UNIVERSITY OF CALIFORNIA

Annual Financial Report

Retirement System

22/23

The University of California was founded on a revolutionary idea: That the state deserved a great public research university, open to all. Today, UC is essential to California’s success, creating social mobility for its people and developing solutions to our most urgent societal challenges.

UNIVERSITY OF CALIFORNIA

Retirement System
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University of California Retirement System

The University of California Retirement System (UCRS) is a valuable component of the comprehensive benefits package offered to employees of the University of California (the University). UCRS consists of two defined benefit plans and four defined contribution plans. The defined benefit plans (DB Plans) include the University of California Retirement Plan (UCRP) for members and the Voluntary Early Retirement Incentive Plan (UC-VERIP) for certain University employees that were members of the California Public Employees' Retirement System (CalPERS) who elected early retirement. The University of California Retirement Savings Program (UCRSP) includes four defined contribution plans, collectively referred to as the UCRSP Plans: 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). The Regents of the University of California (The Regents) acts as trustee associated with each of the UCRS plans, with the Office of the Chief Investment Officer (UC Investments) of The Regents acting as custodian. Administrative authority with respect to the UCRS Plans is vested in the President of the University (the President) as plan administrator, and the President has delegated that authority within UCRS, under University policies and procedures, to the Vice President, Systemwide Human Resources and Chief Human Resources Officer.

SUMMARY STATEMENT

This section contains information about the DB Plans, which provide lifetime retirement income, disability income, death benefits and postretirement and preretirement survivor benefits to eligible employees of the University and its affiliate, UC College of the Law San Francisco (UC Law SF), formerly Hastings College of the Law, and the employees' survivors and beneficiaries as of and for the fiscal year ended June 30, 2023. Table DBP.1 presents summarized financial information for the DB Plans' financial information for the fiscal year ended June 30, 2023 and Table DBP.2 presents membership base statistics for UCRP for the plan year ended June 30, 2023.

Table DBP.1: Summarized Financial Information for Fiscal Year Ended June 30, 2023

Net position as of June 30	$88.3 billion
Net investment income	$7.7 billion
Total contributions	$4.0 billion
Benefit payments (excluding member withdrawals and lump sum cashouts)	($4.3) billion
Plan administrative and other expenses	($76.6) million

Table DBP.2: UCRP Membership Base Statistics for Plan Year Ended June 30, 2023

Active Plan Membership as of June 30	
Senate faculty and non-faculty academics	22,843 members
Management/senior professional	15,805 members
Professional/support staff	102,768 members
Total	**141,416 members**
AVERAGE ANNUAL SALARY	
Senate faculty	$175,628
Non-faculty academics	$120,915
Management/senior professional	$166,463
Professional/support staff	$95,422
AVERAGE AGE	
Senate faculty	51 years
Non-faculty academics	48 years
Management/senior professional	49 years
Professional/support staff	43 years
Inactive plan membership/other as of June 30 *(not yet receiving benefits)*[1]	
Total	**120,556 members**
Retiree membership as of June 30 *(receiving benefits)*	
Faculty	8,544 members
Management/senior professional	11,781 members
Professional/support staff	55,667 members
Total retired members	**75,992 members**
AVERAGE RETIREMENT AGE	
Faculty	65 years
Management/senior professional	61 years
Professional/support staff	60 years
AVERAGE SERVICE CREDIT AT RETIREMENT	
Faculty	23 years
Management/senior professional	20 years
Professional/support staff	19 years
AVERAGE ANNUAL UCRP INCOME	
Faculty	$101,676
Management/senior professional	$71,174
Professional/support staff	$42,289
Survivor/beneficiary	**10,324 members**
Disabled	**966 members**
Total (receiving benefits)	**87,282 members**

[1]Includes terminated nonvested members eligible for a refund of Plan accumulations and/or Capital Accumulation Payment (CAP) distribution and members that were employed by Los Alamos National Laboratory (LANL) or Lawrence Livermore National Laboratory (LLNL) prior to the transition of management of these laboratories from UC to holding companies, and are eligible for a CAP payment from UCRP after they separate from employment at LANL or LLNL

PLAN OVERVIEW AND ADMINISTRATION

UCRP is a key component of the comprehensive benefits package offered to employees of the University and its affiliate, UC Law SF. UCRP is a governmental defined benefit pension plan intended to be qualified under §401(a) of the Internal Revenue Code (IRC).

The University's pension program dates back to 1904, with a plan that provided for the purchase of commercial annuities for retiring professors at UC Berkeley and UC San Francisco. The current retirement pension plan was designed in 1961, before the University's participation in Social Security and before the introduction of employee life and disability insurance coverage. Over the years, UCRP has evolved to include provisions for:

- Basic retirement income (includes postretirement survivor benefits) and four alternative monthly payment options;
- Lump sum cashouts in lieu of monthly retirement income (except for the 2013 Tier and 2016 Tier);
- Disability income;
- Death benefits; and
- Preretirement survivor benefits.

Further, in lieu of lifetime retirement benefits, members may choose a refund of their accumulated employee contributions and credited interest.

At June 30, 2023, active UCRP members included 141,416 employees at the University's 10 campuses, five medical centers, Lawrence Berkeley National Laboratory (LBNL) and UC Law SF.

The Vice President, Systemwide Human Resources and Chief Human Resources Officer of the University carries out administrative duties delegated by the President for the day-to-day management and operation of UCRP. These duties include conducting policy research, implementing changes to the UCRP plan document and regulations to preserve UCRP's qualification under the IRC, and overseeing the recordkeeping and accounting functions and the receipt and disbursement of UCRP assets to eligible members, their beneficiaries and survivors.

Summary plan descriptions are updated periodically to reflect legislative, Plan and administrative changes. These booklets are available online on UCnet (https://ucnet.universityofcalifornia.edu/compensation-and-benefits/index.html) or through the local benefits offices.

PLAN MEMBERSHIP

Employees participate in UCRP in one of five plan membership categories/tiers:

- Members of the 1976 Tier
- Members of the 2013 Tier (including the Modified 2013 Tier for certain collectively bargained units)
- Members of the 2016 Tier
- Safety Members (police and firefighters)
- Tier Two Members

Table DBP.3 reflects UCRP plan membership by category for active members and inactive/other members, respectively, over the past 10 years ended June 30.

Table DBP.3: Active and Inactive Plan Membership

Year Ended June 30	1976 Tier	2013 Tier	Modified 2013 Tier	2016 Tier	Safety Members	Tier Two	Total Active	Inactive/ Other Members	Total Active and Inactive/Other Plan Membership
2023	51,823	13,595	42,334	33,286	376	2	141,416	120,556	261,972
2022	55,328	14,351	37,518	27,309	392	2	134,900	112,927	247,827
2021	59,631	16,063	30,373	24,652	376	3	131,098	106,291	237,389
2020	65,353	18,561	27,549	23,062	424	4	134,953	99,156	234,109
2019	69,082	18,874	23,255	16,306	406	4	127,927	100,864	228,791
2018	75,100	21,307	22,672	10,384	412	4	129,879	92,617	222,496
2017	81,270	24,531	18,680	4,494	403	4	129,382	87,052	216,434
2016	88,148	25,450	14,510		399	6	128,513	81,595	210,108
2015	96,270	17,710	9,385		395	8	123,768	75,165	198,933
2014	106,162	9,510	4,482		404	10	120,568	78,229	198,797

Some current 2013 Tier, Modified 2013 Tier and 2016 Tier members also have prior service in other tiers.

PLAN BENEFITS

UCRP paid approximately $4.3 billion in periodic retirement, disability and preretirement survivor benefits during the fiscal year ended June 30, 2023. As of June 30, 2023, there were 87,282 members in pay status, including beneficiaries and survivors. The retirement payments described included cost-of-living adjustments (COLAs) and excluded lump sum cashouts and member withdrawals. Payments to survivors included basic death payments and survivor annuities. Table DBP.4 reflects total benefits paid in each category over the past 10 years.

Table DBP.4: UCRP Benefit Payments[1] *(in thousands of dollars)*

Year Ended June 30	Retirement	Disability	Death & Survivor	Total[2]
2023	$4,157,647	$24,853	$71,116	$4,253,616
2022	3,861,891	26,717	67,856	3,956,464
2021	3,636,152	30,583	64,698	3,731,433
2020	3,431,245	30,181	63,487	3,524,913
2019	3,309,505	30,102	59,039	3,398,646
2018	3,008,236	30,259	58,769	3,097,264
2017	2,800,437	30,470	57,146	2,888,053
2016	2,596,632	30,769	56,212	2,683,613
2015	2,412,393	32,201	53,753	2,498,347
2014	2,240,565	33,411	50,271	2,324,247

[1]Amounts do not include benefit payments to UC-VERIP annuitants.
[2]Does not include nonperiodic member withdrawals (including Capital Accumulation Payment (CAP) distributions and lump sum cashouts).

Table DBP.5 presents the number of UCRP benefit recipients in each category as of June 30 for each of the past 10 years.

Table DBP.5: UCRP Benefit Recipients

Year Ended June 30	Retired Members	Disabled Members	Survivors	Total
2023	75,992	966	10,324	87,282
2022	74,468	1,069	9,929	85,466
2021	72,042	1,197	9,773	83,012
2020	69,898	1,250	9,597	80,745
2019	68,346	1,338	9,400	79,084
2018	65,438	1,386	9,100	75,924
2017	62,753	1,440	8,802	72,995
2016	60,178	1,519	8,380	70,077
2015	57,581	1,620	8,120	67,321
2014	54,714	1,763	7,714	64,191

INVESTMENT AND PROXY POLICIES

The DB Plans bear mortality and investment risk because members' benefits are based on the employer's promise rather than the contributions or plan assets and their earnings available to pay the benefits.

UC Investments has primary responsibility for investing the DB Plan assets consistent with policies established by The Regents. The Regents has fiduciary responsibility for establishing the investment policy for the DB Plans and for overseeing the implementation of that policy.

The assets of the DB Plans are held in trust by The Regents separately from the University's assets and are maintained in a custodial account at State Street Bank & Trust Co. The bank carries insurance against loss of property caused by employee dishonesty, theft, misplacement, damage, distribution or mysterious disappearance.

HISTORICAL INVESTMENT PERFORMANCE

Table DBP.6 presents the historical investment performance for period ended June 30, 2023.

