UNIVERSITY OF CALIFORNIA

Annual Financial Report

18/19

The University of California was founded in 1868 on the revolutionary idea that college should be available to everyone. We still embody that ideal, educating more first-generation and low-income students than the entire Ivy League combined, while also serving as a catalyst for research and innovation that improves lives around the world.

UNIVERSITY OF CALIFORNIA

18/19 Annual Financial Report

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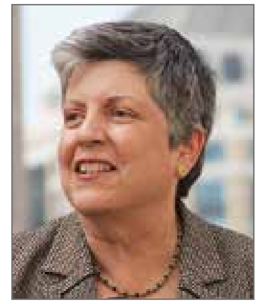
Letter from the President



The University's multiyear framework focuses on increasing the number of timely UC degrees we award and efforts to support social and economic mobility for all Californians, as well as continuing to cultivate world-class faculty and research. These goals help us move from a focus purely on enrollment, or inputs, to a vision informed by outcomes. Ensuring access will always be a priority, but as important, we must do all we can to help students graduate. True service to the citizens of California must be more than getting students into UC; it must also be about getting them out efficiently and with a UC-quality degree.

This year more than 70 student leaders from across the University participated in a summit in Washington D.C. addressing the reauthorization of the Higher Education Act, Title IX reform, gender and pay equity, the American Dream and Promise Act, and the role of social media in advocacy efforts. Following the summit, students took to Capitol Hill where they conducted more than 20 meetings with congressional offices from the California delegation. Student voices are critical for helping elected officials understand the issues that affect students most. These interactions truly underscored the importance of an adequate investment in higher education.

The University of California is making good progress on its ambitious goal of achieving operational carbon neutrality by 2025: UC now generates more on-site renewable energy than any other university in the country and, for the second year in a row, the EPA named UC a national leader in the use of clean, renewable energy. Sustainable building practices have become the norm throughout our campuses, and we are all working together to shrink UC's carbon footprint, divert 90 percent of our waste from landfills and use only clean electricity by 2025.

UC continues to shine brightly as a beacon of opportunity and public service, whether it's providing first-generation students with a world-class education, healing the sick and discovering new treatments for life-threatening diseases, creating new knowledge and nurturing the next generation of scientists and leaders, or helping to ensure California's ongoing economic, technological, social and environmental vitality. Arguably, no other single institution does as much for so many.

Janet Napolitano

JANET NAPOLITANO
PRESIDENT, UNIVERSITY OF CALIFORNIA

Letter from the Interim Executive Vice President, CFO

The quality and reputation of the University of California continues to draw interest as represented by more than 223,000 applications submitted for admission in fall 2018. This included over 182,000 students that applied as freshmen and over 41,000 as transfers, with the Riverside and Santa Barbara campuses experiencing 12 percent increases in applications. Over the last four years, UC's enrollment of California residents increased by more than 14,000 in support of the mission to expand access to California students.

This year the Legislature adopted a 2019-20 state budget that includes nearly $4 billion for UC. Altogether, the budget provides UC with $247.5 million in new ongoing support in 2019-20, an increase of 7.1 percent over 2018-19 levels. The budget also includes a one-time funding of $215.1 million to support programs across the University, including deferred maintenance projects to address critical infrastructure deficiencies and funds to develop or expand degree and certificate completion programs offered through UC Extension. The additional state support will allow UC to continue to expand access for California students and meet a number of other pressing budget needs.

The cost of attendance for our students is directly impacted by the cost of housing. This year, the University continued its progress toward its multiyear goal to expand affordable student housing. An additional 3,000 beds were added to the housing supply, and UC is on track to meet its goal of adding 14,000 additional beds over the five years between fall 2016 and fall 2020. However, with continued growth in enrollment, the demand for student housing remains high and an additional 15,000 beds are already planned for opening between fall 2021 and fall 2025.

To continue to diversify revenue sources, this fall the University opened the Blue and Gold Pool. The objective of the Blue and Gold Pool is to provide a low cost, liquid, diversified investment vehicle in which the University can invest their long-term excess capital reserves to earn a higher return than would otherwise be expected from short-term cash management vehicles. Through the volatile investment markets, the University's investments continued to demonstrate strong investment returns, with an 8.2 percent return on the endowment pool and a 6.0 percent return for the retirement plan this past year.

The University of California continues to be recognized in world and national rankings. Seven campuses were among the top 100 universities in the 2018 Academic Ranking of World Universities, which focus on the quality of research and faculty. Three campuses — Berkeley (5), Los Angeles (11) and San Diego (15) are in the top 20. The 2019 Forbes America's Best Value Colleges, which emphasizes quality and accessibility, includes six UC campuses in the top 15.

The ongoing operations of the University's teaching, research, health care and public service missions continued to grow at a strong pace this past year. Even though the University's financial results fluctuate year over year due to short-term volatility in the financial markets, we continue to focus on multiyear strategies and predictable funding from the state of California to manage the University's longer-term liabilities for pension and retiree health benefits and capital needs related to growth and maintaining our vast footprint of facilities.

PAUL JENNY
EXECUTIVE VICE PRESIDENT, CFO (INTERIM)
UNIVERSITY OF CALIFORNIA


PLEASE

Facts in Brief *(Unaudited)*

	2019	2018	2017	2016	2015
STUDENTS					
Undergraduate fall enrollment	222,670	216,904	210,369	199,127	195,078
Graduate fall enrollment	63,601	62,092	59,743	58,311	57,185
Total fall enrollment	**286,271**	**278,996**	**270,112**	**257,438**	**252,263**
University Extension course enrollments	357,319	348,645	346,365	371,240	374,442
FACULTY AND STAFF *(full-time equivalents)*	**162,642**	**158,877**	**154,522**	**149,312**	**144,765**
SUMMARY FINANCIAL INFORMATION *(in thousands of dollars, except for retirement plan membership information)*					
UNIVERSITY OF CALIFORNIA					
PRIMARY REVENUE SOURCES					
Student tuition and fees, net[1]	$5,170,171	$4,838,764	$4,477,213	$4,132,352	$3,784,046
Grants and contracts, net	5,976,567	5,709,180	5,440,977	5,272,595	5,204,761
Medical centers, educational activities and auxiliary enterprises, net	18,933,888	17,419,902	16,153,092	14,638,715	13,611,153
State educational, financing and capital appropriations	3,508,102	3,386,151	3,279,520	3,067,677	2,812,634
Federal Pell Grants	437,828	421,693	381,650	376,264	376,186
Private gifts, net	1,441,330	1,315,092	1,161,658	1,088,076	971,245
Capital gifts and grants, net	195,348	403,164	255,559	248,705	186,836
Department of Energy laboratories	1,577,244	1,062,428	1,147,233	1,278,186	1,234,509
OPERATING EXPENSES BY FUNCTION					
Instruction	8,267,781	6,939,892	6,966,479	6,814,684	6,200,694
Research	5,249,698	4,744,416	4,579,067	4,618,459	4,366,909
Public service	770,436	712,062	670,757	639,022	580,693
Academic support	3,106,790	2,742,160	2,416,824	2,460,694	2,022,401
Student services	1,355,666	1,206,080	1,168,883	1,099,934	1,012,422
Institutional support	1,714,488	1,437,887	1,443,208	1,583,783	1,597,486
Operation and maintenance of plant	733,599	657,883	677,034	656,635	590,602
Student financial aid[2]	835,237	752,261	721,538	649,258	553,340
Medical centers	12,779,975	10,749,409	10,451,455	10,004,181	8,513,134
Auxiliary enterprises	1,441,436	1,324,309	1,300,590	1,265,535	1,187,777
Depreciation and amortization	2,100,228	2,027,343	1,909,870	1,804,046	1,661,033
Impairment of capital assets	4,056	10,360	7,354	10,127	11,219
Department of Energy laboratories	1,569,702	1,054,475	1,139,232	1,271,260	1,234,958
Other	174,321	88,324	66,936	71,573	72,200
INCREASE (DECREASE) IN NET POSITION	(826,340)	1,811,143	1,059,890	(2,699,804)	(233,459)
FINANCIAL POSITION					
Investments, at fair value	28,707,381	27,368,997	24,478,362	22,208,767	22,492,804
Capital assets, at net book value	34,229,473	32,325,107	30,669,753	29,688,815	28,642,779
Other assets and deferred outflows	21,641,856	13,027,627	13,462,290	18,288,878	12,596,994
Outstanding debt, including financing obligations	(24,584,142)	(23,658,777)	(20,502,876)	(19,951,287)	(19,020,755)
Obligations for pension and retiree health benefits	(37,979,627)	(28,637,385)	(30,029,779)	(36,920,138)	(29,331,031)
Other liabilities and deferred inflows	(18,685,852)	(16,270,140)	(15,733,464)	(12,021,750)	(11,359,071)
Net position	3,329,089	4,155,429	2,344,286	1,293,285	4,021,720

[1]*Scholarship allowances, including both financial aid and fee waivers that are not paid directly to students, are recorded primarily as a reduction of student tuition and fees in the statement of revenues, expenses and changes in net position.*

[2]*Includes only financial aid paid directly to students. The state-administered California grant awards are not included as expenses since the government determines grantees. College work study expenses are shown in the programs in which the student worked.*

	2019	2018	2017	2016	2015
SUMMARY FINANCIAL INFORMATION *(in thousands of dollars, except for retirement plan membership information)*					
UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS					
PRIMARY REVENUE SOURCES					
Private gifts	$918,363	$1,340,158	$864,411	$789,267	$765,445
PRIMARY EXPENSES					
Grants to campuses	1,134,265	1,100,287	939,784	889,163	827,467
INCREASE (DECREASE) IN NET POSITION	638,495	1,337,620	1,050,233	(3,498)	455,416
FINANCIAL POSITION					
Investments, at fair value	9,978,389	9,239,580	8,206,990	7,115,278	7,084,587
Pledges receivable, net	887,992	1,006,183	865,979	842,423	822,530
Net position	10,441,887	9,803,392	8,465,772	7,415,540	7,550,329
UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM					
PLAN PARTICIPATION					
Plan membership	307,875	298,420	289,429	280,185	266,254
Retirees and beneficiaries currently receiving payments	79,084	75,924	72,995	70,077	67,321
PRIMARY REVENUE SOURCES					
Contributions[1]	$4,815,057	$4,759,740	$4,779,464	$4,551,152	$4,458,802
Interest, dividends and other investment income, net	1,723,614	1,555,260	1,435,299	1,316,116	1,323,449
Net appreciation (depreciation) in the fair value of investments	3,701,585	5,098,540	8,616,400	(2,300,033)	1,320,388
PRIMARY EXPENSES					
Benefit payments	3,676,263	3,438,840	3,185,062	2,974,331	2,803,627
Participant and member withdrawals	1,598,933	1,373,405	1,514,990	1,367,528	1,730,362
INCREASE (DECREASE) IN NET POSITION	4,897,856	6,563,074	10,079,633	(831,668)	2,515,920
FINANCIAL POSITION					
Investments, at fair value	95,456,703	90,872,718	82,574,019	73,196,935	71,595,607
Members' defined pension plan benefits	70,343,741	66,838,838	62,179,236	54,225,589	55,122,875
Participants' defined contribution plan benefits	25,779,057	24,386,104	22,482,632	20,356,646	20,291,028
ACTUARIAL INFORMATION *(as of the beginning of the year)*					
Actuarial value of assets	66,577,372	61,884,530	57,228,542	53,762,286	48,327,981
Actuarial accrued liability	76,881,052	72,965,272	69,305,423	65,841,255	60,417,177
UNIVERSITY OF CALIFORNIA RETIREE HEALTH BENEFIT TRUST					
PLAN PARTICIPATION					
Plan membership	175,309	169,655	164,089	161,072	157,221
Retirees and beneficiaries currently receiving payments	43,631	42,325	41,157	39,774	38,488
PRIMARY REVENUE SOURCES					
Contributions	$333,107	$338,436	$328,057	$310,320	$315,586
Interest, dividends and other investment income, net	3,195	1,634	606	155	41
PRIMARY EXPENSES					
Insurance premiums	308,674	309,344	290,234	284,836	327,019
INCREASE (DECREASE) IN NET POSITION	23,328	26,867	34,173	21,896	(14,539)
FINANCIAL POSITION					
Investments, at fair value	136,248	128,091	97,801	53,604	24,250
Net position for retiree health benefits	156,909	133,581	106,714	72,541	50,645
ACTUARIAL INFORMATION *(as of the beginning of the year)*					
Actuarial value of assets	133,581	106,714	72,541	50,645	65,184
Actuarial accrued liability	18,388,092	18,786,201	21,168,812	17,320,301	14,093,786

[1] *Total contributions to the University of California Retirement Plan and the University of California Retirement Savings Plan.*

Campus Facts in Brief *(Unaudited)*

	BERKELEY	DAVIS	IRVINE	LOS ANGELES	MERCED
STUDENTS					
Undergraduate fall enrollment	30,853	30,876	29,736	31,577	7,881
Graduate fall enrollment	11,666	8,276	7,006	14,353	663
Total fall enrollment	**42,519**	**39,152**	**36,742**	**45,930**	**8,544**
University Extension course enrollments[1]	43,797	75,934	24,677	101,695	618
DEGREES CONFERRED[2]					
Bachelor	8,213	8,137	7,265	8,563	1,319
Advanced	4,285	2,145	1,997	4,683	101
Cumulative	662,038	297,070	210,939	591,244	9,061
FACULTY AND STAFF *(full-time equivalents)*	13,957	24,630	15,188	37,176	2,120
LIBRARY COLLECTION[3] *(volumes)*	12,960,013	4,887,272	3,933,822	10,735,019	1,859,085
CAMPUS LAND AREA *(in acres)*	8,163	7,331	1,527	467	8,195
CAMPUS FINANCIAL FACTS[4] *(in thousands of dollars)*					
OPERATING EXPENSES BY FUNCTION					
Instruction	$838,828	$941,404	$818,185	$2,524,248	$76,986
Research	577,337	590,822	284,192	836,425	33,393
Public service	79,235	94,687	12,377	151,473	7,350
Academic support	120,815	284,103	201,777	812,580	26,568
Student services	247,756	155,030	131,682	195,654	30,701
Institutional support	269,019	185,554	76,151	219,007	62,997
Operation and maintenance of plant	96,972	108,820	61,972	101,751	20,671
Student financial aid	161,438	105,725	92,259	157,685	15,973
Medical centers		2,218,032	1,155,792	2,516,988	
Auxiliary enterprises	147,948	125,647	131,760	394,780	37,093
Depreciation and amortization	235,967	238,252	216,748	407,185	35,985
Impairment of capital assets	890	286	498	1,080	
Other[5]	25,749	1,858	14,671	17,680	4,601
Total	**$2,801,954**	**$5,050,220**	**$3,198,064**	**$8,336,536**	**$352,318**
GRANTS AND CONTRACTS REVENUE					
Federal government	$381,590	$432,418	$226,767	$629,912	$22,100
State government	74,391	141,810	17,013	67,656	3,785
Local government	15,070	15,124	3,353	75,217	372
Private	208,332	149,796	85,806	276,051	4,093
Total	**$679,383**	**$739,148**	**$332,939**	**$1,048,836**	**$30,350**
UNIVERSITY ENDOWMENTS					
Nonspendable endowments	$392,907	$125,983	$9,814	$309,873	$16,869
Other endowments	2,367,012	1,066,942	497,675	2,337,533	24,911
Annual income distribution	96,037	39,405	18,421	59,231	1,985
CAMPUS FOUNDATIONS' ENDOWMENTS					
Nonspendable endowments and gifts	1,292,926	284,632	320,030	1,328,835	9,703
Other endowments	850,830	193,181	163,185	926,527	4,078
CAPITAL ASSETS					
Capital assets, at net book value	3,946,867	3,520,828	3,101,903	6,335,256	1,659,909
Capital expenditures	228,253	419,029	419,313	515,880	488,657

[1] *Total courses enrolled in by University Extension students for academic year 2018-19.*

[2] *As of academic year 2017-18.*

[3] *As of June 30, 2018.*

[4] *Excludes DOE laboratories.*

[5] *Includes noncapitalized expenses associated with capital projects and write-off, cancellation and bad debt expenses for loans.*

	RIVERSIDE	SAN DIEGO	SAN FRANCISCO	SANTA BARBARA	SANTA CRUZ	SYSTEMWIDE[6]
STUDENTS						
Undergraduate fall enrollment	20,590	30,285		23,080	17,792	
Graduate fall enrollment	3,435	8,487	4,911	2,896	1,908	
Total fall enrollment	**24,025**	**38,772**	**4,911**	**25,976**	**19,700**	
University Extension course enrollments[1]	23,693	60,728		6,848	19,329	
DEGREES CONFERRED[2]						
Bachelor	4,685	7,356		5,606	4,270	
Advanced	992	2,555	885	868	642	
Cumulative	124,827	214,380	55,423	243,156	124,035	
FACULTY AND STAFF *(full-time equivalents)*	5,737	25,363	24,211	6,649	4,729	2,882
LIBRARY COLLECTION[3] *(volumes)*	4,217,777	5,162,681	1,259,317	3,226,684	2,495,327	
CAMPUS LAND AREA *(in acres)*	2,131	2,178	195	1,127	6,088	66,001

CAMPUS FINANCIAL FACTS[4] *(in thousands of dollars)*	RIVERSIDE	SAN DIEGO	SAN FRANCISCO	SANTA BARBARA	SANTA CRUZ	SYSTEMWIDE[6]
OPERATING EXPENSES BY FUNCTION						
Instruction	$361,321	$847,388	$348,483	$364,512	$206,604	$939,822
Research	126,109	874,816	1,117,522	177,732	105,962	525,388
Public service	7,613	19,272	145,492	12,872	46,037	194,028
Academic support	41,634	798,977	306,537	71,114	41,577	401,108
Student services	99,383	158,176	29,560	105,101	101,750	100,873
Institutional support	70,477	174,196	218,451	82,132	55,655	300,849
Operation and maintenance of plant	43,224	92,320	66,399	52,712	40,486	48,272
Student financial aid	60,041	76,158	22,996	96,518	46,219	225
Medical centers		2,032,400	4,716,800			139,963
Auxiliary enterprises	75,331	175,045	37,730	107,938	118,867	89,297
Depreciation and amortization	73,860	308,448	348,868	86,905	64,194	83,816
Impairment of capital assets		1,040	30	11	221	
Other[5]	11,924	26,486	3,691	16,102	131	51,428
Total	**$970,917**	**$5,584,722**	**$7,362,559**	**$1,173,649**	**$827,703**	**$2,875,069**
GRANTS AND CONTRACTS REVENUE						
Federal government	$90,835	$741,252	$771,900	$126,531	$76,677	$28,771
State government	13,810	54,667	89,748	9,666	9,005	67,424
Local government	2,829	16,239	220,525	1,698	2,082	6,843
Private	33,437	269,138	416,626	60,726	27,262	8,220
Total	**$140,911**	**$1,081,296**	**$1,498,799**	**$198,621**	**$115,026**	**$111,258**
UNIVERSITY ENDOWMENTS						
Nonspendable endowments	$10,190	$44,289	$146,338	$29,640	$10,806	$80,272
Other endowments	70,375	902,867	1,930,665	123,727	89,175	1,303,292
Annual income distribution	2,445	32,330	53,384	5,584	3,621	40,240
CAMPUS FOUNDATIONS' ENDOWMENTS						
Nonspendable endowments and gifts	110,175	487,530	836,001	155,226	48,355	
Other endowments	66,379	311,860	766,090	96,324	62,051	
CAPITAL ASSETS						
Capital assets, at net book value	1,238,710	5,578,058	5,267,450	1,561,945	1,239,468	779,079
Capital expenditures	116,228	821,613	754,418	112,639	81,171	105,429

[1]*Total courses enrolled in by University Extension students for academic year 2018-19.*

[2]*As of academic year 2017-18.*

[3]*As of June 30, 2018.*

[4]*Excludes DOE laboratories.*

[5]*Includes noncapitalized expenses associated with capital projects and write-off, cancellation and bad debt expenses for loans.*

[6]*Includes expenses for systemwide and research programs, systemwide support services and administration. Full-time equivalents count, as of fall 2016, includes employees at all campuses involved in systemwide activities, including Agriculture and Natural Resources.*

Management’s Discussion and Analysis *(Unaudited)*

The objective of Management’s Discussion and Analysis is to help readers of the University of California’s financial statements better understand the financial position and operating activities for the year ended June 30, 2019, with selected comparative information for the years ended June 30, 2018 and 2017. This discussion has been prepared by management and should be read in conjunction with the financial statements and the notes to the financial statements. Unless otherwise indicated, years (2017, 2018 and 2019, etc.) in this discussion refer to the fiscal years ended June 30.

The University of California’s financial report communicates financial information for the University of California (the University), the University of California campus foundations (campus foundations), the University of California Retirement System (UCRS) and the University of California Retiree Health Benefit Trust (UCRHBT) through five primary financial statements and notes to the financial statements. Three of the primary statements, the statements of net position, the statements of revenues, expenses and changes in net position and the statements of cash flows, present the financial position, changes in financial position and cash flows for the University and the affiliated campus foundations. The financial statements for the campus foundations are presented discretely from the University. Two of the primary statements, the statements of plans’ and trust’s fiduciary net position and the statements of changes in plans’ and trust’s fiduciary net position, present the financial position and operating activities for UCRS and UCRHBT. The notes to the financial statements provide additional information that is essential to a full understanding of the financial statements.

THE UNIVERSITY OF CALIFORNIA

The University of California, one of the largest and most acclaimed institutions of higher learning in the world, is dedicated to excellence in teaching, research, health care and public service. The University has annual resources of nearly $38.5 billion and encompasses ten campuses, five medical centers, four law schools and a statewide Division of Agriculture and Natural Resources. The University is also involved in the operation and management of three national laboratories for the U.S. Department of Energy (DOE).

Campuses. The ten campuses are located in Berkeley, Davis, Irvine, Los Angeles, Merced, Riverside, San Diego, San Francisco, Santa Barbara and Santa Cruz. All of the campuses, except San Francisco, offer undergraduate, graduate and professional education; the San Francisco campus is devoted exclusively to graduate and professional education in health sciences.

Health sciences. The University operates one of the nation’s largest health science and medical training programs. The instructional program is conducted in 16 health professional schools on six campuses. The University's health programs include five medical centers, two dental schools, three nursing schools, two public health schools and two pharmacy schools, in addition to a school of optometry and a school of veterinary medicine. The University’s medical schools play a leading role in the development of health services and the advancement of medical science and research.

Law schools. The University has law schools at Berkeley, Davis, Irvine and Los Angeles. Also, the Hastings College of the Law in San Francisco is affiliated with the University, although not included in the financial reporting entity.

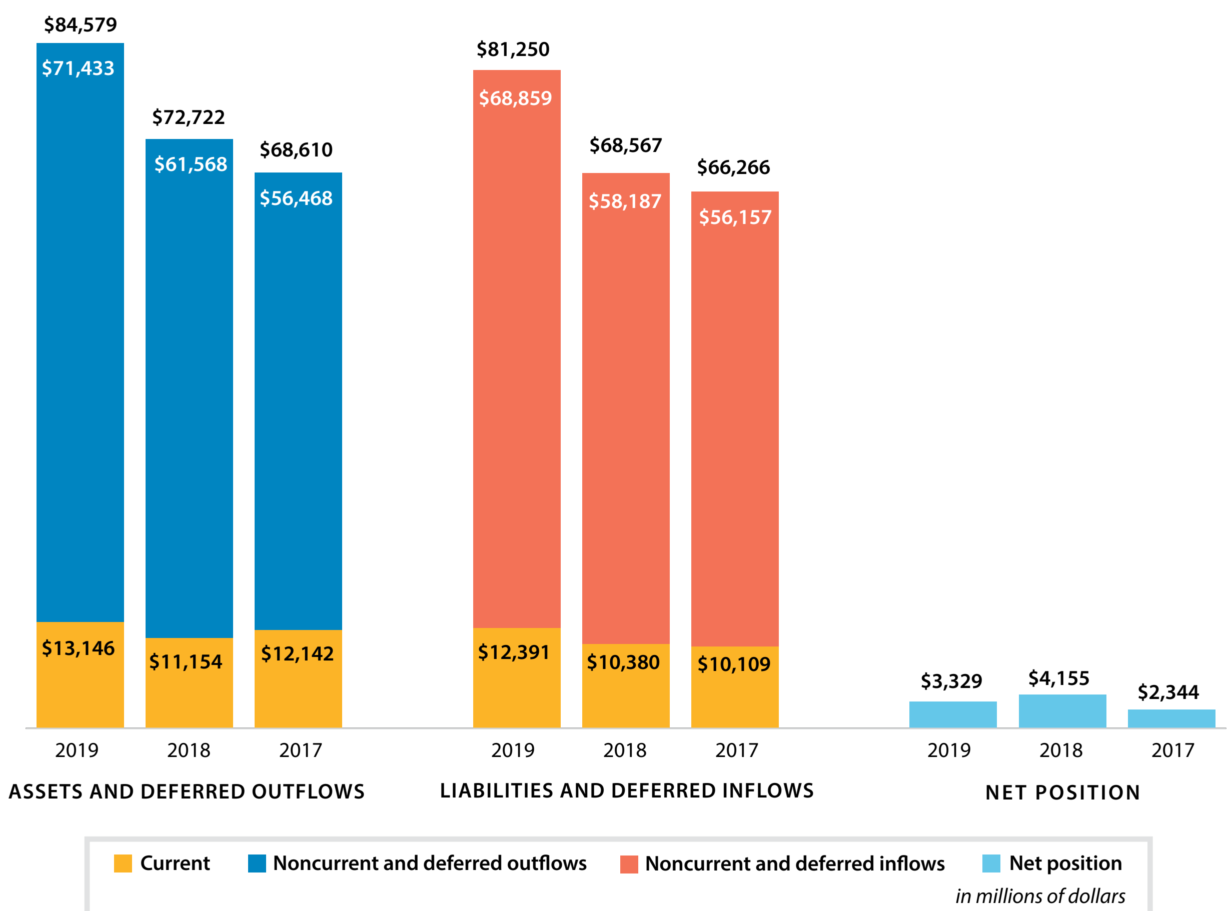
Agriculture and Natural Resources. The Division of Agriculture and Natural Resources is a statewide research and public service organization that serves a large and diverse agricultural community. The division collaborates on research with all campuses, and conducts studies at nine research and extension centers and on private land in cooperation with California producers. In addition, research and educational programs are conducted in each of the state's 58 counties.

University Extension. The foremost continuing education program of its kind in size, scope and quality of instruction, University Extension offers almost 20,000 self-supporting courses statewide and in several foreign countries.

National laboratories. Under contract with the DOE, the University operates and manages the Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) in California. The University is also a member in two separate joint ventures, Triad National Security, LLC (Triad) and Lawrence Livermore National Security, LLC (LLNS) that operate and manage the Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory (LLNL), respectively, under contracts directly with the DOE. The laboratories conduct broad and diverse basic and applied research in nuclear science, energy production, national defense and environmental and health areas.

THE UNIVERSITY'S FINANCIAL POSITION

The University implemented a new accounting policy for certain asset retirement obligations. This change in accounting policy provides recognition and measurement standards for legally and contractually enforceable liabilities associated with the retirement of tangible capital assets. Financial information for 2018 and 2017 has been restated to retroactively apply this new accounting policy.

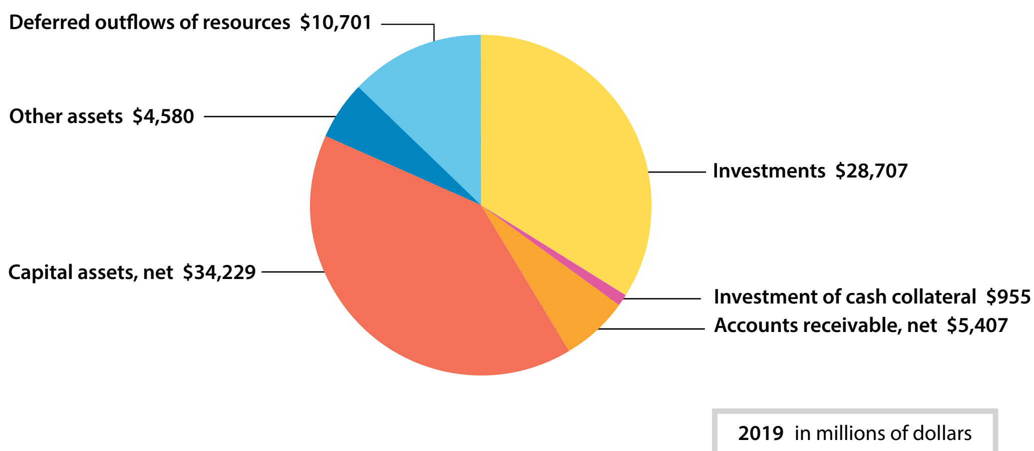


The statement of net position presents the financial position of the University at the end of each year. It displays all of the University's assets, deferred outflows, liabilities and deferred inflows. The difference between assets, deferred outflows, liabilities and deferred inflows is net position. The major components of the assets, deferred outflows, liabilities, deferred inflows and net position as of June 30, 2019, 2018 and 2017 are as follows:

(in millions of dollars)

	2019	2018	2017
ASSETS			
Investments	$28,707	$27,369	$24,478
Investment of cash collateral	955	1,165	1,080
Accounts receivable, net	5,407	4,062	3,947
Capital assets, net	34,229	32,325	30,670
Other assets	4,580	3,132	2,865
Total assets	**73,878**	**68,053**	**63,040**
DEFERRED OUTFLOWS OF RESOURCES	**10,701**	**4,669**	**5,570**
LIABILITIES			
Debt, including commercial paper	24,584	23,659	20,503
Securities lending collateral	955	1,164	1,079
Net pension liability	18,118	9,775	10,739
Net retiree health benefits liability	19,862	18,862	19,290
Other liabilities	10,903	8,497	8,283
Total liabilities	**74,422**	**61,957**	**59,894**
DEFERRED INFLOWS OF RESOURCES	**6,828**	**6,610**	**6,372**
NET POSITION			
Net investment in capital assets	14,284	13,578	13,343
Restricted:			
Nonexpendable	1,225	1,182	1,155
Expendable	8,211	8,272	7,153
Unrestricted	(20,391)	(18,877)	(19,307)
Total net position	**$3,329**	**$4,155**	**$2,344**

The University's Assets and Deferred Outflows



The University's total assets and deferred outflows of resources have increased to $84.6 billion in 2019, compared to $72.7 billion in 2018 and $68.6 billion in 2017. Capital assets have increased due to continued investments in facilities in excess of depreciation. Investments increased due to positive financial market returns. Deferred outflows fluctuate primarily due to changes in the University's net pension and retiree health benefits liabilities.

Investments

Investments held by the University are principally carried in four investment pools: the Short Term Investment Pool (STIP), the Total Return Investment Pool (TRIP), the Blue and Gold Pool (BGP) and the General Endowment Pool (GEP). Cash for operations and bond proceeds for construction expenditures are invested in STIP. The University uses STIP to meet operational liquidity needs. TRIP and BGP provide the opportunity to enhance returns on long-term capital by taking advantage of the economies of scale of investing in a large pool across a broad range of asset classes. The University maximizes its use of TRIP and BGP while still maintaining sufficient funds in STIP to meet operational and liquidity needs. The GEP is a balanced portfolio and the primary investment vehicle for individual endowments and funds functioning as endowments.

The Regents of the University of California ("The Regents") utilize asset allocation strategies that are intended to optimize investment returns over time in accordance with investment objectives and at acceptable levels of risk. GEP had positive returns of 8.2 percent in 2019, 8.9 percent in 2018 and 15.1 percent in 2017. BGP commenced operations on April 1, 2019 and had a positive return of 3.5 percent from inception through June 30, 2019. TRIP had positive returns of 6.3 percent , 4.5 percent and 7.7 percent in 2019, 2018 and 2017, respectively. STIP had positive returns of 2.2 percent, 2.0 percent and 1.3 percent in 2019, 2018 and 2017, respectively.

Investment of cash collateral

The University participates in a securities lending program incorporating securities owned by both the University and UCRS as a means to augment income. Cash collateral fluctuates in response to changes in demand from borrowers and the availability of securities based on the University's asset allocation mix.

Accounts receivable, net

Accounts receivable include amounts due from state and federal governments on contracts and grants, patient receivables for medical centers and professional medical fees, investment income, proceeds from security sales and amounts due for private grants and contracts. Receivables fluctuate based on the timing of collections and investment sales activity. In 2019, medical center accounts receivable increased consistent with the growth in revenues due to higher inpatient and outpatient volumes. Additionally, in 2019, other receivables for investment securities sold increased by $972.5 million.

Capital assets, net

The University's enrollment growth and continuing needs for renewal, modernization and seismic correction of existing facilities are the key drivers of capital investments. Capital spending continues at a brisk pace in order to provide the facilities necessary to support the University's teaching, research and public service mission and for patient care. Capital spending includes constructing and renovating academic buildings, research laboratories, libraries, student services, parking structures and infrastructure projects at all ten campuses and five medical centers. The University has a goal to increase affordable campus housing for more students given escalating living costs in many of the surrounding campus communities. In 2019 and 2018, the largest portion of the capital asset additions were related to constructing housing facilities at several campuses. Additionally, construction continues to expand the Merced campus by 2020. Total additions of capital assets were $4.1 billion in 2019 as compared to $3.7 billion in 2018 and $3.0 billion in 2017.

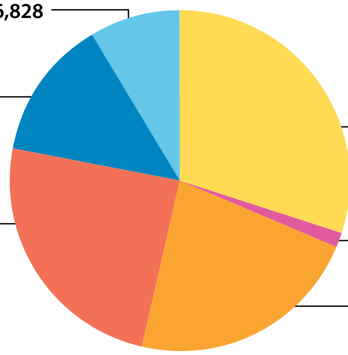
Other assets

Other assets include cash, investments held by trustees, pledge receivables, note and mortgage receivables, inventories and receivables from the DOE. In 2019, $286.5 million was held by trustees to retire taxable bonds maturing on July 1, 2019. Additionally, in 2019 and 2018, current and noncurrent investments held by trustees increased by $524.1 million and $322.6 million, respectively, related to bond proceeds for the design and construction of third-party capital projects. The noncurrent receivable from the DOE, which fluctuates with the net pension and retiree health benefits liabilities due to the DOE's continuing responsibility to contribute for retired and terminated vested members of LLNL and LANL, increased by $605.5 million in 2019 as compared to 2018 and decreased by $284.3 million in 2018 as compared to 2017.

Deferred outflows of resources

Changes in fair values of the University's interest rate swaps that are determined to be hedging derivatives, losses on debt refundings, asset retirement obligations and certain changes in the net pension and net retiree health benefits liabilities are reported as deferred outflows of resources. In 2019, deferred outflows increased primarily due to changes in assumptions from the experience study for the University of California Retirement Plan (UCRP). In 2018, deferred outflows decreased due to higher than expected investment returns for the UCRP portfolio and an increase in the discount rate for the retiree health benefit liability.

The University's Liabilities and Deferred Inflows



The University's liabilities and deferred inflows of resources increased to $81.2 billion in 2019 as compared to $68.6 billion in 2018 and $66.3 billion in 2017. The change in 2019 was primarily related to the increases in the liability for pension benefits and other liabilities. In 2018, the increase was primarily related to the issuance of additional debt to finance capital projects offset by decreases in the liabilities for pension and retiree health benefits.

Debt, including commercial paper

Capital assets are financed from a variety of sources, including University equity contributions, state support, gifts, revenue bonds, bank loans and leases or structures that involve separate legal entities. Commercial paper and bank loans provide interim financing for capital assets during the construction period.

Outstanding debt increased by $925.4 million and $3.2 billion in 2019 and 2018, respectively. A summary of the activity follows:

(in millions of dollars)

	2019	2018
ADDITIONS TO OUTSTANDING DEBT		
General Revenue Bonds	$653	$1,853
Limited Project Revenue Bonds		1,692
Capital leases	16	47
Other borrowings	260	285
Blended Component Unit Revenue Bonds	662	320
Bond premium, net	77	494
Additions to outstanding debt	**1,668**	**4,691**
REDUCTIONS TO OUTSTANDING DEBT		
Refinancing and prepayments		(1,014)
Scheduled principal payments	(419)	(392)
Payments on other borrowings	(15)	(7)
Commercial paper, net	(207)	(31)
Amortization of bond premium	(102)	(91)
Reductions to outstanding debt	**(743)**	**(1,535)**
Net increase in outstanding debt	**$925**	**$3,156**

The University's debt, which is used to primarily finance capital assets, includes $574.5 million, $781.8 million and $812.7 million of commercial paper outstanding at the end of 2019, 2018 and 2017, respectively. Total debt outstanding was $24.6 billion at the end of 2019 compared to $23.7 billion and $20.5 billion at the end of 2018 and 2017, respectively.

In 2019, General Revenue Bonds of $653.1 million were issued for operations and to finance certain facilities and projects. Proceeds of $286.5 million were used to retire bonds maturing on July 1, 2019. Additionally, $662.5 million of tax-exempt bonds were issued to finance the construction of third-party housing and dining facilities. Reductions to outstanding debt include $434.4 million for scheduled principal payments.

To take advantage of favorable interest rates for tax-exempt bonds, the University financed several projects in 2018 that were approved for construction or had recently started construction. The University also refinanced debt in December 2017 in advance of tax reform changes that were effective as of January 1, 2018. In 2018, $3.5 billion of debt was issued, including General Revenue Bonds totaling $1.9 billion and Limited Project Revenue Bonds totaling $1.7 billion to finance and refinance certain facilities and projects. Reductions to outstanding debt in 2018 were $1.5 billion, including $1.0 billion for one-time principal payments for the refinancing or refunding of previously outstanding debt. The refinancing and refunding of previously outstanding debt resulted in an economic gain of $83.2 million.

In August 2016, the University entered into an agreement with a developer to design, construct, finance, operate and maintain certain auxiliary, administrative, academic and research facilities at the Merced campus by 2020, for which the University will finance $600 million of the total costs. Other borrowings at June 2019 and 2018 include $539.7 million and $296.9 million, respectively, for the present value of the payments expected to be made over the term of the agreement through 2055 for the repayment of the private debt incurred by the developer during construction. In the event the agreement with the developer is terminated, the outstanding portion of the private debt incurred by the developer for the construction phase will become an obligation of the University.

The University's General Revenue Bond ratings are currently affirmed at Aa2, AA and AA by Moody's Investors Service, Standard & Poor's and Fitch, respectively, all with stable outlooks. The University's Limited Project Revenue Bonds and Medical Center Pooled Revenue Bonds are currently affirmed at Aa3, AA- and AA- by Moody's Investors Service, Standard & Poor's and Fitch, respectively, all with stable outlooks.

Commercial paper borrowings decreased $207.3 million in 2019 as compared to 2018, and decreased by $30.9 million in 2018 compared to 2017. Commercial paper is primarily used as interim financing for construction projects and short-term financing for other needs. Commercial paper fluctuates based upon the timing of refinancing construction projects with the issuance of long-term revenue bonds. The University has various revolving credit agreements totaling $1.1 billion with major financial institutions for the purpose of providing additional liquidity for certain variable-rate demand bonds, commercial paper and for other liquidity needs.

Securities lending collateral

Under the securities lending program, the University records a liability to the borrower for cash collateral received and held by the University for securities on loan at the end of the year. All borrowers are required to provide additional collateral by the next business day if the value of the collateral falls to less than 100 percent of the fair value of the securities lent. The amount of the securities lending collateral liability fluctuates directly with securities lending opportunities and the investment of cash collateral.

Net pension liability and retiree health benefits

The University has a financial responsibility for pension benefits associated with its defined benefit plans and for retiree health benefits. The University's net pension liability was $18.1 billion, $9.8 billion and $10.7 billion in 2019, 2018 and 2017, respectively. The increase in 2019 was primarily driven by changes in assumptions as a result of the most recent experience study, with the reduction in the discount rate and the changes in the mortality tables causing the largest increases. The decrease in net pension liability for 2018 was primarily driven by higher than expected investment returns on the UCRP investment portfolio. The total investment rate of return for UCRP was 6.0 percent in 2019, 7.8 percent in 2018 and 14.5 percent in 2017. The discount rate used to estimate the net pension liability was 6.75, 7.25 and 7.25 percent in 2019, 2018 and 2017, respectively.

LBNL participates in the University's defined benefit pension plan, although the DOE has an ongoing financial responsibility to reimburse the University for LBNL's share of the obligation to UCRP. In addition, under certain circumstances, the University makes contributions to UCRP for LANL and LLNL retirees and, based upon contractual arrangements with the DOE, is reimbursed by the DOE. The University recorded receivables from the DOE of $911.5 million, $316.7 million and $615.1 million for 2019, 2018 and 2017, respectively, representing the DOE's share of the net pension liability.

The University's net retiree health benefits liability was $19.9 billion, $18.9 billion and $19.3 billion, in 2019, 2018 and 2017, respectively. While retiree health benefits are not a legal obligation of the University and can be cancelled or modified at any time, accounting standards require the University to recognize a net retiree health liability based on the current practices of providing retiree health benefits. The University funds the retiree health benefits through UCRHBT based on a projection of benefits on a pay-as-you-go basis and the assets in the trust are not sufficient to fund retiree health benefits. Therefore, the Bond Buyer 20-year tax-exempt general obligation municipal-bond index rate is used to discount the retiree health benefits liabilities. The change in the net retiree health benefits liability in 2019 was driven by the decrease in the discount rate offset by reducing the inflation assumption and strong management of health care costs. The change in the net retiree health benefits liability in 2018 was primarily driven by the lower than expected health care cost increases and the change in discount rate used to estimate the retiree health benefits liability. The discount rates as of June 30, 2019, 2018 and 2017 were 3.50 percent, 3.87 percent and 3.58 percent, respectively.

