Contracts & Grants Q216 Award Report

Maintaining the status quo

Summary

UC's award funding for the second quarter of FY 2015-2016 totaled about $1.05 billion, essentially the same amount received during Q2 last year. The year-to-date award total for FY 2016 is about $3.1 billion, 4.4% above last year. This increase is due to private sector awards, rather than federal funding.

Over the next several quarters, however, we are likely to see higher levels of federal funding, a consequence of the Bipartisan Budget Act of 2015, passed by Congress late last year. The budget bill calls for two years of substantial increases in federal agency appropriations for academic research and related projects, starting with the 2016 federal fiscal year. The extent of the increase varies across federal agencies. UC's largest single source of sponsored project funding, the National Institutes of Health, will award 6.6% more in research funding than it did in 2015; UC's second-largest source of federal funding, the National Science Foundation, will have an additional 1.6% available to support academic research.

Overall, these increased appropriations could bring an additional $150 million in direct federal funding to UC for each of the next two federal budget years, plus as much as $30 million more each year in subawards (flow-through funds) from other institutions serving as prime contractors for federal awards. An agency-level analysis of these appropriation increases is presented in the Contracts & Grants Q116 Award Report. The budget's impact is not yet visible because there is generally a review period averaging nine months between when a proposal is submitted and when an award is issued. Given this time lag, the increase in federal funding should begin to show up late in Q316.

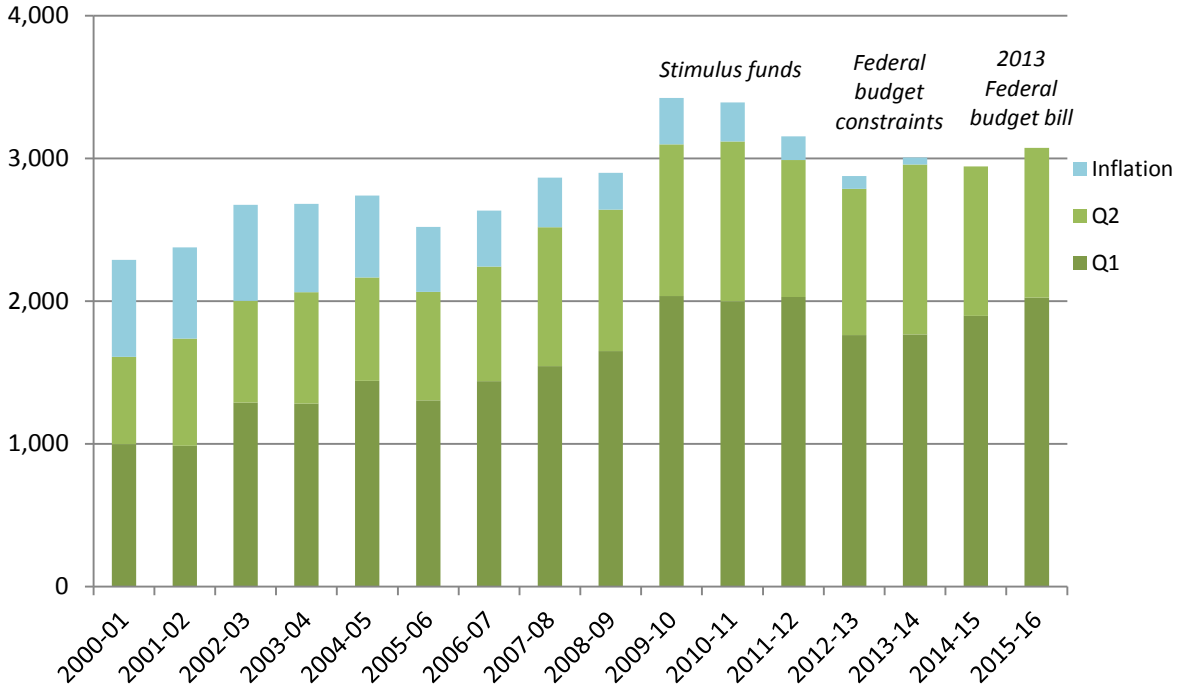
Obtaining these additional funds, however, is not automatic or guaranteed, because the competition for funds has become more intense. Section VII of this report presents an analysis of UC's federal proposal and award history since 2006, showing that just maintaining the same level of federally funded activity requires a significantly larger number of proposals submitted today than was needed a decade ago. Maintaining the status quo, or at least not falling too far behind inflation, requires an ever-greater investment of time and resources to develop and administer the higher proposal volume.