Table DBP.6: Annualized Rates of Return at June 30, 2023 *(shown as percentage)*

	1-Year	3-Year	5-Year	10-Year
UCRP	**10.1%**	**8.6%**	**6.7%**	**7.4%**
Policy Benchmark	11.6	8.6	6.9	7.3
Public Equity	**16.9**	**10.4**	**7.9**	**9.0**
UCRP Public Equity	16.2	10.3	7.3	8.5
Fixed-Income				
Core Fixed-Income	**0.6**	**(1.5)**	**1.9**	**2.3**
Barclays U.S. Aggregate Bond Index	0.2	(1.6)	2.3	2.3
High Yield	**10.2**	**3.3**	**3.3**	**4.4**
Merrill Lynch High Yield Cash Pay Index	8.9	2.9	3.0	4.2
Emerging Market Debt	**7.1**	**(3.0)**	**0.5**	**1.9**
JP Morgan Emerging Markets Bond Index	7.4	(3.1)	0.6	2.8
Other Investments				
Private Equity	**8.2**	**19.1**	**16.0**	**15.6**
Private Equity Benchmark	22.0	16.8	13.8	14.2
Absolute Return	**3.8**	**7.4**	**5.3**	**5.3**
Custom Absolute Return Benchmark	3.7	5.2	3.3	2.7
Real Estate	**(4.2)**	**10.2**	**7.0**	**9.4**
NCREIF-ODCE Index	(10.7)	6.4	5.9	8.2
Real Assets	**4.1**	**8.3**	**6.8**	**4.0**
Private Credit	**6.5**	**8.0**		
Private Credit Benchmark	11.3	6.7		
Cash and Equivalents	**2.7**	**1.3**	**1.7**	**1.3**

SUMMARY STATEMENT

This section contains information about the UCRSP Plans which were created to provide savings incentives and additional retirement security for eligible University employees. The DC Plan was established by resolution of The Regents to accept after-tax contributions effective July 1, 1967, and pretax contributions effective November 1, 1990. The Regents established the SDC Plan effective January 1, 2009, to provide retirement benefits to designated employees of the University and their beneficiaries. The 403(b) Plan, also established by Regental resolution, became effective July 1, 1969. The Regents established the 457(b) Plan effective September 1, 2004. Table RSP.1 presents summarized financial information for the UCRSP Plans for the fiscal year ended June 30, 2023.

Table RSP.1: Summarized Financial Information for Fiscal Year Ended June 30, 2023

Net position as of June 30	$33.6 billion
Net investment income	$3.7 billion
Total contributions	$2.1 billion
Benefit payments and participant withdrawals	($2.2) billion
Program administrative expenses	($3.4) million

Table RSP.2 presents significant statistics relating to the UCRSP Plans and their participants who actively contributed for the plan year ended June 30, 2023. The participant counts in the table reflect the fact that individual participants may have accounts in more than one UCRSP Plan.

Table RSP.2: UCRSP Active Participant Base Statistics for Plan Year Ended June 30, 2023

	Defined Contribution Plan Pretax	Defined Contribution Plan After-tax	Tax-deferred 403(b) Plan	457(b) Deferred Compensation Plan
Active participant accounts:				
Academic Faculty	5,444	5	10,754	5,170
Management/Senior Professional	19,210	241	10,667	4,000
Professional/Support Staff/Other	29,693	5,423	60,982	17,963
UC Law SF (formerly Hastings)	132	1	96	33
Total	**54,479**	**5,670**	**82,499**	**27,166**
Average monthly contribution	$703	$324	$929	$1,121
Average plan account balance	19,420	7,238	111,938	103,284

Demographic information for participants with account balances in each plan, who were not actively contributing during the plan year ended June 30, 2023 (inactive participants) is not available.

PLAN OVERVIEW AND ADMINISTRATION

Benefits from the UCRSP Plans are based on participants' mandatory and voluntary contributions and certain University contributions, plus earnings. While their savings accumulate, employees have the benefit of reductions in their personal income taxes for pretax contributions.

A defined contribution plan was first made available to University employees in 1967. Employees could invest after-tax contributions in two University-managed annuity funds. Two years later, the 403(b) Plan was added for voluntary pretax savings. Over the years, 403(b) Plan features have been expanded to include a diversified mix of investment options, including 11 single, diversified target date investment funds for building retirement savings; 13 core asset class options; a brokerage window and a loan program through which participants can borrow from their 403(b) Plan savings.

The 457(b) Plan was established effective September 1, 2004. Although 457(b) plans have been available for many years, the IRC salary deferral contribution limits were applicable to participants' combined annual contributions to both 457(b) and 403(b) plans, so there was no advantage in offering both. A change in tax law, however, now allows the maximum limit to be applied separately to each kind of plan. Thus, with the addition of the 457(b) Plan, University faculty and staff can double the amount of their voluntary, pretax retirement savings.

All employee salary deferral and after-tax contributions to the UCRSP Plans are deducted from participants' wages. University contributions are made on behalf of academic employees who earn summer term or equivalent salary and eligible senior managers.

The Regents has fiduciary oversight for the UCRSP Plans through the Governance Committee and the Investments Committee, overseeing the administration of the UCRSP Plans carried out by Systemwide Human Resources and the investment management function carried out by UC Investments, respectively.

The Vice President, Systemwide Human Resources and Chief Human Resources Officer serves as the Plan Administrator and oversees policy research, implements regulations to preserve the UCRSP Plans' qualification and/or tax-advantaged status under the IRC and provides administrative services as needed.

The UCRSP Plans' administration and investment management activities are reviewed semiannually by the Retirement Savings Program Advisory Committee.

Fidelity Workplace Services LLC (FWS) acts as the master recordkeeper for the UCRSP Plans. The master recordkeeping and participant services include daily valuation, daily exchanges, processing of distributions, loans and withdrawals, administration and a consolidated recordkeeping platform for the UCRSP Plans and all the funds offered under the UCRSP.

For services rendered in connection with the UCRSP Plans, a per-participant quarterly administrative fee is deducted from each participant's account to cover the costs of plan administrative services such as investor education, accounting, audit, legal and recordkeeping services. The quarterly administrative fee as of June 30, 2023 and June 30, 2022 was $7.75 and $8.25, respectively. There are no front-end or deferred sales loads or other marketing expenses associated with the single, diversified investments and primary asset class options managed by UC Investments. In addition, any fees paid by participants, including loan fees and brokerage window account fees, and any credits that may be awarded for FWS' failure to meet certain performance standards, will be credited to the UCRSP Plans' recordkeeping fee account.

A participant can obtain information on investment management fees charged by an investment option by reviewing the fund prospectus or fund fact sheet available on the FWS website (netbenefits.fidelity.com).

Summary plan descriptions are updated periodically to reflect legislative, UCRSP Plan and administrative changes. These booklets are available online at UCnet (https://ucnet.universityofcalifornia.edu/compensation-and-benefits/index.html) or through the local benefits offices.

CONTRIBUTIONS AND INVESTMENTS

Effective July 1, 2016, UCRP was amended to provide a new tier of pension benefits under the Retirement Choice Program. The new program tier provides eligible University employees hired (or becoming eligible) on or after July 1, 2016 (and certain eligible rehires who return to work after a tier break in service) a choice between two primary retirement benefit options: (1) Pension Choice, which is the UCRP pension benefit with covered compensation for new hires capped at the California Public Employees' Pension Reform Act salary pensionable compensation limit (PEPRA maximum) or (2) Savings Choice, where the primary retirement benefit is provided from contributions to the DC Plan on eligible pay up to the IRC §401(a)(17) compensation limit (IRC limit).

For eligible employees who elect Pension Choice and who are subject to the PEPRA maximum for members coordinated with Social Security, both the University and eligible participants make mandatory DC Plan retirement contributions on a pretax basis for the supplemental benefit to the DC Plan. For designated faculty, the University contributes 5.0 percent on all eligible pay up to the IRC limit. For staff, the University contributes 3.0 percent on eligible pay above the PEPRA maximum up to the IRC limit. The University supplemental contributions are fully vested after five years of service credit. Both designated faculty and staff contribute 7.0 percent on eligible pay above the PEPRA maximum up to the IRC limit.

For Savings Choice, each participant currently contributes 7.0 percent on a pretax basis, and the University currently contributes 8.0 percent. University contributions under Savings Choice are fully vested after one year of employment.

After five years of service, Savings Choice participants are permitted to prospectively elect Pension Choice. The second choice window opens on January 1 of the fifth anniversary of the calendar year in which Savings Choice was initially elected and closes on May 31 five years later. The Pension Choice election becomes effective on the next July 1.

Voluntary DC Plan contributions, which employees make on an after-tax basis, are held in the DC Plan's After-Tax Account. The maximum amount employees may contribute annually as after-tax voluntary contributions is determined by the IRC §415(c) limit. Generally, this amount is the lesser of 100 percent of the participant's adjusted gross University salary or $66,000 for calendar year 2023 and $61,000 for calendar year 2022. This limit takes into account all annual additions, including any pretax employee and University contributions to the DC Plan. After-tax contributions are deducted from net income and also may be invested in and transferred among any of the investment options available to the UCRSP Plans. The University may also contribute to the DC Plan on behalf of eligible senior managers.

403(b) Plan retirement contributions are made on the summer salaries of eligible academic appointees who teach, conduct research or provide administrative service during the summer session or an equivalent term. To be eligible, the academic appointee must hold an academic year appointment, be an active member of UCRP or another defined benefit plan to which the University contributes, be a Savings Choice participant, or be eligible for a primary retirement benefit option under the Retirement Choice Program even if not yet participating. The contribution rate is 7.0 percent of eligible summer salary, of which 3.5 percent is University-paid and 3.5 percent is employee-paid, both on a pretax basis.

The 403(b) Plan includes voluntary employee salary deferral contributions that are made on a pretax basis. Within IRC limits, a 403(b) Plan participant may make contributions as a percentage of their salary or in a flat dollar amount. Contributions to the 403(b) Plan may be invested in and transferred among any of the investment options available to the UCRSP Plans. The University may also contribute on behalf of eligible senior managers.

The 457(b) Plan includes voluntary salary deferral employee contributions. University contributions may also be made for eligible senior managers on a pretax basis. Within IRC limits, a 457(b) Plan participant may make contributions as a percentage of their salary or in a flat dollar amount. Contributions to the 457(b) Plan may be invested in and transferred among any of the investment options available to the UCRSP Plans.

All four UCRSP Plans accept rollovers of pretax distributions from other University-sponsored plans, including lump sum cashouts and Capital Accumulation Payment (CAP) distributions from UCRP, 401(a), 401(k), 403(b) and governmental 457(b) Plans, and from traditional IRAs. In addition, the DC and 403(b) Plans accept direct rollovers of after-tax amounts from 401(a), 401(k) and 403(b) Plans. The 457(b) Plan does not accept rollovers of after-tax distributions.

INVESTMENTS

UC Investments has primary responsibility for selecting appropriate asset classes and specific investment options, establishing investment guidelines and benchmarks against which performance is measured, and making changes in the UC funds menu as it deems appropriate based on its periodic evaluations. UC Investments' selection and monitoring responsibilities do not extend to the mutual funds available through the Fidelity brokerage account option. The Regents has fiduciary responsibility for establishing broad investment policy and overseeing the performance of the investment functions.