LBNL participates in the University's retiree health benefits plans and, based on contractual arrangements with the DOE, the University is reimbursed for retiree health benefits costs associated with retirees who previously worked at LBNL. The University recorded receivables from the DOE of $667.6 million, $656.9 million and $642.8 million for 2019, 2018 and 2017, respectively, representing the DOE's share of the net retiree health benefits liability.

Other liabilities

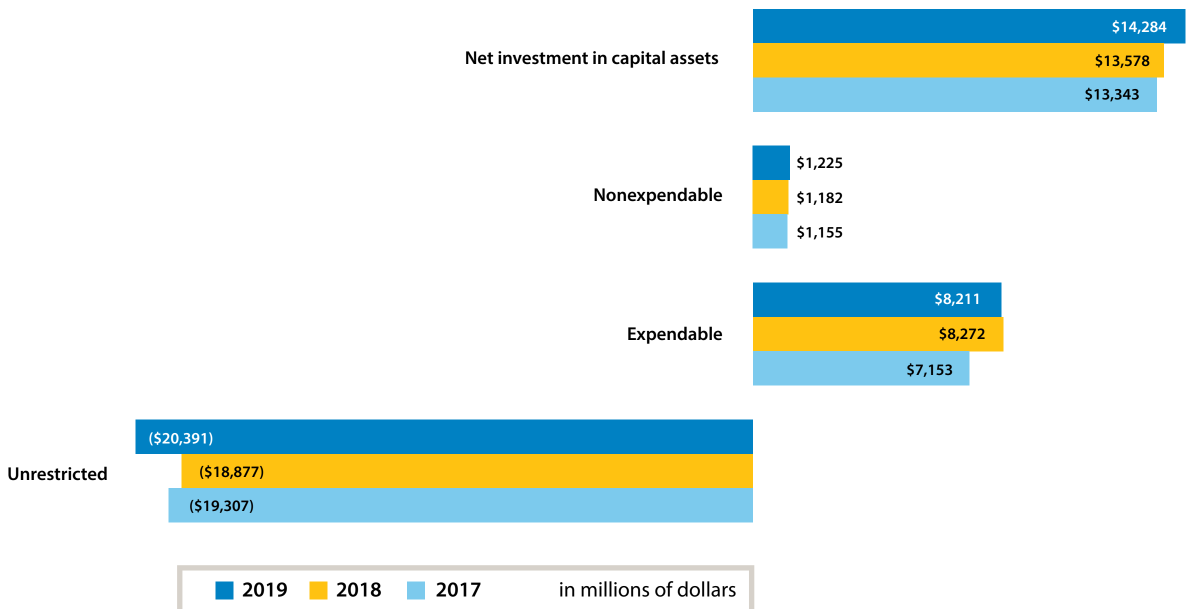
Other liabilities consist of accounts payable, accrued salaries, other employee benefits, unearned revenue, funds held for others, DOE laboratories' liabilities, federal refundable loans, self-insurance liabilities and obligations under split-interest agreements held by the University. Accounts payable increased by $1.1 billion primarily due to higher payables for securities purchased as of June 30, 2019. In 2019, accrued salaries increased by $617.6 million and employee benefits increased by $181.6 million due to the timing of payroll payments to employees.

Deferred inflows of resources

Deferred inflows of resources are related to the University's service concession arrangements, gains on debt refundings, sales of certain future patent royalty revenues, changes in the estimated future value of irrevocable split-interest agreements and certain changes in the net pension and net retiree health benefits liabilities. Changes in deferred inflows of resources was primarily due to fluctuations in the net pension and retiree health liabilities.

The University's Net Position

Net position represents the residual interest in the University's assets and deferred outflows after all liabilities and deferred inflows are deducted. Net position was restated for 2018 and 2017 as a result of adopting new accounting rules for certain asset retirement obligations. The University's net position was positive $3.3 billion in 2019 compared to positive $4.2 billion in 2018 and positive $2.3 billion in 2017. Net position is reported in the following categories: net investment in capital assets; restricted, nonexpendable; restricted, expendable; and unrestricted.



Net investment in capital assets

The portion of net position invested in capital assets, net of accumulated depreciation and the related outstanding debt used to finance the acquisition, construction or improvement of these capital assets, was $14.3 billion in 2019 compared to $13.6 billion in 2018 and $13.3 billion in 2017. The University continues to invest in its physical facilities which are, in part, financed by debt in order to support growth.

Restricted, nonexpendable

Restricted, nonexpendable net position includes the corpus of the University's permanent endowments. In 2019 and 2018, the increase in restricted nonexpendable net position was principally due to the receipt of new gifts.

Restricted, expendable

Restricted, expendable net position is subject to externally imposed restrictions governing their use. Net position may be spent only in accordance with the restrictions placed upon them and may include endowment income and gains, subject to the University's spending policy; support received from gifts, appropriations or capital projects and trustee-held investments. The increases or decreases in restricted, expendable funds are principally due to the timing of spending restricted gifts and endowment income and gains.

Unrestricted

Under generally accepted accounting principles, net position that is not subject to externally imposed restrictions governing their use must be classified as unrestricted for financial reporting purposes. Unrestricted net position is negative due primarily to obligations for pension and retiree health benefits exceeding University assets available to pay such obligations. Although unrestricted net position is not subject to externally imposed restrictions, substantially all of the University's reserves are allocated for academic and research initiatives or programs, for capital projects or for other purposes.

THE UNIVERSITY'S RESULTS OF OPERATIONS

The statement of revenues, expenses and changes in net position is a presentation of the University's operating results and indicates whether the financial condition has improved or deteriorated. In accordance with the Governmental Accounting Standards Board (GASB) requirements, certain significant revenues relied upon and budgeted for fundamental operational support of the core instructional mission of the University are required to be recorded as nonoperating revenues, including state educational appropriations, private gifts and investment income. Results of operations for 2018 and 2017 have been restated as a result of adopting new accounting policies for certain asset retirement obligations. A summarized comparison of the operating results for 2019, 2018 and 2017, arranged in a format that matches the revenue supporting the core activities of the University with the expenses associated with these core activities, is as follows:

(in millions of dollars)

	2019			2018			2017		
	OPERATING	NONOPERATING	TOTAL	OPERATING	NONOPERATING	TOTAL	OPERATING	NONOPERATING	TOTAL
REVENUES									
Student tuition and fees, net	$5,170		$5,170	$4,839		$4,839	$4,477		$4,477
State educational appropriations		$3,508	3,508		$3,386	3,386		$3,278	3,278
Federal Pell Grants		438	438		422	422		382	382
Grants and contracts, net	5,977		5,977	5,709		5,709	5,441		5,441
Medical centers, net	13,208	34	13,242	12,065	22	12,087	11,241	13	11,254
Educational activities, net	4,009		4,009	3,670		3,670	3,333		3,333
Auxiliary enterprises, net	1,717		1,717	1,685		1,685	1,579		1,579
Department of Energy laboratories	1,577		1,577	1,062		1,062	1,147		1,147
Private gifts, net		1,441	1,441		1,315	1,315		1,162	1,162
Investment income, net		442	442		413	413		299	299
Other revenues	937	53	990	971	127	1,098	939	67	1,006
Revenues supporting core activities	**32,595**	**5,916**	**38,511**	**30,001**	**5,685**	**35,686**	**28,157**	**5,201**	**33,358**
EXPENSES									
Salaries and wages	16,984		16,984	15,953		15,953	15,160		15,160
Pension benefits	4,340		4,340	1,339		1,339	1,888		1,888
Retiree health benefits	1,292		1,292	1,295		1,295	1,576		1,576
Other employee benefits	3,289		3,289	3,246		3,246	2,938		2,938
Scholarships and fellowships	850		850	767		767	729		729
Utilities	336		336	304		304	292		292
Supplies and materials	4,057		4,057	3,610		3,610	3,240		3,240
Depreciation and amortization	2,100		2,100	2,027		2,027	1,910		1,910
Department of Energy laboratories	1,571		1,571	1,055		1,055	1,139		1,139
Interest expense		767	767		746	746		721	721
Other expenses	5,284	72	5,356	4,851		4,851	4,648	60	4,708
Expenses associated with core activities	**40,103**	**839**	**40,942**	**34,447**	**746**	**35,193**	**33,520**	**781**	**34,301**
Income (loss) from core activities	**($7,508)**	**$5,077**	**(2,431)**	**($4,446)**	**$4,939**	**493**	**($5,363)**	**$4,420**	**(943)**
OTHER NONOPERATING ACTIVITIES									
Net appreciation in fair value of investments			1,387			890			1,721
Income (loss) before other changes in net position			**(1,044)**			**1,383**			**778**
OTHER CHANGES IN NET POSITION									
State capital appropriations									2
Capital gifts and grants, net			195			403			256
Permanent endowments			23			25			24
Increase (decrease) in net position			**(826)**			**1,811**			**1,060**
NET POSITION									
Beginning of year, as previously reported			4,155			2,344			1,293
Cumulative effect of accounting change									(9)
Beginning of year, restated			4,155			2,344			1,284
End of year			**$3,329**			**$4,155**			**$2,344**

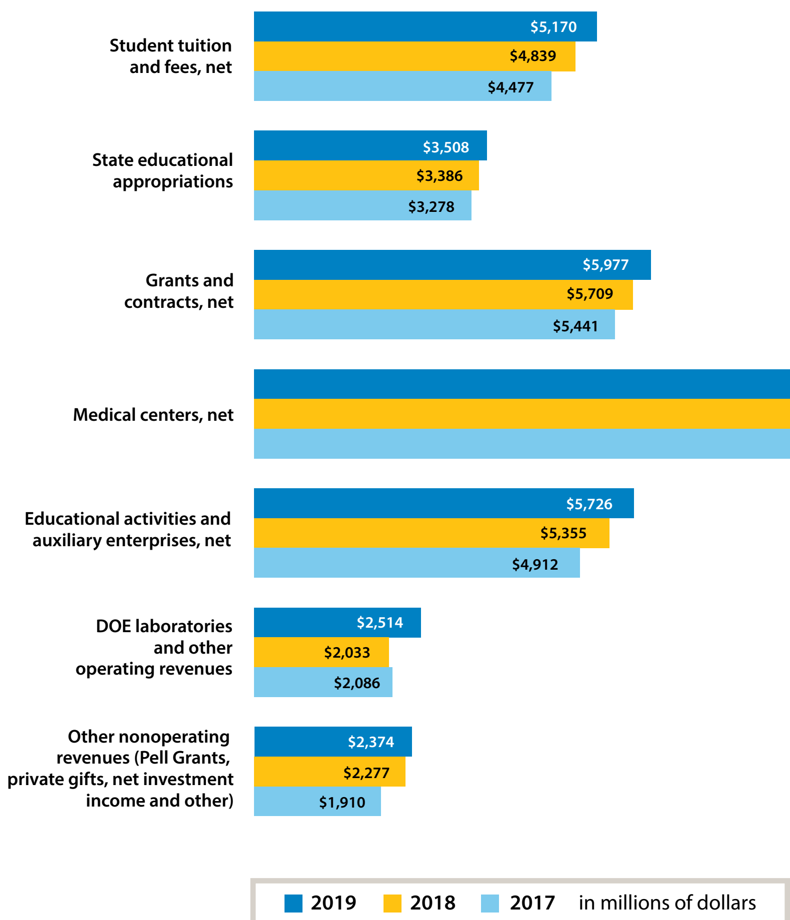
Revenues supporting core activities

Revenues to support the University's core activities, including those classified as nonoperating revenues, were $38.5 billion, $35.7 billion and $33.4 billion in 2019, 2018 and 2017, respectively. These diversified sources of revenue increased by $2.8 billion in 2019 and $2.3 billion in 2018.

The state of California's educational appropriations, in conjunction with student tuition and fees, are the core components that support the instructional mission of the University. Grants and contracts provide opportunities for undergraduate and graduate students to participate in basic research alongside some of the most prominent researchers in the country.

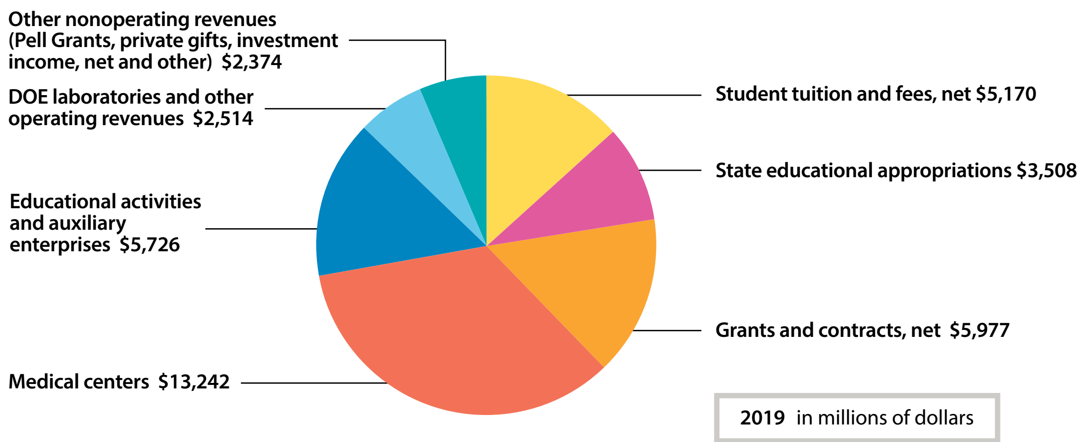
Gifts to the University allow crucial flexibility to faculty for support of their fundamental activities or new academic initiatives. Other significant revenues are from medical centers, educational activities and auxiliary enterprises such as student housing, food service operations and parking.

Revenues in the various categories have changed as follows:



A major financial strength of the University is its diverse source of revenues, including those from student fees, federally sponsored grants and contracts, medical centers, the state of California, private support and auxiliary enterprises. The variety of fund sources has become increasingly important over the past several years.

Categories of both operating and nonoperating revenue that supported the University's core activities in 2019 are as follows:



Student tuition and fees, net

Net student tuition and fees were $5.2 billion, $4.8 billion and $4.5 billion in 2019, 2018 and 2017, respectively. Scholarship allowances, or financial aid, are the difference between the stated charge for tuition and fees and the amount that is paid by the student and third parties on behalf of the student. Scholarship allowances, netted against student tuition and fees, were $1.2 billion, $1.3 billion and $1.1 billion in 2019, 2018 and 2017, respectively. Student tuition and fees, net of scholarship allowances, increased by $331.4 million and $361.6 million in 2019 and 2018, respectively, due to enrollment growth.

In 2019, enrollment grew by 2.6 percent and in 2018 enrollment grew by 3.3 percent. Mandatory tuition for resident undergraduates decreased 0.5 percent in 2019 and increased 2.5 percent in 2018. Certain nonresident undergraduates and resident and nonresident graduate students experienced increases in mandatory tuition and fees. Professional degree supplemental tuition varies by discipline; certain increases were approved for 2019, 2018 and 2017.

State educational appropriations

Educational appropriations from the state of California were $3.5 billion, $3.4 billion and $3.3 billion in 2019, 2018 and 2017, respectively. State educational appropriations increased in 2019 and 2018 by $122.0 million and $108.3 million, respectively. State educational appropriations include $169.0 million and $171.0 million in 2018 and 2017, respectively, as in one-time funds for UCRP.

Grants and contracts, net

Revenue from federal, state, private and local government grants and contracts — including an overall facilities and administration cost recovery of $1.2 billion, $1.1 billion and $1.1 billion in 2019, 2018 and 2017, respectively — was $6.0 billion, $5.7 billion and $5.4 billion in 2019, 2018 and 2017, respectively.

In 2019, federal grants and contracts revenue increased $227.0 million, or 6.9 percent, as compared to 2018. In 2018, federal grants and contracts revenue increased $43.0 million, or 1.3 percent, as compared to 2017. Federal grants and contracts include federal facilities and administrative cost recovery of $829.0 million, $782.0 million and $764.0 million in 2019, 2018 and 2017, respectively. Changes in the federal budget impact the University's growth in federal grants and contracts. Grants and contracts revenue is from a variety of federal agencies as indicated below:

(in millions of dollars)

	2019	2018	2017
Department of Health and Human Services	$2,176	$2,035	$1,987
National Science Foundation	461	464	465
Department of Education	81	78	57
Department of Defense	299	261	275
National Aeronautics and Space Administration	91	86	95
Department of Energy (excluding national laboratories)	118	108	107
Other federal agencies	303	270	273
Federal grants and contracts net revenue	**$3,529**	**$3,302**	**$3,259**

Medical centers, net

Medical center revenues, net of allowances, increased $1.2 billion, or 9.6 percent, in 2019 and increased $0.8 billion, or 7.4 percent, in 2018. Revenues increased in 2019 due to higher patient days, increased outpatient visits and additional supplemental payments. Revenues increased in 2018 due to increases in both inpatient and outpatient volumes and higher supplemental payments. Revenues increased in 2018 due to a full year of operations for the new UCSD Jacobs Medical Center which opened in November 2016.

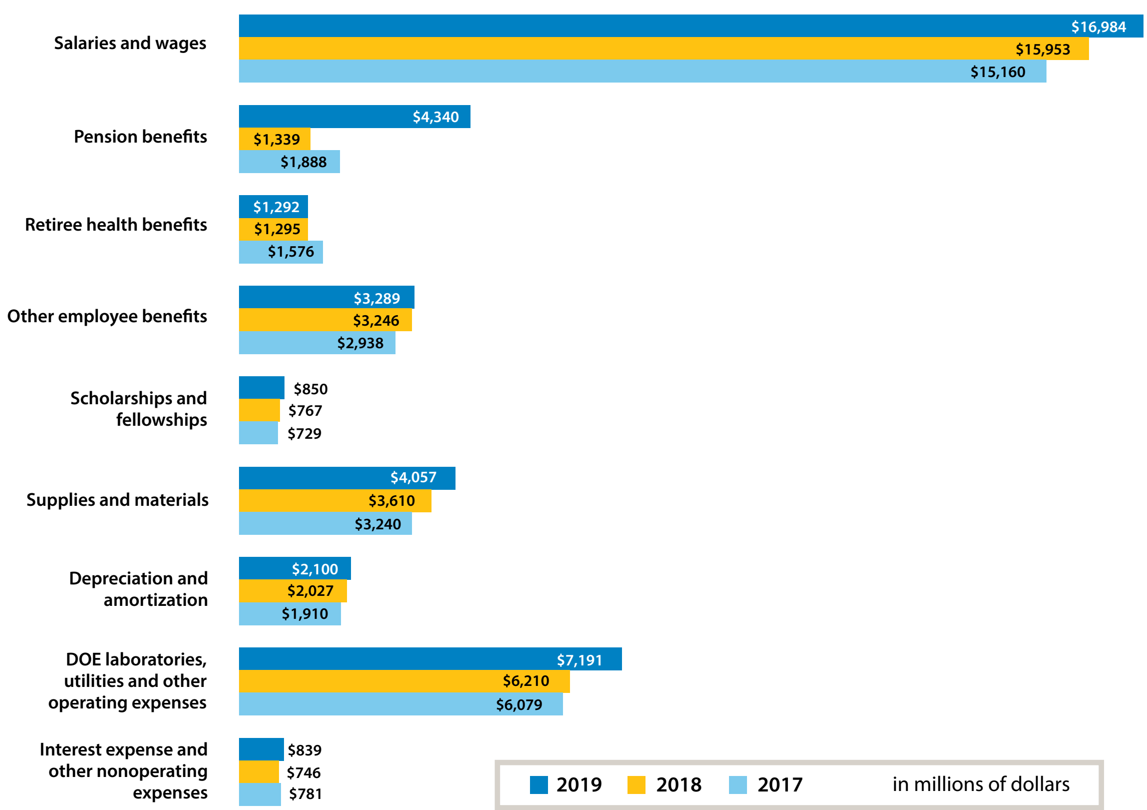
Educational activities and auxiliary enterprises, net

Revenue from educational activities, primarily medical professional fees, net of allowances, grew by $338.5 million, or 9.2 percent, in 2019 and $337.9 million, or 10.1 percent, in 2018. The growth is generally associated with an expanded patient base and improved collections.

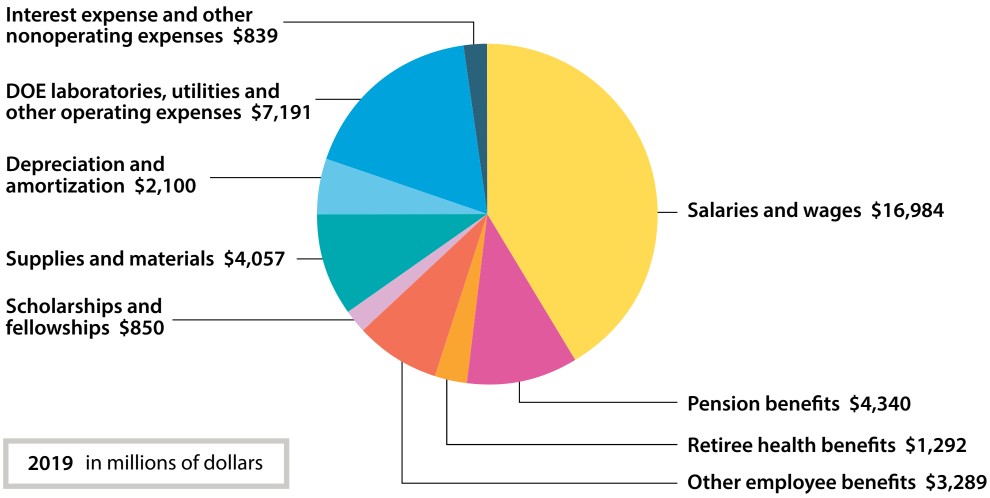
Auxiliary enterprises include housing, food service, parking, bookstores, student centers, unions and child care centers. Revenue from auxiliary enterprises, net of allowances, grew by $32.0 million, or 1.9 percent, in 2019 and $105.6 million, or 6.7 percent in 2018. Auxiliary revenues increased consistent with enrollment and the University's initiative to expand campus housing while minimizing increases in housing costs for students.

Expenses associated with core activities

Expenses associated with the University's core activities, including those classified as nonoperating expenses, were $40.9 billion, $35.2 billion and $34.3 billion in 2019, 2018 and 2017, respectively. Expenses increased in 2019 by $5.7 billion and in 2018 by $0.9 billion. The University's operations continued to grow, principally at the medical centers, and salaries and employee benefits increased consistent with the overall growth in operations. In 2019, pension expense, representing the largest change, increased by $3.0 billion in 2019 due to changes in assumptions as a result of the experience study. Expenses in the various categories are as follows:



Categories of both operating and nonoperating expenses related to the University's core activities in 2019 are as follows:



Salaries and benefits

Approximately 63.3 percent of the University's expenses were related to salaries and benefits. There were 162,600 full-time equivalent (FTE) employees in 2019, excluding employees who were associated with LBNL, whose salaries and benefits were included as laboratory expenses, as compared to 158,900 FTEs in 2018.

Salaries and benefits increased by 18.7 percent in 2019. In 2019, salaries increased by 6.5 percent, 2.4 percent due to an increase in the number of FTEs and 4.1 percent due to an increase in the average salary per FTE. Employee benefits, excluding pension and post-retirement health care benefits, increased by $43.0 million, or 1.3 percent, in 2019, which is less than the increase in FTEs due to management of health care costs. Pension expense increased by $3.0 billion, or 224.0 percent, due to changes in assumptions related to the experience study. Retiree health benefits expense decreased by $2.6 million or 0.2 percent due the decrease in the discount rate offset by reducing the inflation assumption and management of health care costs.

Salaries and benefits increased by 1.3 percent in 2018. In 2018, salaries increased by 5.2 percent, 2.8 percent due to an increase in the number of FTEs and 2.3 percent due to an increase in the average salary per FTE. Employee benefits, excluding pension and post-retirement health care benefits, increased by $307.8 million, or 10.5 percent in 2018, due to higher health insurance costs. Pension expense decreased by $548.1 million or 29.0 percent due to better than expected investment returns. Retiree health expense decreased by $280.8 million or 17.8 percent due to the higher discount rate in 2018.

Scholarships and fellowships

The University places a high priority on student financial aid as part of its commitment to affordability. Scholarship allowances, representing financial aid and fee waivers awarded by the University, were $2.3 billion, $2.3 billion and $2.1 billion in 2019, 2018 and 2017, respectively. Scholarships and fellowships, representing payments of financial aid made directly to students and reported as an operating expense were $850.4 million, $766.9 million and $728.6 million in 2019, 2018 and 2017, respectively. On a combined basis, as the University continues its commitment to provide financial support for needy students, financial aid in all forms increased by $77.9 million, or 3.5 percent, in 2019 as compared to 2018, and by $180.8 million, or 8.7 percent, in 2018 as compared to 2017. Increases in financial aid, scholarships and fellowships in both 2019 and 2018 are consistent with increases in enrollment, tuition and fees and housing costs since the University's practice is to minimize the impact of cost increases on first-generation and low-income students.

Supplies and materials

During 2019 and 2018, supplies and materials costs increased by $446.9 million, or 12.4 percent and $370.6 million, or 11.4 percent, respectively. The largest increases occurred at the medical centers due to higher patient volumes. In 2019, supply costs also increased for research activities related to the increased federal contract and grant activities. In recent years, there has been inflationary pressure on the costs for medical supplies and laboratory instruments and higher costs for general supplies necessary to support expanded medical patient volumes. The University continues to find opportunities to manage the costs of supplies and materials.

Other expenses

Other expenses consist of a variety of expense categories, including travel, rent, insurance, legal settlements and repairs and maintenance, plus any gain or loss on disposals of capital assets and other nonoperating expenses.

Operating losses

In accordance with the GASB's reporting standards, operating losses were $7.5 billion, $4.4 billion and $5.4 billion in 2019, 2018 and 2017, respectively. The operating losses in 2019, 2018 and 2017 were offset by $5.1 billion, $4.9 billion and $4.4 billion, respectively, of net nonoperating revenue that supports core operating activities of the University. Expenses exceeded revenues associated with core activities in 2019 by $2.4 billion, in 2018 revenues exceeded expenses by $0.5 billion and in 2017 expenses exceeded revenues by $0.9 billion. These fluctuations have been primarily driven by changes in pension expenses.

Other nonoperating activities

The University's other nonoperating activities, consisting of net appreciation or depreciation in the fair value of investments, are noncash transactions and, therefore, are not available to support operating expenses. In 2019, 2018 and 2017, the University recognized net appreciation in the fair value of investments of $1.4 billion, $0.9 billion and $1.7 billion, respectively. The University's portfolio experienced positive returns in the equity markets.

Other changes in net position

Similar to other nonoperating activities discussed above, other changes in net position are also not available to support the University's operating expenses in the current year. State capital appropriations and capital gifts and grants may only be used for the purchase or construction of the specified capital assets. Only income earned from gifts of permanent endowments is available in future years to support the specified program.

THE UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS

Separate foundations at each individual campus provide valuable assistance in fundraising, public outreach and other support for the missions of the campus and the University. Although independent boards govern each of the foundations, they are affiliated with, and their assets are dedicated for, the benefit of the University of California.

The Campus Foundations' Financial Position

The campus foundations' statement of net position presents their combined financial position at the end of the year. It displays all of the campus foundations' assets, liabilities, deferred inflows and net position. The difference between assets, liabilities and deferred inflows is net position, representing a measure of the current financial condition of the campus foundation.

The major components of the combined assets, liabilities and net position of the campus foundations at June 30, 2019, 2018 and 2017 are as follows:

(in millions of dollars)

	2019	2018	2017
ASSETS			
Investments	$9,978	$9,240	$8,207
Investment of cash collateral	36	45	43
Accounts receivable, net	37	13	40
Pledges receivable, net	888	1,006	866
Other assets	579	567	348
Total assets	**11,518**	**10,871**	**9,504**
LIABILITIES			
Accounts payable and other current liabilities	50	52	113
Securities lending collateral	36	45	43
Obligations under life income agreements and funds held for others	483	467	420
Other noncurrent liabilities	278	272	253
Total liabilities	**847**	**836**	**829**
DEFERRED INFLOWS OF RESOURCES	**229**	**232**	**209**
NET POSITION			
Restricted:			
Nonexpendable	4,885	4,407	3,968
Expendable	5,018	4,966	4,305
Unrestricted	539	430	193
Total net position	**$10,442**	**$9,803**	**$8,466**

Investments increased in 2019 and 2018 due to the performance of the financial markets. The Board of Trustees for each campus foundation is responsible for its specific investment policy, although asset allocation guidelines are recommended to campus foundations by the Investments Committee of The Regents. The Boards of Trustees may determine that all or a portion of their investments will be managed by the University's Chief Investment Officer. The Chief Investment Officer managed $2.9 billion, $2.6 billion and $2.2 billion of the campus foundations' investments at the end of 2019, 2018 and 2017, respectively.

Net position represents the residual interest in the assets after all liabilities and deferred inflows are deducted. Restricted, nonexpendable net position includes the corpus of the campus foundations' permanent endowments. Restricted, expendable net position is subject to externally imposed restrictions governing their use. Restricted, expendable net position is only available in accordance with the restrictions placed upon them and may include endowment income and investment gains, subject to each individual campus foundation's spending policy; and support received from gifts. New gifts less gifts transferred to campuses, and changes in the fair value of investments were the primary reasons for the changes in net position in 2019 and 2018.

The Campus Foundations' Results of Operations

The campus foundations' combined statement of revenues, expenses and changes in net position is a presentation of their operating results for the year. It indicates whether their financial condition has improved or deteriorated during the year.

A summarized comparison of the operating results for 2019, 2018 and 2017 is as follows:

(in millions of dollars)

	2019	2018	2017
OPERATING REVENUES			
Private gifts and other revenues	$919	$1,341	$868
Total operating revenues	**919**	**1,341**	**868**
OPERATING EXPENSES			
Grants to campuses and other expenses	1,170	1,136	970
Total operating expenses	**1,170**	**1,136**	**970**
Operating income (loss)	**(251)**	**205**	**(102)**
NONOPERATING REVENUES			
Investment income	71	77	74
Net appreciation in fair value of investments	361	646	792
Income before other changes in net position	**181**	**928**	**764**
OTHER CHANGES IN NET POSITION			
Permanent endowments	458	409	287
Increase in net position	**639**	**1,337**	**1,051**
NET POSITION			
Beginning of year	9,803	8,466	7,415
End of year	**$10,442**	**$9,803**	**$8,466**

Operating expenses generally consist of grants to University campuses. Grants to the campuses include current-use donor gifts, the annual income distributions on endowments and gift fees. Grants to campuses typically follow the pattern indicated by private gift revenue; however, the campuses' programmatic needs are also taken into consideration, subject to abiding by the restricted purposes specified by the donor for the use of gifts and endowment income.

Since gifts are transferred only when the cash is received and investment income is classified as nonoperating income, operating losses can occur when grants distributed to the campuses exceed private gift revenue.

THE UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM (UCRS)

UCRS is a valuable component of the comprehensive benefits package offered to employees of the University. UCRS consists of two defined benefit plans and four defined contribution plans. The defined benefit plans include the University of California Retirement Plan (UCRP) for members and the California Public Employees Retirement System (PERS) Voluntary Early Retirement Incentive Plan (UC-VERIP) for certain University employees that were members of PERS who elected early retirement. The University of California Retirement Savings Program (UCRSP) includes four defined contribution plans (Defined Contribution Plan, Supplemental Defined Contribution Plan, 403(b) Plan and 457(b) Plan), with several investment portfolio options for participants' elective and non-elective contributions.

UCRS' Financial Position and Result of Operations

The statement of plans' fiduciary net position presents the financial position of UCRS at the end of the fiscal year. It displays all of the retirement system's assets, liabilities and net position. The difference between assets and liabilities is the net position held in trust for pension benefits. These represent amounts available to provide pension benefits to members of UCRP and participants in the defined contribution plans and UC-VERIP. At June 30, 2019, UCRS' assets were $104.8 billion, liabilities were $8.6 billion and net position held in trust for pension benefits were $96.1 billion, an increase of $4.9 billion from 2018. At June 30, 2018, UCRS' assets were $99.1 billion, liabilities were $7.9 billion and net position held in trust for pension benefits were $91.2 billion, an increase of $6.6 billion from 2017.

The major components of the assets, liabilities and net position available for pension benefits for 2019, 2018 and 2017 are as follows:

(in millions of dollars)

	2019	2018	2017
ASSETS			
Investments	$95,457	$90,873	$82,574
Participants' interests in mutual funds	1,692	1,585	3,351
Investment of cash collateral	6,129	6,158	6,842
Other assets	1,488	465	1,203
Total assets	**104,766**	**99,081**	**93,970**
LIABILITIES			
Securities lending collateral	6,127	6,157	6,838
Other liabilities	2,517	1,699	2,470
Total liabilities	**8,644**	**7,856**	**9,308**
NET POSITION HELD IN TRUST FOR PENSION BENEFITS			
Members' defined benefit plan benefits	70,344	66,839	62,179
Participants' defined contribution plan benefits	25,779	24,386	22,483
Total net position held in trust for pension benefits	**$96,123**	**$91,225**	**$84,662**

The statements of changes in the plans' fiduciary net position are a presentation of UCRS' operating results. The statements indicate whether the financial condition has improved or deteriorated during the year. A summarized comparison of the operating results for 2019, 2018 and 2017 is as follows:

(in millions of dollars)

	2019	2018	2017
ADDITIONS			
Contributions	$4,815	$4,760	$4,779
Net appreciation (depreciation) in fair value of investments	3,701	5,099	8,617
Investment and other income, net	1,725	1,556	1,437
Total additions	**10,241**	**11,415**	**14,833**
DEDUCTIONS			
Benefit payments and participant withdrawals	5,275	4,812	4,700
Plan expenses	68	40	53
Total deductions	**5,343**	**4,852**	**4,753**
Increase in net position held in trust for pension benefits	**$4,898**	**$6,563**	**$10,080**

The Regents' asset allocation strategies are intended to generate investment returns over time in accordance with investment objectives and at acceptable levels of risk. The overall investment return for UCRP was 6.0 percent in 2019 as compared to 7.8 percent in 2018 and 14.5 percent in 2017.

The participants' interests in mutual funds, representing defined contribution plan contributions to certain mutual funds on a custodial plan basis, fluctuate based upon market performance of the mutual funds and participant investment elections.

UCRS participates in the University's securities lending program as a means to augment income. All borrowers are required to provide collateral and the University records a liability to the borrower for cash collateral received and held by the University for securities on loan at the end of the year. Investments in cash collateral and the securities lending collateral liability fluctuate in response to changes in demand from borrowers and the availability of securities based upon the UCRS asset allocation mix.

Contributions to UCRP were $3.4 billion in 2019, 2018 and 2017, including contributions from employees of $1.0 billion, $0.9 billion and $0.9 billion in 2019, 2018 and 2017, respectively. Contributions also included $169.0 million and $171.0 million, received from the state of California in 2018 and 2017, respectively, and additional deposits of $500.0 million, $391.8 million and $481.0 million made by the University in 2019, 2018 and 2017, respectively. University contribution rates to UCRP were 14.0 percent of covered payroll in 2019, 2018 and 2017. Employee contribution rates ranged between 7.0 percent and 9.0 percent in 2019, 2018 and 2017. The University contribution rate will be increased starting July 1, 2020 by 0.5 percent per year, on July 1st, for six years to 17.0 percent.

Benefit payments and participant withdrawals were $463.0 million more in 2019 than in 2018 and $112.2 million more in 2018 than in 2017. Payments from UCRP increase each year due to a growing number of retirees receiving payments and cost-of-living adjustments (COLAs). Benefit payments from UCRSP fluctuate based upon member withdrawals. Participant withdrawals increased by $234.5 million, or 19.2 percent, in 2019 as compared to 2018, and decreased by $154.2 million, or 11.2 percent, in 2018 as compared to 2017. As of June 30, 2019, over 79,100 retirees and beneficiaries were receiving payments from UCRS as compared to over 75,900 as of June 30, 2018 and 73,000 as of June 30, 2017.

The net pension liability for UCRP was $18.1 billion in 2019, $9.8 billion in 2018 and $10.7 billion in 2017. The increase in net pension liability for 2019 of $8.3 billion was primarily due to lower than expected investment returns on the UCRP investment portfolio and assumption changes, including a lower discount rate, longer mortality and lower inflation. The decrease in net pension liability for 2018 of $0.9 billion was due to higher than expected investment returns on the UCRP portfolio. The ratio of plan net position to total pension liability was 79.5 percent in 2019, 87.2 percent in 2018 and 85.3 percent in 2017.

Additional information on the retirement plans can be obtained from the 2019 annual reports of the University of California Retirement System by writing to the University of California, Office of the President, Human Resources and Benefits, Post Office Box 24570, Oakland, California 94623.

THE UNIVERSITY OF CALIFORNIA RETIREE HEALTH BENEFIT TRUST (UCRHBT)

UCRHBT was established on July 1, 2007 to allow certain University locations — primarily campuses and medical centers — that share the risks, rewards and costs of providing for retiree health benefits the opportunity to fund such benefits on a cost-sharing basis and accumulate funds under an arrangement segregated from University assets. The University contributes toward retiree medical and dental benefits, although it does not contribute toward the cost of other benefits available to retirees. The DOE laboratories do not participate in UCRHBT, therefore the DOE has no interest in the trust's assets.

UCRHBT's Financial Position and Result of Operations

The statement of trust's fiduciary net position presents the financial position of the UCRHBT at the end of the fiscal year. It displays the UCRHBT's assets, liabilities and net position. The difference between assets and liabilities is the net position held in trust for retiree health benefits. This represents amounts available to provide retiree health benefits to participants.

The major components of the assets, liabilities and net position available for retiree health benefits for 2019, 2018 and 2017 were as follows:

(in millions of dollars)

	2019	2018	2017
ASSETS			
Investments	$136	$128	$98
Other assets	40	24	26
Total assets	**176**	**152**	**124**
LIABILITIES			
Total liabilities	**19**	**18**	**17**
NET POSITION HELD IN TRUST FOR RETIREE HEALTH BENEFITS			
Total net position held in trust for retiree health benefits	**$157**	**$134**	**$107**

The statement of changes in the trust's fiduciary net position is a presentation of UCRHBT's operating results and indicates whether the financial condition has improved or deteriorated during the year. Summarized operating results for 2019, 2018 and 2017 are as follows:

(in millions of dollars)

	2019	2018	2017
ADDITIONS			
Contributions	$333	$338	$328
Investment and other income	3	2	
Total additions	**336**	**340**	**328**
DEDUCTIONS			
Insurance premiums and payments	309	309	290
Plan expenses	4	4	4
Total deductions	**313**	**313**	**294**
Increase in net position held in trust for retiree health benefits	**$23**	**$27**	**$34**

Contributions for retiree health benefits are made by the campuses and medical centers based upon projected pay-as-you-go financing. The University acts as a third-party administrative agent on behalf of UCRHBT to pay health care insurers and administrators amounts currently due.

The retiree health benefits provided under the University's plan and any liabilities related to the future funding requirements for the retiree health benefits are reported by the University. The net retiree health liability for UCRHBT was $19.2 billion, $18.3 billion and $18.7 billion in 2019, 2018 and 2017, respectively.

LOOKING FORWARD

The University of California is a world center of learning, known for generating a steady stream of talent, knowledge and social benefits, and has always been at the center of California's capacity to innovate. The excellence of its programs attracts the best students, leverages hundreds of millions of dollars in state, federal and private funding and promotes discovery of new knowledge that fuels economic growth.

The Governor signed the 2019-20 State Budget Act on June 27, 2019. State funds allocated to the University totaled $3.9 billion, which includes an increase of 7.1 percent, or $247.5 million in new ongoing support. The additional funds address general operating cost increases, increasing enrollment by 4,860 new California undergraduates above 2018-19 levels by 2020-21 and various other programs. The Budget Act also includes $215.1 million in one-time funding for various programs across the University including $143.5 million for deferred maintenance.

The University remains highly competitive in attracting federal grants and contracts revenue, with fluctuations in the awards received closely paralleling trends in the budgets of federal research granting agencies. Over two-thirds of the University's federal research revenue comes from two agencies, the Department of Health and Human Services, primarily through the National Institutes of Health, and the National Science Foundation. Other agencies that figure prominently in the University's awards are the Department of Education, Department of Defense, the National Aeronautics and Space Administration and the Department of Energy. The University is a unique national resource for helping the nation address competitiveness and economic initiatives.

The University's medical centers have positive operating margins, although they continue to face financial and competitive challenges in their regional markets, along with the added costs and responsibilities related to their function as academic institutions. The demand for health care services and the cost of providing them continue to increase significantly. In addition to the rising costs of salaries, benefits and medical supplies faced by hospitals across the state, along with the costs of maintaining and upgrading facilities, the University's medical centers also face additional costs associated with seismic retrofitting, new technologies, biomedical research, the education and training of health care professionals and the care for a disproportionate share of the medically underserved in California. Other than Medicare and Medi-Cal (California's Medicaid program), health insurance payments do not recognize the added cost of teaching in their payment to academic medical centers. The growth in costs of the publicly funded programs and health care reform will likely continue to reduce rates or limit payment growth, placing downward pressure on operating results for the medical centers.

The University must have a balanced array of many categories of facilities to meet its education, research and public service goals and continues to assess its long-term capital requirements. Support for the University's capital program is expected to be provided from a combination of sources, including the state of California, external financing, gifts and other sources.

Additional budget information can be found at http://universityofcalifornia.edu/news/budget/welcome.html. Additional information concerning state budget matters and the state's financial condition may be found on the website of the California Department of Finance at http://www.dof.ca.gov.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information provided by the University, including written as outlined above or oral statements made by its representatives, may contain forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, which address activities, events or developments that the University expects or anticipates will or may occur in the future contain forward-looking information.