Or, to paraphrase Lewis Carroll, the hurrier we go, the behinder we get.

I. Quarterly Performance Metrics

Extramural awards for Q216 totaled $1.048 billion, which is only $900K above the Q215 total. Awards for the first quarter of 2015-16, however, were $128 million above Q115, so the year-to-date total is 4.4% higher than last year. With federal funding on a plateau until increased agency appropriations begin to show up as awards, these year-to-date differences are due principally to increases in private sector funding.

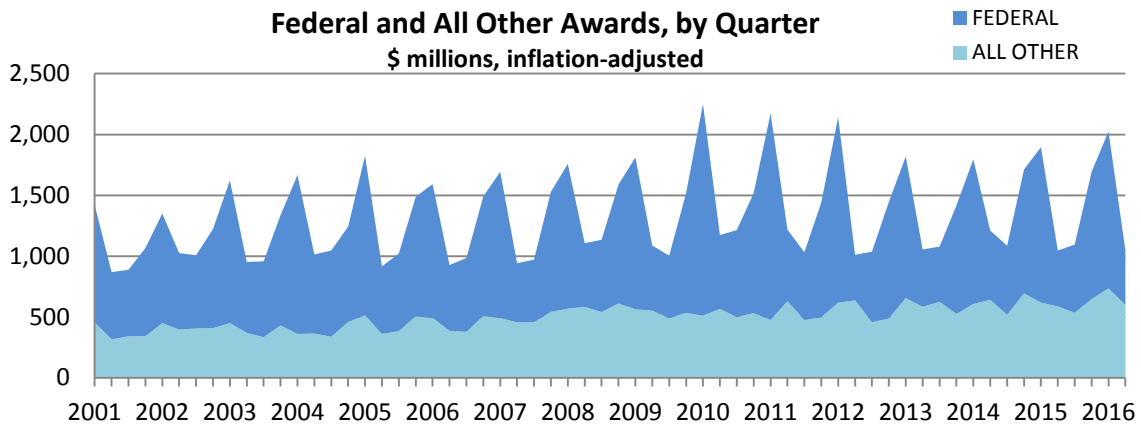
Q1+Q2 Extramural Awards
$ millions, inflation-adjusted



Quarterly Extramural Awards
$ millions, inflation-adjusted

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*
Q1	1,420	1,351	1,722	1,667	1,824	1,592	1,693	1,759	1,812	2,250	2,173	2,143	1,819	1,796	1,896	2,025
Q2	869	1,026	952	1,014	916	927	943	1,107	1,088	1,174	1,218	1,012	1,056	1,211	1,047	1,048
Q3	888	1,008	860	1,047	1,023	985	971	1,135	1,004	1,214	1,032	1,037	1,078	1,086	1,095	
Q4	1,067	1,222	1,337	1,243	1,489	1,492	1,529	1,588	1,518	1,519	1,440	1,445	1,416	1,712	1,693	
FY	*4,245*	*4,607*	*4,871*	*4,971*	*5,252*	*4,996*	*5,136*	*5,589*	*5,422*	*6,157*	*5,864*	*5,637*	*5,370*	*5,805*	*5,731*	

Award totals for UC's second fiscal quarter are always well below the first-quarter amounts. This is a function of the federal funding cycle, which awards the largest amounts in the final quarter of the federal fiscal year (corresponding to UC's Q1). 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

Federal awards for Q2 are slightly below last year, as are awards from non-profit organizations and academia. The major increase for the quarter is in awards from corporate sponsors.

Q2 Awards by Sponsor Category,
($ millions, inflation-adjusted)