Proxy Voting Policy

UC Investments has instructed The Regents' custodian bank to vote all proxies on behalf of The Regents according to its guidelines.

Investment Options

During the plan year ended June 30, 2023, all UCRSP participants had the following investment options:

Tier I: UC Pathway Funds, with specific target dates
Tier II: Main Fund Menu — Bond and Stock Investments
Tier III: BrokerageLink®

Current detailed information regarding the UC funds and other investment options is available on the FWS website (netbenefits.fidelity.com).

UC Funds Investment Performance

Table RSP.3 below presents UC funds investment performance for periods ended June 30, 2023:

Table RSP.3: UC Funds Investment Performance for Periods Ended June 30, 2023 *(shown as percentage)*

	1-Year	3-Year	5-Year
Target Date Funds			
Pathway Income Fund	**6.3%**	**4.6%**	**4.4%**
Policy Benchmark[1]	6.9	4.7	4.6
Pathway Fund 2020	**7.1**	**5.6**	**5.3**
Policy Benchmark[1]	7.6	5.7	5.4
Pathway Fund 2025	**9.1**	**6.0**	**5.8**
Policy Benchmark[1]	9.2	5.9	5.9
Pathway Fund 2030	**11.1**	**6.5**	**6.2**
Policy Benchmark[1]	11.2	6.4	6.3
Pathway Fund 2035	**12.3**	**7.3**	**6.5**
Policy Benchmark[1]	12.3	7.2	6.6
Pathway Fund 2040	**12.8**	**7.9**	**6.7**
Policy Benchmark[1]	12.8	7.8	6.8
Pathway Fund 2045	**13.6**	**8.6**	**7.0**
Policy Benchmark[1]	13.6	8.5	7.0
Pathway Fund 2050	**13.8**	**8.9**	**7.0**
Policy Benchmark[1]	13.7	8.8	7.0
Pathway Fund 2055	**13.8**	**8.9**	**7.0**
Policy Benchmark[1]	13.7	8.8	7.0
Pathway Fund 2060	**13.8**	**8.9**	**7.0**
Policy Benchmark[1]	13.7	8.8	7.0
Pathway Fund 2065	**13.8**	**8.9**	**N/A**
Policy Benchmark[1]	13.7	8.8	N/A
U.S. Large Equity			
UC Domestic Equity Index Fund	**19.2**	**14.0**	**11.6**
Russell 3000 TF Index	19.1	13.9	11.4
UC Social Equity Index Fund	**20.4**	**13.3**	**12.5**
Spliced Social Index	20.5	13.4	12.5

Table RSP.3: UC Funds Investment Performance for Periods Ended June 30, 2023 *(shown as percentage)*

	1-Year	3-Year	5-Year
U.S. Small/Mid Cap Equity			
UC Domestic Small Cap Index Fund	**12.7%**	**11.1%**	**4.8%**
Russell 2000 Tobacco Free Index	12.3	10.8	4.5
Global/World Ex-US Equity			
UC International Equity Index Fund	**16.6**	**8.9**	**4.5**
Policy Benchmark[1]	16.4	8.9	4.2
Global Equity Ex-Fossil Fuel			
UC Global Equity Ex-Fossil Fuel Fund	**16.7**		
Policy Benchmark[1]	16.2		
Capital Preservation			
Savings Fund	**0.7**	**0.6**	**1.1**
2-Year U.S. Treasury Notes Inc Ret Index	4.0	1.7	1.8
Inflation Sensitive			
UC Short-Term TIPS Fund	**0.1**	**2.7**	**2.7**
Barclays 1-3-Year U.S. TIPS Index		2.6	2.6
UC TIPS Fund	**(1.6)**		**2.5**
Barclays U.S. TIPS Index	(1.4)	(0.1)	2.5
Diversified Fixed-Income			
UC Bond Fund	**(1.2)**	**(3.9)**	**0.7**
Barclays Aggregate Fixed-Income Index	(1.0)	(4.0)	0.8
New Large Equity			
UC Growth Company Fund	**33.7**	**14.2**	**17.2**
Russell 3000 Growth Index	26.6	13.2	14.4
World Ex-U.S. Equity			
UC Diversified Intl. Fund	**19.3**	**6.4**	**6.0**
MSCI EAFE Index	18.8	8.9	4.4
UC Emerging Markets Fund	**2.6**	**3.0**	**0.8**
MSCI Emerging Markets Index	2.6	2.6	1.1
Real Estate			
UC Real Estate Fund	**(0.1)**	**9.0**	**4.6**
REIT Spliced Index	(0.1)	8.9	4.4

[1]Blend of the benchmarks of the individual underlying funds based on holdings according to the asset allocation mix.

TAX-DEFERRED 403(b) PLAN LOAN PROGRAM

As permitted by IRC §72(p), active participants with a 403(b) Plan balance of at least $1,000 may generally borrow from their total 403(b) Plan account balance without incurring taxes or penalties. Certain limitations apply to the available borrowing amount depending on account balance, previous loan activity and highest outstanding loan balance within the past 12 months.

The 403(b) Plan Loan Program offers short-term general-purpose loans with repayment terms of five years or less, and long-term principal-residence loans with repayment terms of up to 15 years. A participant may have one general-purpose loan and one principal-residence loan outstanding at one time but may not take out more than one loan within a 12-month period. Monthly repayments of principal and interest are credited proportionately to the investment fund(s) according to the current 403(b) Plan contribution investment mix established by the participant. A nonrefundable loan initiation fee of $35 is deducted from the 403(b) Plan account balance at the end of the calendar quarter in which the loan is taken. An annual maintenance fee of $15 is deducted ($3.75 per calendar quarter) from the participant's 403(b) Plan account balance.

The interest rate is fixed at the time the loan is granted and equals the prevailing bank Prime Rate as published by The Wall Street Journal plus 1.0 percent. The Loan Program interest rate for new loans as of June 30, 2023 and June 30, 2022 was 9.25 percent and 5.00 percent, respectively.

Table RSP.4 reflects participant loan information for the 10 years ended June 30:

Table RSP.4: Tax-Deferred 403(b) Plan Loan Program

Year Ended June 30	Number of Outstanding Loans	Aggregate Loan Balance *($ in millions)*	Number of New Loans	Aggregate Loan Balance *($ in millions)*
2023	20,206	$202.3	6,247	$85.1
2022	19,683	195.7	6,104	85.5
2021	19,644	189.0	4,658	72.0
2020	20,082	194.8	5,619	78.1
2019	19,802	193.8	6,131	81.7
2018	19,453	184.4	6,148	77.3
2017	18,572	180.5	6,116	74.1
2016	18,707	178.7	5,839	71.9
2015	18,473	176.2	5,876	73.5
2014	18,194	170.2	6,003	75.4


Oh, I was about to
say.

Management's Discussion and Analysis *(Unaudited)*

The University of California Retirement System (UCRS) comprises two defined benefit pension plans (DB Plans) and four defined contribution plans (UCRSP). The objective of this Management's Discussion and Analysis is to help readers of UCRS' financial statements better understand the financial position and operating activities for the fiscal year ended June 30, 2023, with selected comparative information for the years ended June 30, 2022 and 2021. This discussion should be read in conjunction with the financial statements and the notes to the financial statements. Unless otherwise indicated, years (2021, 2022, 2023, etc.) in this discussion refer to the fiscal years ended June 30.

This discussion and analysis is intended to serve as an introduction to UCRS' financial statements, which comprise the following:

- Statements of Fiduciary Net Position
- Statements of Changes in Fiduciary Net Position
- Notes to Financial Statements
- Required Supplementary Information
- Notes to Required Supplementary Information

The Statements of Fiduciary Net Position present information on UCRS' assets and liabilities and the resulting net position for pension benefits. These statements reflect UCRS' investments at fair value, along with cash and short-term investments, receivables and other assets and liabilities.

The Statements of Changes in Fiduciary Net Position present information showing how UCRS' net position for pension benefits changed during the years ended June 30, 2023 and 2022. They reflect contributions along with investment income or losses during the period from investing and securities lending activities. Deductions for retirement benefits, withdrawals, cost-of-living adjustments, survivor, disability and death benefits and administrative expenses are also presented.

The Notes to Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements. The Required Supplementary Information (RSI) contains schedules with actuarial information, the net pension liability and contributions for the University of California Retirement Plan (UCRP), and the Voluntary Early Retirement Incentive Program (UC-VERIP). The Notes to the RSI provide additional information.

The Vice President, Systemwide Human Resources and Chief Human Resources Officer has primary fiduciary responsibility for UCRP administrative functions, and UC Investments has primary fiduciary responsibility for implementing UCRP investment policy. The Regents determines investment policy and retains fiduciary responsibility for investment and administrative functions for the UCRS Plans.

Financial Highlights, Results and Analysis

The UCRS Plans provide retirement benefits to University employees. Plan benefits are funded by member, participant and University contributions and by investment income. Below in Tables MDA.1 and MDA.2 are condensed statements of net position and changes in net position for the UCRS Plans:

Table MDA.1: Condensed Statements of Net Position *(in thousands of dollars)*

June 30	DB Plans 2023	DB Plans 2022	DB Plans 2021	UCRSP Plans 2023	UCRSP Plans 2022	UCRSP Plans 2021
Assets						
Investments (including STIP)	$87,744,802	$81,530,003	$92,105,197	$31,054,413	$27,609,798	$32,471,296
Investment of cash collateral	5,104,622	7,204,653	5,470,316	3,517,138	3,196,346	3,898,876
Participants' interests in mutual funds				2,372,880	2,012,040	2,406,949
Participant 403(b) Plan loans				202,344	195,668	188,974
Receivables	1,063,462	814,443	600,096	133,319	148,588	47,452
Total Assets	**93,912,886**	**89,549,099**	**98,175,609**	**37,280,094**	**33,162,440**	**39,013,547**
Liabilities						
Payable for securities purchased, member withdrawals, refunds and other payables	545,491	916,395	879,291	181,981	32,387	366,773
Collateral held for securities lending	5,104,621	7,204,652	5,470,316	3,517,120	3,196,347	3,898,876
Total Liabilities	**5,650,112**	**8,121,047**	**6,349,607**	**3,699,101**	**3,228,734**	**4,265,649**
Net Position	**$88,262,774**	**$81,428,052**	**$91,826,002**	**$33,580,993**	**$29,933,706**	**$34,747,898**

Table MDA.2: Condensed Statements of Changes in Net Position *(in thousands of dollars)*