In reviewing such information, it should be kept in mind that actual results may differ materially from those projected or suggested in such forward-looking information. This forward-looking information is based upon various factors and was derived using various assumptions. The University does not undertake to update forward-looking information contained in this report or elsewhere to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking information.

Report of Independent Auditors

TO THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

We have audited the accompanying financial statements of the University of California (the "University"), a component unit of the State of California, its aggregate discretely presented component units, the University of California Retirement System, and the University of California Retiree Health Benefit Trust as of and for the years ended June 30, 2019 and 2018 and the related notes to the financial statements, which collectively comprise the University's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on the financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the University, its aggregate discretely presented component units, the University of California Retirement System, and the University of California Retiree Health Benefit Trust as of June 30, 2019 and 2018, and the respective changes in financial position and, where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matter

The accompanying management's discussion and analysis on pages 12 through 30 and the required supplemental information on pages 109 through 116 are required by accounting principles generally accepted in the United States of America to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
San Francisco, California
October 8, 2019

UNIVERSITY OF CALIFORNIA
STATEMENTS OF NET POSITION

At June 30, 2019 and 2018 (in thousands of dollars)	UNIVERSITY OF CALIFORNIA 2019	UNIVERSITY OF CALIFORNIA 2018	CAMPUS FOUNDATIONS 2019	CAMPUS FOUNDATIONS 2018
ASSETS				
Cash and cash equivalents	$143,127	$249,523	$458,594	$447,377
Short-term investments	4,923,749	4,890,075	875,652	857,844
Investment of cash collateral	839,994	1,054,406	32,733	40,999
Investments held by trustees	914,176	26,803		
Accounts receivable, net	5,406,680	4,061,888	37,496	13,102
Pledges receivable, net	28,039	25,049	201,299	234,294
Current portion of notes and mortgages receivable, net	66,357	68,482		181
Inventories	266,839	244,706		
Department of Energy receivable	155,027	133,472		
Other current assets	401,781	400,030	3,959	4,622
Current assets	**13,145,769**	**11,154,434**	**1,609,733**	**1,598,419**
Investments	23,783,632	22,478,922	9,102,737	8,381,736
Investment of cash collateral	114,946	110,301	3,651	4,289
Investments held by trustees	331,772	388,361		
Pledges receivable, net	30,036	32,690	686,693	771,889
Notes and mortgages receivable, net	379,981	386,342	250	250
Department of Energy receivable	1,579,117	973,652		
Capital assets, net	34,229,473	32,325,107		
Other noncurrent assets	282,762	202,996	115,047	115,177
Noncurrent assets	**60,731,719**	**56,898,371**	**9,908,378**	**9,273,341**
Total assets	**73,877,488**	**68,052,805**	**11,518,111**	**10,871,760**
DEFERRED OUTFLOWS OF RESOURCES	**10,701,222**	**4,668,926**		
LIABILITIES				
Accounts payable	3,236,356	2,178,244	15,441	22,071
Accrued salaries	1,260,368	642,753		
Employee benefits	574,856	393,296		
Unearned revenue	1,505,912	1,423,686	6,265	5,535
Collateral held for securities lending	954,668	1,164,481	36,384	45,288
Commercial paper	574,483	781,804		
Current portion of long-term debt	1,696,499	1,371,030		
Funds held for others	433,213	409,934	314,910	298,060
Department of Energy laboratories' liabilities	137,481	116,111		
Other current liabilities	2,017,093	1,898,204	46,404	44,180
Current liabilities	**12,390,929**	**10,379,543**	**419,404**	**415,134**
Federal refundable loans	248,645	244,852		
Self-insurance	715,417	584,186		
Obligations under life income agreements	35,118	35,293	150,069	149,391
Long-term debt	22,313,160	21,505,943		
Net pension liability	18,117,941	9,775,120		
Net retiree health liability	19,861,686	18,862,265		
Other noncurrent liabilities	738,640	569,396	278,076	271,825
Noncurrent liabilities	**62,030,607**	**51,577,055**	**428,145**	**421,216**
Total liabilities	**74,421,536**	**61,956,598**	**847,549**	**836,350**
DEFERRED INFLOWS OF RESOURCES	**6,828,085**	**6,609,704**	**228,675**	**232,018**
NET POSITION				
Net investment in capital assets	14,284,354	13,578,222		
Restricted:				
Nonexpendable: Endowments and gifts	1,176,981	1,148,699	4,885,413	4,408,143
Nonexpendable: Reserved for minority interests	47,770	33,754		
Expendable	8,211,427	8,272,450	5,017,760	4,965,668
Unrestricted	(20,391,443)	(18,877,696)	538,714	429,581
Total net position	**$3,329,089**	**$4,155,429**	**$10,441,887**	**$9,803,392**

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	UNIVERSITY OF CALIFORNIA		CAMPUS FOUNDATIONS	
Years ended June 30, 2019 and 2018 (in thousands of dollars)	**2019**	**2018**	**2019**	**2018**
OPERATING REVENUES				
Student tuition and fees, net	$5,170,171	$4,838,764		
Grants and contracts, net:				
Federal	3,528,753	3,302,446		
State	548,975	567,532		
Private	1,539,487	1,523,778		
Local	359,352	315,424		
Medical centers, net	13,208,083	12,064,598		
Educational activities, net	4,009,029	3,670,545		
Auxiliary enterprises, net	1,716,776	1,684,759		
Department of Energy laboratories	1,577,244	1,062,428		
Campus foundation private gifts			$918,363	$1,340,158
Other operating revenues, net	937,427	970,991	967	1,237
Total operating revenues	**32,595,297**	**30,001,265**	**919,330**	**1,341,395**
OPERATING EXPENSES				
Salaries and wages	16,984,570	15,952,983		
Pension benefits	4,340,355	1,339,462		
Retiree health benefits	1,292,332	1,294,888		
Other employee benefits	3,288,909	3,245,927		
Supplies and materials	4,057,105	3,610,171		
Depreciation and amortization	2,100,228	2,027,343		
Department of Energy laboratories	1,569,702	1,054,475		
Scholarships and fellowships	850,390	766,857		
Utilities	336,232	303,773		
Campus foundation grants			1,134,265	1,100,287
Other operating expenses	5,283,590	4,850,982	35,948	35,917
Total operating expenses	**40,103,413**	**34,446,861**	**1,170,213**	**1,136,204**
Operating income (loss)	**(7,508,116)**	**(4,445,596)**	**(250,883)**	**205,191**
NONOPERATING REVENUES (EXPENSES)				
State educational appropriations	3,508,102	3,386,119		
State hospital fee grants	33,609	21,670		
Build America Bonds federal interest subsidies	53,071	57,179		
Federal Pell Grants	437,828	421,693		
Private gifts, net	1,441,330	1,315,092		
Investment income:				
Short Term Investment Pool and other, net	339,661	307,225		
Endowment, net	93,608	97,134		
Securities lending, net	8,459	8,958	385	366
Campus foundations			71,123	76,988
Net appreciation in fair value of investments	1,386,797	889,534	360,862	646,441
Interest expense	(767,358)	(746,476)	(27)	(50)
Gain (loss) on disposal of capital assets	(16,258)	7,779		
Other nonoperating revenues (expenses)	(55,486)	62,308	(1,316)	(23)
Net nonoperating revenues	**6,463,363**	**5,828,215**	**431,027**	**723,722**
Income (loss) before other changes in net position	**(1,044,753)**	**1,382,619**	**180,144**	**928,913**
OTHER CHANGES IN NET POSITION				
Capital gifts and grants, net	195,348	403,164		
State capital appropriations		32		
Permanent endowments	23,065	25,328	458,351	408,707
Increase (decrease) in net position	**(826,340)**	**1,811,143**	**638,495**	**1,337,620**
NET POSITION				
Beginning of year, as previously reported	4,155,429	2,354,476	9,803,392	8,465,772
Cumulative effect of accounting change		(10,190)		
Beginning of year, restated	4,155,429	2,344,286	9,803,392	8,465,772
End of year	**$3,329,089**	**$4,155,429**	**$10,441,887**	**$9,803,392**

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA
STATEMENTS OF CASH FLOWS

Years ended June 30, 2019 and 2018 (in thousands of dollars)	UNIVERSITY OF CALIFORNIA 2019	UNIVERSITY OF CALIFORNIA 2018	CAMPUS FOUNDATIONS 2019	CAMPUS FOUNDATIONS 2018
CASH FLOWS FROM OPERATING ACTIVITIES				
Student tuition and fees	$5,153,207	$4,820,829		
Grants and contracts	6,010,358	5,571,346		
Medical centers	13,032,546	11,831,671		
Educational activities	3,903,724	3,646,918		
Auxiliary enterprises	1,724,883	1,686,540		
Collection of loans from students and employees	79,437	85,622		
Campus foundation private gifts			$914,380	$997,932
Payments to employees	(16,245,812)	(15,907,816)		
Payments to suppliers and utilities	(9,034,484)	(8,228,056)		
Payments for pension benefits	(2,191,594)	(2,208,680)		
Payments for retiree health benefits	(377,826)	(319,927)		
Payments for other employee benefits	(3,197,524)	(3,318,249)		
Payments for scholarships and fellowships	(850,235)	(766,797)		
Loans issued to students and employees	(68,465)	(176,940)		
Payments to campuses and beneficiaries			(1,184,480)	(1,157,983)
Other receipts	299,829	723,416	30,586	29,217
Net cash used by operating activities	**(1,761,956)**	**(2,560,123)**	**(239,514)**	**(130,834)**
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES				
State educational appropriations	3,508,973	3,371,735		
Federal Pell Grants	437,934	418,735		
State hospital fee grants	33,609	21,670		
Gifts received for other than capital purposes:				
Private gifts for endowment purposes	20,023	59,022	386,618	332,939
Other private gifts	1,307,172	1,306,915		
Receipt of retiree health contributions from UCRP	88,434	65,102		
Payment of retiree health contributions to UCRHBT	(81,722)	(82,597)		
Receipts from UCRHBT	399,047	372,702		
Payments for retiree health benefits made on behalf of UCRHBT	(438,586)	(385,462)		
Student direct lending receipts	555,283	562,158		
Student direct lending payments	(555,180)	(562,128)		
Proceeds from debt issuance	500,000			
Commercial paper financing:				
Proceeds from issuance	33,761	7,576		
Payments of principal	(16,780)	(12,936)		
Interest paid on debt	(29,737)	(22,554)		
Other receipts	8,902	122,345	9,241	22,593
Net cash provided by noncapital financing activities	**5,771,133**	**5,242,283**	**395,859**	**355,532**
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES				
Commercial paper financing:				
Proceeds from issuance	193,506	642,547		
Payments of principal	(417,808)	(668,056)		
Interest paid	(9,559)	(10,693)		
State capital appropriations	4,165	(1,794)		
Build America bonds federal interest subsidies	46,586	57,845		
Capital gifts and grants	150,394	130,358		
Proceeds from debt issuance	436,994	4,645,296		
Proceeds from the sale of capital assets	37,151	3,348		
Purchase of capital assets	(3,615,979)	(3,557,917)		
Refinancing or prepayment of outstanding debt		(1,013,739)		
Scheduled principal paid on debt and capital leases	(430,238)	(394,905)		
Interest paid on debt and capital leases	(901,107)	(878,075)		
Net cash used by capital and related financing activities	**(4,505,895)**	**(1,045,785)**		

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA

STATEMENTS OF CASH FLOWS *continued*

	UNIVERSITY OF CALIFORNIA		CAMPUS FOUNDATIONS	
Years ended June 30, 2019 and 2018 (in thousands of dollars)	**2019**	**2018**	**2019**	**2018**
CASH FLOWS FROM INVESTING ACTIVITIES				
Proceeds from sales and maturities of investments	$75,381,612	$83,531,008	$1,455,483	$1,642,416
Purchase of investments	(75,445,081)	(85,520,749)	(1,672,071)	(1,751,480)
Investment income, net of investment expenses	453,791	399,519	71,460	77,643
Net cash provided (used) by investing activities	**390,322**	**(1,590,222)**	**(145,128)**	**(31,421)**
Net increase (decrease) in cash and cash equivalents	**(106,396)**	**46,153**	**11,217**	**193,277**
Cash and cash equivalents, beginning of year	249,523	203,370	447,377	254,100
Cash and cash equivalents, end of year	**$143,127**	**$249,523**	**$458,594**	**$447,377**
RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH USED BY OPERATING ACTIVITIES				
Operating income (loss)	($7,508,116)	($4,445,596)	($250,883)	$205,191
Adjustments to reconcile operating loss to net cash used by operating activities:				
Depreciation and amortization expense	2,100,228	2,027,343		
Noncash gifts			(112,580)	(141,530)
Allowance for uncollectible accounts	252,838	257,198	856	3,775
Loss on impairment of capital assets	4,056	10,361		
Change in assets and liabilities:				
Investments held by trustees	(17,062)	10,254	(3,287)	(1,186)
Accounts receivable	(587,066)	(639,229)	2,401	6,796
Pledges receivable			113,671	(147,333)
Inventories	(22,132)	(17,712)		
Other assets	(143,490)	(179,961)	2,802	(7,095)
Accounts payable	126,473	110,295	790	(1,143)
Accrued salaries	617,615	(1,747)		
Employee benefits	174,466	15,765		
Unearned revenue	80,162	225,169	(761)	(55,807)
Department of Energy	(594,755)	298,366		
Self-insurance	127,478	116,108		
Obligations under life income agreements			(4,899)	(5,659)
Net pension liability	2,665,176	(1,200,507)		
Net retiree health benefits liability	857,147	874,018		
Other liabilities	105,026	(20,248)	12,376	13,157
Net cash used by operating activities	**($1,761,956)**	**($2,560,123)**	**($239,514)**	**($130,834)**
SUPPLEMENTAL NONCASH ACTIVITIES INFORMATION				
Capital assets acquired through capital leases	$16,328	$47,225		
Capital assets acquired with a liability at year end	105,603	76,120		
Change in fair value of interest rate swaps classified as hedging derivatives	(75,322)	35,393		
Gifts of capital assets	46,971	294,873		
Other noncash gifts	130,100	3,276	$172,898	$203,015
Proceeds from issuance of blended component unit revenue bonds deposited with trustees	717,135	382,747		
Beneficial interests in irrevocable split interest agreements administered by third parties	(15,348)	1,114	16,887	12,818
Noncash gifts for University-administered irrevocable split-interest agreements			14,120	35,119

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM AND RETIREE HEALTH BENEFIT TRUST

STATEMENTS OF PLANS' AND TRUST'S FIDUCIARY NET POSITION

	UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM (UCRS)		UNIVERSITY OF CALIFORNIA RETIREE HEALTH BENEFIT TRUST (UCRHBT)		TOTAL UCRS AND UCRHBT	
At June 30, 2019 and 2018 (in thousands of dollars)	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
ASSETS						
Investments	$95,456,703	$90,872,718	$136,248	$128,091	$95,592,951	$91,000,809
Participants' interests in mutual funds	1,691,773	1,585,098			1,691,773	1,585,098
Investment of cash collateral	6,128,526	6,158,290			6,128,526	6,158,290
Participant 403(b) loans	193,766	184,388			193,766	184,388
Accounts receivable:						
Contributions from University and affiliates	168,208	113,353	30,737	6,537	198,945	119,890
Investment income	83,927	90,314			83,927	90,314
Security sales and other	1,043,318	76,615	318	200	1,043,636	76,815
Prepaid insurance premiums			8,565	17,300	8,565	17,300
Total assets	**104,766,221**	**99,080,776**	**175,868**	**152,128**	**104,942,089**	**99,232,904**
LIABILITIES						
Payable to University			18,959	18,547	18,959	18,547
Payable for securities purchased	2,132,979	1,612,039			2,132,979	1,612,039
Member withdrawals, refunds and other payables	383,595	86,664			383,595	86,664
Collateral held for securities lending	6,126,849	6,157,131			6,126,849	6,157,131
Total liabilities	**8,643,423**	**7,855,834**	**18,959**	**18,547**	**8,662,382**	**7,874,381**
NET POSITION HELD IN TRUST						
Members' defined benefit plan benefits	70,343,741	66,838,838			70,343,741	66,838,838
Participants' defined contribution plan benefits	25,779,057	24,386,104			25,779,057	24,386,104
Retiree health benefits			156,909	133,581	156,909	133,581
Total net position held in trust	**$96,122,798**	**$91,224,942**	**$156,909**	**$133,581**	**$96,279,707**	**$91,358,523**

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM AND RETIREE HEALTH BENEFIT TRUST

STATEMENTS OF CHANGES IN PLANS' AND TRUST'S FIDUCIARY NET POSITION

	UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM (UCRS)		UNIVERSITY OF CALIFORNIA RETIREE HEALTH BENEFIT TRUST (UCRHBT)		TOTAL UCRS AND UCRHBT	
Years ended June 30, 2019 and 2018 (in thousands of dollars)	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
ADDITIONS						
Contributions:						
Members and employees	$2,349,879	$2,216,388			$2,349,879	$2,216,388
State		169,000				169,000
University	2,465,178	2,374,352	$333,107	$338,436	2,798,285	2,712,788
Total contributions	**4,815,057**	**4,759,740**	**333,107**	**338,436**	**5,148,164**	**5,098,176**
Investment income (expense), net:						
Net appreciation in fair value of investments	3,701,585	5,098,540			3,701,585	5,098,540
Interest, dividends and other investment income	1,671,203	1,508,186	3,195	1,634	1,674,398	1,509,820
Securities lending income	212,596	136,099			212,596	136,099
Securities lending fees and rebates	(160,185)	(89,025)			(160,185)	(89,025)
Total investment income, net	**5,425,199**	**6,653,800**	**3,195**	**1,634**	**5,428,394**	**6,655,434**
Interest income from contributions receivable	796	1,148			796	1,148
Total additions	**10,241,052**	**11,414,688**	**336,302**	**340,070**	**10,577,354**	**11,754,758**
DEDUCTIONS						
Benefit payments:						
Retirement payments	2,664,031	2,495,200			2,664,031	2,495,200
Member withdrawals	144,384	153,324			144,384	153,324
Cost-of-living adjustments	560,546	517,646			560,546	517,646
Lump sum cashouts	362,545	336,966			362,545	336,966
Preretirement survivor payments	51,011	49,329			51,011	49,329
Disability payments	30,102	30,259			30,102	30,259
Death payments	8,028	9,440			8,028	9,440
Participant withdrawals	1,454,549	1,220,081			1,454,549	1,220,081
Total benefit payments	**5,275,196**	**4,812,245**			**5,275,196**	**4,812,245**
Insurance premiums:						
Insured plans			112,997	167,546	112,997	167,546
Self-insured plans			184,114	131,458	184,114	131,458
Medicare Part B reimbursements			11,563	10,340	11,563	10,340
Total insurance premiums, net			**308,674**	**309,344**	**308,674**	**309,344**
Other deductions:						
Plan administration	54,833	29,981	4,300	3,859	59,133	33,840
Other	13,167	9,388			13,167	9,388
Total other deductions	**68,000**	**39,369**	**4,300**	**3,859**	**72,300**	**43,228**
Total deductions	**5,343,196**	**4,851,614**	**312,974**	**313,203**	**5,656,170**	**5,164,817**
Increase in net position held in trust	**4,897,856**	**6,563,074**	**23,328**	**26,867**	**4,921,184**	**6,589,941**
NET POSITION HELD IN TRUST						
Beginning of year	91,224,942	84,661,868	133,581	106,714	91,358,523	84,768,582
End of year	**$96,122,798**	**$91,224,942**	**$156,909**	**$133,581**	**$96,279,707**	**$91,358,523**

See accompanying Notes to Financial Statements.

UNIVERSITY OF CALIFORNIA

Notes to Financial Statements

Years ended June 30, 2019 and 2018

ORGANIZATION

The University of California (the University) was founded in 1868 as a public, state-supported institution. The California State Constitution provides that the University shall be a public trust administered by the corporation, "The Regents of the University of California," which is vested with full powers of organization and government, subject only to such legislative control necessary to ensure the security of its funds and compliance with certain statutory and administrative requirements. The majority of the 26-member independent governing board (The Regents) is appointed by the governor and approved by the state Senate. Various University programs and capital outlay projects are funded through appropriations from the state's annual Budget Act. The University's financial statements are discretely presented in the state's basic financial statements as a component unit.

FINANCIAL REPORTING ENTITY AND SIGNIFICANT ACCOUNTING POLICIES

Financial Reporting Entity

The University's financial statements include the accounts of ten campuses, five medical centers, a statewide agricultural extension program and the operations of most student government or associated student organizations as part of the primary financial reporting entity because The Regents has certain oversight responsibilities for these organizations. Organizations that are not significant or for which the University is not financially accountable, such as booster and alumni organizations, are not included in the reporting entity. However, cash invested with the University by these organizations, along with the related liability, is included in the statement of net position. The statement of revenues, expenses and changes in net position excludes the activities associated with these organizations.

Fiat Lux Risk and Insurance Company (Fiat Lux), the University's wholly owned captive insurance company, is a blended component unit of the University. The Regents is the sole corporate and voting member of Children's Hospital & Research Center Oakland (CHRCO), a private, not-for-profit 501(c)(3) corporation. Children's Hospital & Research Center Foundation, a not-for-profit public benefit corporation, is organized and operated for the purpose of supporting CHRCO. CHRCO, combined with its foundation, is a blended component unit of the University. In addition, the financial position and operating results of certain other legally separate organizations are included in the University's financial reporting entity on a blended basis if The Regents is determined to be financially accountable for the organization. These include legally separate organizations that provide research and housing services entirely, or almost entirely, to the University or otherwise exclusively, or almost exclusively, benefit the University.

The University has eleven legally separate, tax-exempt, affiliated campus foundations, one for each campus and the Lawrence Berkeley National Laboratory (LBNL). The economic resources received or held by the foundations are entirely for the benefit of the campuses. Because of the nature and significance of their relationship with the University, including their ongoing financial support, the campus foundations are reported under the Governmental Accounting Standards Board (GASB) requirements as discretely presented component units of the University.

Specific assets and liabilities and all revenues and expenses associated with the LBNL, a major United States Department of Energy (DOE) national laboratory operated and managed by the University under contract directly with the DOE, are included in the accompanying financial statements.

The Regents has fiduciary responsibility for the University of California Retirement System (UCRS) which includes two defined benefit plans, the University of California Retirement Plan (UCRP) and the University of California Voluntary Early Retirement Incentive Plan (UC–VERIP), and four defined contribution plans in the University of California Retirement Savings Program (UCRSP), consisting of the Defined Contribution Plan (DC Plan), the Supplemental Defined Contribution Plan (SDC Plan), the Tax-Deferred 403(b) Plan (403(b) Plan) and the 457(b) Deferred Compensation Plan (457(b) Plan). As a result, the UCRS statements of plans' fiduciary net position and changes in plans' fiduciary net position are shown as a fiduciary fund in the University's financial statements.

The Regents also has fiduciary responsibility for the University of California Retiree Health Benefit Trust (UCRHBT). As a result, UCRHBT's statements of trust's fiduciary net position and changes in trust's fiduciary net position are shown as a fiduciary fund in the University's financial statements. UCRHBT allows certain University locations and affiliates, primarily campuses and medical centers that share the risks, rewards and costs of providing for retiree health benefits, the opportunity to fund such benefits on a cost-sharing basis and to accumulate funds on a tax-exempt basis under an arrangement segregated from University assets. The Regents serves as Trustee of UCRHBT and has the authority to amend or terminate the trust.

Significant Accounting Policies

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America, using the economic resources measurement focus and the accrual basis of accounting. The University follows accounting principles issued by the GASB.

Government Accounting Standards Board (GASB) Statement No. 83, *Certain Asset Retirement Obligations*, was adopted by the University as of July 1, 2018. The Statement establishes guidance for determining the timing and pattern of recognition for liabilities and corresponding deferred outflow of resources related to asset retirement obligations. The Statement requires the measurement of an asset retirement obligation to be based on the best estimate of the current value of outlays expected to be incurred. The deferred outflow of resources associated with an asset retirement obligation is measured at the amount of the corresponding liability upon initial measurement and is generally recognized as an expense during the reporting periods that the asset provides service.
The effects of reporting Statement No. 83 in the University's financial statements for the year ended June 30, 2018, were as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA AS OF AND FOR THE YEAR ENDED JUNE 30, 2018		
	AS PREVIOUSLY REPORTED	EFFECT OF ADOPTION OF STATEMENT NO. 83	AS RESTATED
STATEMENT OF NET POSITION			
Deferred outflows of resources	$4,649,403	$19,523	$4,668,926
Other noncurrent liabilities	538,381	31,015	569,396
Noncurrent liabilities	51,546,040	31,015	51,577,055
Total liabilities	61,925,583	31,015	61,956,598
Unrestricted	(18,866,204)	(11,492)	(18,877,696)
Total net position	4,166,921	(11,492)	4,155,429
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION			
Other nonoperating revenues	$63,610	($1,302)	$62,308
Net nonoperating revenues (expenses)	5,829,517	(1,302)	5,828,215
Income before other changes in net position	1,383,921	(1,302)	1,382,619

The adoption of Statement No. 83 did not result in any adjustments to the financial statements of UCRS or UCRHBT.

GASB Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*, was implemented by the University as of July 1, 2018. This Statement defines debt for purposes of disclosures in notes to financial statements as a liability that arises from a contractual obligation to pay cash (or other assets that may be used in lieu of cash) in one or more payments to settle an amount that is fixed at the date the contractual obligation is established. This Statement requires additional disclosures related to debt including providing additional information for direct borrowings and direct placements of debt separately from other debt. Implementation of Statement No. 88 had no impact on the financial statements.

The significant accounting policies of the University are as follows:

Cash and cash equivalents. The University and campus foundations consider all balances in demand deposit accounts to be cash. The University classifies all other highly liquid cash equivalents with original maturities less than one year as short-term investments. Certain campus foundations classify their deposits in the University's Short Term Investment Pool as a cash equivalent.

Investments. Investments are measured and reported at fair value. Securities are generally valued at the last sale price on the last business day of the fiscal year, as quoted on a recognized exchange or by utilizing an industry standard pricing service, when available. Securities for which no sale was reported as of the close of the last business day of the fiscal year are valued at the quoted bid price of a dealer who regularly trades in the security being valued. Investment in non-exchange traded debt and equity investments are valued using inputs provided by independent pricing services or by brokers/dealers who actively trade in these markets. Certain securities may be valued on a basis of a price provided by a single source.

Investments also include private equities, absolute return funds, real estate, real asset and certain corporate asset-backed securities. Private equities include venture capital partnerships, buyouts, real assets and international funds. Fair values for interests in private equity, absolute return partnerships and real estate partnerships are based on valuations provided by the general partners of the respective partnerships. The valuations are primarily based on the most recent net asset value (NAV) of the underlying investments. The NAV is reported by the external investment managers, including general partners, in accordance with their policies as described in their respective financial statements and offering memoranda. The most recent NAV is adjusted for capital calls, distributions and significant known valuation changes, if any, of its related portfolio through June 30, 2019 and 2018.

Interests in certain direct investments in real estate are estimated based upon independent appraisals. Because the private equity, real estate, real assets and absolute return partnerships, along with direct investments in real estate, are not readily marketable, their estimated value is subject to uncertainty and, therefore, may differ significantly from the value that would be used had a ready market for such investments existed. These investments are generally less liquid than other investments, and the value reported may differ from the values that would have been reported had a ready market for these investments existed.

For other investments, the University considers various factors to estimate fair value, such as the timing of the transaction, the market in which the company operates, comparable transactions, company performance and projections as well as discounted cash flow analysis. The selection of an appropriate technique may be affected by the availability and general reliability of relevant inputs. In some cases, one valuation technique may provide the best indication of fair value while in other circumstances, multiple valuation techniques may be appropriate. Furthermore, the University may review the investment's underlying portfolio as well as engage external appraisers, depending on the nature of the investment.

The University exercises due diligence in assessing the external managers' use of and adherence to fair value principles. In conjunction with these procedures, estimated fair value is determined by consideration of a wide range of factors, including market conditions, redemption terms and restrictions and risks inherent to the inputs of the external investment managers' valuation. In situations where the information provided by the external manager is deemed to not be representative of the fair value as of the measurement date, management evaluates specific features of the investment and utilizes supplemental fair value information provided by the external manager along with any relevant market data to measure the investment's fair value.

Investments in registered investment companies are valued based upon the reported NAV of those companies. Mortgage loans, held as investments, are valued on the basis of their future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. Insurance contracts are valued at contract value, plus reinvested interest, which approximates fair value.

Investments denominated in foreign currencies are translated into U.S. dollar equivalents using year-end spot foreign currency exchange rates. Purchases and sales of investments and their related income are translated at the rate of exchange on the respective transaction dates. Realized and unrealized gains and losses resulting from foreign currency changes are included in the University's statement of revenues, expenses and changes in net position.

Investment transactions are recorded on the date the securities are purchased or sold (trade date). Realized gains or losses are recorded as the difference between the proceeds from the sale and the average cost of the investment sold. Dividend income is recorded on the ex-dividend date and interest income is accrued as earned. Gifts of securities are recorded based on fair value at the date of donation.

Campus foundations may invest all or a portion of their investments in University-managed investment pools. Certain securities in these investment pools are included in the University's security lending program. Accordingly, the campus foundations' investments in University-managed investment pools and their allocated share of the securities lending activities have been excluded from the University's financial statements and included in the Campus Foundations' column.

Derivative financial instruments. Derivative instruments are recorded at fair value. Futures contracts, foreign currency exchange contracts, stock rights and warrants, options and swaptions are valued at the settlement price on the last day of the fiscal year, as quoted on a recognized exchange or by utilizing an industry standard pricing service, when available. Financial institutions or independent advisors have estimated the fair value of the interest rate swaps and total return swaps using quoted market prices when available or discounted expected future net cash flows.

The University has entered into interest rate swap agreements to limit the exposure of its variable-rate debt to changes in market interest rates. Interest rate swap agreements involve the exchange with a counterparty of fixed- and variable-rate interest payments periodically over the life of the agreement without exchange of the underlying notional principal amounts. The net differential to be paid or received is recognized over the life of the agreements as an adjustment to interest expense. The University's counterparties are major financial institutions.

Derivatives are recorded at estimated fair value as either assets or liabilities in the statement of net position. Certain derivatives are determined to be hedging derivatives and designated as either a fair value or cash flow hedge. Under hedge accounting, changes in the fair value of hedging derivatives are considered to be deferred inflows (for hedging derivatives with positive fair values) or deferred outflows (for hedging derivatives with negative fair values).

Changes in the fair value of derivatives that are not hedging derivatives are recorded as net appreciation or depreciation of investments in the statement of revenues, expenses and changes in net position.

Participants' interests in mutual funds. Participants in the University's defined contribution retirement plans may invest their account balances in funds managed by the University's Chief Investment Officer or in certain mutual funds.

Accounts receivable, net. Accounts receivable, net of allowance for uncollectible amounts, include reimbursements due from state and federal sponsors of externally funded research, patient billings, accrued income on investments and other receivables. Other receivables include local government and private grants and contracts, educational activities and amounts due from students, employees and faculty.

Pledges receivable, net. Unconditional pledges of private gifts to the University or campus foundations, net of allowance for uncollectible amounts, are recorded as pledges receivable and revenue in the year promised at the net present value of expected cash flows. Conditional pledges, including all pledges of endowments and intentions to pledge, are recognized as receivables and revenues when the specified conditions are met.

Beneficial interests in irrevocable split-interest agreements. The beneficial interests in irrevocable split-interest agreements represent the University's and the campus foundations' right to the portion of the benefits from the irrevocable split-interest agreements that are administered by third parties and are recognized as assets and deferred inflows of resources. These are measured at fair value and are reported as other noncurrent assets in the statements of net position. Changes in the fair value of the beneficial interest assets are recognized as an increase or decrease in the related deferred inflows of resources. At the termination of the agreement, net assets received from the beneficial interests are recognized as revenues.

Notes and mortgages receivable, net. Loans to students, net of allowance for uncollectible amounts, are provided from federal student loan programs and from other University sources. Home mortgage loans, primarily to faculty, are provided from the University's Short Term Investment Pool and from other University sources. Mortgage loans provided by the Short Term Investment Pool are classified as investments and loans provided by other sources are classified as mortgages receivable in the statements of net position.

Inventories. Inventories for the campuses, consisting primarily of supplies and merchandise for resale, are valued at cost, typically determined under the weighted average method, which is not in excess of estimated net realizable value. Inventories for the medical centers consist primarily of pharmaceuticals and medical supplies which are stated on a first-in, first-out basis at the lower of cost or market.

DOE national laboratories. The University operates and manages LBNL under a contract directly with the DOE. Specific assets and liabilities and all revenues and expenses associated with LBNL are included in the financial statements. Other assets, such as cash, property and equipment and other liabilities of LBNL are owned by the United States government rather than the University and, therefore, are not included in the statement of net position. The statement of cash flows excludes the cash flows associated with LBNL other than reimbursements, primarily related to pension and health benefits, since all other cash transactions are recorded in bank accounts owned by the DOE.

The University is a member in three separate joint ventures that operate and manage two other DOE laboratories under contracts directly with the DOE. Lawrence Livermore National Security, LLC (LLNS) operates and manages Lawrence Livermore National Laboratory (LLNL). Triad National Security, LLC (Triad) commenced operating and managing Los Alamos National Laboratory (LANL) effective November 1, 2018. Prior to November 1, 2018, LANL was managed by Los Alamos National Security, LLC (LANS). The University's investments in Triad, LLNS and LANS are accounted for using the equity method. Accordingly, the University's statement of net position includes its equity interest in Triad, LANS and LLNS, adjusted for the equity in undistributed earnings or losses and the statement of revenues, expenses and changes in net position includes its equity in the current earnings or losses of LANS and LLNS.

The DOE is financially responsible for substantially all of the current and future costs incurred at any of the national laboratories, including pension and retiree health benefit costs. Accordingly, to the extent there is a liability on the University's statement of net position for pension or retiree health obligations related to these laboratories, the University records a receivable from the DOE.

Capital assets, net. Land, infrastructure, buildings and improvements, intangible assets, equipment, libraries, collections and special collections are recorded at cost at the date of acquisition, or estimated acquisition value at the date of donation in the case of gifts. Estimates of acquisition value involve assumptions and estimation methods that are uncertain and, therefore, the estimates could differ from actual value. Intangible assets include easements, land rights, trademarks, patents and other similar arrangements. Capital leases are recorded at the estimated present value of future minimum lease payments. Significant additions, replacements, major repairs and renovations to infrastructure and buildings are generally capitalized if the cost exceeds $35,000 and if they have a useful life of more than one year. Minor renovations are charged to operations. Equipment with a cost in excess of $5,000 and a useful life of more than one year is capitalized. Incremental costs, including salaries and employee benefits, directly related to the acquisition, development and installation of major software projects are included in the cost of the capital assets. All costs of land, library collections and special collections are capitalized.

Depreciation is calculated using the straight-line method over the estimated economic life of the asset. Equipment under capital leases is amortized over the estimated useful life of the equipment. Leasehold improvements are amortized using the straight-line method over the shorter of the life of the applicable lease or the economic life of the asset.

Estimated economic lives are generally as follows:

	YEARS
Infrastructure	25
Buildings and improvements	15-33
Equipment	2-20
Computer software	3-7
Intangible assets	2-indefinite
Library books and collections	15

Capital assets acquired through federal grants and contracts where the federal government retains a reversionary interest are also capitalized and depreciated.

Inexhaustible capital assets, such as land or special collections that are protected, preserved and held for public exhibition, education or research, including art, museum, scientific and rare book collections are not depreciated.

Interest on borrowings to finance facilities is capitalized during construction, net of any investment income earned on tax-exempt borrowings during the temporary investment of project-related borrowings.

Service concession arrangements. The University has entered into service concession arrangements with third parties for parking, student housing and certain other faculty and student services. Under these arrangements, the University enters into ground leases with third parties at minimal or no cost, and gives the third party the right to construct, operate and maintain a facility, primarily for the benefit of students and faculty at competitive rates. Rate increases for use of the facilities are subject to certain constraints and ownership of the facilities reverts to the University upon expiration of the ground lease. The facilities are reported as capital assets by the University when placed in service, and a corresponding deferred inflow of resources is reported. The University has not provided guarantees on financing obtained by the third parties under these arrangements.

Unearned revenue. Unearned revenue primarily includes amounts received from grant and contract sponsors that have not been earned under the terms of the agreement and other revenue billed in advance of the event, such as student tuition and fees for housing and dining services.

Funds held for others. Funds held for others result from the University or the campus foundations acting as an agent, or fiduciary, on behalf of organizations that are not significant or financially accountable to the University or campus foundations.

Federal refundable loans. Certain loans to students are administered by the University with funding primarily supported by the federal government. The University's statement of net position includes both the notes receivable and the related federal refundable loan liability representing federal capital contributions owed upon termination of the program.

Bond premium. The bond premium received in the issuance of long-term debt is amortized as a reduction to interest expense over the term of the related long-term debt.

Self-insurance programs. The University is self-insured or insured through a wholly owned captive insurance company for medical malpractice, workers' compensation, employee health care and general liability claims. These risks are subject to various claim and aggregate limits, with excess liability coverage provided by an independent insurer. Liabilities are recorded when it is probable a loss has occurred and the amount of the loss can be reasonably estimated. These losses include an estimate for claims that have been incurred, but not reported. The estimated liabilities are based upon an independent actuarial determination of the present value of the anticipated future payments. Settlements did not exceed self-insured or supplementally insured coverage for any program in the past three fiscal years.

Obligations under life income agreements. Obligations under life income agreements represent trusts with living income beneficiaries where the University has a residual interest. The investments associated with these agreements are recorded at fair value. The discounted present value of the income beneficiary interest is reported as a liability in the statement of net position. Gifts subject to such agreements administered by the University are recorded as deferred inflows of resources, net of the income beneficiary share, at the date of the gift. Actuarial gains and losses are included in deferred inflows of resources in the statement of net position. At the termination of the agreement, the University's residual interest is recorded as gift revenue in the statement of revenues, expenses and changes in net position.

Pollution remediation obligations. Upon an obligating event, the University estimates the components of any expected pollution remediation costs and recoveries from third parties. The costs, estimated using the expected cash flow technique, are accrued as a liability. Pollution remediation liabilities generally involve groundwater, soil and sediment contamination at certain sites where state and other regulatory agencies have indicated that the University is among the responsible parties. The liabilities are reviewed annually and may increase or decrease the cost of recovery from third parties, if any, as a result of additional information that refines the estimates, or from payments made from revenue sources that support the activity. There were no expected recoveries at June 30, 2019 and 2018 reducing the pollution remediation liability.

Asset retirement obligations. Upon an obligating event, the University records the costs of any expected tangible capital asset retirement obligations using the best estimate of the current value of outlays expected to be incurred. The liabilities are reviewed annually and may change as a result of additional information that refines the estimates. Actual asset retirement obligation costs may vary from these estimates as a result of changes in assumptions such as asset retirement dates, regulatory requirements, technology and costs of labor, materials and equipment. The estimated remaining useful lives of these assets range from 2 to 28 years.

Deferred outflows of resources and deferred inflows of resources. Deferred outflows of resources and deferred inflows of resources represent a consumption and acquisition of net position that apply to a future period, respectively. The University classifies gains on refunding of debt, increases in the fair value of the hedging derivatives, payments received or to be received from service concession arrangements and changes in irrevocable split-interest agreements as deferred inflows of resources. The University classifies losses on refunding of debt, decreases in the fair value of hedging derivatives and certain asset retirement obligations as deferred outflows of resources. Gains or losses on refunding of debt are amortized as a component of interest expense over the remaining life of the old debt, or the new debt, whichever is shorter. Asset retirement obligations are recognized over the remaining useful life of the related asset. Revenues from split interest agreements are recognized when the resources become available to spend.

Changes in the net pension and net retiree health liabilities not included in expense are reported as deferred outflows of resources or deferred inflows of resources. Employer contributions subsequent to the measurement date of the net pension and retiree health liabilities are reported as deferred outflows of resources.

Net position. Net position is required to be classified for accounting and reporting purposes into the following categories:

Net investment in capital assets. This category includes all of the University's capital assets, net of accumulated depreciation, reduced by outstanding debt attributable to the acquisition, construction or improvement of those assets.

Restricted. The University and campus foundations classify the net position resulting from transactions with purpose or time restrictions as restricted net position until the specific resources are used for the required purpose or for as long as the provider requires the resources to remain intact.

Nonexpendable. The net position subject to externally imposed restrictions, which must be retained in perpetuity by the University or campus foundations, is classified as nonexpendable net position. This includes the University and campus foundation permanent endowment funds.

Also included in nonexpendable net position are minority interests, which include the net position of legally separate organizations attributable to other participants.

Expendable. The net position whose use by the University or campus foundations is subject to externally imposed restrictions that can be fulfilled by actions of the University or campus foundations pursuant to those restrictions or that expire by the passage of time is classified as expendable net position.

Unrestricted. The net position that is not subject to externally imposed restrictions governing its use is classified as unrestricted net position. The University's unrestricted net position may be designated for specific purposes by management or The Regents. The campus foundations' unrestricted net position may be designated for specific purposes by their Boards of Trustees. Substantially all of the University's unrestricted net position is allocated for academic and research initiatives or programs, for capital programs or for other purposes.

Restricted or unrestricted resources are spent based upon a variety of factors, including funding restrictions, consideration of prior and future revenue sources, the type of expense incurred, the University's budgetary policies surrounding the various revenue sources or whether the expense is a recurring cost. Unrestricted net position is negative due primarily to liabilities for pension and retiree health benefits exceeding University assets available to pay such obligations.

