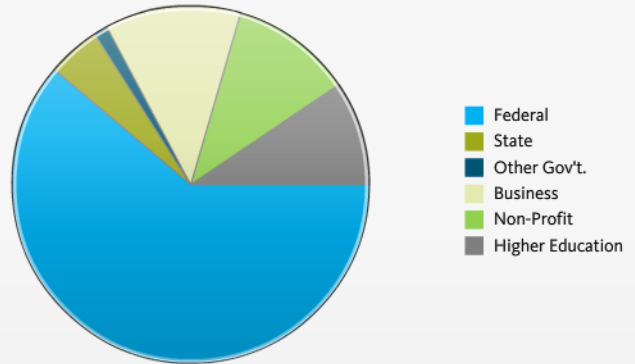
Federal  State  Other Gov't.  Business  Non-Profit  Higher Education



Move slider to select, click arrow to animate:



Universitywide - 2014



Universitywide Total: \$4,684,192,794

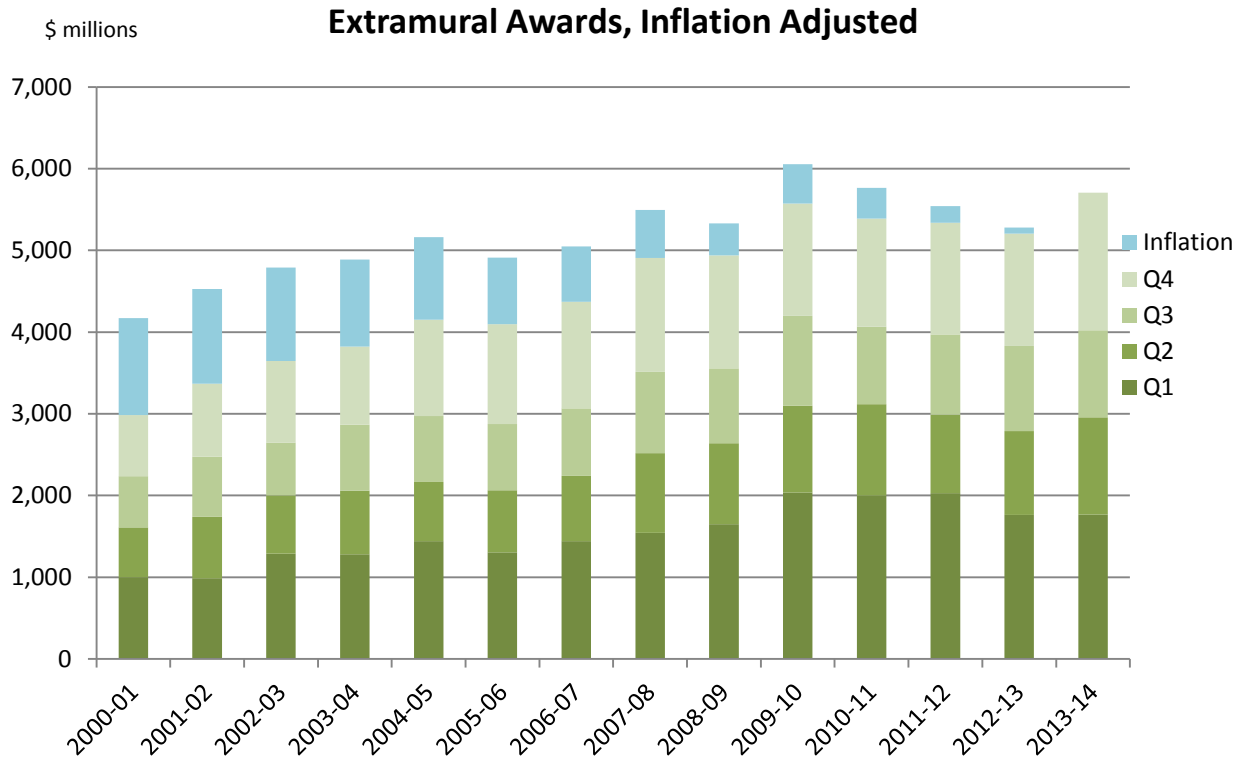
View Chart  View Data



Data source: UC Corporate Financial System, updated 09/2014.

## II. Quarterly Performance Metrics

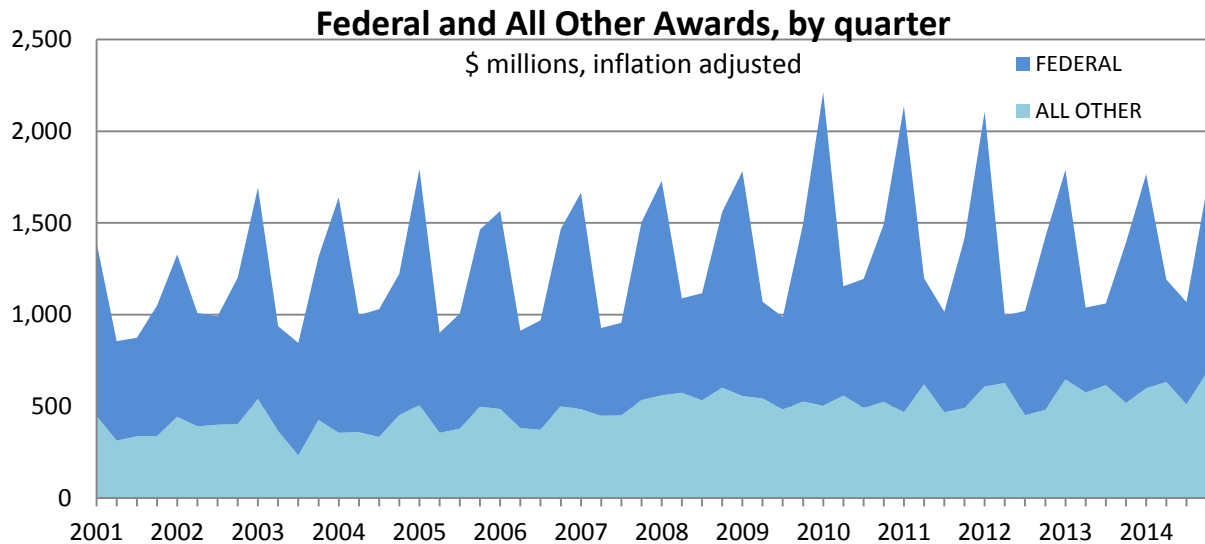
Extramural awards for Q414 totaled about \$1.68 billion, almost \$300 million more in constant dollars than the amounts reported during Q412 and Q413. Part of this dramatic increase is the result of higher levels of federal funding, resulting from the passage of a federal budget bill in January 2014. For the fiscal year as a whole, total funding is \$5.7 billion, a record amount in absolute dollar terms, but not when inflation is taken into account.