Year Ended June 30	DB Plans 2023	DB Plans 2022	DB Plans 2021	UCRSP Plans 2023	UCRSP Plans 2022	UCRSP Plans 2021
Additions						
University and state contributions	$2,770,474	$2,892,621	$2,705,058	$156,700	$99,943	$102,705
Member and participant contributions	1,206,097	1,105,405	1,053,939	1,990,097	1,911,542	1,754,149
Investment income (loss)	7,702,229	(9,773,728)	21,457,573	3,678,809	(4,898,496)	7,304,010
Total Additions, net	**11,678,800**	**(5,775,702)**	**25,216,570**	**5,825,606**	**(2,887,011)**	**9,160,864**
Deductions						
Retirement, cost-of-living adjustments, lump sum cashouts, survivor, disability and death payments	4,626,420	4,363,593	4,144,612			
Member withdrawals	141,026	173,892	159,048			
UCRSP benefit payments and participant withdrawals				2,174,893	1,923,293	1,675,914
Administrative and other expenses	76,632	84,763	64,830	3,426	3,888	4,066
Total Deductions	**4,844,078**	**4,622,248**	**4,368,490**	**2,178,319**	**1,927,181**	**1,679,980**
Change in net position	**6,834,722**	**(10,397,950)**	**20,848,080**	**3,647,287**	**(4,814,192)**	**7,480,884**
Net Position						
Beginning of Year	81,428,052	91,826,002	70,977,922	29,933,706	34,747,898	27,267,014
End of Year	**$88,262,774**	**$81,428,052**	**$91,826,002**	**$33,580,993**	**$29,933,706**	**$34,747,898**

Defined Benefit Plans

The DB Plans' net position at June 30, 2023 was $88.3 billion compared to $81.4 billion at June 30, 2022 and $91.8 billion at June 30, 2021. The net position is available to meet the DB Plans' ongoing obligations to plan members, retirees and their beneficiaries. The net position of the DB Plans increased by $6.8 billion, or 8.4 percent, during the fiscal year ended June 30, 2023 compared to a decrease of ($10.4) billion, or (11.3) percent, during the fiscal year ended June 30, 2022 and an increase of $20.8 billion, or 29.4 percent, during the fiscal year ended June 30, 2021.

The net pension liability is measured as the total pension liability, less the DB Plans' fiduciary net position. The total pension liability is calculated by discounting projected benefit payments based on the benefit terms and legal agreements existing at the DB Plans' plan 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. UCRP is projected to have assets sufficient to make benefit payments for current members for all future years.

The net pension liability for the DB Plans was $20.3 billion at June 30, 2023, $21.2 billion at June 30, 2022 and $5.9 billion at June 30, 2021. The decrease in net pension liability for the fiscal year ended June 30, 2023 of ($0.9) billion was primarily due to the 9.5 percent rate of return on market value of assets for the fiscal year ended June 30, 2023, which was greater than the expected rate of return of 6.75 percent. The increase in net pension liability for the fiscal year ended June 30, 2022 of $15.4 billion was primarily due to the (10.6) percent rate of return on market value of assets for the fiscal year ended June 30, 2022, which was significantly less than the expected rate of return of 6.75 percent. The ratio of plan net position to total pension liability was 81.2 percent, 79.3 percent and 93.9 percent at June 30, 2023, 2022 and 2021, respectively. For June 30, 2023, this indicates that, for every dollar of total pension liability, plan assets of $0.81 are available to cover such obligations as compared to $0.79 at June 30, 2022 and $0.94 at June 30, 2021.

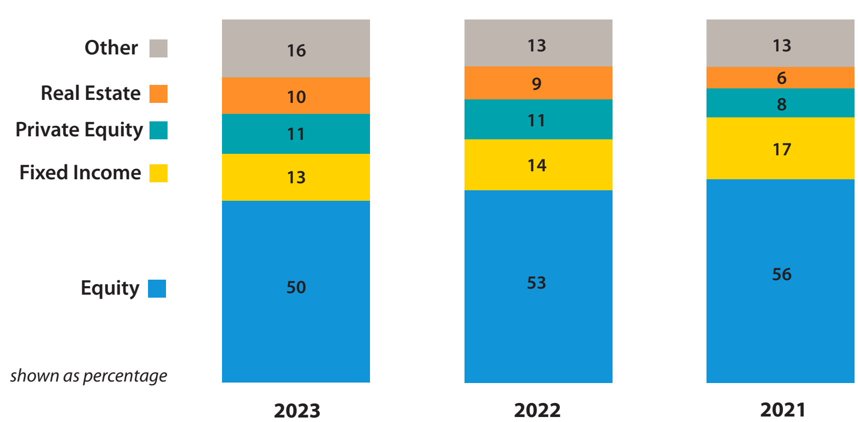
An analysis of the funding progress and University contributions and a discussion of actuarial assumptions and methods is set forth in the required supplementary information section of the financial statements. While all of the DB Plans' assets are available to pay any member's benefits, for UCRP, assets and liabilities for the campus and medical center segment are tracked internally and separately from the Department of Energy (DOE) national laboratory segments, and the DOE has a continuing obligation to fund UCRP benefits for the retirees of the national laboratory segments.

Investments

The DB Plans' total investment rate of return, net of fees, was 10.1 percent for the fiscal year ended June 30, 2023, (10.8) percent for the fiscal year ended June 30, 2022 and 30.5 percent for the fiscal year ended June 30, 2021, compared to the DB Plans' total fund benchmark returns of 11.6 percent, (10.8) percent and 28.5 percent, respectively.

The asset allocation for the DB Plans' investment portfolio as of June 30, 2023, 2022 and 2021 is shown below in Display 1:

Display 1: Asset Allocation for the DB Plans' Investment Portfolio

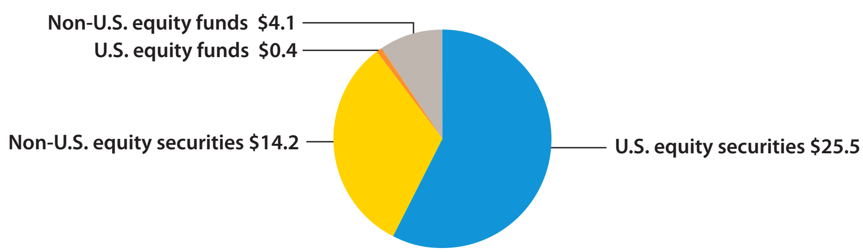


The DB Plans' investment portfolio has a standalone volatility risk measure of 13.4 percent. Approximately 89.5 percent of the risk measure is explained by global macroeconomic growth risk factors represented by broad, developed market equity index returns. Other risk factors include real interest rates, inflation, long-term and short-term fixed-income returns, commodities and emerging markets represented by benchmark indexes relative to the underlying fixed income and other asset classes. The DB Plans' investment performance is attributed to these average weighted asset class percentages: 51.5 percent for public equities, 14.0 percent for fixed income, 29.9 percent for alternative and other investments and 4.6 percent for cash.

Equity Portfolio

The $44.2 billion public equity portfolio, including commingled equity funds, at June 30, 2023 is diversified across multiple strategic global economic and industry sectors within actively managed accounts of equity securities and passively managed index funds. Of the equity portfolio, $39.7 billion, or 89.8 percent, was invested in U.S. and non-U.S. equity securities and $4.5 billion, or 10.2 percent, was invested in U.S. and non-U.S. equity commingled funds. U.S. equity securities and commingled funds totaled $25.9 billion, or 58.6 percent, and non-U.S. equity securities and commingled funds totaled $18.3 billion, or 41.4 percent. The relative magnitudes of the investments in these sectors are shown below in Display 2.

Display 2: Equity Portfolio

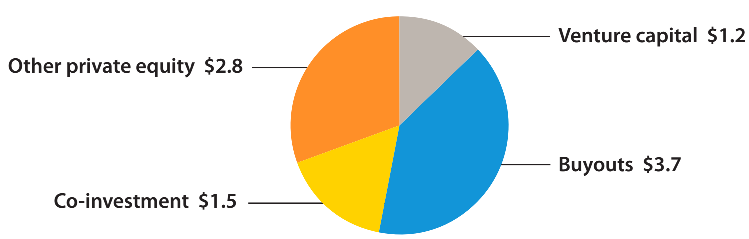


2023 *in billions of dollars*

Private Equity Portfolio

The $9.2 billion private equity portfolio at June 30, 2023 is invested in venture capital partnerships, buyout funds and international private equity. The private equity portfolio includes $1.2 billion in venture capital, $3.7 billion in buyout funds, $1.5 billion in co-investment and $2.8 billion in other private equity investments. The private equity portfolio return was 8.2 percent for the fiscal year ended June 30, 2023, 0.8 percent for the fiscal year ended June 30, 2022 and 54.7 percent for the fiscal year ended June 30, 2021. The relative magnitudes of the investments in these private equity sources are shown below in Display 3.

Display 3: Private Equity Portfolio



2023 *in billions of dollars*

Fixed Income Portfolio

The fixed-income portfolio of $11.6 billion at June 30, 2023 is invested primarily in high-quality, call-protected, global bonds. The fixed-income portfolio is comprised of U.S. government-guaranteed, fixed-income securities of $4.6 billion, or 39.1 percent and other U.S. dollar-denominated, fixed-income securities of $7.0 billion, or 60.9 percent.

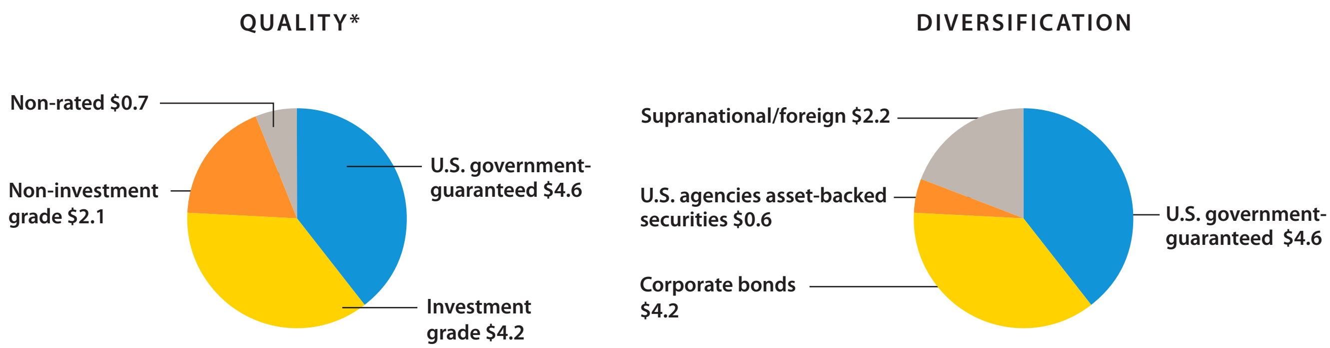
At June 30, 2023, the DB Plans held $11.6 billion in their fixed-income portfolio, compared to $11.2 billion at June 30, 2022 and $16.0 billion at June 30, 2021. The fixed-income portfolio (excluding the TIPS portfolio) earned a total return of 0.6 percent for the fiscal year ended June 30, 2023, (5.2) percent for the fiscal year ended June 30, 2022 and 10.0 percent for the fiscal year ended June 30, 2021, compared to the DB Plans' fixed-income policy benchmark returns of 0.2 percent, (5.2) percent and 40.0 percent, respectively.