Revenues and expenses. Operating revenues of the University include receipts from student tuition and fees, grants and contracts for specific operating activities and sales and services from medical centers, educational activities and auxiliary enterprises. Operating expenses incurred in conducting the programs and services of the University are presented in the statement of revenues, expenses and changes in net position as operating activities. The University's equity in current earnings or losses of LANS and LLNS is also an operating transaction.

Certain significant revenues relied upon and budgeted for fundamental operational support of the core instructional mission of the University are mandated by the GASB to be recorded as nonoperating revenues, including state educational appropriations, certain federal grants for student financial aid, private gifts and investment income, since the GASB does not consider them to be related to the principal operating activities of the University.

Campus foundations are established to financially support the University. Private gifts to campus foundations are recognized as operating revenues since, in contrast to the University, such contributions are fundamental to the core mission of the campus foundations. Foundation grants to the University are recognized as operating expenses by the foundations. Private gift or capital gift revenues associated with campus foundation grants to the University are recorded by the University as gifts when the foundations transfer the gifts to the University.

Nonoperating revenues and expenses include state educational appropriations, state financing appropriations, state hospital fee grants, Build America Bond federal interest subsidies, Federal Pell Grants, private gifts for other than capital purposes, investment income, net appreciation (or depreciation) in the fair value of investments, interest expense and the gain (loss) on the disposal of capital assets.

State capital appropriations, capital gifts and grants and gifts for permanent endowment purposes are classified as other changes in net position.

Student tuition and fees. Substantially all student tuition and fees provide for the current operations of the University. A small portion of the student fees, reported as capital gifts and grants, is required for debt service associated with student union and recreational centers.

The University recognizes scholarship allowances as the difference between the stated charge for tuition and fees, housing and dining charges, recreational center and other fees, and the amount that is paid by the student and third parties on behalf of the student. Payments of financial aid made directly to students are classified as scholarship and fellowship expenses.

Scholarship allowances are netted against student tuition and fees in the statement of revenues, expenses and changes in net position for the years ended June 30 as follows:

(in thousands of dollars)	**2019**	**2018**
Student tuition and fees	$1,231,856	$1,250,300
Auxiliary enterprises	232,157	206,012
Other operating revenues	17,225	30,602
Scholarship allowances	**$1,481,238**	**$1,486,914**

State appropriations. The state of California provides appropriations to the University on an annual basis. State educational appropriations are recognized as nonoperating revenue; however, the related expenses for educational, retirement or other specific operating purposes are reported as operating expenses. State appropriations for capital projects are recorded as revenue under other changes in net position when the related expenditures are incurred. Special state appropriations for AIDS, tobacco and breast cancer research are reported as grant operating revenue.

Grant and contract revenue. The University receives grant and contract revenue from governmental and private sources. The University recognizes revenue associated with the direct costs of sponsored programs as the related expenditures are incurred. Recovery of facilities and administrative costs of federally sponsored programs is at cost reimbursement rates negotiated with the University's federal cognizant agency, the U.S. Department of Health and Human Services. For the year ended June 30, 2019, the facilities and administrative cost recovery totaled $1.2 billion, which consisted of $829.0 million from federally sponsored programs and $348.0 million from other sponsors. For the year ended June 30, 2018, the facilities and administrative cost recovery totaled $1.1 billion, which consisted of $782.0 million from federally sponsored programs and $333.8 million from other sponsors.

Medical center revenue. Medical center revenue is reported at the estimated net realizable amounts from patients and third-party payors, including Medicare, Medi-Cal and others, for services rendered, as well as estimated retroactive adjustments under reimbursement agreements with third-party payors. Laws and regulations governing Medicare and Medi-Cal are complex and subject to interpretation. Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as final settlements are determined. It is reasonably possible that estimated amounts accrued could change significantly based upon settlement, or as additional information becomes available.

Net pension liability. The University records net pension liability equal to the net pension liability for its defined benefit plans. The net pension liability is measured as the total pension liability, less the amount of the pension plans' fiduciary net positions. The fiduciary net position and changes in net position of the defined benefit plans have been measured consistent with the accounting policies used by the plans. The total pension liability is determined based upon discounting projected benefit payments based on the benefit terms and legal agreements existing at the pension plan's fiscal year end. Projected benefit payments are discounted using a single rate that reflects the expected rate of return on investments, to the extent that plan assets are available to pay benefits, and a tax-exempt, high-quality municipal bond rate when plan assets are not available.

Pension expense is recognized for benefits earned during the period, interest on the unfunded liability and changes in benefit terms. The differences between expected and actual experience and changes in assumptions about future economic or demographic factors are reported as deferred inflows or outflows and are recognized over the average expected remaining service period for employees eligible for pension benefits. The differences between expected and actual returns are reported as deferred inflows or outflows and are recognized over five years.

Both current employees and retirees at LBNL participate in UCRP. The University makes contributions to UCRP for LBNL employees based upon rates authorized by The Regents and is reimbursed by the DOE. The University also makes contributions to UCRP for LANL and LLNL retirees and terminated vested members, whose benefits were retained in UCRP at the time the joint ventures were formed. The University records a receivable for the net pension liability that is expected to be collected from the DOE. The University deposits funds in UCRP when the DOE makes payments for these contributions. The contributions from the DOE and deposits into UCRP on behalf of DOE are included as DOE laboratory revenue in the statement of revenues, expenses and changes in net position.

Retiree health benefits and liability. The University's net retiree health benefits liability is measured as the total retiree health benefits liability, less the amount of the University of California Retiree Health Benefit Trust's (UCRHBT) fiduciary net position. The fiduciary net position and changes in net position of UCRHBT have been measured consistent with the accounting policies used by the trust. The total retiree health benefits liability is determined based upon discounting projected benefit payments based on the benefit terms and legal agreements existing at the health benefit trust's fiscal year end. Projected benefit payments are discounted using a single rate that reflects the expected rate of return on investments, to the extent that plan assets are available to pay benefits, and a tax-exempt, high-quality municipal bond rate when plan assets are not available.

Expense for retiree health benefits is recognized for benefits earned during the period, interest on the unfunded liability and changes in benefit terms. The differences between expected and actual experience and changes in assumptions about future economic or demographic factors are reported as deferred inflows or outflows and are recognized over the average expected remaining service period for employees eligible for retiree health benefits. The differences between expected and actual returns are reported as deferred inflows or outflows and are recognized over five years.

LBNL participates in the University's retiree health plans. The net retiree health benefits liability for LBNL is determined independently from the University's campuses and medical centers. Retiree health benefits expense for LBNL is included with the DOE laboratory expense in the statement of revenues, expenses and changes in net position. The contributions from the DOE are included as DOE laboratory revenue in the statement of revenues, expenses and changes in net position.

The University records a receivable from the DOE for the DOE's portion of the University's net retiree health benefits liability attributable to LBNL. The University does not have any retiree health benefits liability for LANL or LLNL retiree health benefit costs since they do not participate in the University's retiree health plans.

Campus and medical center contributions toward retiree health costs made to UCRHBT, the University's LBNL-related payments made directly to health care insurers and administrators and the corresponding reimbursements from the DOE, are shown as operating activities in the statement of cash flows. Cash flows resulting from retiree health contributions from retirees are shown as noncapital financing activities in the statement of cash flows.

University of California Retiree Health Benefit Trust. UCRHBT receives the University's contributions toward retiree health benefits from campuses, medical centers and University affiliates. The University receives retiree health contributions from University affiliates and campus and medical center retirees that are deducted from their UCRP benefit payments and then remitted to UCRHBT.

The University acts as a third-party administrator on behalf of UCRHBT and pays health care insurers and administrators amounts currently due under the University's retiree health benefit plans for retirees. UCRHBT reimburses the University for these amounts.

LBNL does not participate in UCRHBT; therefore, the DOE has no interest in its assets.

Compensated absences. The University accrues annual leave, including employer-related costs, for employees at rates based upon length of service and job classification and compensatory time based upon job classification and hours worked.

Endowment spending. Under provisions of California law, the Uniform Prudent Management of Institutional Funds Act allows for investment income, as well as a portion of realized and unrealized gains, to be expended for the operational requirements of University programs.

Tax exemption. The University is recognized as a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code (IRC), except for tax on unrelated business income under IRC Section 511. The University is also exempt from federal income tax under IRC Section 115(a) as a state institution. In addition, the University is exempt from state income taxes imposed under the California Revenue and Taxation Code. UCRS plans are qualified under IRC Section 401(a) and the related trusts are tax-exempt under Section 501(c)(3). The campus foundations are also qualified for tax exemption under IRC Section 501(c)(3). CHRCO and its component unit, the Children's Hospital and Research Center Foundation, are qualified for exemption under IRC Section 501(c)(3). Income received by UCRHBT is tax-exempt under IRC Section 115(a).

Use of estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures during the reporting period. Although management believes the estimates and assumptions are reasonable, they are based upon information available at the time the estimate or judgment is made and actual amounts could differ from those estimates.

New accounting pronouncements. In January 2017, the GASB issued Statement No. 84, *Fiduciary Activities*, effective for the University's fiscal year beginning July 1, 2019. This Statement establishes criteria for identifying fiduciary activities of all state and local governments. Governments with activities meeting the criteria should present a statement of fiduciary net position and a statement of changes in fiduciary net position. This Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3) private-purpose trust funds and (4) custodial funds. Custodial funds generally should report fiduciary activities that are not held in a trust or an equivalent arrangement that meets specific criteria. The University is evaluating the effect Statement No. 84 will have on its financial statements.

In June 2017, the GASB issued Statement No. 87, *Leases*, effective for the University's fiscal year beginning July 1, 2020. This Statement establishes a single approach to accounting for and reporting leases based on the principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources. Limited exceptions to the single-approach guidance are provided for short-term leases, defined as lasting a maximum of twelve months at inception, including any options to extend, financed purchases, leases of assets that are investments and certain regulated leases. The University is evaluating the effect Statement No. 87 will have on its financial statements.

In June 2018, the GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period,* effective prospectively for the University's fiscal year beginning July 1, 2020. The Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred. As a result, interest costs would not be capitalized as part of the asset's historical cost. For construction in progress, interest cost incurred after applying this Statement will not be capitalized. The University expects interest expense to increase upon implementation of Statement No. 89.

In August 2018, the GASB issued Statement No. 90, *Majority Equity Interests — An Amendment of GASB Statements No. 14 and No. 61*, effective for the University's fiscal year beginning July 1, 2019. The Statement defines a majority equity interest in a legally separate organization and clarifies the accounting and financial reporting for majority equity interests, classified as either investments or component units, in the financial statements. The University is evaluating the effect that Statement No. 90 will have on its financial statements.

In May 2019, the GASB issued Statement No. 91, *Conduit Debt Obligations*, effective for the University's fiscal year beginning July 1, 2021. The Statement defines a conduit debt obligation and clarifies the accounting and financial reporting for conduit debt obligations with additional or voluntary commitments by issuers. The University is evaluating the effect that Statement No. 91 will have on its financial statements.

1. CASH AND CASH EQUIVALENTS

The University maintains centralized management for substantially all of its cash and cash equivalents. Cash in demand deposit accounts is minimized by sweeping available cash balances into investment accounts on a daily basis.

Under University policy, deposits are only held at financial institutions that maintain an issuer rating on long-term debt of A3 or higher by Moody's, A- or higher by Standard & Poor's or an Asset Peer Group rating of 65 or higher as defined by Sheshunoff Bank Rating Reports. At June 30, 2019 and 2018, the carrying amount of the University's demand deposits, generally held in five nationally recognized banking institutions, was $143.1 million and $249.5 million, respectively, compared to bank balances of $93.6 million and $169.7 million, respectively. Deposits in transit and cash awaiting investment are the primary differences. The University's deposits are uninsured and uncollateralized except for bank balances insured by the Federal Deposit Insurance Corporation (FDIC) up to applicable statutory limits.

The University does not have significant exposure to foreign currency risk in demand deposit accounts. Accounts held in foreign countries maintain minimum operating balances with the intent to reduce potential foreign exchange risk while providing an adequate level of liquidity to meet the obligations of the academic programs established abroad. The equivalent U.S. dollar balances required to support research groups and education abroad programs in foreign countries was $0.2 million at June 30, 2019 and $4.4 million at June 30, 2018.

The carrying amount of the campus foundations' cash and cash equivalents at June 30, 2019 and 2018 was $458.6 million and $447.4 million, respectively, compared to bank balances of $88.0 million and $58.0 million, respectively. Deposits in transit and cash awaiting investment are the primary differences. Included in bank balances are deposits in the University's Short Term Investment Pool of $366.9 million at June 30, 2019 and $387.6 million at June 30, 2018, with the remaining uncollateralized bank balances insured by the Federal Deposit Insurance Corporation (FDIC) up to applicable statutory limits. Uncollateralized bank balances include $20.8 million and $8.7 million in excess of the FDIC limits at June 30, 2019 and 2018, respectively. The campus foundations do not have exposure to foreign currency risk in their cash and cash equivalents.

2. INVESTMENTS

The Regents, as the governing Board, is responsible for the oversight of the University's, UCRS' and UCRHBT's investments and establishes an investment policy, which is carried out by the Chief Investment Officer. These investments are associated with the Short Term Investment Pool (STIP), Total Return Investment Pool (TRIP), Blue and Gold Pool (BGP), General Endowment Pool (GEP), UCRS, UCRHBT and other investment pools managed by the Chief Investment Officer, or are separately invested. Pursuant to The Regents' policies on campus foundations, the Board of Trustees for each campus foundation may determine that all or a portion of their investments will be managed by the Chief Investment Officer. Asset and Risk Allocation Policy guidelines are provided to the campus foundations by the Investments Committee of The Regents.

STIP allows participants to maximize the returns on their short-term cash balances by taking advantage of the economies of scale of investing in a large pool with a broad range of maturities and is managed to maximize current earned income. Cash to provide for payroll, construction expenditures and other operating expenses for campuses and medical centers is invested in STIP. The available cash in UCRS or endowment investment pools awaiting investment, or cash for administrative expenses, is also invested in STIP.

Investments authorized by The Regents for STIP include fixed-income securities with a maximum maturity of five and one-half years. In addition, for STIP, The Regents has also authorized loans, primarily to faculty members residing in California, under the University's Mortgage Origination Program with terms of up to 40 years.

TRIP allows participants the opportunity to maximize the return on their intermediate-term working capital by taking advantage of the economies of scale of investing in a large pool across a broad range of asset classes. TRIP is managed to a total return objective and is intended to supplement STIP. Investments authorized by The Regents for TRIP include a diversified portfolio of equity, fixed income and alternative investments.

BGP is an investment pool established by The Regents and is available to the University and its related entities. The objective of BGP is to provide a low cost, liquid, diversified investment vehicle to invest long-term excess reserves to earn a higher return than would otherwise be expected from STIP and TRIP. To achieve liquidity, transparency and minimal expense, a passive investment strategy in equities and bonds is used.

GEP is an investment pool in which a large number of individual endowments participate in order to benefit from diversification and economies of scale. GEP is a balanced portfolio and the primary investment vehicle for endowed gift funds. Where donor agreements place constraints on allowable investments, assets associated with endowments are invested in accordance with the terms of the agreements.

Other investment pools primarily facilitate annuity and life income arrangements. Separate investments are those that cannot be pooled due to investment restrictions or income requirements.

Investments authorized by The Regents for GEP, UCRS, other investment pools and separate investments include equity securities, fixed-income securities and certain other asset classes. The equity portion of the investment portfolios include both domestic and foreign common and preferred stocks which may be included in actively or passively managed strategies, along with exposure to private equities. The University's investment portfolios may include foreign currency-denominated equity securities. The fixed-income portion of the investment portfolios may include both domestic and foreign securities, along with certain securitized investments, including mortgage-backed and asset-backed securities. Fixed-income investment guidelines permit the use of futures and options on fixed-income instruments in the ongoing management of the portfolios. Real estate investments are authorized for all pools except for STIP. Absolute return strategies, which may incorporate short sales, plus derivative positions to implement or hedge an investment position, are also authorized for all pools except for STIP.

Derivative instruments, including futures, forward contracts, options and swap contracts are authorized for portfolio rebalancing in accordance with The Regents' asset allocation policy and as substitutes for physical securities. Derivatives are not used for speculative purposes.

The Regents has also authorized certain employee account balances in defined contribution plans included as part of UCRS' investments to be invested in mutual funds. The participants' interests in mutual funds are not managed by the Chief Investment Officer and totaled $1.7 billion and $1.6 billion at June 30, 2019 and 2018, respectively.

Investments authorized by The Regents for the UCRHBT are restricted to a portfolio of high-quality money market instruments in a commingled fund that is managed externally. The average credit quality of the portfolio is A-1/P-1 with an average maturity of 33 days and 17 days at June 30, 2019 and 2018, respectively. The fair values of UCRHBT's investment in this portfolio were $136.2 million and $128.1 million at June 30, 2019 and 2018, respectively. These are measured at net asset value as of June 30, 2019 and 2018, respectively.

The composition of investments, by investment type at June 30 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Equity securities:						
Domestic	$3,958,908	$2,981,893	$272,859	$258,339	$24,837,610	$19,851,801
Foreign	2,338,504	2,575,283	28,130	23,255	14,770,785	13,473,111
Equity securities	**6,297,412**	**5,557,176**	**300,989**	**281,594**	**39,608,395**	**33,324,912**
Fixed- or variable-income securities:						
U.S. government-guaranteed:						
U.S. Treasury bills, notes and bonds	2,554,434	2,726,553	347,724	375,054	1,531,732	1,896,840
U.S. Treasury strips	781,608	538,903	241	212	1,973,596	1,464,655
U.S. TIPS	30,912	124,756			3,142,771	2,512,561
U.S. government-backed securities				15		
U.S. government-backed mortgage-backed securities	6,881	9,358	9,557	11,386	5,927	7,214
U.S. government-guaranteed	**3,373,835**	**3,399,570**	**357,522**	**386,667**	**6,654,026**	**5,881,270**
Other U.S. dollar-denominated:						
Corporate bonds	3,521,045	3,776,818	25,838	28,768	4,316,281	4,490,273
Commercial paper	1,962,132	4,248,162			421,635	2,012,845
U.S. agencies	1,856,385	1,917,652	3,762		4,006,178	4,035,120
U.S. agencies - asset-backed securities	680,334	687,546	15,711	36,588	2,796,820	2,953,252
Corporate - asset-backed securities	802,323	621,817	22,093	59,824	1,583,412	1,639,967
Supranational/foreign	1,381,686	1,422,310	369	4,207	2,824,693	2,804,258
Other	26,491	116,497	181	805	28,753	175,279
Other U.S. dollar-denominated	**10,230,396**	**12,790,802**	**67,954**	**130,192**	**15,977,772**	**18,110,994**
Foreign currency-denominated:						
Corporate	98	113			536	576
Government/sovereign			1,430			
Foreign currency-denominated	**98**	**113**	**1,430**		**536**	**576**
Commingled funds:						
Absolute return funds	4,313,573	3,957,859	2,531,318	2,589,828	4,716,290	4,475,682
Non-U.S. equity funds	2,385,721	2,172,821	1,133,275	1,031,849	8,198,932	8,958,098
Private equity	2,554,119	1,701,059	1,132,506	954,534	4,458,873	3,178,252
Money market funds	845,562	681,658	1,285,848	1,060,958	5,664,235	5,817,621
U.S. equity funds	74,076	193,547	914,398	771,075	1,137,570	4,069,653
Real estate investment trusts	204,527	310,119	174,974	162,111	2,454,783	1,475,420
Real assets	627,023	381,533			1,530,725	1,146,296
U.S. bond funds	804,055	402,336	136,634	146,316	1,131,443	1,076,196
Non-U.S. bond funds	144,613	135,862	20,727	21,697	14	14
Balanced funds	243,152	234,375	1,519,333	1,330,673		
Commingled funds	**12,196,421**	**10,171,169**	**8,849,013**	**8,069,041**	**29,292,865**	**30,197,232**
Investment derivatives	545	(5,520)	(388)	(355)	6,485	(19,142)
Publicly traded real estate investment trusts	265,160	224,036			2,092,822	1,711,685
Mortgage loans	766,748	510,765				
Real estate	1,035,477	428,590	143,713	135,731	1,823,802	1,665,191
Other investments	121,256	27,701	258,156	236,710		
Campus foundations' investments with the University	(2,892,444)	(2,611,651)				
UCRS investment in the STIP	(2,687,523)	(3,123,754)				
Total investments	**28,707,381**	**27,368,997**	**9,978,389**	**9,239,580**	**$95,456,703**	**$90,872,718**
Less: Current portion	(4,923,749)	(4,890,075)	(875,652)	(857,844)		
Noncurrent portion	**$23,783,632**	**$22,478,922**	**$9,102,737**	**$8,381,736**		

Investment Risk Factors

There are many factors that can affect the value of investments. Some, such as custodial credit risk, concentration of credit risk and foreign currency risk, may affect both equity and fixed-income securities. Equity securities respond to such factors as economic conditions, individual company earnings performance and market liquidity, while fixed-income securities are particularly sensitive to credit risks and changes in interest rates. Alternative investment strategies and their underlying assets and rights are subject to an array of economic and market vagaries that can limit or erode value.

Credit Risk

Fixed-income securities are subject to credit risk, which is the chance that a bond issuer will fail to pay interest or principal in a timely manner, or the possibility that negative perceptions of the issuer's ability to make these payments will cause security prices to decline. These circumstances may arise due to a variety of factors such as financial weakness, bankruptcy, litigation and/or adverse political developments.

A bond's credit quality is an assessment of the issuer's ability to pay interest on the bond and, ultimately, to pay the principal. Credit quality is evaluated by one of the independent bond rating agencies, for example Moody's Investors Service (Moody's) or Standard and Poor's (S&P). The lower the rating, the greater the chance, in the rating agency's opinion, that the bond issuer will default, or fail to meet its payment obligations. Generally, the lower a bond's credit rating, the higher its yield should be to compensate for the additional risk.

Certain fixed-income securities, primarily obligations of the U.S. government or those explicitly guaranteed by the U.S. government, are considered to have minimal credit risk. Asset-backed securities are debt obligations that represent claims to the cash flows from pools of commercial, mortgage, credit card or student loans. Mortgage-backed securities issued by Ginnie Mae are backed by the full faith and credit of the U.S. government.

The investment guidelines for STIP recognize that a limited amount of credit risk, properly managed and monitored, is prudent and provides incremental risk-adjusted return over its benchmark (the benchmark for STIP is a weighted average of the two-year Treasury income note and Citigroup 3-month Treasury bill).

The University recognizes that credit risk is appropriate in balanced investment pools such as TRIP, BGP, UCRS and GEP by virtue of the benchmarks chosen for the fixed-income portion of those pools.

The core fixed-income benchmark for UCRS, BGP, GEP and TRIP is the Barclays Capital U.S. Aggregate Bond Index, comprised of 25.1 percent corporate bonds and 29.7 percent mortgage/asset-backed bonds, all of which carry some degree of credit risk. The remaining 45.1 percent is government issued bonds.

Credit risk is managed primarily by diversifying across issuers. The University monitors and reviews their exposures on an ongoing basis and will maintain a high quality portfolio within the investment guidelines set forth by the Office of the Chief Investment Officer.

The credit risk profile for fixed- or variable-income securities at June 30 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Fixed- or variable-income securities:						
U.S. government-guaranteed	$3,373,835	$3,399,570	$357,522	$386,667	$6,654,026	$5,881,270
Other U.S. dollar-denominated:						
AAA	772,543	686,606	14,996	20,817	1,682,354	1,798,100
AA	1,812,421	1,866,014	16,926	24,932	2,980,968	3,115,678
A	1,740,713	1,712,026	6,244	7,045	1,265,126	1,472,752
BBB	1,889,585	2,067,115	18,883	23,815	2,270,637	2,587,735
BB	387,960	461,019		592	1,356,147	1,176,085
B	244,231	302,023		1,242	1,282,856	1,069,331
CCC or below	28,966	42,513		19,629	196,655	200,111
Not rated	3,353,977	5,653,486	10,905	32,120	4,943,029	6,691,202
Foreign currency-denominated:						
BBB			1,430			
B		113			536	576
CCC or below	98					
Commingled funds:						
U.S. bond funds: Not rated	804,055	402,336	136,634	146,316	1,131,443	1,076,196
Non-U.S. bond funds: Not rated	144,613	135,862	20,727	21,697	14	14
Money market funds: Not rated	845,562	681,658	1,285,848	1,060,958	5,664,235	5,817,621
Mortgage loans: Not rated	766,748	510,765				
Investment derivatives: Not rated			(388)	(355)		

Custodial Credit Risk

Custodial credit risk is the risk that in the event of the failure of the custodian, the investments may not be returned.

Substantially all of the University's, campus foundations' and UCRS' securities are registered in the University's name by the custodial bank as an agent for the University. Other types of investments represent ownership interests that do not exist in physical or book-entry form. As a result, custodial credit risk for such investments is remote.

Concentration of Credit Risk

Concentration of credit risk is the risk associated with a lack of diversification, such as having substantial investments in a few individual issuers, thereby exposing the organization to greater risks resulting from adverse economic, political, regulatory, geographic or credit developments.

The U.S. and non-U.S. equity portions of the University and UCRS portfolios may be managed either passively or actively. For the portions managed passively, the concentration of individual securities is similar to their concentration in the benchmark. While some securities have a larger representation in the benchmark than others, the University considers passive management results in an absence of concentration of credit risk. For the portions managed actively, asset class guidelines do not specifically address concentration risk, but do state that the equity asset class, in the aggregate, will be appropriately diversified to control overall risk and will exhibit portfolio characteristics similar to the asset class benchmark (including concentration of credit risk). Concentration risk for individual portfolios is monitored relative to their individual benchmarks and agreed-upon risk parameters in their guidelines.

Each campus foundation may have its own individual investment policy designed to limit exposure to a concentration of credit risk. Securities issued or explicitly guaranteed by the U.S. government, mutual funds, external investment pools, other investment pools or investments that are invested by the University for the campus foundations are not subject to concentration of credit risk. Most of the campus foundations that hold other types of investments have policies to limit the exposure to an individual issuer.

At June 30, 2019 and 2018, no single issuer comprised more than five percent or more of investments held by the University, campus foundations and UCRS.

Interest Rate Risk

Interest rate risk is the risk that the value of fixed-income securities will decline because of changing interest rates. The prices of fixed-income securities with a longer time to maturity, measured by effective duration, tend to be more sensitive to changes in interest rates and, therefore, more volatile than those with shorter durations. Effective duration is the approximate change in price of a security resulting from a 100-basis-point (1-percentage-point) change in the level of interest rates. It is not a measure of time.

Interest rate risk for STIP is managed by constraining the maturity of all individual securities to be less than five and one-half years. There is no restriction on weighted average maturity of the portfolio as it is managed relative to the liquidity demands of the investors. The nature and maturity of individual securities in STIP allow for the use of weighted average maturity as an effective risk management tool, rather than the more complex measure, effective duration.

The portfolio guidelines constrain the potential price movement due to interest rate changes of the portfolio being similar to that of the benchmark. There are similar restrictions for the high-yield and emerging market debt portfolios relative to their benchmarks.

The effective durations for fixed- or variable-income securities at June 30 are as follows:

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Fixed- or variable-income securities:						
U.S. government-guaranteed:						
U.S. Treasury bills, notes and bonds	1.7	2.4	2.7	2.9	2.9	2.7
U.S. Treasury strips	8.4	9.2	15.5	16.5	11.0	10.3
U.S. TIPS	3.9	5.9			6.1	6.1
U.S. government-backed securities				1.4		
U.S. government-backed mortgage-backed securities	0.7	1.6	0.7	2.9	2.2	2.9
Other U.S. dollar-denominated:						
Corporate bonds	3.5	3.5	2.5	2.7	5.3	5.7
U.S. agencies	1.0	2.0			1.6	2.0
U.S. agencies - asset-backed securities	2.8	4.2	1.6	5.0	2.5	3.9
Corporate - asset-backed securities	3.3	3.9	0.8	2.2	2.6	2.6
Supranational/foreign	3.0	3.6	2.6	3.4	5.7	5.2
Other	9.2	8.5		5.3	15.9	15.6
Foreign currency-denominated:						
Corporate	2.6	0.6			2.6	0.6
Government/sovereign			3.4			
Commingled funds:						
U.S. bond funds	4.1	2.4	4.6	4.6	2.9	
Non-U.S. bond funds	3.0	3.4	7.0	5.3	7.6	
Money market funds*			1.2	2.0	1.2	2.0

**Foundation and UCRS investment in STIP.*

The University considers the effective durations for commercial paper, mortgage loans, insurance contracts and money market funds to be zero. The terms of the mortgage loans include variable interest rates. Insurance contracts can be liquidated without loss of principal and money market funds consist of underlying securities that are of a short-term, liquid nature.

Investments also include various mortgage-backed securities, collateralized mortgage obligations, structured notes, variable-rate securities and callable bonds that may be considered to be highly sensitive to changes in interest rates due to the existence of prepayment or conversion features. The effective durations of these securities, however, may be low.

At June 30, the fair values of such investments are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Mortgage-backed securities	$656,113	$669,109	$13,460	$53,471	$2,691,572	$2,795,428
Collateralized mortgage obligations	610,379	501,265	10,658	22,540	922,334	830,356
Other asset-backed securities	266,402	271,890	22,093	27,612	508,094	1,266,122
Structured notes	236				2,711	
Variable-rate securities	708,676	582,299			2,160,669	2,413,025
Callable bonds	4,215,677	4,067,934	476		8,452,259	8,466,784
Convertible bonds	17,215	455			205,222	4,618
Total	**$6,474,698**	**$6,092,952**	**$46,687**	**$103,623**	**$14,942,861**	**$15,776,333**

Mortgage-Backed Securities. These securities are issued primarily by Fannie Mae, Ginnie Mae and Freddie Mac, and various commercial entities and include short embedded prepayment options. Unanticipated prepayments by the obligees of the underlying asset reduce the total expected rate of return.

Collateralized Mortgage Obligations. Collateralized mortgage obligations (CMOs) generate a return based upon either the payment of interest or principal on mortgages in an underlying pool. The relationship between interest rates and prepayments makes the fair value highly sensitive to changes in interest rates. In falling interest rate environments, the underlying mortgages are subject to a higher propensity of prepayments. In rising interest rate environments, the opposite is true.

Other Asset-Backed Securities. Other asset-backed securities also generate a return based upon either the payment of interest or principal on obligations in an underlying pool, generally associated with auto loans or credit cards. As with CMOs, the relationship between interest rates and prepayments makes the fair value highly sensitive to changes in interest rates.

Variable-Rate Securities. These securities are investments with terms that provide for the adjustment of their interest rates on set dates and are expected to have fair values that will be relatively unaffected by interest rate changes. Variable-rate securities may have limits on how high or low the interest rate may change. These constraints may affect the market value of the security.

Callable Bonds. Although bonds are issued with clearly defined maturities, an issuer may be able to redeem, or call, a bond earlier than its maturity date. The University must then replace the called bond with a bond that may have a lower yield than the original. The call feature causes the fair value to be highly sensitive to changes in interest rates.

At June 30, the effective durations for these securities are as follows:

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Mortgage-backed securities	3.0	4.3	1.6	1.5	2.5	4.1
Collateralized mortgage obligations	4.1	4.7	0.8	8.3	3.7	4.1
Other asset-backed securities	0.4	1.1	0.8	0.2	0.7	0.8
Variable-rate securities	3.4	3.2			1.8	1.6
Structured notes	0.9				1.1	
Callable bonds	3.0	3.3	2.6		3.3	3.8
Convertible bonds	0.4	1.7			0.9	1.7

Foreign Currency Risk

The University's strategic asset allocation policy for TRIP, UCRS and GEP includes allocations to non-U.S. equities and non-dollar-denominated bonds. The benchmarks for these investments are not hedged; therefore foreign currency risk is part of the investment strategy. Portfolio guidelines for U.S. investment-grade fixed-income securities also allow exposure to non-U.S. dollar-denominated bonds up to 10 percent of the total portfolio market value. Exposure to foreign currency risk from these securities is permitted and it may be fully or partially hedged using forward foreign currency exchange contracts. Under the University's investment policies, such instruments are not permitted for speculative use or to create leverage. Similar limits on foreign exchange exposure apply to the high-yield debt and emerging market debt portfolios.

At June 30, the foreign currency risk expressed in U.S. dollars, organized by currency denomination and investment type, are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Equity securities:						
Euro	$729,350	$960,899	$439	$259	$3,596,443	$3,895,404
British Pound	228,661	272,005	913	1,109	1,669,488	1,988,754
Japanese Yen	338,827	438,014			2,395,527	2,562,213
Canadian Dollar	131,959	127,083	148	1,918	906,653	722,719
Swiss Franc	165,398	122,133	448	634	999,908	839,277
Australian Dollar	94,235	91,454	1,069	2,915	645,339	511,526
Hong Kong Dollar	172,392	150,506			1,131,613	676,822
Swedish Krona	72,038	69,163			344,871	289,024
Singapore Dollar	17,708	18,752			112,683	106,094
Danish Krone	25,330	23,938			178,612	167,934
Norwegian Krone	12,786	14,399			112,538	98,172
South Korean Won	83,299	74,413	15,203	16,337	612,854	482,103
Brazilian Real	40,171	24,203			271,299	74,405
Indian Rupee	43,671	23,632	2,934		471,209	275,785
New Taiwan Dollar	60,605	57,938			399,004	234,014
South African Rand	29,052	27,963			205,161	153,225
Thailand Baht	15,052	9,046			170,839	106,332
Mexican Peso	13,153	13,332			91,115	54,541
Chinese Yuan	1,168				33,719	
Other	63,649	56,409	6,976	83	421,910	234,769
Subtotal	**2,338,504**	**2,575,282**	**28,130**	**23,255**	**14,770,785**	**13,473,113**
Fixed-income securities:						
Mexico Peso			1,430			
Euro	98	113			536	576
Subtotal	**98**	**113**	**1,430**		**536**	**576**
Commingled funds (various currency denominations):						
Absolute return funds			930,896	835,996		
Non-U.S. equity funds	2,385,721	2,172,821	1,133,275	1,016,679	8,198,932	8,958,098
Private equity	24,933	7,255	119,908	82,228	108,682	98,116
Real estate investment trusts			10,291	16,402		
Real assets	42,682	32,301	73,104	67,946	191,288	149,441
Non U.S. bond funds	144,613	135,861	20,727	21,697	14	14
Balanced funds			133,575	139,769		
Subtotal	**2,597,949**	**2,348,238**	**2,421,776**	**2,180,717**	**8,498,916**	**9,205,669**
Investment derivatives:						
Australian Dollar	1	1			51	58
Canadian Dollar	5	32			64	59
British Pound	3	30			135	177
Japanese Yen	2	(20)			94	(666)
Hong Kong Dollar					8	
Euro	113	120			1,172	369
Other	22				158	27
Subtotal	**146**	**163**			**1,682**	**24**
Publicly traded real estate investment trusts:						
Australian Dollar	12,029	11,568			73,586	64,239
Euro	9,605	14,112			65,922	87,183
British Pound	13,070	15,004			78,198	86,648
Japanese Yen	17,280	9,817			103,838	52,635
South African Rand	1,325	1,499			6,685	7,704
Singapore Dollar	6,461	4,059			37,628	21,148
Canadian Dollar	5,157	1,633			28,971	9,360
Mexican Peso	694	595			3,194	2,944
Other	3,527	2,521			22,569	11,232
Subtotal	**69,148**	**60,808**			**420,591**	**343,093**
Total exposure to foreign currency risk	**$5,005,845**	**$4,984,604**	**$2,451,336**	**$2,203,972**	**$23,692,510**	**$23,022,475**

The University's Investment Pools

The composition of the University's investments at June 30, 2019, by investment pool, are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA					
	STIP	TRIP	BGP	GEP	OTHER	TOTAL
Equity securities:						
Domestic		$1,722,441	$487,757	$1,633,627	$115,083	$3,958,908
Foreign		1,323,101	373,345	592,005	50,053	2,338,504
Fixed- or variable-income securities:						
U.S. government-guaranteed	$2,202,780	883,111		216,952	70,992	3,373,835
Other U.S. dollar-denominated	5,746,781	3,330,143		907,977	245,495	10,230,396
Foreign currency-denominated				98		98
Commingled funds	8,619	1,742,286	589,714	8,758,395	1,097,407	12,196,421
Investment derivatives		706	125	(308)	22	545
Publicly traded real estate investment trusts		98,431	27,977	133,835	4,917	265,160
Mortgage loans	766,748					766,748
Real estate		144,652		831,811	59,014	1,035,477
Other investments					121,256	121,256
Subtotal	**8,724,928**	**9,244,871**	**1,478,918**	**13,074,392**	**1,764,239**	**34,287,348**
Campus foundations' investments with the University	(1,529,399)	(25,946)		(1,124,899)	(212,200)	(2,892,444)
UCRS investment in the STIP	(2,687,523)					(2,687,523)
Total investments	**$4,508,006**	**$9,218,925**	**$1,478,918**	**$11,949,493**	**$1,552,039**	**$28,707,381**

The composition of the University's investments at June 30, 2018, by investment pool, are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA				
	STIP	TRIP	GEP	OTHER	TOTAL
Equity securities:					
Domestic		$1,747,569	$1,097,837	$136,487	$2,981,893
Foreign		1,422,238	1,109,393	43,652	2,575,283
Fixed- or variable-income securities:					
U.S. government-guaranteed	$2,284,617	694,153	355,374	65,426	3,399,570
Other U.S. dollar-denominated	8,212,850	3,447,620	904,769	225,563	12,790,802
Foreign currency-denominated			113		113
Commingled funds	62,531	1,517,144	7,545,543	1,045,951	10,171,169
Investment derivatives		(572)	(4,912)	(36)	(5,520)
Publicly traded real estate investment trusts		98,739	120,248	5,049	224,036
Mortgage loans	510,765				510,765
Real estate		126,476	276,569	25,545	428,590
Other investments				27,701	27,701
Subtotal	**11,070,763**	**9,053,367**	**11,404,934**	**1,575,338**	**33,104,402**
Campus foundations' investments with the University	(1,395,676)	(26,298)	(981,095)	(208,582)	(2,611,651)
UCRS investment in the STIP	(3,123,754)				(3,123,754)
Total investments	**$6,551,333**	**$9,027,069**	**$10,423,839**	**$1,366,756**	**$27,368,997**

The total investment returns based upon unit values, representing the combined income plus net appreciation or depreciation in the fair value of investments, for the year ended June 30, 2019 were 6.3 percent for TRIP, 3.5 percent since inception of April 1, 2019 for BGP, 8.2 percent for GEP and 6.0 percent for UCRP. The total investment returns based upon unit values, representing the combined income plus net appreciation or depreciation in the fair value of investments, for the year ended June 30, 2018, were 4.5 percent for TRIP, 8.9 percent for GEP and 7.8 percent for UCRP. The investment return for STIP distributed to participants, representing combined income and realized gains or losses, during the same periods, was 2.2 percent and 2.0 percent, respectively. Other investments consist of numerous, small portfolios of investment or individual securities, each with its own individual rate of return.

Related Party Relationships with the University

UCRS and campus foundations may invest available cash in STIP. Shares are purchased or redeemed in STIP at a constant value of $1 per share. Actual income earned, including any realized gains or losses on the sale of STIP investments, is allocated to UCRS and campus foundations based upon the number of shares held. Unrealized gains and losses associated with the fluctuation in the fair value of investments included in STIP are recorded by the University as the manager of the pool. The net asset value for STIP is held at a constant value of $1 and is not adjusted for unrealized gains and losses associated with the fluctuation in the fair value of investments included in STIP.

The campus foundations may also purchase or redeem shares in GEP, BGP, TRIP or other investment pools at the unitized value of the portfolio at the time of purchase or redemption. Actual income earned is allocated to the campus foundations based upon the number of shares held.

Campus Foundations

The campus foundations' cash and cash equivalents and investments that are invested with the University and managed by the Chief Investment Officer are excluded from the University's statement of net position and included in the campus foundations' statement of net position. Under the accounting policies elected by each campus foundation, certain component units classify all or a portion of their investment in STIP and TRIP as cash and cash equivalents, rather than investments. Substantially all of the campus foundations' investments managed by the Chief Investment Officer are categorized as commingled funds or commingled money market funds by the campus foundations in the composition of investments.

The fair value of the campus foundations' cash and cash equivalents and investments that are invested with the University, by investment pool, at June 30 are as follows:

(in thousands of dollars)	**2019**	**2018**
STIP	$1,529,399	$1,398,634
TRIP	25,946	26,298
GEP	1,124,899	981,095
Other investment pools	212,200	205,624
Campus foundations' investments with the University	**2,892,444**	**2,611,651**
Classified as cash and cash equivalents by campus foundations	(357,676)	(386,391)
Classified as investments by campus foundations	**$2,534,768**	**$2,225,260**

Investment income in the University's statement of revenues, expenses and changes in net position is net of income earned by, and distributed to, the campus foundations totaling $38.2 million and $31.8 million for the years ended June 30, 2019 and 2018, respectively.

UCRS

UCRS had $2.7 billion and $3.1 billion invested in STIP at June 30, 2019 and 2018, respectively. These investments are excluded from the University's statement of net position and are included in UCRS' statement of plans' fiduciary net position. They are categorized as commingled money market funds in the composition of investments for UCRS. STIP investment income in the University's statement of revenues, expenses and changes in net position is net of income earned by, and distributed to, UCRS totaling $68.3 million and $43.4 million for the years ended June 30, 2019 and 2018, respectively.