**Extramural Awards, Inflation Adjusted (\$ millions)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Q1	1,396	1,328	1,693	1,639	1,794	1,565	1,665	1,729	1,782	2,212	2,137	2,107	1,789	1,766
Q2	855	1,009	936	997	901	912	927	1,089	1,069	1,154	1,198	995	1,038	1,191
Q3	874	991	845	1,029	1,006	969	955	1,116	987	1,194	1,015	1,020	1,060	1,068
Q4	1,049	1,202	1,315	1,222	1,464	1,467	1,504	1,561	1,493	1,493	1,416	1,421	1,393	1,683
<b>FY</b>	<b>4,173</b>	<b>4,529</b>	<b>4,789</b>	<b>4,888</b>	<b>5,164</b>	<b>4,912</b>	<b>5,050</b>	<b>5,495</b>	<b>5,331</b>	<b>6,054</b>	<b>5,765</b>	<b>5,542</b>	<b>5,280</b>	<b>5,708</b>

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 releases 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.



### III. Award Trends by Sponsor Category

Even though awards from state and private sources during Q414 were significantly higher than during the previous year, federal awards remained by far the largest contributor to the award total. Direct federal funding to UC during Q414 was about \$1 billion, a record for the quarter, but as the table below shows, this amount is only \$30-40 million more than the inflation adjusted Q4 federal funding totals from 2005 forward.

(\$ millions)									
Q4 2005	Q4 2006	Q4 2007	Q4 2008	Q4 2009	Q4 2010	Q4 2011	Q4 2012	Q4 2013	Q4 2014
965	965	970	960	967	970	925	941	875	1,000

Direct federal award funding for all of FY 2014 amounted to \$3.285 billion. The peak in federal funding during 2010 and 2011 was due principally to Recovery Act (ARRA) awards. For FY 2014, federal funding in constant dollars dropped to about pre-Recovery Act levels.

### Awards by Sponsor Category, FY 2005-06 to 2013-14

(\$ millions, inflation adjusted)

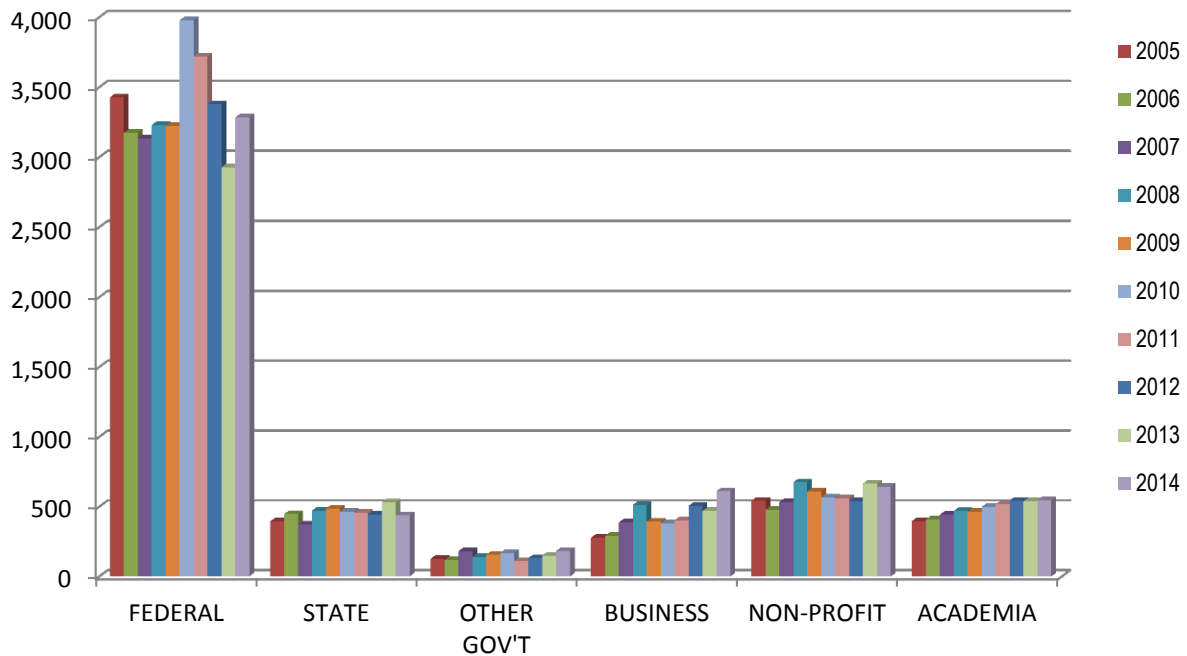
SPONSOR	2006	2007	2008	2009	2010	2011	2012	2013	2014
<i>Federal</i>	3,173	3,135	3,229	3,224	3,977	3,719	3,378	2,927	3,285
<i>State</i>	447	372	472	486	465	455	445	531	439
<i>Other Gov't*</i>	118	181	141	156	169	110	131	149	183
<i>Business</i>	290	388	512	392	380	403	506	470	612
<i>Non-Profit</i>	477	533	674	608	565	561	541	666	644
<i>Academia**</i>	408	442	468	464	498	516	543	538	546
<b>TOTAL</b>	<b>4,912</b>	<b>5,050</b>	<b>5,495</b>	<b>5,331</b>	<b>6,054</b>	<b>5,765</b>	<b>5,542</b>	<b>5,280</b>	<b>5,708</b>