As of June 30, 2021, TIPS were no longer part of the DB Plans' fixed income portfolio. The TIPS portfolio earned a total return of 6.7 percent for the fiscal year ended June 30, 2021, compared to the DB Plan's TIPS policy benchmark return of 6.5 percent for that fiscal year.

Approximately 39.1 percent of the $11.6 billion fixed-income portfolio consists of U.S. government-guaranteed securities, and 60.9 percent of the portfolio consists of high-quality corporate issues rated investment-grade or better and government agency and asset-backed securities. There were no U.S. or non-U.S. bond funds or other lower-quality fixed-income securities in this year's portfolio.

The quality and diversification of fixed-income portfolio investments are allocated among the sectors illustrated below in Display 4.

Display 4: Fixed Income Portfolio - Quality & Diversification



2023 *in billions of dollars*

**Credit Ratings for U.S. Treasury Obligations: Guaranteed by the full faith and credit of the United States and rated AAA by Moody's and AA+ by Standard & Poor's.*

Standard & Poor's (S&P):

- *Investment grade: AAA through BBB rated considered extremely strong capacity to adequate capacity to meet financial commitments.*
- *Non-investment grade: BB through CCC or below considered less vulnerable in the near-term to currently highly vulnerable.*

Alternative Investments

At June 30, 2023, the DB Plans held $8.4 billion in institutional real estate investments compared to $7.0 billion at June 30, 2022 and $5.5 billion at June 30, 2021. The institutional real estate portfolio earned a total return of (4.2) percent for the fiscal year ended June 30, 2023, 29.1 percent for the fiscal year ended June 30, 2022 and 8.2 percent for the fiscal year ended June 30, 2021, compared to policy benchmark returns of (10.7) percent, 28.3 percent and 5.2 percent, respectively.

At June 30, 2023, the DB Plans also held $1.8 billion in absolute return diversified investments compared to $2.8 billion at June 30, 2022 and $4.7 billion at June 30, 2021. The absolute return diversified investments earned a total return of 3.8 percent for the fiscal year ended June 30, 2023, (2.1) percent for the fiscal year ended June 30, 2022 and 21.8 percent for the fiscal year ended June 30, 2021 compared to policy benchmark returns of 3.7 percent, (5.5) percent and 18.5 percent, respectively.

Separately, at June 30, 2023, the DB Plans held $4.0 billion in real asset investments compared to $3.3 billion at June 30, 2022 and $3.2 billion at June 30, 2021. The real asset investments earned a total return of 4.1 percent for the fiscal year ended June 30, 2023 compared to 9.4 percent for the fiscal year ended June 30, 2022 and 11.5 percent for the fiscal year ended June 30, 2021.

For liquidity purposes, the DB Plans held $4.8 billion, $2.7 billion, and $3.3 billion in money market funds and the UC Short Term Investment Pool (STIP) at June 30, 2023, 2022 and 2021, respectively.

UCRSP PLANS

The UCRSP Plans provide savings incentives and the opportunity for additional retirement security for all eligible University of California employees. The University makes contributions to the UCRSP for Savings Choice participants, on the summer salaries of eligible academic appointees who teach, conduct research or provide administrative service during the summer session or an equivalent term, supplemental contributions on behalf of Pension Choice members and eligible senior managers. Participants' interests in the UCRSP Plans from contributions and investment income are fully and immediately vested. University contributions for Savings Choice participants vest after one year of employment.

The UCRSP's net position at June 30, 2023 amounted to $33.6 billion compared to $29.9 billion at June 30, 2022 and $34.7 billion at June 30, 2021. Additions to the UCRSP's net position include contributions, rollovers and investment income. Participant and University contributions and rollovers amounted to $2.1 billion for the fiscal year ended June 30, 2023, $2.0 billion for the fiscal year ended June 30, 2022 and $1.9 billion for the fiscal year ended June 30, 2021.

The UCRSP recognized net investment income of $3.7 billion for the fiscal year ended June 30, 2023 compared to net investment loss of ($4.9) billion for the fiscal year ended June 30, 2022 and net investment income of $7.3 billion for the fiscal year ended June 30, 2021. UCRSP Plan participants' investment selections influence the net investment income earned by the investment funds in the UCRSP Plans.

Deductions from the UCRSP's net position include benefit payments to participants, participant withdrawals and administrative expenses. Deductions were $2.2 billion, $1.9 billion and $1.7 billion for the fiscal years ended June 30, 2023, 2022 and 2021, respectively. Deductions fluctuate based upon withdrawals due to retirements and other factors including minimum required distributions and rollovers out of the UCRSP Plans.

The investments of the UCRSP are available to the securities lending program as a means to augment income. Cash collateral fluctuates in response to changes in demand from borrowers and the availability of securities. The UCRSP's investment of cash collateral received for securities lending totaled $3.5 billion at June 30, 2023, compared to $3.2 billion at June 30, 2022 and $3.9 billion at June 30, 2021. Securities lending activity contributed $4.5 million in net investment income, after fees and rebates, for the fiscal year ended June 30, 2023, compared to $10.9 million for the fiscal year ended June 30, 2022 and $11.9 million for the fiscal year ended June 30, 2021.


PAUL

Report of Independent Auditors

TO THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Opinions

We have audited the accompanying financial statements of the Defined Benefit Plans (DB Plans) and the University of California Retirement Savings Program (UCRSP Plans) (hereafter collectively referred to as the "Plans"), which comprise the statements of fiduciary net position as of June 30, 2023 and 2022, and the related statements of changes in fiduciary net position for the years then ended, including the related notes (collectively referred to as the "basic financial statements").

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the respective fiduciary net position of the Defined Benefit Plans (DB Plans) and the University of California Retirement Savings Program (UCRSP Plans) as of June 30, 2023 and 2022, and the respective changes in their fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plans and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management 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, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

PricewaterhouseCoopers LLP, 405 Howard Street, Suite 600, San Francisco, CA 94105
T: (415) 498 5000, www.pwc.com/us

In performing an audit in accordance with US GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audits.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audits 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 Plans' internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audits, significant audit findings, and certain internal control-related matters that we identified during the audits.

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the accompanying management's discussion and analysis on pages 16 through 21 and the required supplementary information on pages 54 through 58 be presented to supplement each Plan's basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements of the Plans, 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 of each Plan in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental 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.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises pages 1 through 14 but does not include the basic financial statements and our auditors' report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audits of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

PricewaterhouseCoopers LLP

San Francisco, California
November 17, 2023

UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM

STATEMENTS OF FIDUCIARY NET POSITION

At June 30, 2023 and 2022 (in thousands of dollars)

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Assets				
Investments, at fair value:				
Equity securities	$39,683,037	$35,700,106	$18,608,749	$14,742,018
Fixed-income: U.S. government	4,651,576	3,609,184	3,301,784	3,676,470
Fixed-income: Other U.S. dollar-denominated	6,993,247	7,574,456	4,986,433	5,590,345
Commingled funds	33,660,626	30,451,929	2,980,766	2,587,039
Real estate	1,242,310	1,811,614		
Publicly traded real estate investment trusts	953,733	1,793,774	1,173,180	1,016,967
Other investments	548,539	576,364		
Investment derivatives	11,734	12,576	3,501	(3,041)
Total investments	**87,744,802**	**81,530,003**	**31,054,413**	**27,609,798**
Investment of cash collateral	5,104,622	7,204,653	3,517,138	3,196,346
Participants' interests in mutual funds			2,372,880	2,012,040
Participant 403(b) Plan loans			202,344	195,668
Receivables:				
Contributions	69,515	194,130	10	10
Interest and dividends	200,515	51,504	22,722	24,677
Securities sales and other	793,432	568,809	110,587	123,901
Total receivables	**1,063,462**	**814,443**	**133,319**	**148,588**
Total assets	**93,912,886**	**89,549,099**	**37,280,094**	**33,162,440**
Liabilities				
Payables for securities purchased	384,188	162,181	178,609	28,438
Member withdrawals, refunds and other payables	161,303	754,214	3,372	3,949
Collateral held for securities lending	5,104,621	7,204,652	3,517,120	3,196,347
Total liabilities	**5,650,112**	**8,121,047**	**3,699,101**	**3,228,734**
Net position	**$88,262,774**	**$81,428,052**	**$33,580,993**	**$29,933,706**

See accompanying notes to the financial statements.

UNIVERSITY OF CALIFORNIA RETIREMENT SYSTEM

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

For the years ended June 30, 2023 and 2022 (in thousands of dollars)

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Additions				
Contributions:				
University	$2,770,474	$2,892,621	$156,700	$99,943
Members	1,206,097	1,105,405		
Participants			1,990,097	1,911,542
Total contributions	**3,976,571**	**3,998,026**	**2,146,797**	**2,011,485**
Investment income:				
Net appreciation (depreciation) in fair value of investments	2,791,387	(10,837,409)	3,017,062	(5,612,919)
Interest, dividends and other investment income	4,905,390	1,058,585	657,211	703,514
Securities lending income	215,999	21,679	120,929	19,261
Less: securities lending fees and rebates	(210,547)	(16,583)	(116,393)	(8,352)
Total investment income (loss)	**7,702,229**	**(9,773,728)**	**3,678,809**	**(4,898,496)**
Total additions, net	**11,678,800**	**(5,775,702)**	**5,825,606**	**(2,887,011)**
Deductions				
Benefit payments and withdrawals:				
Retirement payments	3,363,060	3,181,330		
Member withdrawals	141,026	173,892		
Cost-of-living adjustments	797,574	683,885		
Lump sum cashouts	369,817	403,805		
Preretirement survivor payments	59,756	58,363		
Disability payments	24,853	26,717		
Death payments	11,360	9,493		
UCRSP benefit payments and participant withdrawals			2,174,893	1,923,293
Total benefit payments and withdrawals	**4,767,446**	**4,537,485**	**2,174,893**	**1,923,293**
Expenses:				
Administrative and other expenses	76,632	84,763	3,426	3,888
Total expenses	**76,632**	**84,763**	**3,426**	**3,888**
Total deductions	**4,844,078**	**4,622,248**	**2,178,319**	**1,927,181**
Change in net position	**6,834,722**	**(10,397,950)**	**3,647,287**	**(4,814,192)**
Net position				
Beginning of year	81,428,052	91,826,002	29,933,706	34,747,898
End of year	**$88,262,774**	**$81,428,052**	**$33,580,993**	**$29,933,706**

See accompanying notes to financial statements.