Agency Relationships with the University

STIP and GEP are external investment pools and include investments on behalf of external organizations that are associated with the University, although not financially accountable to the University. These organizations are not required to invest in these pools. Participants purchase or redeem shares in STIP at a constant value of $1 per share and purchase or redeem shares in GEP at the unitized value of the portfolio at the time of purchase or redemption. Actual income earned is allocated to participants based upon the number of shares held.

The fair value of these investments in each investment pool and the related liability associated with these organizations that are included in the University's statement of net position at June 30 are as follows:

(in thousands of dollars)	**2019**	**2018**
STIP	$127,407	$95,502
GEP	296,651	309,627
Other investment pools	9,155	4,805
Total agency assets	**$433,213**	**$409,934**
Funds held for others	**$433,213**	**$409,934**

The composition of the net position at June 30 for STIP and GEP are as follows:

(in thousands of dollars)	**STIP**		**GEP**	
	2019	**2018**	**2019**	**2018**
Investments	$8,724,928	$11,070,763	$13,074,391	$11,404,934
Investment of cash collateral	72,847	126,019	228,945	256,407
Securities lending collateral	(72,827)	(125,995)	(228,881)	(256,357)
Other assets, net	3,387,851	2,929,104	145,026	607,907
Net position	**$12,112,799**	**$13,999,891**	**$13,219,481**	**$12,012,891**

Other assets include amounts receivable for pension benefits from the campuses and medical centers of $3.4 billion and $3.0 billion at June 30, 2019 and 2018, respectively.

The changes in net position for STIP and GEP for the year ending June 30 are as follows:

(in thousands of dollars)	**STIP**		**GEP**	
	2019	**2018**	**2019**	**2018**
Net position, beginning of year	$13,999,891	$11,502,056	$12,012,891	$10,589,342
Investment income	281,982	227,622	83,076	102,914
Net appreciation (depreciation) in fair value of investments	121,201	(82,872)	922,147	887,999
Transfer to TRIP	(21,891)	(416,703)		
Transfer to BGP	(1,002,778)			
Participant contributions (distributions), net	(1,265,606)	2,769,788	201,367	432,636
Net position, end of year	**$12,112,799**	**$13,999,891**	**$13,219,481**	**$12,012,891**

3. SECURITIES LENDING

The University and UCRS jointly participate in a securities lending program as a means to augment income. The campus foundations' investments that are invested with the University and managed by the Chief Investment Officer are included in the University's investment pools that participate in the securities lending program.

The campus foundations' allocated share of the program's cash collateral received, investment of cash collateral and collateral held for securities lending is determined based upon their equity in the investment pools. The Board of Trustees for each campus foundation may also authorize participation in a direct securities lending program.

Securities are lent to selected brokerage firms for which collateral received equals or exceeds the fair value of such investments lent during the period of the loan. Securities loans immediately terminate upon notice by either the University or the borrower. Collateral may be cash or securities issued by the U.S. government or its agencies, or the sovereign or provincial debt of foreign countries. Securities collateral cannot be pledged or sold by the University unless the borrower defaults.

Loans of domestic equities and all fixed-income securities are initially collateralized at 102 percent of the fair value of securities lent. Loans of foreign equities are initially collateralized at 105 percent. All borrowers are required to provide additional collateral by the next business day if the value of the collateral falls to less than 100 percent of the fair value of securities lent.

Cash collateral received from the borrower is invested by lending agents, as agents for the University, in investment pools in the name of the University, with guidelines approved by the University. These investments are shown as investment of cash collateral in the statement of net position. At June 30, 2019 and 2018, the securities in these pools had a weighted average maturity of 20 days and 15 days, respectively. The University records a liability for the return of the cash collateral shown as collateral held for securities lending in the statement of net position. Securities collateral received from the borrower is held in investment pools by the University's custodial bank.

At June 30, 2019 and 2018, the University had insignificant exposure to borrowers because the amounts the University owed the borrowers were substantially the same as the amounts the borrowers owed the University. The University is indemnified by its lending agents against any losses incurred as a result of borrower default.

The composition of the securities lending programs at June 30 are as follows:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
SECURITIES LENT						
For cash collateral:						
Equity securities:						
Domestic	$322,500	$468,126			$2,932,651	$3,186,668
Foreign	63,898	3,975			349,318	
Fixed-income securities:						
U.S. government-guaranteed	145,563	171,984			877,269	1,744,379
U.S. agency	5,632					
Other U.S. dollar-denominated	432,202	497,720			1,819,850	1,138,667
Foreign currency-denominated	2,250				38,235	
Foundations' share	(36,384)	(45,288)	$36,384	$45,288		
Lent for cash collateral	**935,661**	**1,096,517**	**36,384**	**45,288**	**6,017,323**	**6,069,714**
For securities collateral:						
Equity securities:						
Domestic	339,723	358,657			3,240,103	3,057,625
Foreign	178,023	147,358			1,197,501	1,242,195
Fixed-income securities:						
U.S. government-guaranteed	294,545	376,684			2,705,074	3,174,988
Other U.S. dollar-denominated	46,480	123,429			471,693	710,653
Foreign currency-denominated	57				3,221	
Lent for securities collateral	**858,828**	**1,006,128**			**7,617,592**	**8,185,461**
Total securities lent	**$1,794,489**	**$2,102,645**	**$36,384**	**$45,288**	**$13,634,915**	**$14,255,175**
COLLATERAL RECEIVED						
Cash	$991,052	$1,209,769			$6,126,849	$6,157,131
Foundations' share	(36,384)	(45,288)	$36,384	$45,288		
Total cash collateral received	**954,668**	**1,164,481**	**36,384**	**45,288**	**6,126,849**	**6,157,131**
Securities	932,360	1,095,763			8,269,811	8,914,709
Total collateral received	**$1,887,028**	**$2,260,244**	**$36,384**	**$45,288**	**$14,396,660**	**$15,071,840**
INVESTMENT OF CASH COLLATERAL						
Fixed-income securities:						
Other U.S. dollar-denominated:						
Corporate bonds	$51,173	$32,858			$316,357	$167,234
Commercial paper	120,336	146,215			743,938	744,164
Repurchase agreements	276,518	555,710			1,709,481	2,828,291
Corporate - asset-backed securities	26,269	5,803			162,397	29,534
Certificates of deposit/time deposits	441,744	381,408			2,730,933	1,941,184
Supranational/foreign	76,119	88,252			470,583	449,163
Other assets (liabilities), net*	(835)	(251)			(5,163)	(1,280)
Foundations' share	(36,384)	(45,288)	$36,384	$45,288		
Investment of cash collateral	**954,940**	**1,164,707**	**36,384**	**45,288**	**$6,128,526**	**$6,158,290**
Less: Current portion	(839,994)	(1,054,406)	(32,733)	(40,999)		
Noncurrent portion	**$114,946**	**$110,301**	**$3,651**	**$4,289**		

** Other assets (liabilities), net is comprised of pending settlements of cash collateral investments.*

The University earns interest and dividends on the collateral held during the loan period, as well as a fee from the brokerage firm, and is obligated to pay a fee and rebate to the borrower. The University receives the net investment income. The securities lending income and fees and rebates for the year ended June 30 are as follows:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	2018	2019	2018	2019	2018
Securities lending income	$32,269	$23,743	$1,497	$1,008	$212,596	$136,099
Securities lending fees and rebates	(23,810)	(14,785)	(1,112)	(642)	(160,185)	(89,025)
Securities lending investment income, net	**$8,459**	**$8,958**	**$385**	**$366**	**$52,411**	**$47,074**

Investment Risk Factors

There are a variety of potential risk factors involved in a securities lending program. Risks associated with the investment of cash collateral may include the credit risk from fixed-income securities, concentration of credit risk, interest rate risk and foreign currency risk. In addition, there may be custodial credit risk associated with both cash and securities received as collateral for securities lent.

The University's and UCRS' investment guidelines and other information related to each of these risks are summarized below. Campus foundations that participate in a securities lending program may have their own individual investment policies designed to limit the same risks.

Credit Risk

The University's and UCRS' investment guidelines for the investment of cash collateral maintained in separately managed collateral pools restrict the credit rating of issuers at the time of purchase to no less than A-1, P-1 or F-1 for short-term securities and no less than A2/A for long-term securities. Asset-backed securities must have a rating of AAA at the time of purchase.

The credit risk profile for fixed- or variable-income securities associated with the investment of cash collateral at June 30 are as follows:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	2018	2019	2018	2019	2018
Fixed- or variable-income securities:						
Other U.S. dollar-denominated:						
AAA	$48,557	$94,055			$300,188	$478,695
AA-	85,376	118,258			527,811	601,875
A+	301,142	10,185			1,861,709	51,834
A	42,688	243,045			263,903	1,236,981
A-						
A-1 / A-2 / P-1/ F-1	184,046	188,995			1,137,805	961,888
Not rated	53,831				332,792	
Other assets (liabilities) net*: Not rated	(835)	(251)			(5,163)	(1,280)
Campus foundations' share	(36,384)	(45,288)	$36,384	$45,288		

** Other assets (liabilities), net is comprised of pending settlements of cash collateral investments.*

Custodial Credit Risk

Cash collateral received for securities lent is invested in pools by the University's lending agents. The University's and UCRS' securities related to the investment of cash collateral are registered in the University's name by the lending agents. Securities collateral received for securities lent are held in investment pools by the University's lending agents. As a result, custodial credit risk is remote.

Concentration of Credit Risk

The University's and UCRS' investment guidelines with respect to the concentration of credit risk associated with the investment of cash collateral in the separately managed collateral pools restricts investments in any single issuer of corporate debt securities, time deposits, certificates of deposit, banker's acceptances and money market funds to no more than 5 percent of the portfolio value at the time of purchase. Campus foundations that directly participate in a securities lending program do not have specific investment policies related to concentration of credit risk, although the lending agreements with the agents establish restrictions for the type of investments, as well as minimum credit ratings.

Investments in issuers other than U.S. government-guaranteed securities that represent 5 percent or more of the total investment of cash collateral at June 30 are as follows:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**
Morgan Stanley & Co LLC	$69,617	$98,530	$430,383	$501,471
Skandinaviska Enskilda Banken AB	53,334		329,721	
UBS AG	51,535		318,596	
RCap Securities Inc.		102,307		520,693
Goldman Sachs & Company		73,898		376,102
Nomura Securities International Inc.		63,716		324,284

Interest Rate Risk

The nature of individual securities in the collateral pools allows for the use of weighted average maturity as an effective risk management measure. The University's and UCRS' investment guidelines with respect to the interest rate risk associated with the investment of cash collateral in the separately managed collateral pools require the weighted average maturity of the entire collateral pool to be less than 120 days. The maturity of securities issued by the U.S. government and asset-backed securities must be less than five years, corporate debt obligations must be less than two years and time deposits must be less than 190 days.

The weighted average maturity expressed in days for fixed- or variable-income securities associated with the investment of cash collateral at June 30 are as follows:

(in days)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**
Fixed- or variable-income securities:				
Other U.S. dollar-denominated:				
Corporate bonds	19	26	19	26
Commercial paper	26	22	26	22
Repurchase agreements	11	6	11	6
Corporate asset-backed securities	29	20	29	20
Certificates of deposit/time deposits	23	24	23	24
Supranational/foreign	18	16	18	16

Investment of cash collateral may include various asset-backed securities, structured notes and variable-rate securities that may be considered to be highly sensitive to changes in interest rates due to the existence of prepayment or conversion features, although the weighted average maturity may be short.

At June 30, the fair value of investments that are considered to be highly sensitive to changes in interest rates are as follows:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Other asset-backed securities	$95,060	$94,055			$587,680	$478,695
Variable-rate investments	797,390	865,249			4,929,597	4,403,692
Campus foundations' share	(32,755)	(35,905)	$32,755	$35,905		
Total	**$859,695**	**$923,399**	**$32,755**	**$35,905**	**$5,517,277**	**$4,882,387**

At June 30, 2019 and 2018, the weighted average maturity expressed in days for asset-backed securities was 23 days and 16 days, respectively and for variable-rate investments it was 153 days and 136 days, respectively.

Foreign Currency Risk

The University's and UCRS' investment policy with respect to the foreign currency risk associated with the investment of cash collateral maintained in separate collateral pools restricts investments to U.S. dollar-denominated securities. Therefore, there is no foreign currency risk.

4. DERIVATIVE FINANCIAL INSTRUMENTS

The University may use derivatives including futures, forward contracts, options and interest rate swap contracts as a substitute for investment in equity and fixed-income securities to reduce the effect of fluctuating foreign currencies on foreign currency-denominated investments, or to limit its exposure of variable-rate bonds to changes in market interest rates. The Board of Trustees for each campus foundation may also authorize derivatives in its investment policy.

The University enters into futures contracts for the purpose of acting as a substitute for investment in equity and fixed-income securities. A futures contract is an agreement between two parties to buy and sell a security or financial index, interest rate or foreign currency at a set price on a future date. They are standardized contracts that can be easily bought and sold and are exchange-traded. Upon entering into such a contract, the University is required to pledge to the broker an amount of cash or securities equal to the minimum initial margin requirements of the exchange on which the contract is traded. Pursuant to the contract, the University agrees to receive from, or pay to, the counterparty an amount of cash equal to the daily fluctuation in the value of the contract. These contracts are settled on a daily basis, with the resulting realized gain or loss included in the statement of revenues, expenses and changes in net position. The settlement amount at the end of each day for each of the contracts, or variation margin, is included in investments and represents the fair value of the contracts.

Forward contracts are similar to futures contracts, although they are not exchange-traded. Foreign currency exchange contracts are forward contracts used to hedge against foreign currency exchange rate risks on non-U.S. dollar-denominated investment securities and to increase or decrease exposure to various foreign currencies.

An options contract gives the University the right, but not the obligation, to buy or sell a specified security or index at a fixed price during a specified period for a nonrefundable fee (the "premium"). The maximum loss to the University is limited to the premium originally paid for covered options. The University initially records premiums paid for the purchase of these options in the statement of net position as an investment which is subsequently adjusted to reflect the fair value of the options, with unrealized gains and losses included in the statement of revenues, expenses and changes in net position.

Rights and warrants provide the holder with the right, but not the obligation, to buy a stock at a predetermined price for a finite period of time. Warrants usually have a longer time period to expiration. The holder of a right or warrant is permitted to buy at a price that may be below the actual market price for that stock. Warrants and rights cease to exist and become worthless if not used by their expiration date.

An interest rate swap is a contractual agreement entered into between the University and a counterparty under which each agrees to exchange periodic fixed or variable payments for an agreed period of time based upon a notional amount of principal or value of the underlying contract. The payments correspond to an equity index, an interest rate or to currency. A credit default swap is an agreement whereby the seller will compensate the buyer in the event of a loan default. A swaption is an option granting its owner the right but not the obligation to enter into an underlying swap. The University considers its futures, forward contracts, options, credit default swaps, swaptions, rights, warrants and certain interest rate swaps to be investment derivatives.

As a means to lower the University's borrowing costs, when compared against fixed-rate bonds at the time of issuance, the University entered into interest rate swap agreements in connection with certain of its variable-rate Medical Center Pooled Revenue Bonds and General Revenue Bonds. The University determined that certain of its interest rate swaps are derivative instruments that meet the criteria for an effective hedge. Certain of the interest rate swaps are considered hybrid instruments since, at the time of execution, the fixed rate on each of the swaps was off-market and the University received an up-front payment. As such, these swaps are each comprised of a derivative instrument, an at-the-market swap that is an effective hedge, and a companion instrument, a borrowing represented by the up-front payment. The unamortized amount of the borrowing under the companion instruments was $71.4 million and $75.2 million at June 30, 2019 and 2018, respectively.

Due to the upcoming phase out of LIBOR (the London Interbank Offered Rate), the University amended certain interest rate swap agreements to change the index rate from LIBOR to the Federal Funds Rate in 2019. As a result, the University terminated hedge accounting for certain previous LIBOR swap agreements and commenced hedge accounting for the new agreements. The result of terminating hedge accounting for the LIBOR swaps was to recognize a loss of $8.6 million in other nonoperating expenses. To commence hedge accounting for the new Federal Funds Rate swap agreements through 2023, an additional borrowing for the off-the-market rate swap of $8.8 million was recognized. In 2019, to reduce rollover risk, the University also entered into new interest rate swap agreements commencing in 2023 through 2039.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, categorized by type, and the changes in fair value of such derivatives are as follows:

University of California

(in thousands of dollars)

	NOTIONAL AMOUNT		FAIR VALUE–POSITIVE (NEGATIVE)			CHANGES IN FAIR VALUE		
CATEGORY	**2019**	**2018**	**CLASSIFICATION**	**2019**	**2018**	**CLASSIFICATION**	**2019**	**2018**
INVESTMENT DERIVATIVES								
Futures contracts:								
Domestic equity futures:								
Long positions	$58,652	$211,945	Investments	$888	($5,755)	Net appreciation (depreciation)	($14,735)	($5,789)
Short positions			Investments			Net appreciation (depreciation)	7	
Foreign equity futures:								
Long positions	1,174	6,492	Investments	14	15	Net appreciation (depreciation)	(604)	8,090
Futures contracts, net				**902**	**(5,740)**		**(15,332)**	**2,301**
Foreign currency exchange contracts, net:								
Long positions	241	1,636	Investments	1	(15)	Net appreciation (depreciation)	1,299	(1)
Short positions	133,966		Investments	(565)		Net appreciation (depreciation)	2,368	(7)
Foreign currency exchange contracts, net				**(564)**	**(15)**		**3,667**	**(8)**
Other:								
Stock rights/warrants			Investments	207	235	Net appreciation (depreciation)	(10)	38
Other, net				**207**	**235**		**(10)**	**38**
Total investment derivatives				**$545**	**($5,520)**		**($11,675)**	**$2,331**
CASH FLOW HEDGES								
Effective interest rate swaps:								
Pay fixed, receive variable	$1,435,260	$838,850	Other assets (liabilities)	($130,161)	($54,839)	Deferred (inflows) outflows	($75,322)	$35,393

University of California Campus Foundations

(in thousands of dollars)

	NOTIONAL AMOUNT		FAIR VALUE–POSITIVE (NEGATIVE)			CHANGES IN FAIR VALUE		
CATEGORY	**2019**	**2018**	**CLASSIFICATION**	**2019**	**2018**	**CLASSIFICATION**	**2019**	**2018**
INVESTMENT DERIVATIVES								
Options/swaptions	$55,128	$54,231	Investments	($388)	($355)	Net appreciation (depreciation)	$672	$3,168
Swaps	169,999	250,603	Investments			Net appreciation (depreciation)	(10,847)	16,090
Total investment derivatives				**($388)**	**($355)**		**($10,175)**	**$19,258**

University of California Retirement System

(in thousands of dollars)

	NOTIONAL AMOUNT		FAIR VALUE–POSITIVE (NEGATIVE)			CHANGES IN FAIR VALUE		
CATEGORY	2019	2018	CLASSIFICATION	2019	2018	CLASSIFICATION	2019	2018
INVESTMENT DERIVATIVES								
Futures contracts:								
Domestic equity futures:								
Long positions	$401,208	$926,476	Investments	$5,228	($20,156)	Net appreciation (depreciation)	($39,204)	($19,697)
Short positions		(16,189)	Investments		665	Net appreciation (depreciation)	1,836	947
Foreign equity futures:								
Long positions	66,200	58,219	Investments	732	(924)	Net appreciation (depreciation)	538	61,531
Short positions		(11,875)	Investments		77	Net appreciation (depreciation)	809	(1,077)
Futures contracts, net				**5,960**	**(20,338)**		**(36,021)**	**41,704**
Foreign currency exchange contracts, net:								
Long positions	12,830	35,282	Investments	65	(320)	Net appreciation (depreciation)	(2,915)	7,332
Short positions	206,476		Investments	(870)		Net appreciation (depreciation)	5,469	(10,695)
Foreign currency exchange contracts, net				**(805)**	**(320)**		**2,554**	**(3,363)**
Other:								
Stock rights/warrants		2	Investments	1,330	1,516	Net appreciation (depreciation)	135	332
Other, net				**1,330**	**1,516**		**135**	**332**
Total investment derivatives				**$6,485**	**($19,142)**		**($33,332)**	**$38,673**

Objectives and Terms of Hedging Derivative Instruments

The objectives and terms of the hedging derivative instruments outstanding at June 30, along with the credit rating of the associated counterparty, are as follows:

UNIVERSITY OF CALIFORNIA *(in thousands of dollars)*

TYPE	OBJECTIVE	NOTIONAL AMOUNT		EFFECTIVE DATE	MATURITY DATE	CASH PAID OR RECEIVED	TERMS	COUNTERPARTY CREDIT RATING	FAIR VALUE	
		2019	2018						2019	2018
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate Medical Center Pooled Revenue Bonds	$60,485	$64,075	2007	2032	None	Pay fixed 3.5897%; receive 58% of 1-Month LIBOR* plus 0.48%	Aa2/A+	($8,319)	($6,435)
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate Medical Center Pooled Revenue Bonds	124,775	124,775	2016	2030 through 2043	None	Pay fixed 4.6359%; receive 67% of 3-Month LIBOR* plus 0.69%**	Aa2/A+	(41,528)	(31,577)
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds	400,000		2019	2023	None	Pay fixed 1.8982%; receive 70% of Federal Funds Rate + 0.0925%	Aa2/AA-	(12,295)	
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds		400,000	2013	2019	None	Pay fixed 1.8982%; receive 70% of 1-Month LIBOR*	Aa2/AA-		466
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds	100,000		2019	2023	None	Pay fixed 1.9057%; receive 70% of Federal Funds Rate + 0.0925%	Aa2/AA-	(3,105)	
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds		100,000	2013	2019	None	Pay fixed 1.9057%; receive 70% of 1-Month LIBOR*	Aa2/AA-		80
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds	100,000		2019	2023	None	Pay fixed 1.8980%; receive 70% of Federal Funds Rate + 0.0975%	Aa2/A+	(3,053)	
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds		100,000	2013	2019	None	Pay fixed 1.8980%; receive 70% of 1-Month LIBOR*	Aa2/A+		118
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate Medical Center Pooled Revenue Bonds	24,250	24,250	2016	2045	None	Pay fixed 4.741%; receive 67% of 3-Month LIBOR* +0.79%	Aa2/A+	(11,198)	(8,307)
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate Medical Center Pooled Revenue Bonds	25,750	25,750	2016	2047	None	Pay fixed 4.741%; receive 67% of 3-Month LIBOR* +0.79%	Aa2/A+	(12,440)	(9,184)
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds	500,000		2023	2039	None	Pay fixed 1.9817%; receive 70% of Federal Funds Rate	Aa2/AA-	(32,712)	
Pay fixed, receive variable interest rate swap	Hedge of changes in cash flows on variable-rate General Revenue Bonds	100,000		2023	2039	None	Pay fixed 1.899%; receive 70% of Federal Funds Rate	Aa2/A+	(5,511)	
Interest rate swaps, net		**$1,435,260**	**$838,850**						**($130,161)**	**($54,839)**

** London Interbank Offered Rate (LIBOR).*
***Weighted average spread.*

Hedging Derivative Instrument Risk Factors

Credit Risk

The University could be exposed to credit risk if the interest rate swap counterparties to the contracts are unable to meet the terms of the contracts. Contracts with positive fair values are exposed to credit risk. The University faces a maximum possible loss equivalent to the amount of the derivative's fair value, less any collateral held by the University provided by the counterparty. Contracts with negative fair values are not exposed to credit risk.

Although the University has entered into the interest rate swaps with creditworthy financial institutions to hedge its variable-rate debt, there is credit risk for losses in the event of non-performance by counterparties or unfavorable interest rate movements.

There are no collateral requirements related to the interest rate swap with the $60.5 million notional amount. Depending on the fair value and the counterparty credit rating for the swaps related to the Medical Center Pooled Revenue Bonds with the counterparty that is currently rated Aa2/A+ with a combined notional amount of $174.8 million, the University may be entitled to receive collateral to the extent the positive fair value exceeds $20.0 million as of June 30, 2019. At June 30, 2019 and 2018, there was no collateral required.

Depending on the fair value and the counterparty credit rating for the swaps related to the General Revenue Bonds with the counterparty that is currently rated Aa2/AA- with a combined notional amount of $500.0 million, the University may be entitled to receive collateral to the extent the positive fair value with the counterparty exceeds $30.0 million. At June 30, 2019 and 2018, there was no collateral required.

Depending on the fair value and the counterparty credit rating for the swap related to the General Revenue Bonds with the counterparty that is currently rated Aa2/A+ with a notional amount of $100.0 million, the University may be entitled to receive collateral to the extent the positive fair value with the counterparty exceeds $20.0 million. At June 30, 2019 and 2018, there was no collateral required.

Interest Rate Risk

There is a risk that the value of the interest rate swaps will decline because of changing interest rates. The values of the interest rate swaps with longer maturities tend to be more sensitive to changing interest rates and, therefore, more volatile than those with shorter maturities.

Basis Risk

There is a risk that the basis for the variable payment received on interest rate swaps will not match the variable payment on the bonds. This exposes the University to basis risk whenever the interest rates on the bonds are reset. The interest rate on the bonds is a tax-exempt interest rate, while the basis of the variable receipt on the interest rate swaps is taxable. Tax-exempt interest rates can change without a corresponding change in the LIBOR rate due to factors affecting the tax-exempt market which do not have a similar effect on the taxable market. However, there is no basis or tax risk related to the swaps with the $149.0 million total notional amount since the variable rate the University pays to the bondholders matches the variable-rate payments received from the swap counterparty and the interest rates are reset at the same intervals.

Termination Risk

There is termination risk for interest rate swaps associated with variable-rate bonds in the event of non-performance by counterparties in an adverse market resulting in cancellation of the synthetic interest rate and returning the interest rate payments to the variable interest rates on the bonds. In addition, depending on the agreement, certain interest rate swaps may be terminated if a counterparty's credit quality rating, as issued by Moody's or Standard & Poor's, falls below certain thresholds. For the interest rate swap with the $60.5 million notional amount, the termination threshold is reached when the credit quality rating for either the underlying Medical Center Pooled Revenue Bonds or swap counterparty falls below Baa2 or BBB. For the swaps with the combined $174.8 million notional amount, the termination threshold is reached when the credit quality rating for the underlying Medical Center Pooled Revenue Bonds falls below Baa3/BBB-, or the interest rate swap counterparty's rating falls below Baa2 or BBB.

For the swaps with notional amounts of $400.0 million and $100.0 million with a counterparty that is currently rated Aa2/AA-, the termination threshold is reached when the credit quality rating for the underlying General Revenue Bonds falls below Baa2 or BBB, or the swap counterparty's rating falls below A3 or A-. For the swap with a notional amount of $100.0 million with a counterparty that is currently rated Aa2/A+, the termination threshold is reached when the credit quality rating for the underlying General Revenue Bonds falls below Baa2 or BBB, or the swap counterparty's rating falls below A3 or A-. Upon termination, the University may also owe a termination payment if there is a realized loss based on the fair value of each interest rate swap.

Rollover Risk

The University is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the hedged debt. When these hedging derivative instruments terminate, the University will be re-exposed to the risks being hedged by the hedging derivative instruments. The University is exposed to rollover risk on the interest rate swaps that mature in June 2039 because the hedged debt is scheduled to mature in May 2048.

5. FAIR VALUE

Fair value is defined in the accounting standards as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Assets and liabilities reported at fair value are organized into a hierarchy based on the levels of inputs observable in the marketplace that are used to measure fair value. Inputs are used in applying the various valuation techniques and take into account the assumptions that market participants use to make valuation decisions. Inputs may include price information, credit data, liquidity statistics and other factors specific to the financial instrument. Observable inputs reflect market data obtained from independent sources. In contrast, unobservable inputs reflect the entity's assumptions about how market participants would value the financial instrument.

A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. The following describes the hierarchy of inputs used to measure fair value and the primary valuation methodologies used for financial instruments measured at fair value on a recurring basis:

Level 1 – Prices based on unadjusted quoted prices in active markets that are accessible for identical assets or liabilities are classified as Level 1. Level 1 investments include equity securities and other publicly traded securities.

Level 2 – Quoted prices in markets that are not considered to be active, dealer quotations or alternative pricing sources for similar assets or liabilities for which all significant inputs are observable, either directly or indirectly, are classified as Level 2. Level 2 investments include fixed- or variable-income securities, commingled funds, certain derivatives and other assets that are valued using market information.

Level 3 – Investments and other assets classified as Level 3 have significant unobservable inputs, as they trade infrequently or not at all. The inputs into the determination of fair value of these investments and other assets are based upon the best information in the circumstance and may require significant management judgment. Level 3 financial instruments include private equity investments, real estate and beneficial interests in irrevocable split-interest agreements.

Net Asset Value (NAV) – Investments whose fair value is measured at NAV are excluded from the fair value hierarchy. Investments in non-governmental entities that do not have a readily determinable fair value may be valued at NAV. Investments measured at NAV include hedge funds, private equity investments and commingled funds.

Not Leveled – Cash and cash equivalents are not measured at fair value and, thus, are not subject to the fair value disclosure requirements.

The following tables summarize the investments and other assets reported at fair value within the fair value hierarchy as of June 30, 2019:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA					
	TOTAL	**QUOTED PRICES IN ACTIVE MARKETS**	**OTHER OBSERVABLE INPUTS**	**UNOBSERVABLE INPUTS**	**NET ASSET VALUE**	**NOT LEVELED**
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$6,297,412	$6,294,977		$2,435		
Fixed- or variable-income securities:						
U.S. government-guaranteed	3,373,835	60,324	$3,313,511			
Other U.S. dollar-denominated	10,230,396	226,062	9,924,334	80,000		
Foreign currency-denominated	98		98			
Commingled funds	12,196,421	875,858		513,232	$10,742,484	$64,847
Investment derivatives	545	147	398			
Publicly traded real estate investment trusts	265,160	265,160				
Mortgage loans	766,748			766,748		
Real estate	1,035,477			59,014	976,463	
Other investments	121,256			10,383	110,873	
Campus foundations' investments with the University	(2,892,444)					(2,892,444)
UCRS investment in STIP	(2,687,523)					(2,687,523)
Total investments	**$28,707,381**	**$7,722,528**	**$13,238,341**	**$1,431,812**	**$11,829,820**	**($5,515,120)**
Securities lending investments of cash collateral	**$954,940**		**$955,775**			**($835)**
Investments held by trustees	**$1,245,948**	**$43,337**	**$583,306**		**$265,490**	**$353,815**
Beneficial interests included in other noncurrent assets	**$70,789**			**$70,789**		

(in thousands of dollars)	CAMPUS FOUNDATIONS					
	TOTAL	**QUOTED PRICES IN ACTIVE MARKETS**	**OTHER OBSERVABLE INPUTS**	**UNOBSERVABLE INPUTS**	**NET ASSET VALUE**	**NOT LEVELED**
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$300,989	$292,600	$12	$8,367	$10	
Fixed- or variable-income securities:						
U.S. government-guaranteed	357,522		357,522			
Other U.S. dollar-denominated	67,954	652	67,248	54		
Foreign currency denominated	1,430		1,430			
Commingled funds	8,849,013	681,676	533	11,275	8,115,624	$39,905
Investment derivatives	(388)		(388)			
Real estate	143,713		1,260	53,600	88,853	
Other investments	258,156	9,178		2,911	243,368	2,699
Total investments	**$9,978,389**	**$984,106**	**$427,617**	**$76,207**	**$8,447,855**	**$42,604**
Securities lending investments of cash collateral	**$36,384**		**$36,415**			**($31)**
Beneficial interests included in other noncurrent assets	**$81,333**			**$81,333**		

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM					
	TOTAL	QUOTED PRICES IN ACTIVE MARKETS	OTHER OBSERVABLE INPUTS	UNOBSERVABLE INPUTS	NET ASSET VALUE	NOT LEVELED
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$39,608,395	$39,608,350		$45		
Fixed- or variable-income securities:						
U.S. government-guaranteed	6,654,026		$6,654,026			
Other U.S. dollar-denominated	15,977,772		15,977,772			
Foreign currency-denominated	536		536			
Commingled funds	29,292,865	3,439,009		280,282	$24,918,337	$655,237
Investment derivatives	6,485	1,011	5,474			
Publicly traded real estate investment trusts	2,092,822	2,092,822				
Real estate	1,823,802				1,823,802	
Total investments	**$95,456,703**	**$45,141,192**	**$22,637,808**	**$280,327**	**$26,742,139**	**$655,237**
Securities lending investments of cash collateral	**$6,128,526**		**$6,133,689**			**($5,163)**

The following tables summarize the investments and other assets reported at fair value within the fair value hierarchy as of June 30, 2018:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA					
	TOTAL	QUOTED PRICES IN ACTIVE MARKETS	OTHER OBSERVABLE INPUTS	UNOBSERVABLE INPUTS	NET ASSET VALUE	NOT LEVELED
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$5,557,176	$5,551,780		$5,396		
Fixed- or variable-income securities:						
U.S. government-guaranteed	3,399,570	57,592	$3,341,978			
Other U.S. dollar-denominated	12,790,802	217,954	12,483,517	89,331		
Foreign currency-denominated	113		113			
Commingled funds	10,171,169	796,878	62,531	72,717	$9,205,816	$33,227
Investment derivatives	(5,520)	234	(5,754)			
Publicly traded real estate investment trusts	224,036	224,036				
Mortgage loans	510,765			510,765		
Real estate	428,590			25,562	403,028	
Other investments	27,701	13,750		13,951		
Campus foundations' investments with the University	(2,611,651)					(2,611,651)
UCRS investment in STIP	(3,123,754)					(3,123,754)
Total investments	**$27,368,997**	**$6,862,224**	**$15,882,385**	**$717,722**	**$9,608,844**	**($5,702,178)**
Securities lending investments of cash collateral	**$1,164,707**		**$1,164,958**			**($251)**
Investments held by trustees	**$415,164**				**$382,162**	**$33,002**
Beneficial interests included in other noncurrent assets	**$55,440**			**$55,440**		

(in thousands of dollars)	**CAMPUS FOUNDATIONS**					
	TOTAL	**QUOTED PRICES IN ACTIVE MARKETS**	**OTHER OBSERVABLE INPUTS**	**UNOBSERVABLE INPUTS**	**NET ASSET VALUE**	**NOT LEVELED**
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$281,594	$266,168	$5,147	$10,265	$14	
Fixed- or variable-income securities:						
U.S. government-guaranteed	386,667		386,667			
Other U.S. dollar-denominated	130,192	666	129,472	54		
Commingled funds	8,069,041	692,240	351	1,511	7,352,650	$22,289
Investment derivatives	(355)		(355)			
Real estate	135,731		3,709	54,224	77,798	
Other investments	236,710	5,161		38,202	191,959	1,388
Total investments	**$9,239,580**	**$964,235**	**$524,991**	**$104,256**	**$7,622,421**	**$23,677**
Securities lending investments of cash collateral	**$45,288**		**$45,297**			**($9)**
Beneficial interests included in other noncurrent assets	**$75,132**			**$75,132**		

(in thousands of dollars)	**UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM**					
	TOTAL	**QUOTED PRICES IN ACTIVE MARKETS**	**OTHER OBSERVABLE INPUTS**	**UNOBSERVABLE INPUTS**	**NET ASSET VALUE**	**NOT LEVELED**
		(Level 1)	(Level 2)	(Level 3)	(NAV)	
Equity securities	$33,324,912	$32,764,711		$1,282	$558,919	
Fixed- or variable-income securities:						
U.S. government-guaranteed	5,881,270		$5,881,270			
Other U.S. dollar-denominated	18,110,994	365,653	17,745,294	47		
Foreign currency-denominated	576		576			
Commingled funds	30,197,232	5,064,965	2,115		25,461,548	($331,396)
Investment derivatives	(19,142)	1,516	(20,658)			
Publicly traded real estate investment trusts	1,711,685	1,711,685				
Real estate	1,665,191				1,665,191	
Total investments	**$90,872,718**	**$39,908,530**	**$23,608,597**	**$1,329**	**$27,685,658**	**($331,396)**
Securities lending investments of cash collateral	**$6,158,290**		**$6,159,570**			**($1,280)**

The following table presents significant terms of certain investments at June 30, 2019:

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA			
INVESTMENT TYPE	**FAIR VALUE**	**UNFUNDED COMMITMENTS**	**REMAINING LIFE (YEARS)**	**REDEMPTION TERMS AND RESTRICTIONS**
Absolute return	$4,313,573	$308,271	0 to 5	Not eligible for redemption and lock-up provisions ranging from 0 to 3 years. For securities not eligible for redemptions the underlying assets are estimated to be liquidated within 3 to 5 years. For securities eligible for redemptions, after initial lock-up expires, redemptions are available on a rolling basis and require 30 to 365 days' prior notification.
Private equity	2,554,119	1,693,703	0 to 15	Not eligible for redemption.
Real assets	627,023	567,390	0 to 15	Not eligible for redemption.
Real estate and real estate investment trusts	1,240,004	554,930	0 to 10	Closed end funds are not eligible for redemption. For open end funds, redemptions are generally on a quarterly basis where the redemption date is the last day of each quarter. Payments of withdrawal requests are generally made within 45 days.
U.S. equity funds	74,076			Redemptions generally require at least 0-90 days written notice of intention to terminate as of a date specified in the notice. Payments of withdrawal requests are generally made within 0-120 days.
Balanced funds	243,152			Redemptions require at least twelve months prior written notice of intention to terminate as of a date specified in the notice. Withdrawals will occur on the last business day of the month and are subject to certain withdrawal guidelines.

(in thousands of dollars)	CAMPUS FOUNDATIONS			
INVESTMENT TYPE	**FAIR VALUE**	**UNFUNDED COMMITMENTS**	**REMAINING LIFE (YEARS)**	**REDEMPTION TERMS AND RESTRICTIONS**
Absolute return	$2,531,318	$115,585	0 to 3	Generally, lock-up provisions ranging from 0 to 3 years. After initial lock-up expires, redemptions are available require 30 to 180 days' prior notification.
Private equities	1,132,506	780,895	0 to 16	Generally, lock-up provisions ranging from 0 to 16 years. After initial lock-up expires, redemptions are available require 30 to 180 days' prior notification.
Other investments	258,156	120,433	9	Not eligible for redemption.
Real estate and real estate investment trusts	318,687	108,721	0 to 14	Not eligible for redemption.
U.S. equity and Non-U.S. equity funds	2,047,673	18,000	0 to 4	Generally, lock-up provisions ranging from 0 to 4 years. After initial lock-up expires, redemptions are available require 0 to 365 days' prior notification.

(in thousands of dollars)	UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM			
INVESTMENT TYPE	**FAIR VALUE**	**UNFUNDED COMMITMENTS**	**REMAINING LIFE (YEARS)**	**REDEMPTION TERMS AND RESTRICTIONS**
Absolute return	$4,716,290	$289,483	0 to 5	Not eligible for redemption and lock-up provisions ranging from 0 to 3 years. For securities not eligible for redemptions the underlying assets are estimated to be liquidated within 3 to 5 years. For securities eligible for redemptions, after initial lock-up expires, redemptions are available on a rolling basis and require 30 to 365 days' prior notification.
Private equity	4,458,873	3,742,167	0 to 15	Not eligible for redemption.
Real assets	1,530,725	923,447	0 to 15	Not eligible for redemption.
U.S. equity funds	1,137,570			Redemptions generally require at least 0-90 days written notice of intention to terminate as of a date specified in the notice. Payments of withdrawal requests are generally made within 0-120 days.
Real estate and real estate investment trusts	4,278,585	1,034,982	0 to 10	Closed end funds are not eligible for redemption. For open end funds, redemptions are generally on a quarterly basis where the redemption date is the last day of each quarter. Payments of withdrawal requests are generally made within 45 days.

6. INVESTMENTS HELD BY TRUSTEES

The University has entered into agreements with trustees to maintain trusts for the University's insurance programs, long-term debt requirements, capital projects and certain other requirements. In addition, the state of California retained on deposit certain proceeds from the sale of lease-revenue bonds to be used for capital projects.

Insurance Programs

Investments held by trustees for insurance programs include bank accounts for the voluntary benefits, workers' compensation, general liability and professional medical and hospital liability programs. Cash held by the trustee in the name of the University totaled $26.3 million and $10.9 million at June 30, 2019 and 2018, respectively.

Long-Term Debt

Investments held by trustees for future payment of principal and interest in accordance with various indenture and other long-term debt requirements totaled $302.5 million and $12.9 million at June 30, 2019 and 2018, respectively. In 2019, investments held by trustees included $286.5 million to retire General Revenue Bonds maturing on July 1, 2019. Securities held by trustees are held in the name of the University and these trust agreements permit trustees to invest in U.S. and state government or agency obligations, commercial paper or other corporate obligations meeting certain credit rating requirements.

Capital Projects

Proceeds from the sale of the state of California's lease revenue bonds to be used for financing certain University capital projects were deposited in a commingled U.S. bond fund managed by the state of California Treasurer's Office, as trustee, and distributed to the University as the projects are constructed. The fair value of these deposits was $2.7 million and $2.6 million at June 30, 2019 and 2018, respectively.

In addition, proceeds from the sale of bonds for the design and construction of third-party blended component unit housing facilities are held by trustees. The fair value of these investments was $909.8 million and $385.7 million at June 30, 2019 and 2018, respectively. Substantially all of these investments are of a highly liquid, short-term nature.