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

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

### Awards by Sponsor Category, FY 2004-05 to 2013-14

\$ millions, inflation adjusted



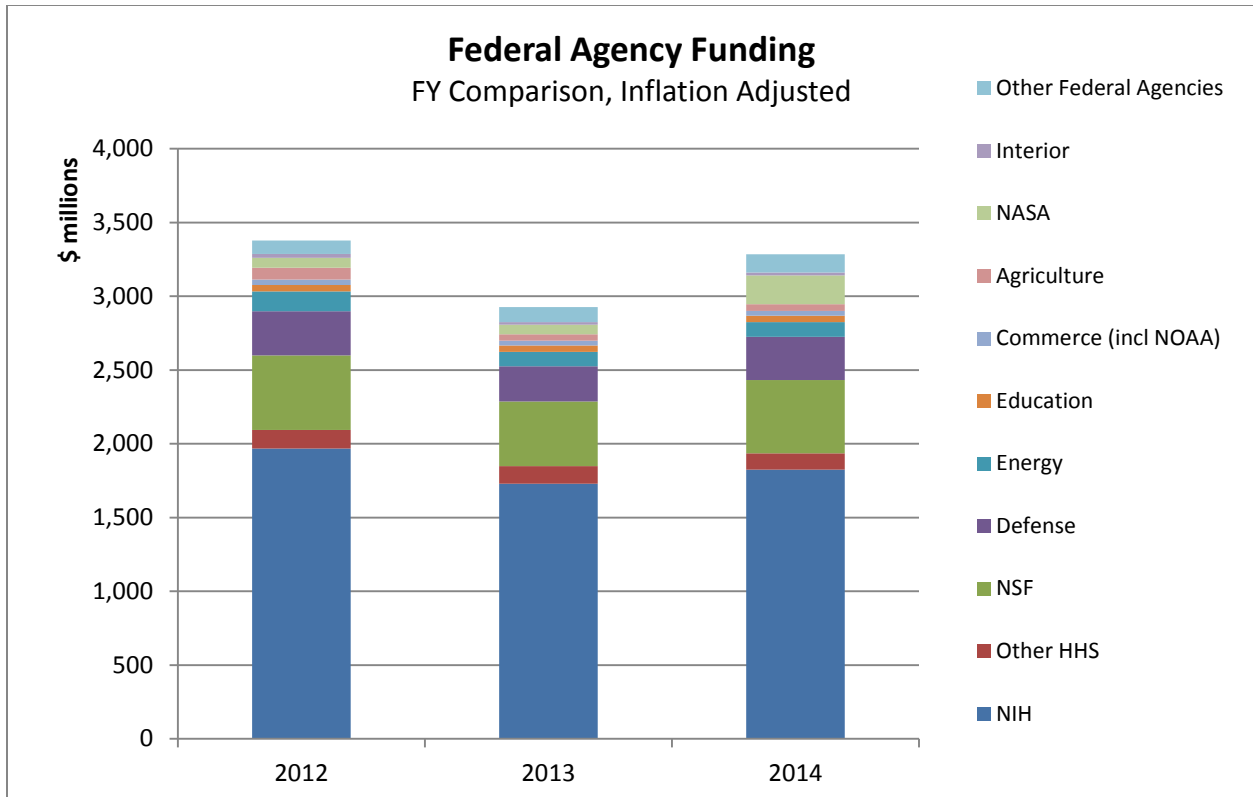
#### IV. Federal Agency Funding Trends

The yearly federal award total for 2013-14 is \$3.285 billion. While this amount is well above last year's amount, it remains below the federal total for 2011-12, below the Recovery Act year of 2010-11, and just about on a par with the pre-recessionary federal yearly totals of 2008-09 and 2009-10. In short, only the Recovery Act has kept federal funding for UC from being absolutely flat for the past half-dozen years, once inflation is taken into account. An examination of federal funding by agency helps to pinpoint the major areas of change.

#### Federal Agency Funding, FY 2011-12 to 2013-14

Inflation Adjusted

AGENCY	2012	2013	2014	\$\$ DIFFERENCE	% CHANGE
NIH	1,967,077,143	1,730,275,087	1,824,273,199	93,998,112	4.8%
Other HHS	126,287,187	117,333,058	110,844,556	-6,488,502	-5.1%
NSF	505,836,124	439,353,221	497,004,369	57,651,148	11.4%
Defense	299,279,061	238,213,889	292,216,613	54,002,724	18.0%
Energy	134,592,808	98,321,114	101,103,255	2,782,141	2.1%
Education	44,338,080	42,927,944	43,387,082	459,138	1.0%
Commerce (incl. NOAA)	36,556,143	31,929,607	31,949,029	19,422	0.1%
Agriculture	79,407,137	43,219,051	46,032,606	2,813,555	3.5%
NASA	68,463,807	65,085,579	195,449,711	130,364,132	190.4%
Interior	24,289,750	19,091,760	19,371,352	279,592	1.2%
Other Federal Agencies	91,496,383	100,890,796	122,973,193	22,082,397	24.1%
<b>TOTAL</b>	<b>3,377,623,623</b>	<b>2,926,641,106</b>	<b>3,284,604,965</b>	<b>357,963,859</b>	<b>10.6%</b>



The most significant percentage increase in funding for any federal agency is an increase of 190% in awards from NASA. This is attributable to a single award of \$132 million from the NASA Goddard Space Center to UC Berkeley as prime contractor in a multi-site ionospheric research project.