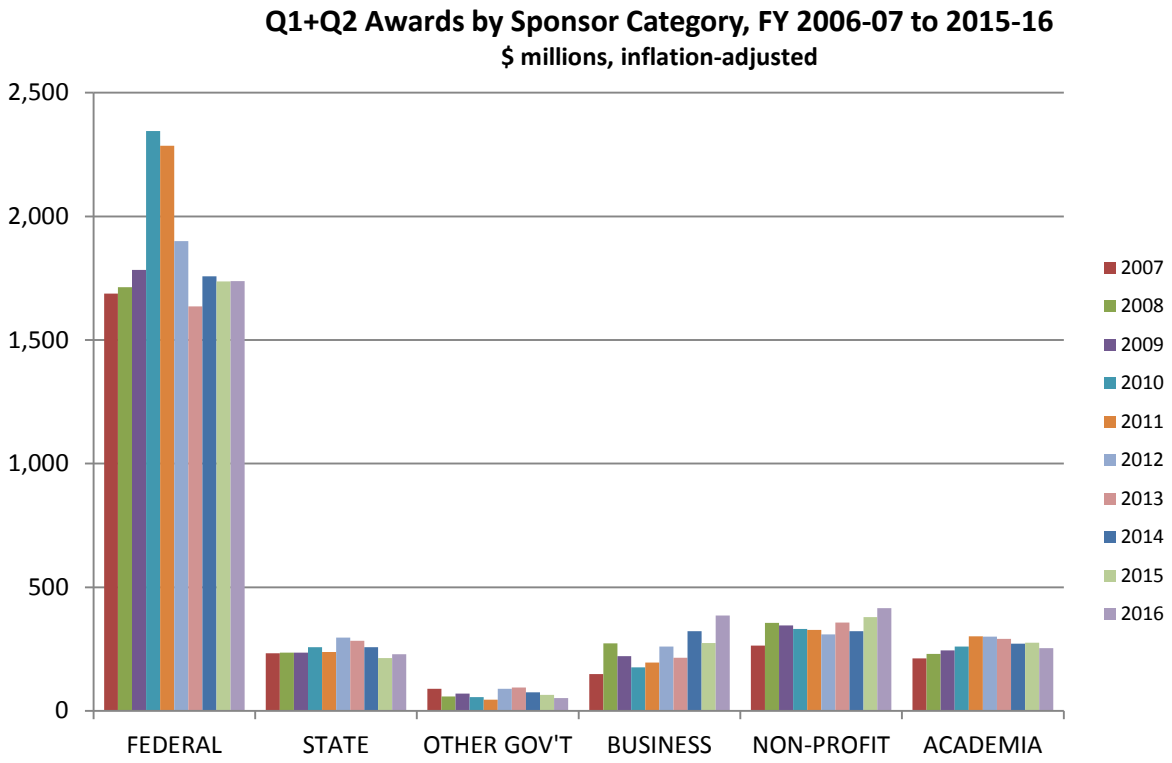
SPONSOR	*Q207*	*Q208*	*Q209*	*Q210*	*Q211*	*Q212*	*Q213*	*Q214*	*Q215*	*Q216*
Federal	487	524	535	607	588	375	472	569	459	448
State	105	112	103	106	151	102	106	58	44	72
*Other Gov't**	29	20	27	27	25	60	34	24	26	18
Corporate	89	165	108	78	102	126	114	228	141	187
Non-Profit	118	173	183	207	179	187	169	196	215	176
*Academia***	115	114	132	149	174	162	161	137	163	146
TOTAL	943	1,107	1,088	1,174	1,218	1,012	1,056	1,211	1,047	1,048

Fiscal-year-to-date comparisons, however, provide a better sense of funding prospects for the year than just the second quarter, which, as the first quarter of the federal fiscal year, can be skewed by federal budget issues. The table below shows that for the year, federal funding is the same as last year, and that there have been large increases in both corporate and non-profit funding.