Notes to Financial Statements

Years ended June 30, 2023 and 2022

1. DESCRIPTION OF THE PLANS AND SIGNIFICANT ACCOUNTING POLICIES

General Introduction

The University of California Retirement System (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 (DB Plans) include the University of California Retirement Plan (UCRP) for members and the Voluntary Early Retirement Incentive Plan (UC-VERIP) for certain University employees that were members of the California Public Employees' Retirement System (CalPERS) who elected early retirement. The University of California Retirement Savings Program (UCRSP) includes four defined contribution plans (collectively referred to as the UCRSP Plans): 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). The Regents of the University of California (The Regents) acts as the trustee associated with each of the UCRS Plans, with the Office of the Chief Investment Officer (UC Investments) of The Regents acting as custodian. Administrative authority with respect to the UCRS Plans is vested in the President of the University (the President) as plan administrator, and the President has delegated that authority within UCRS, under University policies and procedures, to the Vice President, Systemwide Human Resources and Chief Human Resources Officer.

Defined Benefit Plans

University of California Retirement Plan

UCRP is a single-employer defined benefit pension plan providing lifetime retirement income, disability protection, death benefits and postretirement and preretirement survivor benefits to certain eligible employees of the University and its affiliate, UC College of the Law, San Francisco (UC Law SF), formerly Hastings College of the Law, and their survivors and beneficiaries.

UCRP was established in 1961 and, prior to July 1, 2016, membership was required for all employees appointed to work at least 50 percent time for one year or more or for an indefinite period. Certain academic employees were also eligible for UCRP membership after working 1,000 hours (750 hours for the Non-Senate Instructional Unit) in a continuous 12-month period. Under the Retirement Choice Program, effective July 1, 2016, employees could elect to participate in Savings Choice in lieu of UCRP membership.

Generally, an employee is required to work for five years in order to become entitled to UCRP benefits. The amount of the monthly 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 eligible highest average plan compensation over a 36-month period. The annual benefit is also subject to limitations established by Internal Revenue Code (IRC) §415. Annual cost-of-living adjustments (COLAs) are made to monthly retirement benefits according to a specified formula based on the Consumer Price Index (CPI). Ad hoc COLAs may be granted subject to funding availability. Service accrued by a member with coordinated or noncoordinated benefits before July 1, 2013, is deemed to have been accrued in the 1976 Tier. If the member continues as an eligible employee after June 30, 2013, the member continues to accrue in the 1976 Tier until they incur a break of service.

For the period from July 1, 1987 to July 1, 1990, qualifying UCRP members could elect to participate in a noncontributory UCRP membership known as Tier Two. Tier Two provides a lower level of retirement income, disability protection and survivor benefits, calculated using specific Tier Two formulas based on the member's covered compensation times age factor times years of service credit.

Effective July 1, 2013, UCRP was amended to provide a new tier of pension benefits applicable to employees hired, or who returned to work after a tier break in service, on or after July 1, 2013 (2013 Tier). In the 2013 Tier, the earliest retirement age was increased from 50 to 55 and the age for the maximum age factor was increased to 65. There are no lump sum cashouts, inactive member COLAs or subsidized survivor annuities for spouses and domestic partners for 2013 Tier members.

Effective July 1, 2016, UCRP was amended to provide a new tier of pension benefits under the Retirement Choice Program. The new program tier provides eligible University employees hired (or becoming eligible) on or after July 1, 2016 (and certain eligible rehires who return to work after a tier break in service) a choice between two primary retirement benefits options: (1) Pension Choice, which is the UCRP pension benefit with covered compensation for new hires capped at the California Public Employees' Pension Reform Act of 2013 (PEPRA) salary pensionable compensation limit (PEPRA maximum), $134,974 and $128,059 for the fiscal years ended June 30, 2023 and June 30, 2022, respectively, plus for new hires subject to the PEPRA maximum, a supplemental benefit to the DC Plan on eligible pay up to the IRC §401(a)(17) compensation limit (IRC compensation limit), $305,000 and $290,000 for fiscal years ended June 30, 2023 and June 30, 2022, respectively; or (2) Savings Choice, which is a defined contribution plan option on eligible pay up to the IRC compensation limit.

On behalf of employees who participate in Savings Choice, the University also contributes into UCRP 6.0 percent and 7.0 percent for the fiscal years ended June 30, 2023 and June 30, 2022, respectively, on eligible pay up to the IRC compensation limit.

Members' contributions are recorded separately and accrue interest at a rate determined by The Regents. Currently, member contributions accrue interest at an annual compounded rate of 6.0 percent, credited monthly. Upon termination, members may elect a refund of their contributions plus accumulated interest (and their Capital Accumulation Payment (CAP) balance as described below, if any). Vested terminated members who are eligible to retire may also elect a lump sum payment (excluding 2013 Tier and 2016 Tier) equal to the actuarially equivalent present value of their accrued benefits. Both actions forfeit the member's right to monthly benefits based on the same service credit.

From July 1, 1966, to June 30, 1971, UCRP contributions were required only from members who had reached age 30 and had at least one year of service. Member plan accounts designated Plan 02 were established to keep track of contributions that would have been made had a member been contributing during this period. Future retirement benefits for members with Plan 02 accounts are reduced to account for the contributions that were not made, unless the member repays the Plan 02 balance or attains a benefit percentage equal to 100 percent, based on service credit excluding the noncontributory period.

Certain UCRP members may also have a balance in UCRP consisting of CAP allocations, which were credited on behalf of eligible members on various dates in 1992, 1993, 1994, 2002 and 2003. Provided to supplement basic UCRP benefits, the allocations were equal to a percentage of the eligible member's covered compensation paid during the specified period. The CAP balance is generally payable in a lump sum at retirement or separation from service and includes interest credited monthly equal to an annual percentage yield (APY) of 8.5 percent for allocations made in 1992, 1993 and 1994. For allocations made in 2002 and 2003, the interest credited monthly is equal to the discount rate component of the actuarial equivalence basis under UCRP, which equated to an APY of 6.75 percent for the fiscal years ended June 30, 2023 and June 30, 2022. The APY applied to the 2002 and 2003 allocation will vary according to changes in the discount rate.

Table 1 below shows UCRP membership at June 30, 2023 and 2022.

Table 1: UCRP Membership

	2023	2022
Retirees and beneficiaries receiving benefits	87,282	85,466
Inactive plan members entitled to, but not yet receiving benefits	120,556	112,927
Active plan members:		
Vested	85,487	83,619
Nonvested	55,929	51,281
Total active plan members	141,416	134,900
Total membership	**349,254**	**333,293**

Employer contributions are made to UCRP on behalf of all members. The annual rate of University contributions is established pursuant to The Regents' funding policy.

University of California Voluntary Early Retirement Incentive Program

Some University employees became members of the California Public Employees' Retirement System (CalPERS) before UCRP was established and continued to participate in CalPERS during their University employment after UCRP was established. The University of California contributed to CalPERS on behalf of these members. The UC-VERIP is a single-employer defined benefit pension plan established by the University that provides lifetime supplemental retirement income and survivor benefits to UC-VERIP members who elected early retirement under CalPERS.

Generally, to participate in the UC-VERIP, an eligible employee was required to elect concurrent retirement under CalPERS and the UC-VERIP effective October 1, 1991, and must have had a combined age plus service credit equal to 80 years as of September 30, 1991, if classified as a Qualified Academic Senate Faculty Member, or equal to 75 years if not classified as a Qualified Academic Senate Faculty Member. Of 1,579 eligible employees, 879 elected to retire under the UC-VERIP. As of June 30, 2023 and 2022, there were 296 and 334 retirees and beneficiaries, respectively, receiving benefits under the UC-VERIP. After eligible employees elected to participate, the UC-VERIP was closed to future participation.

No contributions are required as long as the UC-VERIP remains fully funded under the actuarial assumptions used in the actuarial valuation.

Effective July 1, 2011, the UC-VERIP was amended, subject to funding availability, to provide annual COLAs to monthly benefits according to the formula based on the Consumer Price Index that is used for UCRP. Ad hoc COLAs may also be granted subject to funding availability.

University of California Retirement Savings Program

UC Investments oversees the investment choices of the UCRSP. The fund choices are segmented into Tiers I, II and III. Participants may direct investment of their contributions and transfer their UCRSP plan accumulations to any of these funds. Participants' interests in the UCRSP plans are fully and immediately vested and are distributable at death, retirement or termination of employment. University contributions for Savings Choice participants vest after one year of employment and University contributions under Pension Choice are fully vested after five years of service credit. Participants may elect to defer distribution until age 72 (age 70 ½ for those born prior to July 1, 1949), or separation from service, whichever is later, in accordance with IRC §401(a)(9) minimum distribution requirements. In-service withdrawals are permitted in conformance with the IRC regulations applicable to each plan.

Tier I — Target Date Funds:

UC Pathway Funds:

· Income, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060 and 2065

Tier II — Main Fund Menu — Bond and Stock Investments

Bond Investments:

· UC Savings Fund
· UC Bond Fund
· UC Short-Term TIPS Fund
· UC TIPS Fund

Domestic Stock Investments:

· UC Domestic Equity Index Fund
· UC Growth Company Fund
· UC Domestic Small Cap Index Fund

Foreign Stock Investments:

· UC International Equity Index Fund
· UC Diversified International Fund
· UC Emerging Markets Equity Fund

Specialty Stock Funds:

· UC Global Equity Ex-Fossil Fuel Fund
· UC Real Estate Fund
· UC Social Equity Fund

Tier III — BrokerageLink®

Fidelity BrokerageLink combines the convenience of a workplace retirement plan with the additional flexibility of a brokerage account, and expanded investment choices to manage retirement contributions. The UCRSP plan fiduciary neither evaluates nor monitors the investments available through BrokerageLink. It is the participants' responsibility to ensure that the investments selected are suitable for participants' situation(s), including goals, time horizon and risk tolerance.

Defined Contribution Plan

Under the Retirement Choice Program, for employees who elect Savings Choice, which works much like a 401(k) plan, both the University and the participants make mandatory DC Plan retirement contributions, on a pretax basis, on eligible pay up to the IRC compensation limit. The participant contributes 7.0 percent, and the University contributes 8.0 percent. University contributions under Savings Choice are fully vested after one year of employment. For employees who elect Pension Choice and who are subject to the PEPRA maximum, both the University and the participants make mandatory DC Plan retirement contributions on a pretax basis. University contributions under Pension Choice are fully vested after five years of service credit. For designated faculty, the University contributes 5.0 percent on all eligible pay up to the IRC compensation limit. For staff, the University contributes 3.0 percent 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.