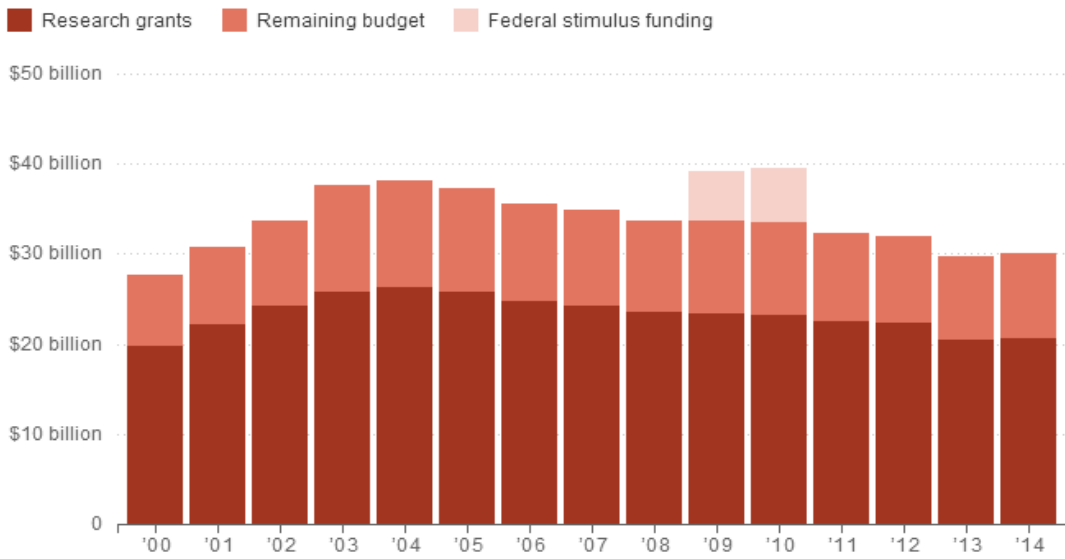
## V. NIH and NSF Funding Analysis

Two federal agencies—the National Institutes of Health and the National Science Foundation—constitute the core of UC’s federal funding. NIH generally provides nearly 60% of UC’s direct federal funding (with additional amounts received as subawards), and any changes in NIH appropriations or funding practices have a significant impact on UC. The National Science Foundation is UC’s second-largest source of extramural funds, supplying about 15% of the federal total, and policy changes at that agency also have a profound effect.

All federal R&D appropriations were dramatically affected by the recession and also by the Sequester of 2012-13, which slowed the flow of award funding to UC and other research universities. But the issue of federal funding, particularly for academic research and development, long predates the recession, and is directly connected to federal budget policies, which have kept agency R&D budgets essentially flat for over a decade.

A recently released National Public Radio program series on federal funding for US science included an [online article](#) documenting the 20% decline in the NIH budget since 2004 (not counting the two-year supplement from stimulus funds). The graphic, taken from the NPR website, is based on NPR’s analysis of NIH data. The appropriations situation at NSF is similar.

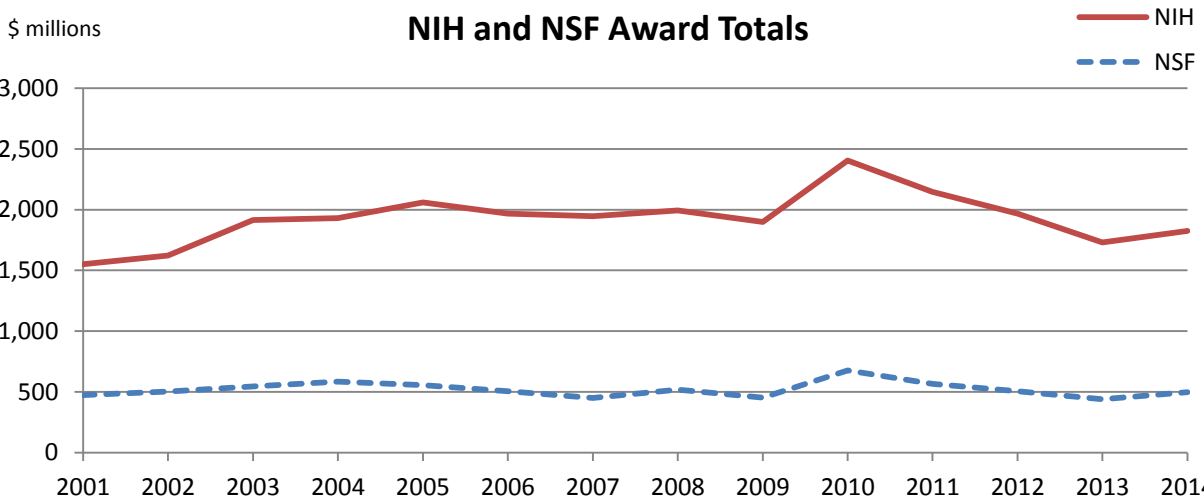
**NIH Budget By Fiscal Year, In 2014 Dollars**



Notes: Figures for 2014 are preliminary. Figures for 2000-2013 have been adjusted for inflation using the [Biomedical Research and Development Price Index](#). Federal stimulus funds in 2009-2010 came from the American Recovery and Reinvestment Act of 2009.