Q1+Q2 Awards by Sponsor Category

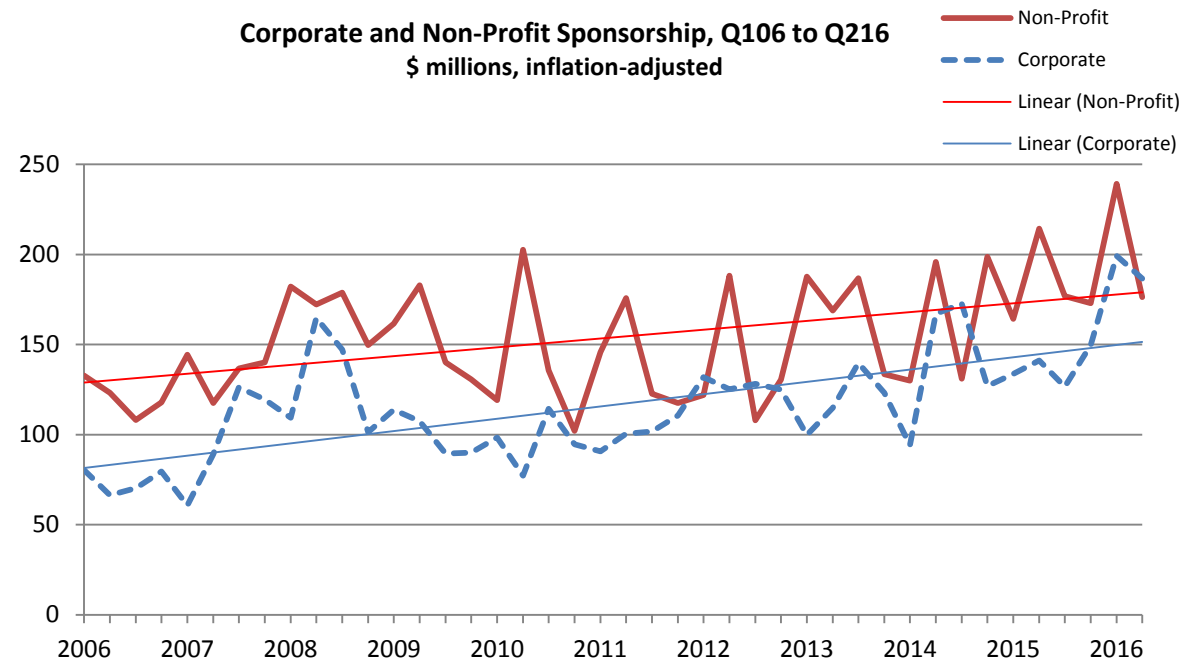
SPONSOR	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*
Federal	1,688	1,714	1,783	2,345	2,285	1,900	1,635	1,758	1,737	1,738
State	233	235	235	257	238	296	283	257	213	229
*Other Gov't**	89	58	70	55	45	89	95	75	64	52
Corporate	149	273	221	175	195	260	214	323	275	386
Non-Profit	264	356	346	331	327	309	357	322	379	415
*Academia***	213	230	245	260	301	300	290	272	276	253
TOTAL	*2,636*	*2,866*	*2,900*	*3,424*	*3,391*	*3,155*	*2,875*	*3,007*	*2,943*	*3,072*

** Other Gov't includes Agricultural Market Order Boards.*
***Academia includes the categories of Higher Education, DOE Labs, Campuses and UCOP.*



III. Private Funding

Awards from both corporate and non-profit sponsors display much variation, quarter by quarter, but both sponsor categories show long-term funding increases.



IV. Award Trends by Project Type

Research awards during Q216 amounted to $846 million, including $116 million in clinical trial sponsorship. Training, service, and other awards came to about $202 million. Research awards during Q215, by comparison, amounted to $823 million, which included $73 million for clinical trial research.

Q2 Award Amounts by Project Type, FY 2006-07 to 2015-16
$ millions, inflation-adjusted

PROJECT TYPE	*Q207*	*Q208*	*Q209*	*Q210*	*Q211*	*Q212*	*Q213*	*Q214*	*Q215*	*Q216*
Research	653	787	780	937	882	720	772	785	750	729
Clinical Trials	42	76	59	43	46	58	64	182	73	116
Training	57	59	50	53	52	43	48	63	45	44
Service	112	73	103	85	110	95	96	98	57	108
Other	80	113	96	56	128	95	75	83	121	50
TOTAL	***942***	***1,107***	***1,088***	***1,174***	***1,218***	***1,012***	***1,056***	***1,211***	***1,047***	***1,048***

V. Significant Awards by Location

During Q216, UC received about 6,000 contracts and grants from about 1,550 different sponsors (in addition to nearly 1,100 Material Transfer Agreements). Listed below are the largest or most significant awards reported this quarter by campuses, Agriculture & Natural Resources, and Lawrence Berkeley National Lab.