After five years of service, Savings Choice participants are permitted to prospectively elect Pension Choice. The second choice window opens on January 1 of the fifth anniversary of the calendar year in which Savings Choice was initially elected and closes on May 31 five years later. The Pension Choice election becomes effective on the next July 1.

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 (Pretax Account participants). Pretax participation includes certain University student employees and resident aliens with F-1 and J-1 visa status. Pretax participants contribute 7.5 percent of their gross salary (up to the Social Security wage base) to the DC 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 their earnings until the accumulations are withdrawn. The maximum amount that participants may contribute annually to the After-Tax Account is determined by the IRC §415(c) limit.

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. For the years ended June 30, 2023 and 2022, the SDC Plan did not have any participants, assets or contributions.

Tax-Deferred 403(b) Plan

The University makes 403(b) Plan retirement contributions on the summer salaries of eligible academic appointees who teach, conduct research or provide administrative service during the summer session or an equivalent term. To be eligible, the academic appointee must hold an academic year appointment and be an active member of UCRP or another defined benefit plan to which the University contributes, be a Savings Choice participant, or be eligible for a primary retirement benefit option under the Retirement Choice Program even if not yet participating. The contribution rate is 7.0 percent of eligible summer salary, of which 3.5 percent is University-paid and 3.5 percent is employee-paid, both on a pretax basis.

The 403(b) Plan is available to all University employees except students who normally work fewer than 20 hours per week. Employees who want to participate in the 403(b) Plan designate a portion of their gross salary within the IRC limits to be contributed on a pretax basis, thus reducing their taxable income. Income taxes on contributions and any earnings are deferred until the participant withdraws the money. The University also makes 403(b) Plan contributions on behalf of eligible senior managers.

Annual salary deferral contribution limits for the 403(b) Plan during the plan year ended June 30, 2023 were as follows: the maximum annual contribution limit for participants under age 50 was $22,500 (or 100 percent of adjusted gross salary, if less) and $20,500 for the calendar years 2023 and 2022, respectively. For participants age 50 or older, the total annual contribution limit was $30,000, (or 100 percent of adjusted gross salary, if less) and $27,000 for calendar year 2023 and 2022, respectively. Participants with 15 or more years of service may be able to increase their limit under additional catch-up provisions.

457(b) Deferred Compensation Plan

The 457(b) Plan is available to all University employees except students who normally work fewer than 20 hours per week. Taxes on contributions and earnings thereon are deferred until the accumulations are withdrawn. The University may also make 457(b) Plan contributions on behalf of eligible senior managers. The deferred compensation limits for the 457(b) Plan were the same as the 403(b) Plan limits during fiscal years ended June 30, 2023 and 2022.

Basis of Accounting

The financial statements have been prepared in accordance with U.S. generally accepted accounting principles using the economic resources measurement focus and the accrual basis of accounting. The UCRS Plans follow accounting principles issued by the Governmental Accounting Standards Board (GASB). The DB Plans and UCRSP Plans are not legally separate entities and therefore, under GASB requirements, a going concern evaluation at the level of the DB Plans and UCRSP Plans is not required and has not been performed by management.

Valuation of 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 plan 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 plan year are valued at the quoted bid price of an exchange or a dealer who regularly trades in the security being valued. Investment in nonexchange 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 the 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, buyout and international funds. Fair values for interests in private equity, absolute return partnerships, real assets and real estate partnerships are based on valuations provided by the general partners of the respective partnerships. The valuations are primarily based on the 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, 2023 and 2022, respectively.

Interests in certain direct investments in real estate are estimated based upon independent appraisals. Because the private equity, real estate 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 UCRS Plans consider 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 UCRS Plans may review the investment's underlying portfolio as well as engage external appraisers, depending on the nature of the investment.

The UCRS Plans exercise 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 in the inputs of the external investment managers' valuations. 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 net asset value 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 UCRS Plans' statement of changes in fiduciary 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.

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 plan 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.

Administrative Expenses

Administrative expenses are incurred in connection with the operation of UCRS for costs such as staff salaries and benefits, UC Investments operations, information systems, leased space, supplies and equipment and professional services rendered by the benefits consultants, legal counsel and independent auditor, which are paid from UCRS' assets.

For the UCRSP Plans, investment management, trading, trust and custody expenses are deducted from investment income. The UCRSP Plans charge a per-participant administrative fee to cover costs of plan administrative services. The single quarterly fee applies regardless of how many plan accounts a participant holds.

For the UC-VERIP, administrative expenses, other than actuarial consulting fees which are paid directly from plan assets, are assessed through an annual account servicing charge of $10 per retiree.

Status Under the IRC

UCRP is intended to qualify under IRC §401(a) and the regulations thereunder and the UCRP trust is intended to be exempt from taxation under IRC §501(a). Most recently, the University received a favorable determination from the IRS for UCRP in a letter dated April 5, 2017.

The UC-VERIP is intended to satisfy the qualification requirements under IRC §401(a) and its trust is intended to be exempt from taxation under IRC §501(a).

The DC Plan is intended to meet the requirements for qualification under IRC §401(a). Most recently, the University received a favorable determination from the IRS for the DC Plan in a letter dated April 5, 2017.

Separately, the University has requested that the IRS issue a favorable determination letter on the SDC Plan. The SDC Plan is intended to satisfy the qualification requirements of IRC §401(a) and its trust is intended to be exempt from taxation under IRC §501(a). The SDC Plan was intended to be used in conjunction with a defined contribution plan described in IRC §415(m). However, the IRS declined to rule on the 415(m) portion, so the University opted to withdraw its request for a determination on the SDC Plan.

The 403(b) Plan is intended to satisfy the requirements of IRC §403(b). The 457(b) Plan is intended to satisfy the requirements of IRC §457(b).

Use of Estimates in the Preparation of Financial Statements

The preparation of financial statements in conformity with U.S. generally accepted accounting principles 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 June 2022, GASB issued Statement No. 100, *Accounting Changes and Error Corrections—an amendment of GASB Statement No. 62* (GASB 100), effective for the University's fiscal year beginning July 1, 2023. GASB 100 requires disclosures of descriptive information about accounting changes and error corrections and addresses how information that is affected by a change in accounting principle or error correction should be presented in required supplementary information and supplementary information.

2. INVESTMENTS

The Regents, as the governing board and as trustee, is responsible for the oversight of the UCRS Plans' investments and establishes investment policies for the DB Plans and the UCRSP, which are carried out by UC Investments. UC Investments has primary fiduciary responsibility for investing UCRS' assets consistent with the policies established by The Regents.

Participation in the UC Short Term Investment Pool (STIP) maximizes the returns on short-term cash balances in the UCRS Plans by taking advantage of the economies of scale of investing in a large pool with a broad range of maturities. STIP is managed to maximize current earned income. The available cash in UCRS Plans awaiting investment or for administrative expenses is also invested in STIP. Investments authorized by The Regents for STIP include fixed-income securities with a maximum maturity of 5.5 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.

Investments authorized by The Regents for the UCRS Plans' investment pools and separate investments include equity securities, fixed-income securities and certain other asset classes. The equity portion of the investment portfolios may include both domestic and foreign common and preferred stocks, and actively managed and passive strategies, along with exposure to private equities. Private equities include venture capital partnerships, buyouts and international funds. Investment portfolios may include certain 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 and real assets are authorized for the UCRS Plans. Absolute return strategies, which may incorporate short sales, plus derivative positions to implement or hedge an investment position, are also authorized for the UCRS Plans.

Table 2.1 shows the target asset allocation policy for the DB Plans investment pool as of June 30, 2023:

Table 2.1: DB Plans Target Allocation *(shown as percentage)*

Asset class	
U.S. equity	32.9%
Developed international equity	14.8
Emerging market equity	5.3
Core fixed income	13.0
High-yield bonds	2.5
Emerging market debt	1.5
Real estate	7.0
Private credit	3.5
Private equity	12.0
Absolute return	3.5
Real assets	4.0
Total	**100.0%**

Annual Money-Weighted Rates of Return

A money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. For the DB Plans, the annual money-weighted rates of return, net of investment expenses, adjusted for changing amounts actually invested were 9.5 percent and (10.6) percent for the fiscal years ended June 30, 2023 and 2022, respectively.

The composition of investments and derivative instruments, by investment type, at June 30, 2023 and 2022, is shown below in Table 2.2.

Table 2.2: Composition of Investments and Derivatives *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Equity securities	**$39,683,037**	**$35,700,106**	**$18,608,749**	**$14,742,018**
Fixed-income securities:				
U.S. government-guaranteed:				
U.S. treasury bills, notes and bonds	4,216,738	3,180,058	1,826,264	2,080,268
U.S. treasury strips	273,583	274,119		
U.S. TIPS			1,345,010	1,439,960
U.S. government-backed securities				3,000
U.S. government-backed mortgage-backed securities	161,255	155,007	130,510	153,242
U.S. government-guaranteed	**4,651,576**	**3,609,184**	**3,301,784**	**3,676,470**
Other U.S. dollar-denominated:				
Corporate bonds	4,230,538	4,354,329	870,530	1,000,029
U.S. agencies			3,349,663	3,635,557
U.S. agencies asset-backed securities	565,508	585,163	479,048	618,757
Corporate asset-backed securities			28,918	47,678
Supranational/foreign	2,191,697	2,626,443	245,187	271,722
Other	5,504	8,521	13,087	16,602
Other U.S. dollar-denominated	**6,993,247**	**7,574,456**	**4,986,433**	**5,590,345**
Commingled funds:				
Absolute return	1,779,371	2,843,897		
U.S. equity funds	454,892	528,747	2,426,069	1,961,169
Non-U.S. equity funds	4,101,525	6,824,969	13	
U.S. bond funds			14,475	101,827
Non-U.S. bond funds	11	11		
Private equity	9,232,758	8,746,627		
Private credit	3,084,346	2,127,956		
Real assets	4,032,506	3,333,596		
Real estate investment trusts	6,167,824	3,395,281		
Money market funds*	4,807,393	2,650,845	540,209	524,043
Commingled funds	**33,660,626**	**30,451,929**	**2,980,766**	**2,587,039**
Real estate	1,242,310	1,811,614		
Publicly traded real estate investment trusts	953,733	1,793,774	1,173,180	1,016,967
Other investments	548,539	576,364		
Investment derivatives	11,734	12,576	3,501	(3,041)
Total investments	**$87,744,802**	**$81,530,003**	**$31,054,413**	**$27,609,798**

**Amounts include investments of $4,134,423 by DB Plans and $231,066 by UCRSP in STIP at June 30, 2023. The amounts at June 30, 2022 were $1,815,664 and $214,775, respectively.*

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 also 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 on principal in a timely manner, or 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 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, including obligations of the U.S. government or those explicitly guaranteed by the U.S. government, are not considered to have 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 combined benchmark for STIP is a 50/50 weighted average of the yield on a constant maturity one-year U.S. Treasury Note and U.S. 30-day Treasury Bills.