Source: NPR analysis of NIH data; NIH (PDF: [2000-2013](#), [2014](#)); [recovery.nih.gov](#)  
 Credit: Robert Benincasa, Richard Harris and Alyson Hurt/NPR

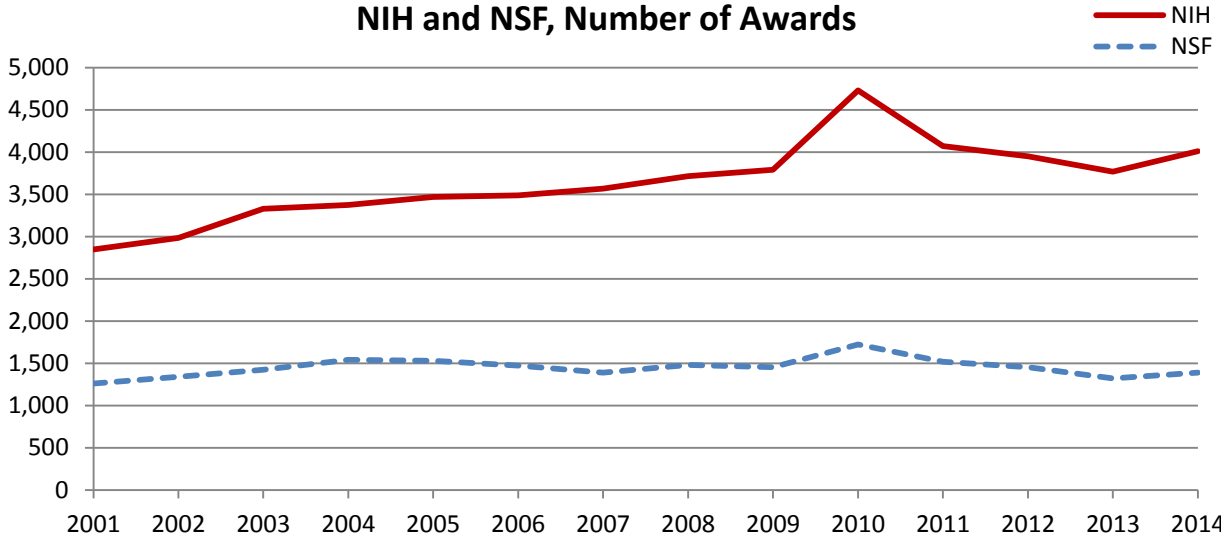
Not surprisingly, UC’s award funding from NIH and NSF closely parallels the trend in NIH research grants, including the two-year spike due to stimulus funds, and dropping about 20% from the ‘04 –’05 peak. (Note that UC’s fiscal years begin one quarter earlier than federal fiscal years, and this accounts for the offset in the stimulus funding spike.)



	(\$ millions)													
FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
NIH	1,551	1,622	1,914	1,932	2,060	1,967	1,946	1,993	1,899	2,406	2,146	1,967	1,730	1,824
NSF	473	503	546	583	555	506	449	517	452	676	566	506	439	497

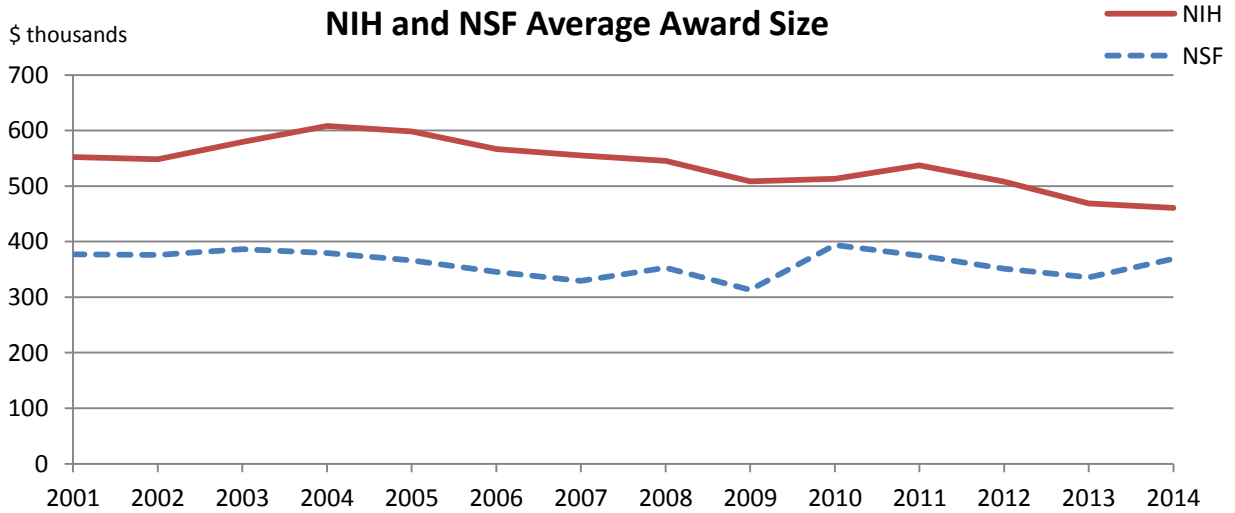
The award totals from NIH and NSF do not tell the entire story of UC’s federal funding. At the same time as the award total has been shrinking, the number of awards received by UC has increased—though more so at NIH than NSF. This means that the average award size has been growing smaller, particularly at NIH, and this is consistent with the agency’s recent policy of granting awards with shorter terms and smaller budgets.

**NIH and NSF, Number of Awards**



FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>NIH</b>	2,848	2,984	3,329	3,375	3,468	3,489	3,568	3,714	3,789	4,730	4,070	3,949	3,768	4,010
<b>NSF</b>	1,262	1,341	1,425	1,543	1,529	1,475	1,391	1,479	1,453	1,722	1,520	1,454	1,321	1,389

**NIH and NSF Average Award Size**



FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>NIH</b>	552	548	579	608	598	567	555	545	509	513	537	508	469	461
<b>NSF</b>	377	376	386	380	366	346	329	353	313	394	375	351	336	369

*Award counts and totals include both regular and Recovery Act awards of \$5K and above. Continuations and renewals may be counted as separate awards even if they are reported in the same fiscal year. All project types are included, not limited to research.*



As a result, UC investigators must submit proposals more frequently if they are to sustain funding for their projects and laboratories. Proposals from campuses show a dramatic increase in submissions to NIH over the past four years (the post-Recovery Act period), and a smaller increase in NSF proposals, which in turn means a larger investment of personnel resources for a financial return that is declining or at best, flat.