LOCATION	SPONSOR CATEGORY	SPONSOR	PROJECT TITLE	AMOUNT
Agriculture & Natural Resources	State	California Department of Food And Agriculture	Demonstrating the Economic and Environmental Benefits of Hot-Water Pest Eradication	401,836
Berkeley	Corporate	Pfizer, Inc.	Hepatoselective Gene Editing: Harnessing the Potential of a Novel ASGPR Ligand	4,002,644
Davis	Federal	U.S. Agency for International Development	Afghanistan Agriculture Extension Project	11,490,485
Irvine	Corporate	INC Research, LLC	A Phase III Clinical Trial of Anti Pd-L1 Antibody in Combination With Bevacizumab Versus Sunitinib in Treating Advanced Renal Cell Carcinoma	5,268,204
Lawrence Berkeley Lab	Higher Ed	Stanford Linear Accelerator National Laboratory	Hard X-Ray Undulators for the Linear Accelerator Coherent Light Source	5,429,743
Los Angeles	Federal	National Cancer Institute	AIDS Malignancy Consortium (AMC)	13,134,497
Merced	Non-Profit	William M. Keck Foundation	High-Performance, Single-Molecule Biosensors Based on Downhill Folding Protein Modules	1,000,000
Office of the President	Non-Profit	Gordon and Betty Moore Foundation	Beginning of on-Site Construction of the Thirty-Meter Telescope on Mauna Kea	10,000,000
Riverside	State	California Energy Commission	Chemehuevi Indian Tribe Microgrid	2,588,906
San Diego	Non-Profit	Patient-Centered Outcomes Research Institute	Patient-Oriented Scalable National Network For Effectiveness Research (Pscanner)	8,623,014

San Francisco	Non-Profit	Patient-Centered Outcomes Research Institute	Enabling a Paradigm Shift: A Preference-Tolerant Clinical Trial of Personalized vs. Annual Screening for Breast Cancer	14,076,318
Santa Barbara	Federal	Naval Health Research Center	Systems Biology of Coagulation and Trauma-Induced Coagulopathy	1,471,919
Santa Cruz	Federal	U.S. Department of Education	Gear-Up: Creating Access to College GEAR UP Partnership (Pajaro Valley)	1,232,800

VI. Award Trends by Recipient Location

Award totals for the first two quarters of FY 2015-16 were slightly ahead of last year by about 4.4%. This increase was not evenly divided across reporting locations. Among campuses, San Francisco, Riverside and Irvine showed significant increases over last year.

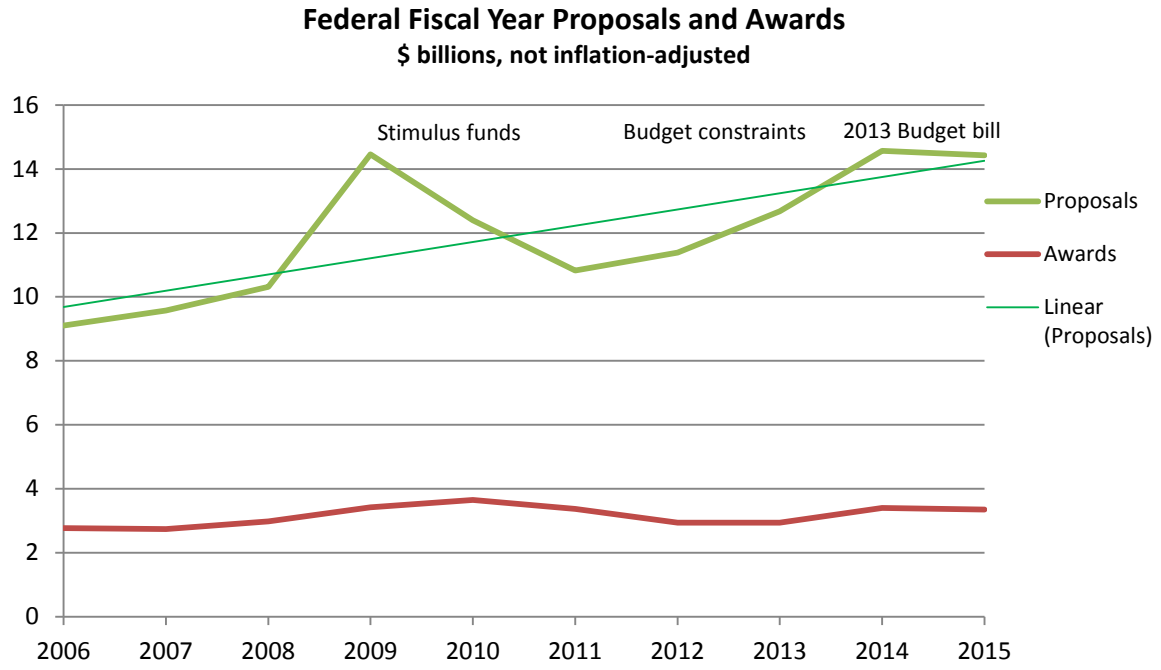
Q1+Q2 Award Amounts by Location
$ millions, inflation-adjusted