7. ACCOUNTS RECEIVABLE

Accounts receivable and the allowance for uncollectible accounts are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA							UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS
	STATE AND FEDERAL GOVERNMENT	MEDICAL CENTERS	INVESTMENT INCOME	PRIVATE GRANTS AND CONTRACTS	MEDICAL PROFESSIONAL FEES	OTHER	TOTAL	
At June 30, 2019								
Accounts receivable	$783,064	$2,445,017	$76,716	$494,767	$536,212	$1,600,789	$5,936,565	$37,496
Allowance for uncollectible accounts	(7,695)	(304,538)		(24,692)	(157,343)	(35,617)	(529,885)	
Accounts receivable, net	**$775,369**	**$2,140,479**	**$76,716**	**$470,075**	**$378,869**	**$1,565,172**	**$5,406,680**	**$37,496**
At June 30, 2018								
Accounts receivable	$730,025	$2,239,409	$66,905	$438,819	$413,682	$640,109	$4,528,949	$13,102
Allowance for uncollectible accounts	(6,382)	(265,029)		(23,359)	(140,118)	(32,173)	(467,061)	
Accounts receivable, net	**$723,643**	**$1,974,380**	**$66,905**	**$415,460**	**$273,564**	**$607,936**	**$4,061,888**	**$13,102**

The University's other accounts receivable are primarily related to investment sales, tuition and fees, auxiliary enterprises, insurance rebates and legal settlements.

The campus foundations' accounts receivable are primarily related to investment income.

Uncollectible accounts have decreased the following revenues for the years ended June 30:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA	
	2019	**2018**
Student tuition and fees	($4,475)	($1,002)
Grants and contracts:		
Federal	(570)	(4,656)
State	(1,095)	(778)
Private	(1,280)	73
Local	(63)	(40)
Medical centers	(230,357)	(255,445)
Educational activities	(11,524)	(9,994)
Auxiliary enterprises	(1,159)	101
Other operating revenues	(2,315)	(2,041)
Expense for uncollectible accounts	**($252,838)**	**($273,782)**

Retirement System Contribution

The state of California agreed to make contributions related to certain prior years to the University for UCRP in annual installments over 30 years. During each of the years ended June 30, 2019 and 2018, under the terms of these agreements, the state of California contributed $5.3 million, including interest at 8.5 percent. At June 30, 2019 and 2018, the remaining amount owed to UCRP by the state was $4.9 million and $9.4 million, respectively. These amounts are recorded in the University's statement of net position as a receivable from the state of California and as a liability owed to UCRP.

8. PLEDGES RECEIVABLE

The composition of pledges receivable at June 30 is summarized as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS	
	2019	**2018**	**2019**	**2018**
Total pledges receivable outstanding	$72,286	$67,676	$1,090,878	$1,208,349
Unamortized discount to present value	(1,522)	(632)	(137,971)	(136,882)
Allowance for uncollectible pledges	(12,689)	(9,305)	(64,915)	(65,284)
Total pledges receivable, net	**58,075**	**57,739**	**887,992**	**1,006,183**
Current portion of pledges receivable	(28,039)	(25,049)	(201,299)	(234,294)
Noncurrent portion of pledges receivable	**$30,036**	**$32,690**	**$686,693**	**$771,889**

Future receipts under pledge agreements for each of the five fiscal years subsequent to June 30, 2019 and thereafter are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA	UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS
Year Ending June 30		
2020	$38,296	$227,990
2021	11,852	187,785
2022	9,338	81,934
2023	7,386	79,234
2024	3,899	71,522
2025-2029	765	192,993
Beyond 2029	750	249,420
Total payments on pledges receivable	**$72,286**	**$1,090,878**

Adjustments to the allowance for uncollectible pledges for the University have increased (decreased) the following revenues for the years ended June 30, 2019 and 2018:

(in thousands of dollars)

	2019	2018
Private gifts	$3,744	($4,096)

9. NOTES AND MORTGAGES RECEIVABLE

Notes and mortgages receivable at June 30, 2019 and 2018 along with the allowance for uncollectible amounts, are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA				UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS		
		NONCURRENT					
	CURRENT	NOTES	MORTGAGES	TOTAL	CURRENT	NONCURRENT	TOTAL
At June 30, 2019							
Notes and mortgages receivable	$74,417	$376,216	$21,838	$398,054		$250	$250
Allowance for uncollectible amounts	(8,060)	(17,923)	(150)	(18,073)			
Notes and mortgages receivable, net	**$66,357**	**$358,293**	**$21,688**	**$379,981**		**$250**	**$250**
At June 30, 2018							
Notes and mortgages receivable	$77,411	$387,236	$19,105	$406,341	$181	$250	$431
Allowance for uncollectible amounts	(8,929)	(19,885)	(114)	(19,999)			
Notes and mortgages receivable, net	**$68,482**	**$367,351**	**$18,991**	**$386,342**	**$181**	**$250**	**$431**

10. DOE NATIONAL LABORATORY CONTRACTS

Los Alamos National Laboratory

The University is a member of Triad with two other organizations. Effective November 1, 2018, Triad assumed the management and operations of LANL under a contract with the DOE. While the University has an equal membership interest in Triad, the University's distributable management and operation fee is 42.7 percent of Triad. For the year ended June 30, 2019, the University recorded fees of $7.2 million as part of other operating revenue.

LANS operated and managed the DOE's LANL prior to November 1, 2018. LANS' current earnings or losses were dependent on the percentage of base and incentive fees earned under the terms of the contract, offset by any unallowable or disallowed costs. While the University has a 50-percent membership interest in LANS, its equity in the current earnings or losses is subject to certain limitations and special allocations of both the fees and costs. As a result, the University's equity in the current earnings or losses may range from 17.0 to 50.0 percent. For the years ended June 30, 2019 and 2018, the University recorded $2.9 million and $14.4 million, respectively, as its equity in the current earnings of LANS and received $1.5 million and $16.7 million, respectively, in cash distributions.

Lawrence Livermore National Laboratory

LLNS manages and operates the DOE's LLNL. LLNS' current earnings or losses are dependent on the percentage of base and incentive fees earned under the terms of the contract, offset by any unallowable or disallowed costs. While the University has a 50-percent membership interest in LLNS, its equity in the current earnings or losses is 36.3 percent as of June 30, 2019 and 2018, respectively. For the years ended June 30, 2019 and 2018, the University recorded $14.5 million and $12.2 million, respectively, as its equity in the current earnings of LLNS and received $14.3 million and $12.2 million, respectively, in cash distributions.

11. CAPITAL ASSETS

The University's capital asset activity for the years ended June 30 is as follows:

(in thousands of dollars)

	2017	ADDITIONS	DISPOSALS	2018	ADDITIONS	DISPOSALS	2019
ORIGINAL COST							
Land	$1,162,911	$45,985	($17,768)	$1,191,128	$92,360	($900)	$1,282,588
Infrastructure	694,860	49,827	(6,687)	738,000	112,103		850,103
Buildings and improvements	38,025,323	1,823,695	(26,959)	39,822,059	1,660,663	(40,640)	41,442,082
Equipment, software and intangibles	7,609,083	1,157,142	(256,657)	8,509,568	764,842	(251,284)	9,023,126
Libraries and collections	4,152,688	147,676	(24,460)	4,275,904	154,839	(32,683)	4,398,060
Special collections	459,956	71,303	(103)	531,156	14,739	(631)	545,264
Construction in progress	2,520,150	411,104		2,931,254	1,263,084		4,194,338
Capital assets, at original cost	**$54,624,971**	**$3,706,732**	**($332,634)**	**$57,999,069**	**$4,062,630**	**($326,138)**	**$61,735,561**

	2017	DEPRECIATION AND AMORTIZATION	DISPOSALS	2018	DEPRECIATION AND AMORTIZATION	DISPOSALS	2019
ACCUMULATED DEPRECIATION AND AMORTIZATION							
Infrastructure	$371,698	$23,774	($4,431)	$391,041	$27,477	($7)	$418,511
Buildings and improvements	15,318,861	1,212,499	(26,609)	16,504,751	1,255,205	(21,312)	17,738,644
Equipment, software and intangibles	5,164,786	658,487	(223,448)	5,599,825	682,521	(226,691)	6,055,655
Libraries and collections	3,099,873	132,583	(54,111)	3,178,345	135,025	(20,092)	3,293,278
Accumulated depreciation and amortization	**23,955,218**	**$2,027,343**	**($308,599)**	**25,673,962**	**$2,100,228**	**($268,102)**	**27,506,088**
Capital assets, net	**$30,669,753**			**$32,325,107**			**$34,229,473**

Service concession arrangements, reported as buildings and improvements, are $278.7 million of original cost and $30.7 million of accumulated depreciation at June 30, 2019. Service concession arrangements, reported as buildings and improvements, are $202.1 million of original cost and $25.6 million of accumulated depreciation at June 30, 2018.

12. SELF-INSURANCE, OBLIGATIONS UNDER LIFE INCOME AGREEMENTS AND OTHER LIABILITIES

The University's self-insurance, obligations under life income agreements and other liabilities at June 30, 2019 and 2018 are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA				UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS			
	2019		2018		2019		2018	
	CURRENT	NONCURRENT	CURRENT	NONCURRENT	CURRENT	NONCURRENT	CURRENT	NONCURRENT
Self-insurance programs	$388,880	**$715,417**	$392,634	**$584,186**				
Obligations under life income agreements	1,501	**$35,118**	1,474	**$35,293**	$18,054	**$150,069**	$19,314	**$149,391**
Other liabilities:								
Compensated absences	670,767	345,620	614,056	315,659				
UCRP*	4,891		4,509	4,891				
Accrued interest	138,338		121,812					
Fair value of interest rate swaps		130,161		54,839				
Third-party payor settlements	555,023		497,751					
Deposits	153,516		152,591					
Other	104,177	262,859	113,377	194,007	28,350	278,076	24,866	271,825
Total	**$2,017,093**	**$738,640**	**$1,898,204**	**$569,396**	**$46,404**	**$278,076**	**$44,180**	**$271,825**

** UCRP has an equivalent amount recorded as a contribution receivable from the University in its statement of fiduciary net position.*

Self-Insurance Programs

Self-insured liabilities changed as follows for the years ended June 30:

(in thousands of dollars)

	MEDICAL MALPRACTICE	WORKERS' COMPENSATION	EMPLOYEE & STUDENT HEALTH CARE	GENERAL LIABILITY AND OTHER	TOTAL
Year Ended June 30, 2019					
Liabilities at June 30, 2018	$215,307	$455,963	$114,800	$190,750	$976,820
Claims incurred and changes in estimates	52,574	89,647	1,219,818	117,048	1,479,087
Claim payments	(45,253)	(80,946)	(1,179,587)	(45,824)	(1,351,610)
Liabilities at June 30, 2019	**$222,628**	**$464,664**	**$155,031**	**$261,974**	**$1,104,297**
Discount rate	**3.0%**	**3.0%**	**Undiscounted**	**3.0%**	
Year Ended June 30, 2018					
Liabilities at June 30, 2017	$193,155	$409,007	$90,178	$168,372	$860,712
Claims incurred and changes in estimates	75,112	129,808	973,303	63,290	1,241,513
Claim payments	(52,960)	(82,852)	(948,681)	(40,912)	(1,125,405)
Liabilities at June 30, 2018	**$215,307**	**$455,963**	**$114,800**	**$190,750**	**$976,820**
Discount rate	**2.6% to 4.7%**	**2.6% to 4.7%**	**Undiscounted**	**2.6% to 4.7%**	
Year Ended June 30, 2017					
Liabilities at June 30, 2016	$198,440	$391,440	$88,510	$108,519	$786,909
Claims incurred and changes in estimates	51,074	104,089	811,137	99,538	1,065,838
Claim payments	(56,359)	(86,522)	(809,469)	(39,685)	(992,035)
Liabilities at June 30, 2017	**$193,155**	**$409,007**	**$90,178**	**$168,372**	**$860,712**
Discount rate	**5.0%**	**5.0%**	**Undiscounted**	**2.0%**	

Obligations Under Life Income Agreements

Changes in current and noncurrent obligations under life income agreements for the years ended June 30 are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA		UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS	
	ANNUITIES	LIFE BENEFICIARIES	ANNUITIES	LIFE BENEFICIARIES
Year Ended June 30, 2019				
Balance at June 30, 2018	$17,909	$18,858	$64,862	$103,843
New obligations to beneficiaries and changes in liability, net	2,175	1,250	8,594	8,483
Payments to beneficiaries	(2,432)	(1,141)	(7,230)	(10,429)
Obligations under life income agreements at June 30, 2019	**17,652**	**18,967**	**66,226**	**101,897**
Less: Current portion	(844)	(657)	(7,428)	(10,626)
Noncurrent portion at June 30, 2019	**$16,808**	**$18,310**	**$58,798**	**$91,271**
Year Ended June 30, 2018				
Balance at June 30, 2017	$16,735	$19,345	$50,843	$104,298
New obligations to beneficiaries and changes in liability, net	3,577	778	19,971	9,287
Payments to beneficiaries	(2,403)	(1,265)	(5,952)	(9,742)
Obligations under life income agreements at June 30, 2018	**17,909**	**18,858**	**64,862**	**103,843**
Less: Current portion	(825)	(649)	(7,436)	(11,878)
Noncurrent portion at June 30, 2018	**$17,084**	**$18,209**	**$57,426**	**$91,965**

13. DEBT

The University directly finances the construction, renovation and acquisition of facilities and equipment, or for such other purposes as are authorized by The Regents through the issuance of debt obligations or indirectly through structures that involve legally separate entities reported as blended component units. Commercial paper and bank loans provide interim financing. Long-term financing includes revenue bonds, financing obligations and other borrowings.

The University's outstanding debt at June 30 is as follows:

(in thousands of dollars)

	WEIGHTED AVERAGE INTEREST RATE	INTEREST RATE RANGE	MATURITY YEARS	2019	2018
INTERIM FINANCING:					
Commercial paper		1.23 - 2.63%	2019 - 2020	$574,483	$781,804
LONG-TERM FINANCING:					
University of California General Revenue Bonds:					
Fixed rate	4.7%	1.4 - 7.6%	2019 - 2115	11,613,425	11,192,530
Variable rate	1.7%	1.5 - 2.4%	2037 - 2048	750,000	750,000
University of California Limited Project Revenue Bonds	4.8%	1.5 - 6.3%	2020 - 2058	4,922,720	5,019,785
University of California Medical Center Pooled Revenue Bonds:					
Fixed rate	5.6%	1.4 - 6.6%	2020 - 2049	2,462,125	2,501,820
Variable rate	2.1%	1.4 - 2.5%	2020 - 2047	240,810	244,400
Unamortized bond premium				1,297,554	1,368,889
University of California revenue bonds	**4.7%**			**21,286,634**	**21,077,424**
Financing obligations		0.5 - 11.8%	2020 - 2042	188,140	207,118
Other University borrowings		Various	2020 - 2055	801,046	556,513
Blended component unit revenue bonds, net	5.1%	4.0 - 6.5%	2020 - 2052	1,733,839	1,035,918
Total outstanding debt				**24,584,142**	**23,658,777**
Less: Commercial paper				(574,483)	(781,804)
Current portion of outstanding debt				(1,696,499)	(1,371,030)
Noncurrent portion of outstanding debt				**$22,313,160**	**$21,505,943**

Interest expense associated with financing projects during construction, net of any investment income earned on tax-exempt bond proceeds during construction, is capitalized. Total interest expense during the years ended June 30, 2019 and 2018 was $880.5 million and $821.2 million, respectively. Interest expense, net of investment income, totaling $113.1 million and $74.6 million was capitalized during the years ended June 30, 2019 and 2018, respectively. The remaining $767.4 million and $746.6 million in 2019 and 2018 is reported as interest expense in the statement of revenues, expenses and changes in net position.

Outstanding Debt Activity

The activity with respect to the University's current and noncurrent debt, including the revenue bonds associated with blended component units, for the years ended June 30 is as follows:

(in thousands of dollars)

	UNIVERSITY REVENUE BONDS	FINANCING OBLIGATIONS	OTHER UNIVERSITY BORROWINGS	BLENDED COMPONENT UNIT REVENUE BONDS	TOTAL
Year Ended June 30, 2019					
Long-term debt and financing obligations at June 30, 2018	$21,077,424	$207,118	$556,513	$1,035,918	$22,876,973
New obligations	653,060	16,327	259,810	662,465	1,591,662
Bond premium, net	22,242			54,670	76,912
Scheduled principal payments	(372,515)	(35,305)	(15,277)	(11,280)	(434,377)
Amortization of bond premium	(93,577)			(7,934)	(101,511)
Long-term debt and financing obligations at June 30, 2019	**21,286,634**	**188,140**	**801,046**	**1,733,839**	**24,009,659**
Less: Current portion	(1,620,253)	(42,337)	(12,820)	(21,089)	(1,696,499)
Noncurrent portion at June 30, 2019	**$19,666,381**	**$145,803**	**$788,226**	**$1,712,750**	**$22,313,160**
Year Ended June 30, 2018					
Long-term debt and financing obligations at June 30, 2017	$18,443,955	$195,022	$378,659	$672,567	$19,690,203
New obligations	3,544,885	47,225	284,583	319,530	4,196,223
Bond premium, net	430,715			63,217	493,932
Refinancing or prepayment of outstanding debt	(913,690)		(100,049)		(1,013,739)
Scheduled principal payments	(346,150)	(35,129)	(6,680)	(10,750)	(398,709)
Amortization of bond premium	(82,291)			(8,646)	(90,937)
Long-term debt and financing obligations at June 30, 2018	**21,077,424**	**207,118**	**556,513**	**1,035,918**	**22,876,973**
Less: Current portion	(1,308,152)	(38,581)	(6,326)	(17,971)	(1,371,030)
Noncurrent portion at June 30, 2018	**$19,769,272**	**$168,537**	**$550,187**	**$1,017,947**	**$21,505,943**

Commercial Paper

The University has available a $2.0 billion commercial paper program, issued in two series, with tax-exempt and taxable components. Commercial paper may be issued for interim financing for capital projects, interim financing of equipment, financing of working capital for the medical centers, standby or interim financing for gift financed projects and working capital for the University.

The program's liquidity is primarily supported by available investments in STIP and TRIP. Commercial paper is collateralized by a pledge of the revenues derived from the ownership or operation of the projects financed and constitute limited obligations of the University. There is no encumbrance, mortgage or other pledge of property securing commercial paper and the paper does not constitute general obligations of the University.

Commercial paper outstanding, including interest rates, at June 30 is as follows:

(in thousands of dollars)

	2019		2018	
	INTEREST RATES	OUTSTANDING	INTEREST RATES	OUTSTANDING
Tax-exempt	1.23 - 1.80%	$313,066	1.10 - 1.71%	$457,000
Taxable	2.38 - 2.63%	261,417	1.88 - 2.30%	324,804
Total outstanding		**$574,483**		**$781,804**

The expectation is that the University will continue to utilize available investments for liquidity support of the commercial paper program. Alternatively, the University may utilize lines of credit from external banks for the purpose of providing additional liquidity support for the commercial paper program. As of June 30, 2019, the University has two revolving credit agreements totaling $700.0 million. There were no borrowings against the revolving credit lines as of June 30, 2019.

University of California Revenue Bonds

Revenue bonds have financed various auxiliary, administrative, academic, medical center and research facilities of the University. The bonds generally have annual principal and semiannual or monthly interest payments, serial and term maturities, contain sinking fund requirements and may have optional redemption provisions. Revenue bonds are not collateralized by any encumbrance, mortgage or other pledge of property, except pledged revenues, and do not constitute general obligations of The Regents. Revenue Bond Indentures require the University to use the facilities in a way which will not cause the interest on the tax-exempt bonds to be included in the gross income of the bondholders for federal tax purposes. The Indentures permit the University to issue additional bonds as long as certain conditions are met.

General Revenue Bonds are collateralized solely by General Revenues as defined in the General Revenue Bond Indenture. General Revenues are certain operating and nonoperating revenues of the University consisting of gross student tuition and fees; a portion of state appropriations; facilities and administrative cost recovery from contracts and grants; revenues from educational, auxiliary and other activities; and other revenues, including unrestricted investment income. The General Revenue Bond Indenture requires the University to set rates, charges and fees each year sufficient for General Revenues to pay for the annual principal and interest on the bonds and certain other covenants. The pledge of General Revenues for interest rate swap agreements is on a parity basis with the University's General Revenue Bonds. General Revenues for the years ended June 30, 2019 and 2018 were $17.8 billion and $16.8 billion, respectively.

Limited Project Revenue Bonds are issued to finance auxiliary enterprises and are collateralized by a pledge consisting of the sum of the gross revenues of the specific projects. The Limited Project Revenue Bond Indenture requires the University to achieve the sum of gross project revenues equal to 1.1 times debt service and to maintain certain other covenants. The pledge of revenues for Limited Project Revenue Bonds is subordinate to the pledge of revenues for General Revenue Bonds, but senior to pledges for commercial paper notes. Pledged revenues for the years ended June 30, 2019 and 2018 were $1.5 billion.

Medical Center Pooled Revenue Bonds are issued to finance the University's medical center facilities and are collateralized by a joint and several pledges of the gross revenues of all five of the University's medical centers. Medical center gross revenues are excluded from General Revenues. The Medical Center Pooled Revenue Bond Indenture requires the medical centers to set rates, charges and fees each year sufficient for the Medical Centers' total operating and nonoperating revenues to pay for the annual principal and interest on the bonds and certain other covenants. The pledge of medical center revenues for interest rate swap agreements may be at parity with, or subordinate to, Medical Center Pooled Revenue Bonds. Pledged revenues of the medical centers for the years ended June 30, 2019 and 2018 were $13.4 billion and $12.2 billion, respectively.

2019 Activity

In March 2019, General Revenue Bonds totaling $653.1 million, including $114.4 million in tax-exempt bonds and $538.7 million in taxable bonds, were issued for working capital purposes and to finance the acquisition, construction, improvement and renovation of certain facilities of the University. The bonds mature at various dates through 2049. Proceeds, including a bond premium of $22.2 million, were used to pay for project construction and issuance costs and to repay $286.5 million of outstanding General Revenue Bonds maturing on July 1, 2019. The tax-exempt bonds have a stated weighted average interest rate of 5.0 percent. The taxable bonds have a stated weighted average interest rate of 3.3 percent. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

2018 Activity

In September 2017, Limited Project Revenue Bonds totaling $860.4 million, including $733.5 million tax-exempt bonds and $126.9 million taxable bonds, were issued to finance the acquisition, construction, improvement and renovation of certain facilities of the University. The bonds mature at various dates through 2052. Proceeds, including a bond premium of $124.2 million, were used to pay for project construction and issuance costs. The taxable bonds have a stated weighted average rate of 2.9 percent. The tax-exempt bonds have a stated weighted average interest rate of 4.9 percent. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

In December 2017, General Revenue Bonds totaling $625.5 million of tax-exempt bonds were issued to advance refund a portion of General Revenue Bonds, Limited Project Revenue Bonds and Medical Center Pooled Revenue Bonds. The bonds mature at various dates through 2041. The bonds have a stated weighted average interest rate of 4.7 percent. The bond premium of $113.1 million will be amortized as a reduction to interest expense over the term of the bonds. The refinancing and refunding of previously outstanding bonds resulted in cash flow savings of $74.6 million and an economic gain of $59.3 million.

In June 2018, General Revenue Bonds totaling $1.2 billion, including $945.8 million in tax-exempt bonds and $281.9 million in taxable bonds, were issued to finance or refinance the acquisition, construction, improvement and renovation of certain facilities of the

University. The bonds mature at various dates through 2058. Proceeds, including a bond premium of $144.3 million, were used to pay for project construction and issuance costs and to refund $112.7 million of outstanding General Revenue Bonds. The tax-exempt bonds have a stated weighted average interest rate of 4.9 percent. The taxable bonds have a stated weighted average interest rate of 4.3 percent. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds. The refinancing and refunding of previously outstanding bonds resulted in cash flow savings of $13.0 million and an economic gain of $10.2 million.

In June 2018, Limited Project Revenue Bonds totaling $831.3 million, including $736.2 million tax-exempt bonds and $95.1 million taxable bonds, were issued to finance or refinance the acquisition, construction, improvement and renovation of certain facilities of the University. The bonds mature at various dates through 2058. Proceeds, including a bond premium of $108.5 million, were used to pay for project construction and issuance costs and to refund $151.3 million of outstanding Limited Project Revenue Bonds. The taxable bonds have a stated weighted average rate of 3.9 percent. The tax-exempt bonds have a stated weighted average interest rate of 4.9 percent. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds. The refinancing and refunding of previously outstanding bonds resulted in cash flow savings of $17.7 million and an economic gain of $13.7 million.

Capital Leases

Capital leases entered into with other lessors, typically for equipment, totaled $16.3 million and $47.2 million for the years ended June 30, 2019 and 2018, respectively.

Other University Borrowings

Other University borrowings consist of contractual obligations resulting from the acquisition of land or buildings and the construction and renovation of certain facilities, along with the borrowing component associated with a hybrid derivative instrument.

The University may use uncollateralized revolving lines of credit with commercial banks for general corporate purposes and to provide interim financing for buildings and equipment. Lines of credit commitments for general corporate purposes, with various expiration dates through May 3, 2021, totaled $400.0 million at June 30, 2019 and $400 million at June 30, 2018. Outstanding borrowings under these bank lines totaled $150.0 million and $150.0 million at June 30, 2019 and 2018, respectively.

Certain of the interest rate swaps are considered hybrid instruments. As such, the interest rate swaps are comprised of a derivative instrument and a companion instrument recorded as a borrowing. The unamortized amount of the borrowing was $80.0 million and $75.2 million at June 30, 2019 and 2018, respectively.

In August 2016, the University entered into an agreement with a developer to design, construct, finance, operate and maintain certain auxiliary, administrative, academic and research facilities of one of its campuses, for which the University will finance $600.0 million of the total costs. Of this amount, $585.0 million will be paid to the developer over a 48-month period through a series of monthly progress payments. The remainder will cover invoiced costs for infrastructure improvements and equipment. Upon completion of the design-build phase of the project, the University will enter into an ongoing Operations and Maintenance Agreement with the developer through 2055. Payments under this agreement will have two components: the first component of the agreement is related to the operations and maintenance of the facilities, the second component is to service the private debt incurred by the developer during the construction phase. The operations and maintenance component of the payment will be expensed as incurred. The payments for the private debt are being treated as capital leases and are recorded as other borrowings by the University. In the event that the operations and maintenance agreement with the developer is terminated, the outstanding portion of the private debt incurred by the developer would become an obligation of the University. The outstanding amount of the borrowing was $539.7 million and $296.9 million at June 30, 2019 and 2018, respectively.

As of June 30, 2019, CHRCO had no amounts outstanding under its revolving credit facility for $25.0 million. The interest rate on the credit facility is 3.5 percent as of June 30, 2019 and the facility expires on August 31, 2020.

Blended Component Unit Revenue Bonds

Student Housing

The University has entered into ground leases with legally separate nonprofit corporations that develop and own student housing projects and related amenities and improvements on three University campuses through the use of project limited liability corporations (LLC). Each LLC, through a conduit issuer, has outstanding Student Housing LLC Revenue Bonds to finance the construction of the student housing facilities. Each LLC manages the premises. The University's reversionary interest in the land is not subordinated. All costs associated with the ownership, operation and management of the improvements are the obligation of each LLC. Student rental rates are established in order to provide for operating expenses and maintain the required debt service coverage ratios. The bonds generally have annual principal and semiannual interest payments, serial and term maturities, certain sinking fund requirements and optional redemption provisions. They are not collateralized by any encumbrance, mortgage or other pledge of property, except pledged revenues of the student housing projects, and do not constitute general obligations of The Regents.

In August 2017, one of the LLCs, through a conduit issuer, issued additional Student Housing LLC Revenue Bonds totaling $148.6 million. The bonds mature at various dates through 2050 and have a stated weighted average interest rate of 5.0 percent. Proceeds, including a bond premium of $24.2 million, were used to pay for project construction and issuance costs. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

In December 2018, two other LLCs, through a conduit issuer, issued additional Student Housing LLC Revenue Bonds totaling $662.5 million. The bonds mature at various dates through 2052 and have a stated weighted average interest rate of 4.8 percent. Proceeds, including a bond premium of $54.7 million, were used to pay for project construction and issuance costs. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

At June 30, 2019 and 2018, the LLCs, through a conduit issuer, has outstanding Student Housing LLC Revenue Bonds totaling $1.2 billion and $501.3 million, respectively. The bonds mature at various dates through 2052 and have a weighted average interest rate of 4.9 percent.

Subsequent Events

In July 2019, one of the LLC's, through its conduit issuer, issued additional Student Housing LLC Revenue Bonds totaling $175.1 million. The bonds mature at various dates through 2052 and have a stated weighted average interest rate of 5.0 percent. Proceeds, including a bond premium of $35.4 million were used to pay for project construction and issuance costs. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

Research Facilities

The University has a public/private partnership, for the purpose of developing, constructing and managing a neuroscience research and laboratory building and a psychiatry youth and family center with a legally separate, nonprofit corporation (the Corporation). In connection with these facilities, the University entered into ground leases with the Corporation. The Corporation has entered into a sub-ground lease with a developer to construct, own and manage the facilities. The University agreed to lease all of the space in the building from the developer. The University's base rent payments are equal to the principal and interest payments on the bonds are issued by a conduit issuer and loaned to the nonprofit corporation to finance the construction of the building. As security on the bonds, the developer has assigned all payments received from the University for the space lease to the bond trustee.

In December 2017, the Corporation, through a conduit issuer, issued additional revenue bonds totaling $171.0 million. The bonds mature at various dates through 2052 and have a stated weighted average interest rate of 5.0 percent. Proceeds, including a bond premium of $39.0 million, were used to pay for construction and issuance costs of the psychiatry youth and family center. The deferred premium will be amortized as a reduction to interest expense over the term of the bonds.

At June 30, 2019, the Corporation, through a conduit issuer, has outstanding tax-exempt revenue bonds totaling $190.7 million and taxable revenue bonds totaling $188.0 million. The tax-exempt revenue bonds mature at various dates from 2021 to 2052 and have a weighted average interest rate of 5.0 percent. The tax-exempt revenue bonds generally have annual serial maturities, semiannual interest payments and optional redemption provisions. The taxable bonds mature from 2026 to 2049 and have an interest rate of 6.5 percent. The taxable bonds were issued as Build America Bonds, under which the U.S. Treasury is expected to send the conduit issuer 35.0 percent of the semiannual interest cost on the taxable bonds, making the net interest rate 4.2 percent post-subsidy. The taxable bonds have a term maturity with various certain annual sinking fund requirements, semiannual interest payments and optional redemption provisions.

In addition, the University entered into a ground lease with another legally separate, nonprofit corporation (the Consortium). The Consortium entered into an agreement with a developer to develop and own a research laboratory facility designed to expand collaborative work in stem cell research and facilitate its translation into tools and techniques to diagnose and treat degenerative diseases and other ailments. The developer constructed the research laboratory facility. All costs associated with the ownership, operation and management of the laboratory research facility are the obligation of the Consortium. The University, along with the other collaborative research partners, will lease space in the building.

The Consortium, through a conduit issuer, has outstanding revenue bonds totaling $50.7 million and $52.0 million at June 30, 2019 and 2018, respectively. The bonds mature at various dates through 2040 and have a weighted average interest rate of 4.5 percent. The bonds generally have annual principal and semiannual interest payments, serial and term maturities, certain sinking fund requirements and optional redemption provisions. Lease payments from the occupants of the building are pledged as collateral on the bonds. To the extent the lease payments are not sufficient to pay the debt service, the University is obligated to pay the shortfall.

Future Debt Service and Hedging Derivative Interest Rate Swaps

Future debt service payments for the University's fixed- and variable-rate debt for each of the five fiscal years subsequent to June 30, 2019, and thereafter are as presented below. Although not a prediction by the University of the future interest cost of the variable-rate bonds, these amounts assume that current interest rates on variable-rate bonds will not change. As these rates vary, variable-rate bond interest payments will vary.

(in thousands of dollars)

	COMMERCIAL PAPER	MEDICAL CENTER REVENUE BONDS	UNIVERSITY REVENUE BONDS	FINANCING OBLIGATIONS	OTHER UNIVERSITY BORROWINGS	BLENDED COMPONENT UNIT REVENUE BONDS	TOTAL PAYMENTS	PRINCIPAL	INTEREST
Year Ending June 30									
2020	$577,090	$192,875	$1,395,954	$49,260	$14,102	$92,256	$2,321,537	$1,332,605	$988,932
2021		202,769	1,334,870	41,560	170,379	100,139	1,849,717	880,613	969,104
2022		201,726	1,113,976	18,532	20,534	102,253	1,457,021	511,391	945,630
2023		201,105	1,111,213	13,844	20,659	107,002	1,453,823	528,770	925,053
2024		195,557	1,138,281	8,670	19,220	107,830	1,469,558	565,887	903,671
2025 - 2029		939,845	6,033,317	39,337	120,722	552,264	7,685,485	3,596,808	4,088,677
2030 - 2034		885,745	5,655,527	35,980	89,505	555,438	7,222,195	3,976,920	3,245,275
2035 - 2039		901,866	4,658,981	36,543	87,964	538,346	6,223,700	3,856,234	2,367,466
2040 - 2044		945,327	3,485,586	22,290	87,104	409,499	4,949,806	3,518,066	1,431,740
2045 - 2049		622,764	2,082,438		84,879	386,218	3,176,299	2,461,062	715,237
2050 - 2054			618,097		100,300	137,926	856,323	465,544	390,779
2055 - 2115			5,330,121				5,330,121	1,442,029	3,888,092
Total future debt service	**577,090**	**5,289,579**	**33,958,361**	**266,016**	**815,368**	**3,089,171**	**43,995,585**	**$23,135,929**	**$20,859,656**
Less: Interest component of future payments	(2,607)	(2,586,644)	(16,672,216)	(77,876)	(14,322)	(1,505,991)	(20,859,656)		
Principal portion of future payments	**574,483**	**2,702,935**	**17,286,145**	**188,140**	**801,046**	**1,583,180**	**23,135,929**		
Adjusted by:									
Unamortized bond premium		169,271	1,128,283			150,659	1,448,213		
Total debt	**$574,483**	**$2,872,206**	**$18,414,428**	**$188,140**	**$801,046**	**$1,733,839**	**$24,584,142**		

Long-term debt does not include $1.6 billion of defeased liabilities at June 30, 2019. Investments that have maturities and interest rates sufficient to fund retirement of these liabilities are being held in irrevocable trusts for the debt service payments. Neither the assets of the trusts nor the outstanding obligations are included in the University's statement of net position.

General Revenue Bonds of $750.0 million are variable-rate demand bonds which primarily reset daily and, in the event of a failed remarketing, can be put back to The Regents for tender. The University has classified these bonds as current liabilities as of June 30, 2019.

Medical Center Pooled Revenue Bonds of $91.8 million are variable-rate demand bonds which give the debt holders the ability to tender the bonds back to the University upon demand. The University has classified these bonds as current liabilities as of June 30, 2019.

For the University's cash flow hedges, future debt service payments for the University's variable-rate debt and net receipts or payments on the associated hedging derivative instruments for each of the five fiscal years subsequent to June 30, 2019, and thereafter are as presented below. Although not a prediction by the University of the future interest cost of the variable-rate bonds or the impact of the interest rate swaps, using rates as of June 30, 2019, combined debt service requirements of the variable-rate debt and net swap payments are as follows:

(in thousands of dollars)

	VARIABLE-RATE BONDS		INTEREST RATE SWAP, NET	TOTAL PAYMENTS
	PRINCIPAL	INTEREST		
Year Ending June 30				
2020	$3,725	$13,614	$5,754	$23,093
2021	3,860	13,664	5,679	23,203
2022	3,995	13,609	5,593	23,197
2023	7,510	13,555	5,526	26,591
2024	7,805	13,512	5,951	27,268
2025 - 2029	44,065	64,893	29,437	138,395
2030 - 2034	41,725	60,787	24,834	127,346
2035 - 2039	31,580	57,098	21,184	109,862
2040 - 2044	163,910	51,840	7,639	223,389
2045 - 2048	527,085	19,376	1,301	547,762
Total	**$835,260**	**$321,948**	**$112,898**	**$1,270,106**

14. DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The University's composition of deferred outflows and inflows of resources at June 30 are summarized as follows:

(in thousands of dollars)

	SERVICE CONCESSION ARRANGEMENTS	NET PENSION LIABILITY	NET RETIREE HEALTH BENEFITS LIABILITY	DEBT REFUNDING	INTEREST RATE SWAP AGREEMENTS	ROYALTY SALES	IRREVOCABLE SPLIT-INTEREST AGREEMENTS	ASSET RETIREMENT OBLIGATIONS	TOTAL
At June 30, 2019									
Deferred outflows of resources		$6,271,978	$3,908,951	$316,136	$130,161			$73,996	$10,701,222
Deferred inflows of resources	$248,002	142,132	5,896,383	1,340		$437,968	$102,260		6,828,085
At June 30, 2018									
Deferred outflows of resources		$727,344	$3,515,860	$351,360	$54,839			$19,523	$4,668,926
Deferred inflows of resources	$176,447	275,145	5,645,528	1,388		$421,341	$89,855		6,609,704

The campus foundations' deferred inflows of resources are primarily related to irrevocable split-interest agreements.

15. THE UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM (UCRS)

Most University employees participate in UCRS. UCRS consists of UCRP, a governmental defined benefit plan funded with University and employee contributions; UCRSP, which includes defined contribution plans with options to participate in internally or externally managed investment portfolios generally funded with employee non-elective and elective contributions and UC-VERIP, a defined benefit plan for University employees who were members of UC-VERIP and who elected early retirement. Other retirement plans also include the CHRCO Pension Plan, a defined benefit plan fully funded with CHRCO contributions and the Orange County Employee Retirement System (OCERS) retirement plan, a cost-sharing multi-employer defined benefit pension plan. The Regents has the authority to establish and amend the benefit plans except for the CHRCO Pension Plan and OCERS retirement plan. Administration authority with respect to UCRS plans is vested with the President of the University as plan administrator. CHRCO administers the CHRCO Pension Plan as the Sponsor and plan assets are held by US Bank (the Trustee).

Condensed financial information related to each plan in UCRS and the changes in pension liability for UCRP, UC-VERIP and the CHRCO Pension Plan for the year ended June 30, 2019 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA					
	UNIVERSITY OF CALIFORNIA RETIREMENT PLAN	UNIVERSITY OF CALIFORNIA UC-VERIP	SUBTOTAL	UNIVERSITY OF CALIFORNIA RETIREMENT SAVINGS PROGRAM	TOTAL	CHILDREN'S HOSPITAL & RESEARCH CENTER AT OAKLAND PENSION PLAN
CONDENSED STATEMENT OF PLAN FIDUCIARY NET POSITION						
Investments at fair value	$71,133,046	$65,726	$71,198,772	$24,257,931	$95,456,703	$501,110
Participants' interests in mutual funds				1,691,773	1,691,773	
Investment of cash collateral	3,933,691	3,642	3,937,333	2,191,193	6,128,526	
Other assets	1,249,426	930	1,250,356	238,863	1,489,219	
Total assets	**76,316,163**	**70,298**	**76,386,461**	**28,379,760**	**104,766,221**	**501,110**
Collateral held for securities lending	3,932,614	3,641	3,936,255	2,190,594	6,126,849	
Other liabilities	2,104,586	1,879	2,106,465	410,109	2,516,574	2,500
Total liabilities	**6,037,200**	**5,520**	**6,042,720**	**2,600,703**	**8,643,423**	**2,500**
Net position held in trust	**$70,278,963**	**$64,778**	**$70,343,741**	**$25,779,057**	**$96,122,798**	**$498,610**
CONDENSED STATEMENT OF CHANGES IN PLANS' FIDUCIARY NET POSITION						
Contributions	$3,365,193		$3,365,193	$1,449,864	$4,815,057	$31,200
Net appreciation (depreciation) in fair value of investments	2,780,821	$2,526	2,783,347	918,238	3,701,585	
Investment and other income, net	1,237,774	1,222	1,238,996	485,414	1,724,410	25,203
Total additions	**7,383,788**	**3,748**	**7,387,536**	**2,853,516**	**10,241,052**	**56,403**
Benefit payment and participant withdrawals	3,816,434	4,213	3,820,647	1,454,549	5,275,196	15,143
Other deductions	61,981	5	61,986	6,014	68,000	2,711
Total deductions	**3,878,415**	**4,218**	**3,882,633**	**1,460,563**	**5,343,196**	**17,854**
Increase in net position held in trust	**3,505,373**	**(470)**	**3,504,903**	**1,392,953**	**4,897,856**	**38,549**
Net position held in trust						
Beginning of year	66,773,590	65,248	66,838,838	24,386,104	91,224,942	460,061
End of year	**$70,278,963**	**$64,778**	**$70,343,741**	**$25,779,057**	**$96,122,798**	**$498,610**
CHANGES IN TOTAL PENSION LIABILITY						
Service cost	$1,946,612		$1,946,612			$11,430
Interest	5,576,660	$1,983	5,578,643			34,165
Difference between expected and actual experience	334,605	(79)	334,526			
Changes of benefit terms						5,214
Changes of assumptions or other inputs	7,816,717	714	7,817,431			(9,540)
Benefits paid, including refunds of employee contributions	(3,816,434)	(4,213)	(3,820,647)			(15,143)
Net change in total pension liability	**11,858,160**	**(1,595)**	**11,856,565**			**26,126**
Total pension liability:						
Beginning of year	76,546,448	29,540	76,575,988			484,209
End of year	**$88,404,608**	**$27,945**	**$88,432,553**			**$510,335**
Net pension liability (asset), end of year	**$18,125,645**	**($36,833)**	**$18,088,812**			**$11,725**

Additional information on the retirement plans can be obtained from the 2018-2019 annual reports of the University of California Retirement System which can be found at http://reportingtransparency.universityofcalifornia.edu/.