	<i>NIH Proposals</i>				<i>NSF Proposals</i>			
<i>Fiscal Year</i>	FY 2011	FY 2012	FY 2013	FY 2014	FY 2011	FY 2012	FY 2013	FY 2014
<i>Number of Proposals</i>	4,888	5,201	5,784	6,234	2,696	2,845	3,041	3,089

These proposal and award numbers suggest that it is becoming increasingly difficult and costly to secure research funds from NIH and NSF, and likely other federal agencies as well. Yet, there is no indication so far that UC has become any less competitive in securing federal funds, compared to other research institutions. Agency policies regarding issuance of smaller and fewer awards are being applied across the board, contributing to the drop in federal funding. UC's share may be remaining the same, but it is the pie that is shrinking.

## V. Award Trends by Project Type

Research awards during Q414 amounted to \$1.39 billion, including \$78 million in clinical trial sponsorship. Training, service and other awards came to about \$298 million. For the year, research awards came to nearly \$4.7 billion, including \$291 million in clinical trial awards.

### Q4 Award Amounts by Project Type, (\$ millions)

<i>PROJECT TYPE</i>	<i>Q407</i>	<i>Q408</i>	<i>Q409</i>	<i>Q410</i>	<i>Q411</i>	<i>Q412</i>	<i>Q413</i>	<i>Q414</i>
<i>Research</i>	1,189	1,196	1,137	1,163	1,097	1,131	1,100	1,307
<i>Clinical Trials</i>	47	48	39	53	60	67	65	78
<i>Training</i>	76	95	111	97	98	111	73	89
<i>Service</i>	137	118	108	116	86	68	92	121
<i>Other</i>	56	104	98	64	75	44	62	88
<b>TOTAL</b>	<b>1,504</b>	<b>1,561</b>	<b>1,493</b>	<b>1,493</b>	<b>1,416</b>	<b>1,421</b>	<b>1,393</b>	<b>1,683</b>

### Fiscal Year Award Amounts by Project Type, (\$ millions)

<i>PROJECT TYPE</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
<i>Research</i>	3,788	4,180	4,036	4,760	4,488	4,393	3,948	4,393
<i>Clinical Trials</i>	170	222	163	203	184	235	314	291
<i>Training</i>	306	370	342	361	363	329	282	292
<i>Service</i>	470	345	422	360	360	312	391	412
<i>Other</i>	317	378	367	370	370	273	345	319
<b>TOTAL</b>	<b>5,050</b>	<b>5,495</b>	<b>5,331</b>	<b>6,054</b>	<b>5,765</b>	<b>5,542</b>	<b>5,280</b>	<b>5,708</b>

## VI. Significant Awards

During FY 2013-14, UC received about 25,400 contracts and grants from over 3,600 different sponsors (in addition to several thousand Material Transfer Agreements). Listed below are the largest or most significant awards reported this quarter by campuses, Agriculture & Natural Resources, Lawrence Berkeley National Lab and the Office of the President.

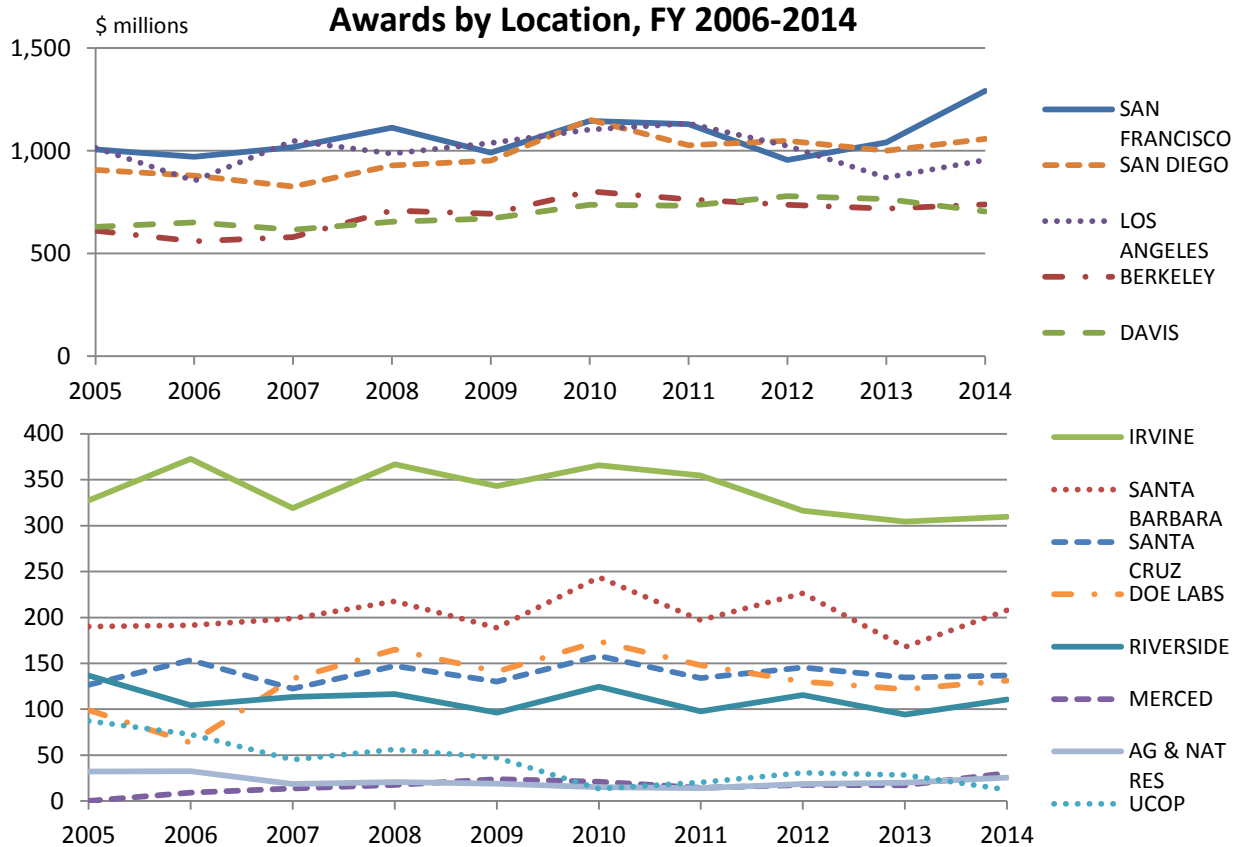
LOCATION	SPONSOR CATEGORY	SPONSOR	PROJECT TITLE
Agriculture & Natural Resources	Federal	US Geological Survey	Identification of Seasonal and Decadal Drought Through Monitoring and Modeling
Berkeley	Federal	NASA Goddard Space Flight Center	The Ionospheric Connection Explorer (ICON)
Davis	State	California Department of Food and Agriculture	South Valley Animal Health Laboratory, Tulare
Irvine	Federal	Department of Education, Assistant Secretary for Educational Research & Improvement	The Pathway to Academic Success: A Cognitive Strategies Approach to Text-Based Analytical Writing to Improve Academic Outcomes
Lawrence Berkeley National Lab	Federal	US Army Medical Research and Materiel Command.	Understanding and Modeling Aggressive ER+ Luminal Adenocarcinoma
Los Angeles	Federal.	National Institutes of Mental Health National Center for Advancing Translational Science	UCLA Clinical and Translational Science Institute
Merced	Federal	National Science Foundation	Southern Sierra Critical Zone Observatory
Office of the President	Non-Profit	Gordon and Betty Moore Foundation	Construction of the 30-Meter Telescope at Mauna Kea
Riverside	Non-Profit	First 5 Riverside	Comprehensive Approach to Raising Educational Standards—CARES Plus Program
San Diego	Business	Eli Lilly	Anti-Amyloid Treatment in Asymptomatic Alzheimer's Disease
San Francisco	Business	Daiichi Sankyo Company	Therapeutics and Molecular Diagnostics for Neurodegenerative Diseases
Santa Barbara	Federal	National Science Foundation	Center of Excellence for Materials Research and Innovation at UCSB
Santa Cruz	State	California Institute for Regenerative Medicine	Center of Excellence for Stem Cell Genomics