UC Location	*FYTD 2013*	*FYTD 2014*	*FYTD 2015*	*FYTD 2016*	*2016-15 Change*
Berkeley	457	381	417	419	0.5%
San Francisco	681	785	714	779	9.0%
Davis	405	365	406	414	2.0%
Los Angeles	389	420	483	483	-0.2%
Riverside	56	55	60	66	10.5%
San Diego	469	552	457	474	3.8%
Santa Cruz	74	73	72	63	-12.6%
Santa Barbara	89	111	85	80	-5.5%
Irvine	146	157	152	194	28.0%
Merced	13	21	14	11	-23.8%
UCOP	26	12	6	15	159.2%
LBNL	62	66	68	62	-8.1%
Ag & Nat Res	9	9	9	12	31.0%
Total	***2,875***	***3,007***	***2,943***	***3,072***	***4.4%***

VII. Proposals and the rate of return

One of the factors in UC's success in garnering federal awards is that the research community is highly prolific in generating proposals. The majority of federal awards are competitive, and increasingly so; grant-seekers are well aware that only a fraction of the proposals submitted are ultimately funded. At the National Institutes of Health, for example, the proposal success rate for all institutions is about 21%.

To assess UC's systemwide success rate with federal proposals, across all agencies, we can calculate a yield rate based on the dollar volume of federal awards received, compared to the dollar volume of projects proposed. The yield can be estimated by dividing the federal award amount for any given year by the dollar amount of federal proposals submitted the previous year, reflecting the nine-month lag between proposal submission and the reporting of awards for successful proposals.



Federal FY	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*
Awards, $M	2,767	2,736	2,976	3,424	3,650	3,366	2,941	2,935	3,404	3,354
Proposals, $M	9,099	9,575	10,318	14,458	12,395	10,821	11,381	12,680	14,564	14,428
Yield (next year)	0.31	0.31	0.33	0.25	0.27	0.27	0.26	0.27	0.23	N/A

Over the last ten years, there is a general correspondence between amounts proposed and amounts subsequently received. It's worth noting that when stimulus funds were available during 2009 and 2010, UC's research community responded with a dramatic increase in the number and dollar amount of proposals, resulting in over $1 billion in stimulus fund awards.

Significantly, this history shows how the yield rate per project dollar proposed has been steadily declining. In 2006, UC submitted $9.1 billion in federal proposals and the 2007 federal award total was $2.7 billion, for a yield of about $0.31 on the dollar. By 2014, that yield had dropped to $0.23 per dollar, a clear demonstration of how competitive the federal grant process has become over the last decade.

In the face of this long-term, declining yield rate on federal proposals, UC's research community has adjusted by producing a larger number of proposals. The 2015 proposal count was 28% greater than in 2006.

Federal FY	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*
Proposals, $M	9,099	9,575	10,318	14,458	12,395	10,821	11,381	12,680	14,564	14,428
# of Proposals	10,653	11,347	11,546	15,746	12,520	11,501	11,420	12,612	13,310	13,597
Proposal Avg. $K	854	844	894	918	990	941	997	1,005	1,094	1,061
Inflated Prop.Avg.	*1,042*	*992*	*1,017*	*1,008*	*1,094*	*1,023*	*1,052*	*1,037*	*1,113*	*1,061*
Inflated Award $K	*3,376*	*3,215*	*3,388*	*3,760*	*4,033*	*3,661*	*3,105*	*3,028*	*3,462*	*3,354*

The average proposal amount has also increased over the last decade, from about $854K to $1.06 million. However, once inflation is taken into account, it becomes clear that the average dollar amount per proposal has not changed over the last decade. What we see here are two critical factors at work: the battle against inflation, and the heightened intensity of competition for grants, as reflected in the lower yield rate. The net effect of this combination of factors is that despite a larger number and dollar volume of proposals, the inflation-adjusted federal award total in 2015 was slightly lower than it was in 2006.

These comparisons point to an increasingly demanding and labor-intensive process for obtaining federal contracts and grants. Simply maintaining the same level of federal research activity from year to year has required a substantial increase in the number of proposals submitted. This, in turn, has necessitated an ever-increasing level of effort in drafting, reviewing, processing, submitting and tracking an ever-larger number of proposals. The growing administrative effort required to secure federal grants is one of the less-visible indirect costs of conducting research—costs that are never fully recovered from UC's federal agency sponsors.

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