University of California Retirement Plan

UCRP provides lifetime retirement income, disability protection, death benefits, and post-retirement and pre-retirement survivor benefits to eligible employees of the University, and its affiliates. Membership is required in UCRP for all employees appointed to work at least 50 percent time for one year or more or for an indefinite period or for a definite period of a year or more. An employee may also become eligible by completing 1,000 hours within a 12-month period. Generally, five years of service are required for entitlement to plan benefits. The amount of pension benefit is determined under the basic formula of covered compensation times age factor times years of service credit. The maximum monthly benefit cannot exceed 100 percent of the employee's highest average plan compensation over a 36-month period, subject to certain limits imposed under the Internal Revenue Code or plan provisions. Annual cost-of-living adjustments are made to monthly benefits according to a specified formula based on the Consumer Price Index. Ad hoc COLAs may be granted subject to funding availability.

The University's membership in UCRP consisted of the following at June 30, 2019:

	CAMPUSES AND MEDICAL CENTERS	DOE NATIONAL LABORATORIES	UNIVERSITY OF CALIFORNIA
Retirees and beneficiaries receiving benefits	65,863	13,221	79,084
Inactive members entitled to, but not receiving benefits	91,600	9,264	100,864
Active members:			
Vested	72,776	1,627	74,403
Nonvested	52,802	722	53,524
Total active members	**125,578**	**2,349**	**127,927**
Total membership	**283,041**	**24,834**	**307,875**

Contributions

Contributions to UCRP are based upon rates determined by The Regents. The Regents' funding policy provides for contributions at rates to maintain UCRP on an actuarially sound basis. While the University's independent actuary annually determines the total funding policy contributions, the University is not required to contribute an amount equal to the total funding contribution. The actual contributions and the contribution rates of the University and employees are based on numerous factors, including the availability of funds to the University, the impact of employee contributions on the competitiveness of the University's total remuneration package, and collective bargaining agreements.

The Regents determines the portion of the total contribution to be made by the employer and by the employees, and employee contribution rates for represented employees are subject to collective bargaining. Effective July 1, 2014, employee member contributions range from 7.0 percent to 9.0 percent. The University pays a uniform contribution rate of 14.0 percent of covered payroll on behalf of all UCRP members. The University contribution rate will be increased starting July 1, 2020 by 0.5 percent per year, on July 1st, for six years to 17.0 percent.

Employee contributions to UCRP are accounted for separately and currently accrue interest at 6.0 percent annually. Upon termination, members may elect a refund of their contributions plus accumulated interest; vested terminated members who are eligible to retire may also elect monthly retirement income or possibly a lump sum equal to the present value of their accrued benefits.

Both current employees and retirees at LBNL participate in UCRP. The University makes contributions to UCRP for LBNL employees based upon rates authorized by The Regents and is reimbursed by the DOE. The University also makes contributions to UCRP for LANL and LLNL retirees and terminated vested members whose benefits were retained in UCRP at the time the joint ventures were formed. The contributions for the LANL and LLNL are actuarially determined based upon a contractual arrangement with the DOE that incorporates a formula targeted to maintain the LANL and LLNL segments within UCRP at a 100-percent funded level. The University is reimbursed by the DOE for these contributions. To the extent the University has recorded a net pension liability (and related deferred inflows and outflows of resources) that will be reimbursed under DOE contracts, a receivable from the DOE is recorded. As of June 30, 2019 and 2018, the University reported $911.5 million and $316.7 million, respectively, as other noncurrent Department of Energy receivables for pension liabilities. Contributions of $225.6 million and $307.9 million were deposited into UCRP on behalf of the DOE for the years ended June 30, 2019 and 2018, respectively.

Net Pension Liability

All UCRP assets are available to pay any member's benefit. However, assets and liabilities for the campus and medical center segment of UCRP are internally tracked separately from the DOE national laboratory segments of UCRP. The net pension liability for UCRP was as follows:

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	DOE NATIONAL LABORATORIES	UNIVERSITY OF CALIFORNIA
At June 30, 2019			
UCRP net position	$61,056,391	$9,222,572	$70,278,963
Total pension liability	78,279,508	10,125,100	88,404,608
Net pension liability	**$17,223,117**	**$902,528**	**$18,125,645**
At June 30, 2018			
UCRP net position	$57,608,162	$9,165,428	$66,773,590
Total pension liability	67,065,682	9,480,766	76,546,448
Net pension liability	**$9,457,520**	**$315,338**	**$9,772,858**

The University's net pension liability was measured as of June 30 and was calculated using the plan net position valued as of the measurement date and total pension liability determined based upon rolling forward the total pension liability from the results of the actuarial valuations as of July 1, one year prior to the measurement date. Actuarial valuations represent a long-term perspective and involve estimates of the value of reported benefits and assumptions about the probability of occurrence of events far into the future. The University's net pension liability was calculated using the following methods and assumptions:

	2019	2018
Inflation	2.5%	3.0 %
Investment rate of return	6.75	7.25
Projected salary increases	3.65 - 5.95	3.75 - 6.15
Cost-of-living adjustments	2.0	2.0

Actuarial assumptions are subject to periodic revisions as actual results are compared with past expectations and new estimates are made about the future.

The actuarial assumptions were changed in 2019 based upon the results of an experience study conducted for the period July 1, 2014 through June 30, 2018. In 2019, for preretirement mortality rates, the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table was used. For post-retirement, healthy mortality rates were based on the Pub-2010 Healthy Teacher Amount-Weighted Above-Median Mortality Table multiplied by 90 percent for male Faculty members, 95 percent for female Faculty members, 100 percent for other male members and 110 percent for other female members. For beneficiaries of retired members, rates were based on the Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table multiplied by 100 percent for males and 90 percent for females. For disabled members, rates were based on the Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table. All mortality tables above were projected generationally with the two-dimensional mortality improvement scale MP-2018.

The actuarial assumptions used in 2018 were based upon the results of an experience study conducted for the period July 1, 2010 through June 30, 2014. In 2018, for preretirement mortality rates, the RP-2014 White Collar Employee Mortality Tables (separate table for males and females) projected with the two-dimensional MP-2014 projection scale to 2029 were used. For post-retirement, healthy mortality rates were based on the RP-2014 White Collar Healthy Annuitant Mortality Table projected with the two-dimensional MP-2014 projection scale to 2029, and with ages then set forward one year. For disabled members, rates were based on the RP-2014 Disabled Retiree Mortality Table projected with the two-dimensional MP-2014 projection scale to 2029, and with ages then set back one year for males and set forward five years for females.

The long-term expected investment rate of return assumption for UCRP was determined in 2019 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

	TARGET ALLOCATION	LONG-TERM EXPECTED REAL RATE OF RETURN
Asset class:		
U.S. equity	27.6%	5.6%
Developed international equity	16.8	6.5
Emerging market equity	5.6	8.6
Core bonds	13.0	1.5
High yield bonds	2.5	3.7
Treasury Inflation-Protected Securities	2.0	1.2
Emerging market debt	2.5	3.9
Private equity	10.0	9.2
Real estate	7.0	6.6
Absolute return	10.0	3.3
Real assets	3.0	5.6
Total	**100.0%**	**5.4%**

Discount Rate

The discount rate used to estimate the net pension liability as of June 30, 2019 and 2018 was 6.75 percent and 7.25 percent, respectively. To calculate the discount rate, cash flows into and out of UCRP were projected in order to determine whether UCRP has sufficient cash in future periods for projected benefit payments for current members. For this purpose, University, state and member contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected University and member contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions of future plan members, are not included. UCRP was projected to have assets sufficient to make projected benefit payments for current members for all future years as of June 30, 2019 and 2018.

Sensitivity of the Net Pension Liability to the Discount Rate Assumption

The following presents the June 30, 2019 net pension liability of the University calculated using the June 30, 2019 discount rate assumption of 6.75 percent, as well as what the net pension liability would be if it were calculated using a discount rate different than the current assumption:

(in thousands of dollars)	1% DECREASE (5.75%)	CURRENT DISCOUNT (6.75%)	1% INCREASE (7.75%)
UCRP	$30,096,724	$18,125,645	$8,250,405
UC-VERIP	(35,386)	(36,833)	(38,139)

Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred outflows of resources and deferred inflows of resources for pensions were related to the following sources:

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	DOE NATIONAL LABORATORIES	TOTAL UCRP	UC-VERIP	TOTAL
At June 30, 2019					
DEFERRED OUTFLOWS OF RESOURCES					
Difference between expected and actual experience	$451,810		$451,810		$451,810
Changes of assumptions or other inputs	5,796,896		5,796,896		5,796,896
Total	**$6,248,706**		**$6,248,706**		**$6,248,706**
DEFERRED INFLOWS OF RESOURCES					
Difference between expected and actual experience	$7,617		$7,617		$7,617
Net difference between projected and actual earnings on pension plan investments	114,396	$8,955	123,351	$109	123,460
Total	**$122,013**	**$8,955**	**$130,968**	**$109**	**$131,077**

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	DOE NATIONAL LABORATORIES	TOTAL UCRP	UC-VERIP	TOTAL
At June 30, 2018					
DEFERRED OUTFLOWS OF RESOURCES					
Difference between expected and actual experience	$244,188	$1,696	$245,884		$245,884
Changes of assumptions or other inputs	458,349		458,349		458,349
Total	**$702,537**	**$1,696**	**$704,233**		**$704,233**
DEFERRED INFLOWS OF RESOURCES					
Difference between expected and actual experience	$55,427		$55,427		$55,427
Net difference between projected and actual earnings on pension plan investments	208,589	$4,484	213,073	$14	213,087
Total	**$264,016**	**$4,484**	**$268,500**	**$14**	**$268,514**

The net amount of deferred outflows of resources and deferred inflows of resources as of June 30, 2019 related to pensions that will be recognized in pension expense during the next five years are as follows:

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	DOE NATIONAL LABORATORIES	TOTAL UCRP	UC-VERIP	TOTAL
2020	$2,016,006	$55,212	$2,071,218	$441	$2,071,659
2021	1,015,452	(96,850)	918,602	(785)	917,817
2022	1,658,459	10,137	1,668,596	64	1,668,660
2023	1,439,808	22,546	1,462,354	171	1,462,525
Total	**$6,129,725**	**($8,955)**	**$6,120,770**	**($109)**	**$6,120,661**

Defined Contribution Plan

Effective July 1, 2016, newly hired (or becoming eligible) employees can elect a defined contribution option instead of participating in UCRP. For employees who elect this option, both the University and the participants make mandatory contributions, on a pretax basis, on eligible pay up to the IRS compensation limit. The participant contributes 7.0 percent and the University contributes 8.0 percent. University contributions are fully vested after one year of service. For employees who elect to participate in UCRP and who are subject to the California Public Employees' Pension Reform Act (PEPRA) maximum, both the University and the participants make mandatory DC Plan retirement contributions on a pretax basis. For designated faculty, the University contributes 5.0 percent to the DC Plan on all eligible pay up to the IRC compensation limit. For staff, the University contributes 3.0 percent to the DC Plan on eligible pay above the PEPRA maximum up to the IRC compensation limit. Both designated faculty and staff contribute 7.0 percent on eligible pay above the PEPRA maximum up to the IRC compensation limit. The University may also contribute on behalf of eligible senior managers. Employer contributions to the DC Plan were $48.5 million and $29.8 million for the years ended June 30, 2019 and 2018, respectively.

The DC Plan Pretax Account also includes mandatory contributions from part-time, seasonal and temporary employees at the University who are not currently participating in UCRP or another defined benefit plan to which the University contributes (Safe Harbor participants). Safe Harbor participation includes certain University student employees and resident aliens with F-1 and J-1 visa status. Safe Harbor participants contribute 7.5 percent of their gross salary (up to the Social Security wage base) to the Plan in lieu of deductions for Social Security taxes.

All University employees, except students who normally work fewer than 20 hours per week, are eligible to make voluntary contributions to the DC Plan After-Tax Account and defer taxation on the earnings until the accumulations are withdrawn. The maximum amount participants may contribute annually to the After-Tax Account is determined by the IRC §415(c) limit. The University may also make DC Plan contributions on behalf of eligible senior managers.

The Supplemental Defined Contribution Plan (SDC Plan) accepts employer contributions on behalf of certain designated employees. Employer contributions are fully vested and there is no provision for employee contributions. There were no assets or employer contributions to the SDC Plan for the years ended June 30, 2019 and 2018.

Tax Deferred 403(b) Plan

The University's Tax-Deferred 403(b) Plan (403(b) Plan) accepts pretax employee contributions.

The University also makes 403(b) Plan retirement contributions on the summer or equivalent term salaries of eligible academic employees who teach, conduct research or provide administrative service during the summer session or an equivalent term. To be eligible, employees must hold academic year appointments and be active members of UCRP or another defined benefit plan to which the University contributes. The contribution rate is 7.0 percent of eligible salary, of which 3.5 percent is University-paid and 3.5 percent is employee-paid, both on a pretax basis. The University may also make contributions in behalf of certain members of management. Employer contributions to the 403(b) Plan were $8.0 million and $8.7 million for the years ended June 30, 2019 and 2018.

457(b) Deferred Compensation Plan

The University's 457(b) Deferred Compensation Plan (457(b) Plan) accepts pretax employee contributions. There were no employer contributions to the 457(b) Plan for the years ended June 30, 2019 and 2018.

Participants in the DC Plan, the SDC Plan, the 403(b) Plan and the 457(b) Plan may direct their elective and nonelective contributions to investment funds managed by the Chief Investment Officer. They may also invest account balances in certain mutual funds. The participants' interests in mutual funds is shown separately in the statement of plans' fiduciary net position.

University of California Voluntary Early Retirement Incentive Program

UC-VERIP is a defined benefit pension plan providing lifetime supplemental retirement income and survivor benefits to UC–VERIP members who elected early retirement under provisions of the Plan. The University contributed to VERIP on behalf of these UC–VERIP members. As of July 1, 2019, there are 450 retirees or beneficiaries receiving benefits under this voluntary early retirement program.

The University and the DOE laboratories previously made contributions to the Plan sufficient to maintain the promised benefits. The actuarially determined contributions are zero for the years ended June 30, 2019 and 2018.

Children's Hospital and Research Center at Oakland Pension Plan

CHRCO has a noncontributory defined benefit plan subject to the single employer defined benefit under ERISA rules that covers active and retired employees. The CHRCO Pension Plan was amended effective January 1, 2012 to exclude unrepresented employees hired or rehired on or after January 1, 2012. The CHRCO Pension Plan provides retirement, disability and death benefits to plan participants. Benefits are based on a participant's length of service, age at retirement and average compensation as defined by the CHRCO Pension Plan.

The net pension liability for the Plan was calculated based upon the following assumptions as of June 30, 2019: 3.0 percent inflation, 7.0 percent investment rate of return, 4.0 percent projected salary increases and no cost-of-living adjustments. CHRCO recognized pension expense of $27.1 million at June 30, 2019. The net pension liability for the Plan was calculated based upon the following assumptions as of June 30, 2018: 3.0 percent inflation, 7.0 percent investment rate of return, 5.0 percent salary increases through 2017, 4.0 percent afterward and no cost-of-living adjustments. CHRCO recognized pension expense of $22.3 million at June 30, 2018.

The actuarial assumptions used in the June 30, 2019 valuation were based on the results of an experience review conducted during 2019. In 2019, mortality rates were based on the RP-2014 mortality (base year 2006) with fully generational projected mortality improvements using projection scale MP-2018.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an experience review conducted during 2017. In 2018, mortality rates were based on the RP-2016 mortality with fully generational projected mortality improvements using modified scale MP-2016. The MP-2016 projection scale was modified for this valuation to utilize the Social Security Administration's intermediate cost projection scale and a 15-year convergence period.

Additional information on the CHRCO Pension Plan can be found in the annual reports, which can be obtained by writing to the Children's Hospital of Oakland, Finance Department, 747 52nd Street, Oakland, California 94609.

Membership in the CHRCO Plan consisted of the following at June 30, 2019:

Retirees and beneficiaries receiving benefits	1,031
Inactive members entitled to, but not yet receiving benefits	1,152
Active members	1,856
Total membership	**4,039**

Contributions

Employer contributions are determined under IRC Section 430. Employees are not required or permitted to contribute to the Plan.

Net Pension Liability

The net pension liability for CHRCO was measured as of June 30 and the total pension liability was determined by an actuarial valuation as of January 1, rolled forward to June 30. The target allocation and projected arithmetic real rates of return, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption for each major asset class for the CHRCO Pension Plan are as follows for June 30, 2019:

	PORTFOLIO PERCENTAGE	LONG-TERM EXPECTED REAL RATE OF RETURN
Asset class:		
Domestic equity	49.3%	4.3%
Developed international equity	11.6	5.9
Emerging market equity	1.5	8.4
Core fixed income	37.6	2.2
Total	**100.0%**	

Discount Rate

The discount rate used to measure the total pension liability was 7.0 percent for June 30, 2019 and 2018. The projection of cash flows used to determine the discount rate assumes that CHRCO will make contributions to the plan under IRC Section 430's minimum requirements for a period of eight years, and that all future assumptions are met. Based on these assumptions, the pension plan's fiduciary net position is projected to be available to make all projected future benefit payments for current active and inactive employees.

Sensitivity of the Net Pension Liability to the Discount Rate Assumption

The following presents the June 30, 2019 net pension liability calculated using the June 30, 2019 discount rate assumption of 7.0 percent, as well as what the net pension liability would be if it were calculated using a discount rate different than the current assumption:

(in thousands of dollars)	1% DECREASE (6.0%)	CURRENT DISCOUNT (7.0%)	1% INCREASE (8.0%)
Net pension liability	$84,367	$11,725	($48,305)

Deferred Outflows of Resources and Deferred Inflows of Resources

As of June 30, deferred outflows of resources and deferred inflows of resources were as follows:

(in thousands of dollars)	**2019**	**2018**
DEFERRED OUTFLOWS OF RESOURCES		
Difference between expected and actual experience	$8,106	$5,714
Changes of benefit terms	94	178
Changes of assumptions	9,550	15,659
Net difference between projected and actual earnings on pension plan investments	2,506	
Total	**$20,256**	**$21,551**
DEFERRED INFLOWS OF RESOURCES		
Difference between expected and actual experience	$1,050	$1,709
Changes of assumptions	7,993	
Net difference between projected and actual earnings on pension plan investments		267
Total	**$9,043**	**$1,976**

The net amount of deferred outflows of resources and deferred inflows of resources related to pensions that will be recognized in pension expense during the next five years is as follows:

(in thousands of dollars)	
Year Ending June 30	
2020	$9,044
2021	959
2022	965
2023	1,239
2024	(633)
Thereafter	(361)
Total	**$11,213**

Orange County Employees Retirement System (OCERS)

OCERS administers a cost-sharing, multi-employer defined benefit pension plan for the County of Orange, City of San Juan Capistrano and thirteen special districts. Certain employees of one of the University's medical centers were eligible to continue to participate in OCERS at the time the county hospital was acquired by the University.

OCERS provides retirement, disability and death benefits. Retirement benefits are tiered based upon date of OCERS membership. Participation in OCERS for the University's employees is closed. The University's share of net pension liability, deferred inflows of resources, deferred outflows of resources and pension expense have been determined based upon its specific actuarial accrued liability and a share of assets allocated in accordance with a formula set forth in OCERS' policy. The fiduciary net position and changes in net position have been measured consistent with the accounting policies used by OCERS. Pursuant to an agreement between the University and the County of Orange (OC), the University and OC will equally split the contributions and net pension liability. The amounts reported in the financial statements reflect the University's share of the net pension liability, deferred inflows and outflows and pension expense.

Additional information on OCERS can be obtained from the 2018-2019 annual reports of the Orange County Employees Retirement System at http://www.ocers.org.

Membership in the OCERS Plan consisted of the following at December 31, 2018: 17,674 retired members and beneficiaries, 6,026 inactive members, 21,929 active members.

Contributions

Contribution rates are set by the OCERS Board of Trustees.

Net Pension Liability

The University's proportionate share of the net pension liability was $17.4 million and $13.8 million as of June 30, 2019 and 2018, respectively. The net pension liability for OCERS was measured as of June 30, 2019 and 2018, and the total pension liability was determined by an actuarial valuation as of December 31, 2018 and 2017 rolled forward to June 30, 2019 and 2018, respectively. The actuarial assumptions used in 2019 and 2018 were based on the results of an experience study for the period from January 1, 2014 through December 31, 2016.

The net pension liability for the Plan was calculated based upon the following assumptions as of June 30, 2019 and 2018: 2.8 percent inflation, 7.0 percent investment rate of return, 4.25 to 12.25 percent projected salary increases for general members and 2.8 percent cost-of-living adjustments.

The target allocation and projected arithmetic real rates of return, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption for each major asset class for the OCERS Plan are as follows:

	ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM	
	TARGET ALLOCATION	LONG-TERM EXPECTED REAL RATE OF RETURN
Asset class:		
Global equity	35.0%	6.4%
Core bonds	13.0	1.0
High-yield bonds	4.0	3.5
Bank loan	2.0	2.9
Treasury Inflation-Protected Securities	4.0	1.0
Emerging market debt	4.0	3.8
Real estate	10.0	4.3
Core infrastructure	2.0	5.5
Natural resources	10.0	7.9
Risk mitigation	5.0	4.7
Mezzanine/distressed debts	3.0	6.5
Private equity	8.0	9.5
Total	**100.0%**	

Discount Rate

The discount rate used to measure the total pension liability was 7.0 percent for June 30, 2019 and 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rate. For this purpose, only employer contributions will be made at rates equal to the actuarially determined contribution rates.

Sensitivity of the Net Pension Liability to the Discount Rate Assumption

The following presents the current-period net pension liability calculated using the June 30, 2019 discount rate assumption of 7.0 percent, as well as what the net pension liability would be if it were calculated using a discount rate different than the current assumption:

(in thousands of dollars)	ORANGE COUNTY EMPLOYEES RETIREMENT SYSTEM		
	1% DECREASE (6.0%)	CURRENT DISCOUNT RATE (7.0%)	1% INCREASE (8.0%)
Net pension liability	$25,314	$17,404	$10,975

Deferred Outflows of Resources and Deferred Inflows of Resources

As of June 30, deferred outflows of resources and deferred inflows of resources were as follows:

(in thousands of dollars)	2019	2018
DEFERRED OUTFLOWS OF RESOURCES		
Changes of assumptions or other inputs	$949	$1,186
Difference between expected and actual experience	542	374
Net difference between projected and actual earnings on pension plan investments	1,525	
Total	**$3,016**	**$1,560**
DEFERRED INFLOWS OF RESOURCES		
Difference between expected and actual experience	$1,751	$2,286
Changes of assumptions or other inputs	261	482
Net difference between projected and actual earnings on pension plan investments		1,887
Total	**$2,012**	**$4,655**

The net amount of deferred outflows of resources and deferred inflows of resources related to pensions that will be recognized in pension expense during the next five years and thereafter is as follows:

(in thousands of dollars)	
Year Ending June 30	
2020	$288
2021	(56)
2022	80
2023	641
2024	51
Total	**$1,004**

16. RETIREE HEALTH BENEFIT COSTS AND OBLIGATIONS

The University administers single-employer health and welfare plans to provide health and welfare benefits, primarily medical, dental and vision, to eligible retirees (and their eligible family members) of the University of California and its affiliates through the University of California Retiree Health Benefit Trust (UCRHBT or Trust). The Regents has the authority to establish and amend the plan. While retiree health benefits are not a legal obligation of the University and can be cancelled or modified at any time, accounting standards require the University to recognize a net retiree health liability based on the current practices of providing retiree health benefits.

Campus and medical center contributions toward retiree health benefits, at rates determined by the University, are made to UCRHBT. The University receives retiree health contributions from retirees that are deducted from their UCRP benefit payments or are received from the retiree through direct pay. The University acts as a third-party administrator on behalf of UCRHBT and pays health care insurers and administrators amounts currently due under the University's retiree health benefit plans for retirees. UCRHBT reimburses the University for these amounts.

LBNL participates in the University's retiree health plans. LBNL does not participate in UCRHBT; therefore, the DOE has no interest in the Trust's assets. The University directly pays health care insurers and administrators amounts currently due under the University's retiree health benefit plans for retirees who previously worked at LBNL, and is reimbursed by the DOE. To the extent the University has recorded a net retiree health benefits liability (and related deferred inflows and outflows of resources) that will be reimbursed under DOE contracts, a receivable from the DOE is recorded. The University recorded receivables from the DOE of $667.6 million and $656.9 million for 2019 and 2018, respectively, representing the DOE's share of the net retiree health benefits liability.

Condensed financial information for the changes in retiree health benefits liability for the year ended June 30, 2019 is as follows:

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
Contributions	$515,048	$22,209	$537,257
Investment income, net	3,195		3,195
Total additions	**518,243**	**22,209**	**540,452**
Insurance premiums, net	(490,615)	(22,209)	(512,824)
Other deductions	(4,300)		(4,300)
Total deductions	**(494,915)**	**($22,209)**	**(517,124)**
Increase in net position held in UCRHBT	23,328		23,328
Net position held in UCRHBT, beginning of year	133,581		133,581
Net position held in UCRHBT, end of year	**$156,909**		**$156,909**

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
CHANGES IN TOTAL RETIREE HEALTH BENEFITS LIABILITY			
Service cost	$798,249	$17,405	$815,654
Interest	734,693	23,828	758,521
Changes of benefit terms	(28,401)	(914)	(29,315)
Difference between expected and actual experience	(1,175,284)	(43,862)	(1,219,146)
Changes of assumptions and other inputs	1,091,609	32,430	1,124,039
Benefits paid	(490,615)	(22,209)	(512,824)
Retiree contributions	82,710	3,110	85,820
Net change in total retiree health benefits liability	**1,012,961**	**9,788**	**1,022,749**
Total retiree health benefits liability			
Beginning of year	18,388,092	607,754	18,995,846
End of year	**19,401,053**	**617,542**	**20,018,595**
Net retiree health benefits liability, end of year	**$19,244,144**	**$617,542**	**$19,861,686**

Benefits

Retirees are eligible for medical and dental benefits. The costs of the medical and dental benefits are shared between the University and the retiree. The University does not contribute toward the cost of other benefits available to retirees. Retirees employed by the University prior to 1990 and not rehired after that date are eligible for the University's maximum contribution if they retire before age 55 and have at least 10 years of service, or if they retire at age 55 or later and have at least five years of service. Retirees employed by the University after 1989 and prior to July 2013 become eligible for a percentage of the University's contribution starting at 50 percent of the maximum University contribution with 10 years of service, increasing to 100 percent after 20 years of service. Retirees who are employed by the University after July 1, 2013, and retire at the age of 56 or older, become eligible for a percentage of the University's contribution based on age and years of service. Retirees are eligible for the maximum University contribution at age 65 with 20 or more years of service. Retirees pay the excess, if any, of the premium over the applicable portion of the University's contribution.

Membership in a defined benefit plan to which the University contributes or participation in the DC Plan as a result of a Savings Choice election is required to become eligible for retiree health benefits. Participation in the retiree health benefit plans consisted of the following at June 30, 2019:

	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
Retirees and beneficiaries receiving benefits	43,631	1,863	45,494
Active members entitled to, but not yet receiving benefits	131,678	2,375	134,053
Total membership	**175,309**	**4,238**	**179,547**

Contributions

The University does not pre-fund retiree health benefits and instead provides for benefits based upon projected pay-as-you-go financing. University and retiree contributions toward premiums made under purchased plan arrangements are determined by applying the health plan contract rates across the number of participants in the respective plans. Premium rates for the self-insured plan contributions are set by the University based upon a trend analysis of the historic cost, utilization, demographics and administrative expenses to provide for the claims incurred and the actuarially determined level of incurred but not reported liability. The assessment rates were $2.70 and $2.80 per $100 of UCRP covered payroll effective July 1, 2018 and 2017, respectively.

In addition to the explicit University contribution provided to retirees, there is an "implicit subsidy." The gross premiums for members that are not currently eligible for Medicare benefits are the same for active employees and retirees, based on a blend of their health costs. Retirees, on average, are expected to have higher health care costs than active employees. This is primarily due to the older average age of retirees. Since the same gross premiums apply to both groups, the premiums paid for active employees by the University are subsidizing the premiums for retirees. This effect is called the implicit subsidy. The implicit subsidy associated with retiree health costs paid during the past year is also considered to be a contribution from the University.

Net Retiree Health Benefits Liability

The University's net retiree health benefits liability was measured as of June 30 based on rolling forward the results of the actuarial valuations as of July 1, one year prior to the measurement date. Actuarial valuations represent a long-term perspective and involve estimates of the value of reported benefits and assumptions about the probability of occurrence of events far into the future. Significant actuarial methods and assumptions used to calculate the University's net retiree health benefits liability were:

(shown as percentage)	**2019**	**2018**
Discount rate	3.50%	3.87%
Inflation	2.5	3.0
Investment rate of return	2.5	3.0
Health care cost trend rates	Initially ranges from 4.4 to 9.4 decreasing to an ultimate rate of 4.0 for 2077 and later years.	Initially ranges from 5.0 to 9.3 decreasing to an ultimate rate of 5.0 for 2033 and later years.

Actuarial assumptions are subject to periodic revisions as actual results are compared with past expectations and new estimates are made about the future. The actuarial assumptions were changed in 2019 based upon the results of an experience study conducted for the period July 1, 2014 through June 30, 2018. For pre-retirement mortality rates, the Pub-2010 Teacher Employee Headcount-Weighted Above-Median Mortality Table were used. For post-retirement, healthy mortality rates were based on the Pub-2010 Healthy Teacher Retiree Headcount-Weighted Above-Median Mortality Table and multiplied by 90 percent for faculty members or 115 percent and 110 percent for other male and female members, respectively. For beneficiaries of retired members, rates were based on the Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Table. For disabled members, rates were based on the Pub-2010 Non-Safety Disabled Retiree-Headcount Weighted Mortality Table. All mortality rates are projected generationally with the two-dimensional mortality improvement scale MP-2018.

The actuarial assumptions used in 2018 were based upon the results of an experience study conducted for the period of July 1, 2010 through June 30, 2014. For pre-retirement mortality rates, the RP-2014 White Collar Employee Mortality Tables (separate table for males and females) projected with the two-dimensional MP-2014 projection scale to 2029 were used. For post-retirement, healthy mortality rates are based on the RP-2014 White Collar Healthy Annuitant Mortality Table projected with the two-dimensional MP-2014 projection scale to 2029, and with ages then set forward one year. For disabled members, rates are based on the RP-2014 Disabled Retiree Mortality Table projected with the two-dimensional MP-2014 projection scale to 2029, and with ages then set back one year for males and set forward five years for females. For disabled members, rates are based on the RP-2014 Disabled Retiree Mortality Table, projected with the two-dimensional MP-2014 projection scale to 2029 and with ages then set back one year for males and set forward five years for females.

Sensitivity of Net Retiree Health Benefits Liability to the Health Care Cost Trend Rate

The following presents the June 30, 2019 net retiree health benefits liability of the University calculated using the June 30, 2019 health care cost trend rate assumption with initial trend ranging from 4.4 percent to 9.4 percent grading down to an ultimate trend of 4.0 percent over 58 years, as well as what the net retiree health benefits liability would be if it were calculated using a health care cost trend rate different than the current assumption:

(in thousands of dollars)	1% DECREASE (3.4% to 8.4%) DECREASING TO (3.0%)	CURRENT TREND (4.4% to 9.4%) DECREASING TO (4.0%)	1% INCREASE (5.4% to 10.4%) DECREASING TO (5.0%)
Net retiree health benefits liability	$16,376,081	$19,861,686	$24,479,845

Discount Rate

The discount rate used to estimate the net retiree health benefits liability as of June 30, 2019 and 2018 was 3.50 percent and 3.87 percent, respectively. The discount rate was based on the Bond Buyer 20-year tax-exempt general obligations municipal bond index rate since UCHRBT plan assets are not sufficient to make benefit payments.

Sensitivity of Net Retiree Health Benefits Liability to the Discount Rate Assumption

The following presents the June 30, 2019 net retiree health benefits liability of the University calculated using the June 30, 2019 discount rate assumption of 3.5 percent, as well as what the net retiree health benefits liability would be if it were calculated using a discount rate different than the current assumption:

(in thousands of dollars)	1% DECREASE (2.5%)	CURRENT DISCOUNT (3.5%)	1% INCREASE (4.5%)
Net retiree health benefits liability	$23,772,386	$19,861,686	$16,787,001

Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred outflows of resources and deferred inflows of resources for retiree health benefits were related to the following sources:

(in thousands of dollars)

2019	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
DEFERRED OUTFLOWS OF RESOURCES			
Difference between expected and actual experience	$64,528	$3,200	$67,728
Changes of assumptions or other inputs	3,743,309	94,691	3,838,000
Net difference between projected and actual earnings on plan investments	3,223		3,223
Total	**$3,811,060**	**$97,891**	**$3,908,951**
DEFERRED INFLOWS OF RESOURCES			
Difference between expected and actual experience	$2,969,290	$83,537	$3,052,827
Changes of assumptions or other inputs	2,779,110	64,446	2,843,556
Total	**$5,748,400**	**$147,983**	**$5,896,383**

(in thousands of dollars)

2018	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
DEFERRED OUTFLOWS OF RESOURCES			
Difference between expected and actual experience	$74,770	$4,142	$78,912
Changes of assumptions or other inputs	3,340,913	92,220	3,433,133
Net difference between projected and actual earnings on plan investments	3,815		3,815
Total	**$3,419,498**	**$96,362**	**$3,515,860**
DEFERRED INFLOWS OF RESOURCES			
Difference between expected and actual experience	$2,279,073	$62,148	$2,341,221
Changes of assumptions or other inputs	3,220,923	83,384	3,304,307
Total	**$5,499,996**	**$145,532**	**$5,645,528**

The net amount of deferred outflows of resources and deferred inflows of resources as of June 30, 2019 related to retiree health benefits that will be recognized in retiree health benefit expense during the next five years and thereafter are as follows:

(in thousands of dollars)	CAMPUSES AND MEDICAL CENTERS	LBNL	UNIVERSITY OF CALIFORNIA
2020	($226,060)	($10,510)	($236,570)
2021	(226,400)	(10,510)	(236,910)
2022	(226,816)	(15,371)	(242,187)
2023	(227,201)	(12,299)	(239,500)
2024	(345,574)	(1,402)	(346,976)
Thereafter	(685,289)		(685,289)
Total	**($1,937,340)**	**($50,092)**	**($1,987,432)**

17. ENDOWMENTS AND GIFTS

Endowments and gifts are held and administered either by the University or by the campus foundations.

University of California

The value of endowments and gifts held and administered by the University, exclusive of income distributed to be used for operating purposes, at June 30, 2019 and 2018 are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA			
	RESTRICTED NONEXPENDABLE	RESTRICTED EXPENDABLE	UNRESTRICTED	TOTAL
At June 30, 2019				
Endowments	$1,176,981	$3,308,042	$6,291	$4,491,314
Funds functioning as endowments		2,802,208	5,170,260	7,972,468
Gifts		1,819,515	15,244	1,834,759
University endowments and gifts	**$1,176,981**	**$7,929,765**	**$5,191,795**	**$14,298,541**
At June 30, 2018				
Endowments	$1,148,699	$3,123,815	$5,861	$4,278,375
Funds functioning as endowments		2,653,219	4,439,270	7,092,489
Gifts		1,630,200		1,630,200
University endowments and gifts	**$1,148,699**	**$7,407,234**	**$4,445,131**	**$13,001,064**

The University's endowment income distribution policies are designed to preserve the value of the endowment in real terms (after inflation) and to generate a predictable stream of spendable income. Endowment investments are managed to achieve the maximum long-term total return. As a result of this emphasis on total return, the proportion of the annual income distribution provided by dividend and interest income and by capital gains may vary significantly from year to year. The University's policy is to retain the realized and unrealized appreciation with the endowment after the annual income distribution has been made. The net appreciation available to meet future spending needs is subject to the approval of The Regents and amounted to $2.7 billion and $2.6 billion at June 30, 2019 and 2018, respectively.

The portion of investment returns earned on endowments held by the University and distributed at the end of each year to support current operations for the following year is based upon a rate that is approved by The Regents. The annual income distribution transferred to the campuses from endowments held by the University was $352.7 million and $315.1 million for the years ended June 30, 2019 and 2018, respectively. The portion of this annual income distribution from accumulated capital gains, in addition to the dividend and interest income earned during the year, was $350.0 million and $283.4 million for the years ended June 30, 2019 and 2018, respectively. Accumulated endowment income available for spending in the future, including the annual income distribution, was $729.9 million and $689.4 million at June 30, 2019 and 2018, respectively.

Campus Foundations

The value of endowments and gifts held by the campus foundations and administered by each of their independent Board of Trustees at June 30 are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS			
	RESTRICTED NONEXPENDABLE	RESTRICTED EXPENDABLE	UNRESTRICTED	TOTAL
At June 30, 2019				
Endowments	$4,885,413	$1,523,428		$6,408,841
Funds functioning as endowments		1,918,902		1,918,902
Gifts		1,575,430	$538,714	2,114,144
Campus foundations' endowments and gifts	**$4,885,413**	**$5,017,760**	**$538,714**	**$10,441,887**
At June 30, 2018				
Endowments	$4,408,143	$1,465,623		$5,873,766
Funds functioning as endowments		1,839,813		1,839,813
Gifts		1,660,232	$429,581	2,089,813
Campus foundations' endowments and gifts	**$4,408,143**	**$4,965,668**	**$429,581**	**$9,803,392**

18. SEGMENT INFORMATION

The University's medical centers' and CHRCO's revenues are pledged in support of the outstanding University of California Medical Center Pooled Revenue Bonds. The medical centers' operating revenues and expenses consist primarily of revenues associated with patient care and the related costs of providing that care.