### VII. Award Trends by Recipient Location

Award totals for FY 2013-14 were about 8% above last year. This increase was unevenly divided, with Merced, ANR, UCSF and UCSB showing the largest percentage increases.

**FY Awards by Location**

UC LOCATION	FY 2012	FY 2013	FY 2014	Change
BERKELEY	736,252,905	718,528,436	737,492,808	2.6%
SAN FRANCISCO	954,425,756	1,040,029,273	1,290,334,598	24.1%
DAVIS	778,751,181	764,424,498	704,342,286	-7.9%
LOS ANGELES	1,023,543,820	869,666,099	954,331,053	9.7%
RIVERSIDE	115,659,543	94,113,509	110,579,790	17.5%
SAN DIEGO	1,048,532,368	999,113,495	1,057,066,247	5.8%
SANTA CRUZ	145,645,158	134,539,513	136,742,321	1.6%
SANTA BARBARA	226,213,628	167,922,979	207,820,520	23.8%
IRVINE	316,307,103	304,336,382	309,763,250	1.8%
MERCED	17,510,322	17,194,931	30,450,848	77.1%
UCOP	30,705,983	28,454,245	12,217,570	-57.1%
LBNL	130,216,884	121,754,378	131,070,635	7.7%
AG & NAT RES	18,558,922	20,056,379	25,607,370	27.7%
<b>TOTAL</b>	<b>5,542,323,573</b>	<b>5,280,134,117</b>	<b>5,707,819,296</b>	<b>8.1%</b>

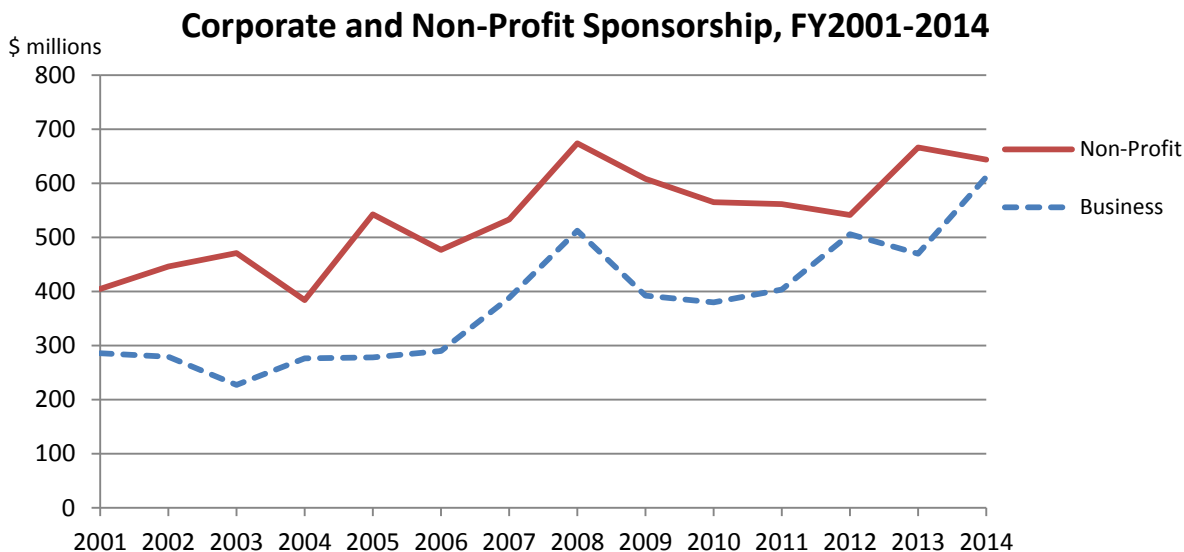


## VIII. Private Funding Increases

In contrast to federal agency funding, which has remained essentially flat for the last decade, private sources of funding have been steadily increasing in both dollar amount and relative importance. In 2013-14, industry and the non-profit sector provided about \$1.25 billion, about \$120 million more than the prior year and about \$200 million more than in FY 2011-12. That increase, together with relatively flat federal funding, has pushed the annual direct federal contribution to below 60%. However, an additional \$520 million in federal funds, or another 9%, came to UC indirectly during FY 2013-14 as sub-awards (flow-through funds) from non-federal contractors. The dependence on federal funds, though less than it has been in the past, remains extremely high.