Condensed financial statement information related to each of the University's medical centers for the year ended June 30, 2019 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA MEDICAL CENTERS				
	DAVIS	IRVINE	LOS ANGELES	SAN DIEGO	SAN FRANCISCO
Year Ended June 30, 2019					
Revenue bonds outstanding	$301,785	$315,320	$704,990	$694,035	$906,245
Related debt service payments	31,187	18,209	43,460	42,844	56,641
Bonds due serially through	2048	2049	2049	2049	2049
CONDENSED STATEMENT OF NET POSITION					
Current assets	$1,356,413	$731,126	$1,901,162	$794,978	$1,896,612
Capital assets, net	1,115,955	766,783	1,671,098	1,609,016	2,427,895
Other assets	119,465	9,348	140,421	27,191	334,053
Total assets	**2,591,833**	**1,507,257**	**3,712,681**	**2,431,185**	**4,658,560**
Total deferred outflows of resources	**746,421**	**312,113**	**858,937**	**701,535**	**1,352,434**
Current liabilities	457,064	237,264	503,481	295,493	708,871
Long-term debt	320,819	329,673	876,922	771,188	917,096
Other noncurrent liabilities	2,774,731	1,261,246	2,996,536	2,122,303	4,070,505
Total liabilities	**3,552,614**	**1,828,183**	**4,376,939**	**3,188,984**	**5,696,472**
Total deferred inflows of resources	**408,817**	**226,433**	**547,364**	**284,341**	**617,396**
Net investment in capital assets	766,483	431,447	762,330	813,976	1,505,229
Restricted	13,283	9,348	24,776		97,383
Unrestricted	(1,402,943)	(676,041)	(1,139,791)	(1,154,581)	(1,905,486)
Total net position	**($623,177)**	**($235,246)**	**($352,685)**	**($340,605)**	**($302,874)**

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA MEDICAL CENTERS				
	DAVIS	**IRVINE**	**LOS ANGELES**	**SAN DIEGO**	**SAN FRANCISCO**
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION					
Operating revenues	$2,329,290	$1,278,934	$2,858,931	$2,067,448	$4,819,214
Operating expenses	(2,267,844)	(1,119,677)	(2,538,061)	(2,054,330)	(4,746,178)
Depreciation expense	(84,354)	(84,675)	(152,840)	(102,640)	(212,222)
Operating income (loss)	**(22,908)**	**74,582**	**168,030**	**(89,522)**	**(139,186)**
Nonoperating revenues (expenses), net	16,360	(9,519)	17,603	(27,678)	44,172
Income before other changes in net position	**(6,548)**	**65,063**	**185,633**	**(117,200)**	**(95,014)**
Health systems support	(29,033)	(85,051)	(218,228)	(127,684)	(146,232)
Transfers (to) from University, net	(22,611)	39,622		(9,005)	
Changes in allocation for pension payable to University	(3,651)	(2,767)	3,866	(5,486)	(14,359)
Other, including donated assets	2,164	8,937	14,268	9,542	127,498
Increase (decrease) in net position	**(59,679)**	**25,804**	**(14,461)**	**(249,833)**	**(128,107)**
Net position - beginning of year	(563,498)	(261,050)	(338,224)	(90,772)	(174,767)
Net position - end of year	**($623,177)**	**($235,246)**	**($352,685)**	**($340,605)**	**($302,874)**
CONDENSED STATEMENT OF CASH FLOWS					
Net cash provided (used) by:					
Operating activities	$320,161	$237,729	$541,026	$274,655	$431,764
Noncapital financing activities	(42,723)	(43,178)	(212,664)	(132,833)	(105,869)
Capital and related financing activities	(157,342)	(99,024)	(166,534)	(98,788)	(176,740)
Investing activities	(41,970)	27,858	9,091	4,673	(25,986)
Net increase in cash and cash equivalents	**78,126**	**123,385**	**170,919**	**47,707**	**123,169**
Cash and cash equivalents* - beginning of year	741,159	331,844	943,930	293,548	823,411
Cash and cash equivalents* – end of year	**$819,285**	**$455,229**	**$1,114,849**	**$341,255**	**$946,580**

**Cash and cash equivalents on the medical centers' financial statements are included in the University's Short Term Investment Pool.*

Condensed financial statement information related to each of the University's medical centers for the year ended June 30, 2018 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA MEDICAL CENTERS				
	DAVIS	IRVINE	LOS ANGELES	SAN DIEGO	SAN FRANCISCO
Year Ended June 30, 2018					
Revenue bonds outstanding	$319,685	$316,560	$717,840	$700,975	$910,600
Related debt service payments	31,566	18,199	41,504	42,372	56,315
Bonds due serially through	2048	2049	2049	2049	2049
CONDENSED STATEMENT OF NET POSITION					
Current assets	$1,139,430	$588,986	$1,666,222	$754,844	$1,648,154
Capital assets, net	1,080,332	759,413	1,717,689	1,661,760	2,375,485
Other assets	151,231	41,547	105,689	24,352	293,397
Total assets	**2,370,993**	**1,389,946**	**3,489,600**	**2,440,956**	**4,317,036**
Total deferred outflows of resources	**330,997**	**128,954**	**454,015**	**401,567**	**775,863**
Current liabilities	408,938	230,244	471,304	246,776	655,904
Long-term debt	342,030	335,335	908,811	792,429	922,666
Other noncurrent liabilities	2,126,078	979,793	2,454,479	1,619,329	3,105,237
Total liabilities	**2,877,046**	**1,545,372**	**3,834,594**	**2,658,534**	**4,683,807**
Total deferred inflows of resources	**388,442**	**234,578**	**447,245**	**274,761**	**583,859**
Net investment in capital assets	698,049	421,341	780,373	847,607	1,447,759
Restricted	45,783	41,547	10,884		77,245
Unrestricted	(1,307,330)	(723,938)	(1,129,481)	(938,379)	(1,699,771)
Total net position	**($563,498)**	**($261,050)**	**($338,224)**	**($90,772)**	**($174,767)**

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA MEDICAL CENTERS				
	DAVIS	IRVINE	LOS ANGELES	SAN DIEGO	SAN FRANCISCO
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION					
Operating revenues	$2,221,761	$1,177,504	$2,514,065	$1,938,229	$4,370,406
Operating expenses	(1,969,238)	(963,940)	(2,246,262)	(1,720,386)	(4,025,824)
Depreciation expense	(76,331)	(78,723)	(147,785)	(93,379)	(216,292)
Operating income	**176,192**	**134,841**	**120,018**	**124,464**	**128,290**
Nonoperating revenues (expenses), net	15,612	(12,761)	9,872	(24,959)	46,189
Income before other changes in net position	**191,804**	**122,080**	**129,890**	**99,505**	**174,479**
Health systems support	(30,285)	(48,173)	(212,827)	(124,055)	(116,286)
Transfers (to) from University, net	(19,570)	6,198	12,629	(3,034)	15,850
Changes in allocation for pension payable to University	2,032	9,523	(1,148)	(10,528)	(3,175)
Other, including donated assets	1,066	1,566	(466)	(17,984)	122,071
Increase (decrease) in net position	**145,047**	**91,194**	**(71,922)**	**(56,096)**	**192,939**
Net position - beginning of year	(708,545)	(352,244)	(266,302)	(34,676)	(367,706)
Net position - end of year	**($563,498)**	**($261,050)**	**($338,224)**	**($90,772)**	**($174,767)**
CONDENSED STATEMENT OF CASH FLOWS					
Net cash provided (used) by:					
Operating activities	$237,543	$126,943	$353,639	$170,516	$380,406
Noncapital financing activities	(42,810)	(49,646)	(268,614)	(129,729)	(78,010)
Capital and related financing activities	(137,245)	(109,604)	(171,333)	(154,010)	(134,092)
Investing activities	55,262	21,289	22,477	11,949	28,383
Net increase (decrease) in cash and cash equivalents	**112,750**	**(11,018)**	**(63,831)**	**(101,274)**	**196,687**
Cash and cash equivalents* - beginning of year	628,409	342,862	1,007,761	394,822	626,724
Cash and cash equivalents* – end of year	**$741,159**	**$331,844**	**$943,930**	**$293,548**	**$823,411**

**Cash and cash equivalents on the medical centers' financial statements are included in the University's Short Term Investment Pool.*

Summarized financial information for each medical center is from the medical centers' audited financial statements. Certain revenue, such as financial support from the state for clinical teaching programs, is classified as state educational appropriations rather than medical center revenue in the University's statement of revenues, expenses and changes in net position. However, in the medical centers' audited financial statements and for segment reporting purposes, these revenues are classified as operating revenue. Additional information on the individual University of California medical centers can be obtained from their audited financial statements which are available at http://reportingtransparency.universityofcalifornia.edu.

Certain revenue generating projects (including student and faculty housing, parking facilities, student centers, recreation and events facilities, student health facilities and athletics facilities) are also financed by Limited Project Revenue Bonds; however, assets and liabilities are not required to be accounted for separately.

19. BLENDED COMPONENT UNIT INFORMATION

Condensed financial statement information related to certain of the University's blended component units for the year ended June 30, 2019 is as follows:

(in thousands of dollars)

	FIAT LUX	CHRCO	RESEARCH	HOUSING
CONDENSED STATEMENTS OF NET POSITION				
Current assets	$296,425	$328,387	$54,824	$597,182
Capital assets, net		330,502	147,469	522,928
Other assets	912,625	296,882	318,340	187,781
Total assets	**1,209,050**	**955,771**	**520,633**	**1,307,891**
Total deferred outflows of resources		**20,256**	**5,801**	
Current liabilities	264,370	197,066	10,234	55,924
Other noncurrent liabilities	752,362	143,891	469,289	1,278,931
Total liabilities	**1,016,732**	**340,957**	**479,523**	**1,334,855**
Total deferred inflows of resources		**24,994**		
Net investment in capital assets		227,984	37,441	25,232
Restricted		83,004	4,631	(9,188)
Unrestricted	192,318	299,088	4,839	(43,008)
Total net position	**$192,318**	**$610,076**	**$46,911**	**($26,964)**
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION				
Operating revenues	$275,675	$653,675	$14,893	$90,917
Operating expenses	(258,705)	(619,035)	(3,128)	(42,277)
Depreciation expense		(35,887)	(2,582)	(15,104)
Operating income (loss)	**16,970**	**(1,247)**	**9,183**	**33,536**
Nonoperating revenues (expenses), net	53,966	44,063	(6,366)	(18,190)
Income before other changes in net position	**70,936**	**42,816**	**2,817**	**15,346**
Other, including donated assets		4,730		
Increase in net position	**70,936**	**47,546**	**2,817**	**15,346**
Net position – beginning of year	121,382	562,530	44,094	(42,310)
Net position – end of year	**$192,318**	**$610,076**	**$46,911**	**($26,964)**
CONDENSED STATEMENT OF CASH FLOWS				
Net cash provided (used) by:				
Operating activities	$87,500	$48,781	$11,183	$100,284
Noncapital financing activities		31,735		
Capital and related financing activities		(48,572)	(46,477)	671,932
Investing activities	(138,034)	(12,945)	328	(750,496)
Net increase (decrease) in cash and cash equivalents	**(50,534)**	**18,999**	**(34,966)**	**21,720**
Cash and cash equivalents – beginning of year	56,321	141,548	192,422	17,233
Cash and cash equivalents – end of year	**$5,787**	**$160,547**	**$157,456**	**$38,953**

Condensed financial statement information related to certain of the University's blended component units for the year ended June 30, 2018 is as follows:

(in thousands of dollars)

	FIAT LUX	CHRCO	RESEARCH	HOUSING
CONDENSED STATEMENTS OF NET POSITION				
Current assets	$314,210	$311,603	$35,922	$219,120
Capital assets, net		325,396	113,603	354,533
Other assets	775,010	269,174	371,738	133
Total assets	**1,089,220**	**906,173**	**521,263**	**573,786**
Total deferred outflows of resources		**21,551**	**6,077**	
Current liabilities	282,264	193,228	9,822	35,606
Other noncurrent liabilities	685,574	156,024	473,424	580,490
Total liabilities	**967,838**	**349,252**	**483,246**	**616,096**
Total deferred inflows of resources		**15,942**		
Net investment in capital assets		222,341	37,698	11,882
Restricted		66,759	189,523	131,887
Unrestricted	121,382	273,430	(183,127)	(186,079)
Total net position	**$121,382**	**$562,530**	**$44,094**	**($42,310)**
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION				
Operating revenues	$239,201	$591,608	$14,812	$94,376
Operating expenses	(283,309)	(582,955)	(2,305)	(50,843)
Depreciation expense		(35,946)	(3,114)	(14,987)
Operating income (loss)	**(44,108)**	**(27,293)**	**9,393**	**28,546**
Nonoperating revenues (expenses), net	17,473	44,428	(9,671)	(22,453)
Income (loss) before other changes in net position	**(26,635)**	**17,135**	**(278)**	**6,093**
Other, including donated assets	3	2,014		
Increase (decrease) in net position	**(26,632)**	**19,149**	**(278)**	**6,093**
Net position – beginning of year	148,014	543,381	44,372	(48,403)
Net position – end of year	**$121,382**	**$562,530**	**$44,094**	**($42,310)**
CONDENSED STATEMENT OF CASH FLOWS				
Net cash provided (used) by:				
Operating activities	$67,426	$37,520	$12,557	$20,514
Noncapital financing activities	3	23,462		
Capital and related financing activities		(56,953)	178,913	159,480
Investing activities	(11,810)	18,657	(2,317)	(174,983)
Net increase in cash and cash equivalents	**55,619**	**22,686**	**189,153**	**5,011**
Cash and cash equivalents – beginning of year	702	118,862	3,269	12,222
Cash and cash equivalents – end of year	**$56,321**	**$141,548**	**$192,422**	**$17,233**

CHRCO's other assets include investments in the UCSF Foundation's Endowed Investment Pool of $243.2 million and $234.4 million at June 30, 2019 and 2018.

Additional information on the blended component units can be found in their separately issued audited financial statements.

20. CAMPUS FOUNDATIONS INFORMATION

Under University policies approved by The Regents, each individual campus may establish a separate foundation to provide valuable assistance in fundraising, public outreach and other support for the missions of the campus and the University. Although independent boards govern these foundations, their assets are dedicated for the benefit of the University of California.

Condensed financial statement information related to the University's campus foundations, including their allocated share of the assets and liabilities associated with securities lending transactions in the University's investment pools, for the year ended June 30, 2019 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS					
	BERKELEY	SAN FRANCISCO	LOS ANGELES	SAN DIEGO	ALL OTHER	TOTAL
CONDENSED STATEMENT OF NET POSITION						
Current assets	$140,203	$459,416	$681,249	$147,368	$181,497	$1,609,733
Noncurrent assets	2,301,104	1,846,848	3,127,358	968,994	1,664,074	9,908,378
Total assets	**2,441,307**	**2,306,264**	**3,808,607**	**1,116,362**	**1,845,571**	**11,518,111**
Current liabilities	19,706	35,277	314,259	7,598	42,564	419,404
Noncurrent liabilities	78,739	284,009	32,166	7,563	25,668	428,145
Total liabilities	**98,445**	**319,286**	**346,425**	**15,161**	**68,232**	**847,549**
Total deferred inflows of resources	63,275	31,377	50,162	63,377	20,484	228,675
Restricted	2,268,502	1,955,202	2,922,558	1,012,372	1,744,539	9,903,173
Unrestricted	11,085	399	489,462	25,452	12,316	538,714
Total net position	**$2,279,587**	**$1,955,601**	**$3,412,020**	**$1,037,824**	**$1,756,855**	**$10,441,887**
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION						
Operating revenues	$147,008	$251,426	$347,424	$57,320	$116,152	$919,330
Operating expenses	(228,154)	(341,081)	(329,950)	(107,952)	(163,076)	(1,170,213)
Operating income (loss)	**(81,146)**	**(89,655)**	**17,474**	**(50,632)**	**(46,924)**	**(250,883)**
Nonoperating revenues	106,490	80,891	94,558	58,847	90,241	431,027
Income (loss) before other changes in net position	**25,344**	**(8,764)**	**112,032**	**8,215**	**43,317**	**180,144**
Permanent endowments	118,880	113,882	122,232	32,584	70,773	458,351
Increase in net position	**144,224**	**105,118**	**234,264**	**40,799**	**114,090**	**638,495**
Net position – beginning of year	2,135,363	1,850,483	3,177,756	997,025	1,642,765	9,803,392
Net position – end of year	**$2,279,587**	**$1,955,601**	**$3,412,020**	**$1,037,824**	**$1,756,855**	**$10,441,887**
CONDENSED STATEMENT OF CASH FLOWS						
Net cash provided (used) by:						
Operating activities	($75,071)	($92,845)	$19,883	($54,226)	($37,255)	($239,514)
Noncapital financing activities	91,333	114,840	115,297	27,944	46,445	395,859
Investing activities	(14,153)	(33,522)	(130,481)	26,288	6,740	(145,128)
Net increase (decrease) in cash and cash equivalents	**2,109**	**(11,527)**	**4,699**	**6**	**15,930**	**11,217**
Cash and cash equivalents – beginning of year	6,279	396,869	4,599	1,039	38,591	447,377
Cash and cash equivalents – end of year	**$8,388**	**$385,342**	**$9,298**	**$1,045**	**$54,521**	**$458,594**

Condensed financial statement information related to the University's campus foundations, including their allocated share of the assets and liabilities associated with securities lending transactions in the University's investment pools, for the year ended June 30, 2018 is as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA CAMPUS FOUNDATIONS					
	BERKELEY	SAN FRANCISCO	LOS ANGELES	SAN DIEGO	ALL OTHER	TOTAL
CONDENSED STATEMENT OF NET POSITION						
Current assets	$107,922	$474,253	$686,801	$154,696	$174,747	$1,598,419
Noncurrent assets	2,192,958	1,715,100	2,875,851	912,566	1,576,866	9,273,341
Total assets	**2,300,880**	**2,189,353**	**3,562,652**	**1,067,262**	**1,751,613**	**10,871,760**
Current liabilities	16,540	37,777	301,390	7,868	51,559	415,134
Noncurrent liabilities	79,454	272,184	32,680	7,781	29,117	421,216
Total liabilities	**95,994**	**309,961**	**334,070**	**15,649**	**80,676**	**836,350**
Total deferred inflows of resources	**69,523**	**28,909**	**50,826**	**54,588**	**28,172**	**232,018**
Restricted	2,132,259	1,850,079	2,785,000	973,135	1,633,338	9,373,811
Unrestricted	3,104	404	392,756	23,890	9,427	429,581
Total net position	**$2,135,363**	**$1,850,483**	**$3,177,756**	**$997,025**	**$1,642,765**	**$9,803,392**
CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION						
Operating revenues	$181,523	$356,891	$526,446	$167,338	$109,197	$1,341,395
Operating expenses	(237,177)	(293,986)	(354,556)	(99,789)	(150,696)	(1,136,204)
Operating income (loss)	**(55,654)**	**62,905**	**171,890**	**67,549**	**(41,499)**	**205,191**
Nonoperating revenues	156,996	198,747	202,766	55,599	109,614	723,722
Income before other changes in net position	**101,342**	**261,652**	**374,656**	**123,148**	**68,115**	**928,913**
Permanent endowments	79,970	104,342	79,895	35,167	109,333	408,707
Increase in net position	**181,312**	**365,994**	**454,551**	**158,315**	**177,448**	**1,337,620**
Net position – beginning of year	1,954,051	1,484,489	2,723,205	838,710	1,465,317	8,465,772
Net position – end of year	**$2,135,363**	**$1,850,483**	**$3,177,756**	**$997,025**	**$1,642,765**	**$9,803,392**
CONDENSED STATEMENT OF CASH FLOWS						
Net cash provided (used) by:						
Operating activities	($82,042)	($81,653)	$116,294	($35,615)	($47,818)	($130,834)
Noncapital financing activities	61,846	105,665	67,843	26,744	93,434	355,532
Investing activities	21,888	161,997	(184,816)	8,657	(39,147)	(31,421)
Net increase (decrease) in cash and cash equivalents	**1,692**	**186,009**	**(679)**	**(214)**	**6,469**	**193,277**
Cash and cash equivalents – beginning of year	4,587	210,860	5,278	1,253	32,122	254,100
Cash and cash equivalents – end of year	**$6,279**	**$396,869**	**$4,599**	**$1,039**	**$38,591**	**$447,377**

Additional information on the foundations can be found in the foundations' separately issued annual reports, which can be obtained by contacting the individual foundation.

21. COMMITMENTS AND CONTINGENCIES

Contractual Commitments

Amounts committed but unexpended for construction projects totaled $1.6 billion at June 30, 2019. The University has a remaining commitment to contribute $89.8 million for investments in joint ventures at June 30, 2019.

The University leases land, buildings and equipment under agreements recorded as operating leases. Operating lease expenses for the years ended June 30, 2019 and 2018 were $362.4 million and $335.5 million, respectively. The terms of the operating leases extend through October 2042.

Future minimum payments on operating leases with an initial or remaining non-cancelable term in excess of one year are as follows:

(in thousands of dollars)

	UNIVERSITY OF CALIFORNIA
Year Ending June 30	
2020	$291,506
2021	240,089
2022	183,958
2023	143,443
2024	107,000
2025 - 2029	252,443
2030 - 2034	86,793
2035 - 2039	18,884
2040 - 2043	1,324
Total	**$1,325,440**

Contingencies

Substantial amounts are received and expended by the University, including its medical centers, under federal and state programs, and are subject to audit by cognizant governmental agencies. This funding relates to research, student aid, medical center operations and other programs. University management believes that any liabilities arising from such audits will not have a material effect on the University's financial position.

The University and the campus foundations are contingently liable in connection with certain other claims and contracts, including those currently in litigation, arising in the normal course of its activities. Although there are inherent uncertainties in any litigation, University management and general counsel are of the opinion that the outcome of such matters will not have a material effect on the University's financial position.

UCRP

The schedule of changes in net pension liability includes multiyear trend information about whether the pension assets are increasing or decreasing over time relative to the pension liabilities. The University's schedule of changes in the net pension liability for UCRP as of June 30 is:

(in thousands of dollars)

	2019	2018	2017	2016
TOTAL PENSION LIABILITY				
Service cost	$1,946,612	$1,873,004	$1,807,143	$1,710,241
Interest on the total pension liability	5,576,660	5,295,733	5,035,267	4,784,904
Difference between expected and actual experience	334,605	138,419	74,664	136,167
Changes of assumptions or other inputs	7,816,717			
Benefits paid, including refunds of employee contributions	(3,816,434)	(3,587,554)	(3,320,990)	(3,105,641)
Net change in total pension liability	**11,858,160**	**3,719,602**	**3,596,084**	**3,525,671**
Total pension liability - beginning of year	76,546,448	72,826,846	69,230,762	65,705,091
Total pension liability - end of year	**88,404,608**	**76,546,448**	**72,826,846**	**69,230,762**
PLAN NET POSITION				
Contributions - employer	2,408,650	2,335,874	2,385,576	2,426,683
Contributions - member	956,543	941,144	891,987	845,036
Contributions - state		169,000	171,000	96,000
Net investment income	4,018,595	4,837,552	7,866,281	(1,104,655)
Benefits paid, including refunds of employee contributions	(3,816,434)	(3,587,554)	(3,320,990)	(3,105,642)
Administrative expense	(61,981)	(36,684)	(44,128)	(48,340)
Net change in plan net position	**3,505,373**	**4,659,332**	**7,949,726**	**(890,918)**
Plan net position - beginning of year	66,773,590	62,114,258	54,164,532	55,055,450
Plan net position - end of year	**70,278,963**	**66,773,590**	**62,114,258**	**54,164,532**
Net pension liability - end of year	**$18,125,645**	**$9,772,858**	**$10,712,588**	**$15,066,230**

(in thousands of dollars)	2015	2014	2013	2012
TOTAL PENSION LIABILITY				
Service cost	$1,589,267	$1,519,183	$1,456,761	$1,531,094
Interest on the total pension liability	4,538,846	4,316,728	4,112,461	3,871,146
Difference between expected and actual experience	(112,155)	(320,624)	(183,253)	(212,758)
Changes of assumptions or other inputs	2,136,793		(3,312,815)	4,923,778
Benefits paid, including refunds of employee contributions	(2,976,992)	(2,687,540)	(2,487,369)	(2,273,071)
Net change in total pension liability	**5,175,759**	**2,827,747**	**(414,215)**	**7,840,189**
Total pension liability - beginning of year	60,529,332	57,701,585	58,115,800	50,275,611
Total pension liability - end of year	**65,705,091**	**60,529,332**	**57,701,585**	**58,115,800**
PLAN NET POSITION				
Contributions - employer	2,510,046	1,580,876	810,056	1,851,460
Contributions - member	793,012	577,466	415,641	272,420
Net investment income	1,993,801	8,009,980	4,833,339	115,863
Benefits paid, including refunds of employee contributions	(2,976,993)	(2,687,540)	(2,487,369)	(2,273,071)
Administrative expense	(48,283)	(37,641)	(37,426)	(32,839)
Net change in plan net position	**2,271,583**	**7,443,141**	**3,534,241**	**(66,167)**
Plan net position - beginning of year	52,783,867	45,340,726	41,806,485	41,872,652
Plan net position - end of year	**55,055,450**	**52,783,867**	**45,340,726**	**41,806,485**
Net pension liability - end of year	**$10,649,641**	**$7,745,465**	**$12,360,859**	**$16,309,315**

The University's schedule of net pension liability for UCRP as of June 30 is:

(in thousands of dollars)	2019	2018	2017	2016
Total pension liability	$88,404,608	$76,546,448	$72,826,846	$69,230,762
Plan net position	70,278,963	66,773,590	62,114,258	54,164,532
Net pension liability	**$18,125,645**	**$9,772,858**	**$10,712,588**	**$15,066,230**
Ratio of plan net position to total pension liability	79.5%	87.2%	85.3%	78.2%
Covered payroll	$12,168,209	$11,923,489	$11,301,506	$10,689,424
Net pension liability as a percentage of covered payroll	149.0%	82.0%	94.8%	140.9%

(in thousands of dollars)	2015	2014	2013	2012
Total pension liability	$65,705,091	$60,529,332	$57,701,585	$58,115,800
Plan net position	55,055,450	52,783,867	45,340,726	41,806,485
Net pension liability	**$10,649,641**	**$7,745,465**	**$12,360,859**	**$16,309,315**
Ratio of plan net position to total pension liability	83.8%	87.2%	78.6%	71.9%
Covered payroll	$10,047,570	$9,372,583	$8,921,077	$8,594,147
Net pension liability as a percentage of covered payroll	106.0%	82.6%	138.6%	189.8%

The University's schedule of employer contributions for UCRP as of June 30 is:

(in thousands of dollars)

YEAR ENDED JUNE 30	ACTUARIALLY DETERMINED CONTRIBUTIONS	CONTRIBUTIONS IN RELATION TO ACTUARIAL CONTRIBUTIONS	CONTRIBUTION DEFICIENCY (EXCESS)	COVERED PAYROLL	CONTRIBUTIONS AS A PERCENTAGE OF COVERED PAYROLL
2019	$2,742,671	$2,408,650	$334,021	$12,168,209	20%
2018	2,669,169	2,504,874	164,295	11,923,489	21
2017	2,654,710	2,556,576	98,134	11,301,506	23
2016	2,610,953	2,522,683	88,270	10,689,424	24
2015	2,664,384	2,510,046	154,338	10,047,570	25
2014	2,472,697	1,580,876	891,821	9,372,583	17
2013	2,062,022	810,056	1,251,966	8,921,077	9
2012	1,806,205	1,851,459	(45,254)	8,594,147	22
2011	1,695,137	1,677,921	17,216	8,140,629	21
2010	454	148,445	(147,991)	7,973,921	2

NOTES TO SCHEDULE

Methods and assumptions used to determined contribution rates:

Valuation date	Actuarially determined contribution rates are calculated as of July 1, two years prior to the end of the fiscal year in which contributions are reported.
Actuarial cost method	Entry age actuarial cost method.
Amortization method	Level dollar, closed periods.
Remaining amortization period	18.83 years as of July 1, 2018. The July 1, 2010 amortization bases were combined into a single amortization base and amortized over 30 years. Any changes in Unfunded Actuarial Accrued Liability (UAAL) due to actuarial experience gains or losses after July 1, 2010, are separately amortized over a fixed (closed) 30-year period effective with that valuation. Any changes in UAAL due to a change in actuarial assumptions or plan provisions are separately amortized over a fixed (closed)15-year period. Any changes in UAAL due to actuarial experience gains or losses or a change in actuarial assumptions after July 1, 2014, are separately amortized over a fixed (closed) 20-year period.
Asset valuation method	The market value of assets less unrecognized returns in each of the last five years. An unrecognized return is equal to the difference between the actual and the expected return on a market value basis and is recognized over a five-year period.

	June 30, 2019 measurement date	**June 30, 2018 measurement date**
Inflation	2.50%.	3.00%.
Investment rate of return	6.75%, net of pension plan investment expenses, including inflation.	7.25%, net of pension plan investment expenses, including inflation.
Projected salary increases	3.65 - 5.95%, varying by service, including inflation.	3.75 - 6.15%, varying by service, including inflation.
Cost-of-living adjustments	2.00%.	2.00%.
Mortality	Active and inactive: Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table. Healthy: Pub-2010 Healthy Teacher Amount-Weighted Above-Median Mortality Table, multiplied by 90 percent for male Faculty members, 95 percent for female Faculty members, 100 percent for other male members and 110 percent for other female members. Beneficiaries of retired members: Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table multiplied by 100 percent for males and 90 percent for females. Disabled: Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table. All mortality tables listed above are projected generationally with the two-dimensional mortality improvement scale MP-2018.	Active and inactive: RP-2014 White Collar Employee Mortality Table, projected with the two-dimensional MP-2014 projection scale to 2029. Healthy: RP-2014 White Collar Healthy Annuitant Mortality Table, projected with the two-dimensional MP-2014 projection scale to 2029 with ages set forward one year. Disabled: RP-2014 Disabled Retiree Mortality Table, projected with the two-dimensional MP-2014 projection scale to 2029 and with ages then set back one year for males and set forward five years for females.

UC-VERIP

The University's schedule of changes in net pension liability for UC-VERIP as of June 30 is:

(in thousands of dollars)	**2019**	**2018**	**2017**	**2016**
TOTAL PENSION LIABILITY				
Interest on the total pension liability	$1,983	$2,042	$2,463	$2,533
Difference between expected and actual experience	(79)	(436)	(189)	(650)
Changes of assumptions or other inputs	714			
Benefits paid, including refunds of employee contributions	(4,213)	(4,610)	(4,738)	(4,937)
Net change in total pension liability (surplus)	**(1,595)**	**(3,004)**	**(2,464)**	**(3,054)**
Total pension liability - beginning of year	29,540	32,544	35,008	38,062
Total pension liability - end of year	**27,945**	**29,540**	**32,544**	**35,008**
PLAN NET POSITION				
Net investment income	3,748	4,885	8,666	(1,425)
Benefits paid, including refunds of employee contributions	(4,213)	(4,610)	(4,738)	(4,937)
Administrative expense	(5)	(5)	(6)	(7)
Net change in plan net position	**(470)**	**270**	**3,922**	**(6,369)**
Plan net position - beginning of year	65,248	64,978	61,056	67,425
Plan net position - end of year	**64,778**	**65,248**	**64,978**	**61,056**
Net pension surplus - end of year	**($36,833)**	**($35,708)**	**($32,434)**	**($26,048)**

(in thousands of dollars)	**2015**	**2014**	**2013**	**2012**
TOTAL PENSION LIABILITY				
Interest on the total pension liability	$2,704	$2,857	$3,052	$3,227
Changes of benefit terms				11,186
Difference between expected and actual experience	242	(436)	(241)	172
Changes of assumptions or other inputs	1,837			1,268
Benefits paid, including refunds of employee contributions	(5,081)	(5,169)	(5,278)	(5,369)
Net change in total pension liability (surplus)	**(298)**	**(2,748)**	**(2,467)**	**10,484**
Total pension liability - beginning of year	38,360	41,108	43,575	33,091
Total pension liability - end of year	**38,062**	**38,360**	**41,108**	**43,575**
PLAN NET POSITION				
Net investment income	2,550	11,035	7,144	90
Benefits paid, including refunds of employee contributions	(5,081)	(5,169)	(5,278)	(5,369)
Administrative expense	(6)	(6)	(7)	(7)
Net change in plan net position	**(2,537)**	**5,860**	**1,859**	**(5,286)**
Plan net position - beginning of year	69,962	64,102	62,243	67,529
Plan net position - end of year	**67,425**	**69,962**	**64,102**	**62,243**
Net pension surplus - end of year	**($29,363)**	**($31,602)**	**($22,994)**	**($18,668)**

The University's schedule of net pension asset for UC-VERIP as of June 30 is:

(in thousands of dollars)	2019	2018	2017	2016
Total pension liability	$27,945	$29,540	$32,544	$35,008
Plan net position	64,778	65,248	64,978	61,056
Net pension surplus	**($36,833)**	**($35,708)**	**($32,434)**	**($26,048)**
Ratio of plan net position to total pension liability	231.8%	220.9%	199.7%	174.4%

(in thousands of dollars)	2015	2014	2013	2012
Total pension liability	$38,062	$38,360	$41,108	$43,575
Plan net position	67,425	69,962	64,102	62,243
Net pension surplus	**($29,363)**	**($31,602)**	**($22,994)**	**($18,668)**
Ratio of plan net position to total pension liability	177.1%	182.4%	155.9%	142.8%

The University is not required to make contributions to the UC-VERIP due to its fully funded status.

CHRCO PENSION PLAN

The schedule of changes in the net pension liability for the CHRCO Pension Plan as of June 30:

(in thousands of dollars)	2019	2018	2017	2016	2015	2014
TOTAL PENSION LIABILITY						
Service cost	$11,430	$11,304	$9,910	$10,410	$9,448	$9,274
Interest on the total pension liability	34,165	31,854	29,672	27,782	24,683	22,453
Changes of benefit terms		92	33	24	40	142
Difference between expected and actual experience	5,214	3,609	2,442	(3,690)	762	2,487
Changes of assumptions or other inputs	(9,540)			3,613	33,105	
Benefits paid, including refunds of employee contributions	(15,143)	(12,802)	(11,767)	(9,509)	(8,082)	(6,994)
Net change in total pension liability	**26,126**	**34,057**	**30,290**	**28,630**	**59,956**	**27,362**
Total pension liability - beginning of year	484,209	450,152	419,862	391,232	331,276	303,914
Total pension liability - end of year	**510,335**	**484,209**	**450,152**	**419,862**	**391,232**	**331,276**
PLAN NET POSITION						
Contributions - employer	31,200	33,600	28,800	24,000	18,000	14,500
Net investment income	25,203	33,269	41,256	214	11,797	48,704
Benefits paid, including refunds of employee contributions	(15,143)	(12,802)	(11,767)	(9,509)	(8,082)	(6,994)
Administrative expense	(2,711)	(3,014)	(2,727)	(1,816)	(1,222)	(718)
Net change in plan net position	**38,549**	**51,053**	**55,562**	**12,889**	**20,493**	**55,492**
Total plan net position - beginning of year	460,061	409,008	353,446	340,557	320,064	264,572
Total plan net position - end of year	**498,610**	**460,061**	**409,008**	**353,446**	**340,557**	**320,064**
Net pension liability - end of year	**$11,725**	**$24,148**	**$41,144**	**$66,416**	**$50,675**	**$11,212**

The schedule of net pension liability for the CHRCO Pension Plan as of June 30 is:

(in thousands of dollars)	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability	$510,335	$484,209	$450,152	$419,862	$391,232	$331,276
Plan net position	498,610	460,061	409,008	353,446	340,557	320,064
Net pension liability	**$11,725**	**$24,148**	**$41,144**	**$66,416**	**$50,675**	**$11,212**
Ratio of plan net position to total pension liability	97.7%	95.0%	90.9%	84.2%	87.0%	96.6%
Covered payroll	$190,599	$187,639	$184,083	$165,672	$177,986	$175,189
Net pension liability as a percentage of covered payroll	6.2%	12.9%	22.4%	40.1%	28.5%	6.4%

The schedule of employer contributions for the CHRCO Pension Plan as of June 30 is:

(in thousands of dollars)	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
Actuarially calculated employer contributions	$17,870	$7,710	$5,642	$7,823	$12,239	$21,282
Contributions in relation to the actuarially calculated employer contribution	31,200	33,600	28,800	24,000	18,000	14,500
Annual contribution deficiency (excess)	**($13,330)**	**($25,890)**	**($23,158)**	**($16,177)**	**($5,761)**	**$6,782**
Covered payroll	$190,599	$187,639	$184,083	$165,672	$177,986	$175,189
Actual contributions as a percentage of covered payroll	16.4%	17.9%	15.6%	14.5%	10.1%	8.3%

NOTES TO SCHEDULE

Methods and assumptions used to determine contribution rates:

Valuation date	Actuarially calculated contributions are calculated as of January 1 of the end of the fiscal year in which contributions are reported.
Actuarially determined contribution	The Plan is subject to funding requirements under ERISA. The contribution shown is the IRC Section 430 minimum contribution prior to offset by credit balances prorated for the number of months in the fiscal year. For the period January 1, 2014 to June 30, 2014, the amount shown does not reflect changes in the Highway and Transportation Funding Act of 2014 (HATFA). The contribution for July 1, 2014 and thereafter includes HATFA.
Contributions in relation to the actuarially determined contribution	The amount shown is equal to the contributions contributed to the Plan during the fiscal year shown.
Actuarial cost method	Unit Credit Actuarial Cost Method.
Amortization method	Level dollar, closed amortization.
Remaining amortization period	7 years for changes in unfunded liabilities that occur each valuation date.
Asset valuation method	The actuarial value of assets is equal to the two-year average of Plan asset values as of the valuation date. The two-year average is the average of the two prior years' adjusted market value of assets and the current year's market value of assets. For this purpose, the prior years' market value of assets is adjusted to reflect benefit payments, administrative expenses, contributions and expected returns for the prior years. The resulting actuarial value of assets is adjusted to be within 10% of the market value of assets at the valuation date, as required by IRC Section 430.
Inflation	3.0%.
Investment rate of return	7.0%, net of pension plan investment expenses, including inflation.
Projected salary increases	5.0%, including inflation through 2017, 4.0% afterward.
Cost-of-living adjustments	N/A.
Mortality	Adjusted RP-2014 Mortality Table for males or females with back up base table to 2006, as appropriate, with generational adjustments for mortality improvements based on Scale MP-2017.

OCERS

The schedule of the University's proportionate share of OCERS' net pension liability is presented below:

(in thousands of dollars)

AS OF JUNE 30	PROPORTION OF THE NET PENSION LIABILITY	PROPORTIONATE SHARE OF NET PENSION LIABILITY	COVERED PAYROLL	PROPORTIONATE SHARE OF THE NET PENSION LIABILITY AS A PERCENTAGE OF ITS COVERED PAYROLL	PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY
2019	0.3%	$17,404			34.0%
2018	0.3	13,822	$15	92,146.7%	37.6
2017	0.3	18,057	44	41,038.6	34.5
2016	0.3	18,092	285	6,348.1	34.8

University Retiree Health Benefits Program

The schedule of changes in the net retiree health benefits liability includes multiyear trend information about whether the net retiree health benefits liability is increasing or decreasing over time. The University's net retiree health benefits liability includes liabilities for campuses, medical centers and LBNL. The University's schedule of changes in the net retiree health benefits liability as of, and for, the year ending June 30 is:

(in thousands of dollars)	2019	2018	2017	2016	2015
TOTAL RETIREE HEALTH BENEFITS LIABILITY					
Service cost	$815,654	$835,154	$1,004,644	$830,041	$702,935
Interest on the total retiree health benefits liability	758,521	716,777	646,279	735,294	719,853
Changes of benefit terms	(29,315)				
Difference between expected and actual experience	(1,219,146)	(1,173,742)	101,280	(1,948,111)	
Changes of assumptions or other inputs	1,124,039	(354,585)	(3,827,924)	3,925,503	1,402,476
Retiree contributions	85,820	79,849	72,716	65,705	56,340
Benefits paid	(512,824)	(504,745)	(467,846)	(451,166)	(435,189)
Net change in total retiree health benefits liability	**1,022,749**	**(401,292)**	**(2,470,851)**	**3,157,266**	**2,446,415**
Total retiree health benefits liability - beginning of year	18,995,846	19,397,138	21,867,989	18,710,723	16,264,308
Total retiree health benefits liability - end of year	**20,018,595**	**18,995,846**	**19,397,138**	**21,867,989**	**18,710,723**
PLAN NET POSITION					
University contributions	451,437	453,988	432,953	410,945	367,416
Retiree contributions	85,820	79,849	72,716	65,705	56,340
Net investment income	3,195	1,634	606	155	41
Insurance premiums	(512,824)	(504,745)	(467,846)	(451,166)	(435,189)
Other deductions	(4,300)	(3,859)	(4,256)	(3,743)	(3,147)
Net change in retiree health benefits net position	**23,328**	**26,867**	**34,173**	**21,896**	**(14,539)**
Retiree health benefits net position - beginning of year	133,581	106,714	72,541	50,645	65,184
Retiree health benefits net position - end of year	**156,909**	**133,581**	**106,714**	**72,541**	**50,645**
Net retiree health benefits liability - end of year	**$19,861,686**	**$18,862,265**	**$19,290,424**	**$21,795,448**	**$18,660,078**

The University's schedule of net retiree health benefits liability as of June 30 is:

(in thousands of dollars)	2019	2018	2017	2016	2015
Total retiree health benefits liability	$20,018,595	$18,995,846	$19,397,138	$21,867,989	$18,710,723
Retiree health benefits net position	156,909	133,581	106,714	72,541	50,645
Net retiree health benefits liability	**$19,861,686**	**$18,862,265**	**$19,290,424**	**$21,795,448**	**$18,660,078**
Ratio of retiree health benefits net position to total retiree health benefits liability	0.8%	0.7%	0.6%	0.3%	0.3%
Covered payroll	$12,717,122	$12,391,018	$11,495,997	$10,689,424	$10,047,570
Net retiree health benefits liability as a percentage of covered payroll	156.2%	152.2%	167.8%	203.9%	185.7%

University of California Retiree Health Benefit Trust

The schedule of changes in the net retiree health benefits liability includes multiyear trend information about whether the trust assets are increasing or decreasing over time relative to the total retiree health benefits liability for the campuses and medical centers. UCRHBT's schedule of changes in net retiree health benefits liability as of, and for, the year ending June 30 is:

(in thousands of dollars)	2019	2018	2017	2016	2015
TOTAL RETIREE HEALTH BENEFIT LIABILITY					
Service cost	$798,249	$816,483	$981,745	$806,817	$683,320
Interest on the total retiree health benefits liability	734,693	694,562	625,947	711,365	695,999
Changes of benefit terms	(28,401)				
Difference between expected and actual experience	(1,175,284)	(1,149,032)	95,254	(1,875,009)	
Changes of assumptions or other inputs	1,091,609	(353,516)	(3,707,921)	3,798,113	1,358,761
Retiree contributions	82,710	76,873	69,968	65,705	56,340
Benefits paid	(490,615)	(483,479)	(447,604)	(433,849)	(418,244)
Net change in total retiree health benefits liability	**1,012,961**	**(398,109)**	**(2,382,611)**	**3,073,142**	**2,376,176**
Total retiree health benefits liability - beginning of year	18,388,092	18,786,201	21,168,812	18,095,670	15,719,494
Total retiree health benefits liability - end of year	**19,401,053**	**18,388,092**	**18,786,201**	**21,168,812**	**18,095,670**
PLAN NET POSITION					
University contributions	432,338	435,698	415,459	393,628	350,471
Retiree contributions	82,710	76,873	69,968	65,705	56,340
Net investment income	3,195	1,634	606	155	41
Insurance premiums	(490,615)	(483,479)	(447,604)	(433,849)	(418,244)
Other deductions	(4,300)	(3,859)	(4,256)	(3,743)	(3,147)
Net change in UCRHBT net position	**23,328**	**26,867**	**34,173**	**21,896**	**(14,539)**
UCRHBT net position - beginning of year	133,581	106,714	72,541	50,645	65,184
UCRHBT net position - end of year	**156,909**	**133,581**	**106,714**	**72,541**	**50,645**
Net retiree health benefits liability - end of year	**$19,244,144**	**$18,254,511**	**$18,679,487**	**$21,096,271**	**$18,045,025**

UCRHBT's schedule of net retiree health benefits liability as of June 30 is:

(in thousands of dollars)	2019	2018	2017	2016	2015
Total retiree health benefits liability	$19,401,053	$18,388,092	$18,786,201	$21,168,812	$18,095,670
UCRHBT net position	156,909	133,581	106,714	72,541	50,645
Net retiree health benefits liability	**$19,244,144**	**$18,254,511**	**$18,679,487**	**$21,096,271**	**$18,045,025**
Ratio of UCRHBT net position to total retiree health benefits liability	0.8%	0.7%	0.6%	0.3%	0.3%
Covered payroll	$12,381,741	$12,087,000	$11,196,485	$10,396,827	$9,758,795
Net retiree health benefits liability as a percentage of covered payroll	155.4%	151.0%	166.8%	202.9%	184.9%

UNIVERSITY OF CALIFORNIA

Regents and Officers

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(In alphabetical order of last name)

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Richard Leib
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Eloy Ortiz Oakley
Lark Park
John A. Perez
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Richard Sherman
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Hayley Weddle
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Eleni Kounalakis, *Lieutenant Governor*
Anthony Rendon, *Speaker of the Assembly*
Tony Thurmond, *State Superintendent of Public Instruction*
Janet Napolitano, *President of the University*

ALUMNI REGENTS

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Christine Simmons, *Vice President, Alumni Associations of the University of California*

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