### FY Extramural Funding Sources, % of Total

	2006	2007	2008	2009	2010	2011	2012	2013	2014
FEDERAL	64.6%	62.1%	58.7%	60.5%	65.7%	64.5%	60.9%	55.3%	57.5%
STATE	9.1%	7.4%	8.6%	9.1%	7.7%	7.9%	8.0%	10.1%	7.7%
OTHER GOV'T	2.4%	3.6%	2.6%	2.9%	2.8%	1.9%	2.4%	2.8%	3.2%
BUSINESS	5.9%	7.7%	9.3%	7.4%	6.3%	7.0%	9.1%	8.9%	10.7%
NON-PROFIT	9.7%	10.6%	12.3%	11.4%	9.3%	9.7%	9.8%	12.6%	11.3%
ACADEMIA	8.3%	8.8%	8.5%	8.7%	8.2%	9.0%	9.9%	10.3%	9.6%

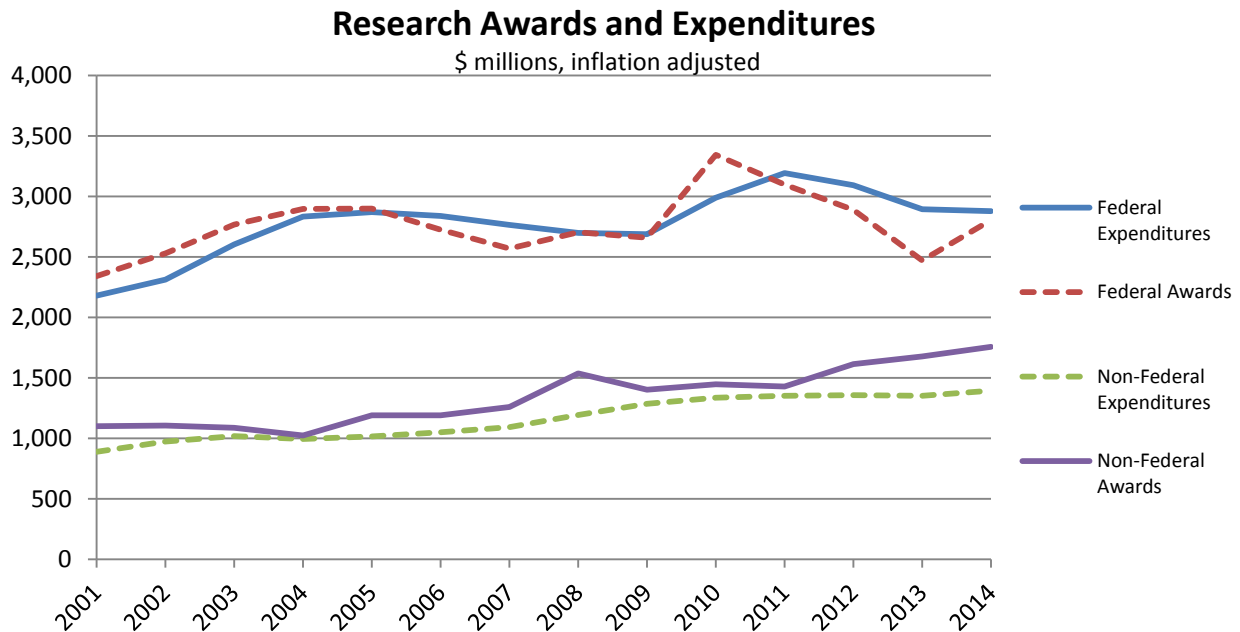


## IX. Implications for the Research Community

Even though the federal budget bill that passed through Congress earlier this year restored some of the R&D funds for NIH and other agencies, appropriations are still well below where they were prior to the Budget Control Act and the Sequester. For at least the next two years, agency funding is frozen at current levels. For NIH, which is UC's main source of research funding, the current appropriation level, after adjusting for inflation, is the lowest it has been in over a decade.

As long as federal agency funding remains flat or in decline, and the subject of deep political controversy, UC's extramural funding prospects will remain under a cloud of uncertainty. The state and private sources that, for the moment, are taking up some of the funding slack are not as reliable as the proposal-driven federal award system. The uncertainty of these non-federal sources, and the generally shorter duration of non-federal awards, makes it more difficult for UC to maintain continuity in its research programs and a stable research enterprise.

What we can expect, however, is a research enterprise that is somewhat smaller than it has been over the past few years, now that stimulus funds have been completely spent.



Recovery Act awards provided only a temporary increase in research activity and employment that private sources of funding have not been entirely able to sustain. Among those who have been particularly affected by the decline in research activity are Graduate Student Researchers (GSRs). Since 2009-10, when Recovery Act funds first became available for research, the number of GSRs employed by UC has declined 8.2%, from 14,725 to about 13,500, and the amount paid to GSRs has dropped by about 12.6% in constant dollars.

The decline in graduate student research participation is only one of many structural consequences for UC of the boom and bust cycle of federal funding for research. What the GSR employment data bring into clear focus is the critical connection between UC's research enterprise and its instructional mission, and how disruptions in one inevitably cascade into the other.

*Charles Drucker*  
*Institutional Research and Academic Planning*  
*October, 2014*