The Regents recognizes that credit risk is appropriate in balanced investment pools such as the UCRS Plans by virtue of the benchmark chosen for the fixed-income portion of the pool.

The core fixed-income benchmark for UCRSP is the Bloomberg MSCI US Aggregate ex-Tobacco ex-Fossil Fuels Index, comprised of 24.8 percent corporate bonds, 4.0 percent non-corporate bonds and 29.1 percent mortgage/asset-backed securities, all of which carry some degree of credit risk. The remaining 42.1 percent is composed of government-issued bonds. The core fixed-income benchmark for the DB Plans is the Bloomberg 1-5 Year US Government/Credit Index, comprised of 27.0 percent corporate bonds and 5.7 percent non-corporate bonds, all of which carry some degree of credit risk. The remaining 67.3 percent is government issued bonds.

In addition, the investment policies for the UCRS Plans allow for dedicated allocations to non-investment-grade and emerging market bonds, investment that entails credit, default and/or sovereign risk.

The credit risk profile for fixed- or variable-income securities at June 30, 2023 and 2022, is shown below in Table 2.3:

Table 2.3: Credit Risk Profile *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
U.S. government-guaranteed	$4,651,576	$3,609,184	$3,301,784	$3,676,470
Other U.S. dollar-denominated:				
AAA	487,621	443,676	826,899	922,798
AA	345,141	314,994	2,648,701	2,889,674
A	1,482,647	1,349,624	224,312	282,260
BBB	1,909,037	1,853,311	322,083	441,699
BB	996,463	1,397,203	210,290	205,635
B	878,503	1,165,477	194,409	146,613
CCC	223,611	329,474	42,838	42,988
D	12,044	13,567		
Not rated	658,180	707,130	516,901	658,678
Commingled funds:				
U.S. bond funds: not rated			14,475	101,827
Non-U.S. bond funds: not rated	11	11		
Money market funds: not rated	4,807,393	2,650,845	540,209	524,043

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 UCRS Plans' securities are registered in the name of The Regents by the custodial bank. Other types of investments, such as private investments, commingled funds, real estate and derivatives 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 UCRS Plans to greater risks resulting from adverse economic, political, regulatory, geographic or credit developments.

The U.S. and non-U.S. equity portions of UCRS may be managed either passively or actively. For the portion 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 Regents considers that passive management results in an absence of concentration of credit risk. For the portion 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 of credit risk for individual portfolios is monitored relative to their individual benchmarks and agreed-upon risk parameters in their guidelines.

At June 30, 2023 and 2022, no single issuer comprised more than 5 percent or more of investments held by the UCRS Plans.

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 the price of a security resulting from a 1-percentage-point change in the level of interest rates.

Interest rate risk for STIP is managed by constraining the maturity of all individual securities to be less than or equal to three 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.

Portfolio guidelines for the core fixed-income portion of the UCRS Plans' investment portfolio limit the weighted average effective duration of the portfolio to the effective duration of the Barclays Capital Aggregate Bond Index benchmark, plus or minus 20 percent. These 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-income securities at June 30, 2023 and 2022, is shown below in Table 2.4:

Table 2.4: Effective Durations for Fixed-Income Securities *(in years)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Fixed-income securities:				
U.S. government-guaranteed:				
U.S. treasury bills, notes and bonds	2.6	2.6	8.5	8.3
U.S. treasury strips	1.5	2.3		
U.S. TIPS			4.8	5.2
U.S. government-backed securities				15.2
U.S. government-backed mortgage-backed securities	4.9	5.8	5.8	5.4
Other U.S. dollar-denominated:				
Corporate bonds	3.1	3.7	5.6	6.7
U.S. agencies			1.8	2.5
U.S. agencies asset-backed securities	5.2	5.9	5.9	5.4
Corporate asset-backed securities			3.2	3.6
Supranational/foreign	3.7	4.5	4.6	5.2
Other	1.2	0.9	8.9	8.4
Commingled funds:				
U.S. bond funds			12.8	15.3
Non-U.S. bond funds	7.3	7.4		

Investments may 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. Although the effective durations of the securities may be low, they are considered to be highly sensitive to changes in interest rates.

At June 30, 2023 and 2022, the fair values of such investments are shown below in Table 2.5:

Table 2.5: Fair Value of Other Fixed Income Securities *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Mortgage-backed securities	$726,763	$740,170	$591,041	$748,514
Collateralized mortgage obligations			38,834	59,903
Other asset-backed securities		1,932	8,603	11,260
Variable-rate securities	828,500	743,548	141,424	182,707
Callable bonds	4,686,713	4,831,570	4,196,030	4,397,036
Structured notes	697,871	585,115	1,425,872	1,550,569
Convertible bonds	2,597	4,245	2,961	4,383
Total	**$6,942,444**	**$6,906,580**	**$6,404,765**	**$6,954,372**

Mortgage-Backed Securities. These securities are issued by Fannie Mae, Ginnie Mae and Freddie Mac, and various commercial entities and may 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 the payment of either 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 the payment of either 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 go. 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 called bond must then be replaced 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, 2023 and 2022, the effective durations for these investments are shown below in Table 2.6:

Table 2.6: Effective Durations of Other Fixed Income Securities *(in years)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Mortgage-backed securities	5.1	5.9	5.9	5.4
Collateralized mortgage obligations			4.9	4.6
Other asset-backed securities		3.0	2.3	3.0
Variable-rate securities	3.1	3.4	5.0	4.8
Structured notes	2.8	2.8	4.8	5.2
Callable bonds	3.3	3.9	2.7	3.6
Convertible bonds	2.7	1.1	2.7	1.3

Foreign Currency Risk

The Regents' strategic asset allocation policies include allocations to non-U.S. equities and non-dollar-denominated bonds. The benchmarks for these investments are not hedged; therefore, the investment strategies include foreign currency risk. 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 Regents' 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, 2023 and 2022, the foreign currency risk expressed in U.S. dollars, organized by currency denomination and investment type, is shown below in Table 2.7:

Table 2.7: Foreign Currency Risk *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Equity securities:				
Euro	$2,908,898	$2,615,351	$1,231,811	$967,787
British Pound	1,097,630	1,042,331	474,898	482,554
Japanese Yen	1,914,885	1,617,603	862,341	656,695
Swiss Franc	832,367	879,006	358,317	296,621
South Korean Won	459,094	488,606	161,653	111,068
Canadian Dollar	866,770	762,807	392,886	342,100
New Taiwan Dollar	621,268	650,536	215,841	144,002
Indian Rupee	983,687	841,435	176,298	124,834
Australian Dollar	515,703	440,310	234,349	227,856
Hong Kong Dollar	926,704	1,077,692	336,726	334,293
Swedish Krona	358,277	280,058	143,142	108,702
South African Rand	110,692	108,731	38,524	34,071
Thailand Baht	64,807	83,226	24,157	18,793
Danish Krone	264,123	192,283	119,007	76,715
Singapore Dollar	87,274	109,639	41,170	36,456
Norwegian Krone	55,187	55,230	26,044	31,502
Brazilian Real	180,294	111,538	62,326	47,337
Mexican Peso	90,550	60,619	31,491	20,361
Chinese Yuan	129,346	323,380	51,736	92,570
Other	537,699	496,177	217,349	249,337
Subtotal	**13,005,255**	**12,236,558**	**5,200,066**	**4,403,654**
Commingled funds (various currency denominations):				
Non-U.S. equity funds	4,101,525	6,824,969	13	
Real assets	78,254	118,786		
Private equity	227,961	451,283		
Private credit	307,747			
Non-U.S. bond funds	11	11		
Subtotal	**4,715,498**	**7,395,049**	**13**	
Investment derivatives:				
Hong Kong Dollar				1
Australian Dollar	1	18		7
Canadian Dollar	50	69	23	32
Euro	62	679	27	5
Other	26	28	4	1
Subtotal	**139**	**794**	**54**	**46**
Real estate:				
Publicly traded real estate investment trusts				
Euro	20,635	20,999	9,688	8,189
Australian Dollar	40,049	37,453	18,446	15,273
British Pound	24,804	28,406	12,082	12,555
Japanese Yen	45,349	46,780	21,352	19,002
Singapore Dollar	20,806	21,221	9,912	9,142
Canadian Dollar	10,509	11,395	4,752	4,162
Other	34,573	21,675	8,933	5,733
Subtotal	**196,725**	**187,929**	**85,165**	**74,056**
Total exposure to foreign currency risk	**$17,917,617**	**$19,820,330**	**$5,285,298**	**$4,477,756**

3. SECURITIES LENDING

The UCRS Plans participate in a securities lending program as a means to augment income. Securities invested by the UCRS Plans are lent to selected brokerage firms for which collateral received equals or exceeds the fair value of such investments during the period of the loan. Securities loans immediately terminate upon notice by either the UCRS Plans 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. Collateral securities cannot be pledged or sold by the UCRS Plans 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 UCRS Plans, in investment pools in the name of the UCRS Plans, with guidelines approved by the UCRS Plans. These investments are shown as investment of cash collateral in the statements of net position. At June 30, 2023 and 2022, the securities in these pools had a weighted average maturity of 3 days. The UCRS Plans record a liability for the return of the cash collateral shown as collateral held for securities lending in the statements of net position. Securities collateral received from the borrower is held in an investment pool by the UCRS Plans' custodial bank.

At June 30, 2023 and 2022, the UCRS Plans had little exposure to borrowers because the amounts the UCRS Plans owed the borrowers were substantially the same as the amounts the borrowers owed the UCRS Plans. The UCRS Plans are fully indemnified by their lending agents against any losses incurred as a result of borrower default.

Securities lending transactions at June 30, 2023 and 2022, are shown below in Table 3.1:

Table 3.1: Securities Lending Transactions *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Securities lent				
For cash collateral:				
Equity securities:				
Domestic	$2,988,223	$4,970,549	$2,466,425	$2,332,733
Foreign	495,584	648,003	276,584	337,496
Fixed-income securities:				
U.S. government-guaranteed	364,648	92,999	446,762	115,930
U.S. agency	534,338		104,354	41,733
Other U.S. dollar-denominated	620,135	1,235,959	154,924	255,696
Foreign currency-denominated	2,426	15,754		
Lent for cash collateral	**5,005,354**	**6,963,264**	**3,449,049**	**3,083,588**
For securities collateral:				
Equity securities:				
Domestic	10	51	24	63
Foreign	67	2,803		854
Publicly traded real estate investment trusts:				
Publicly traded real estate investment trusts		5		
Fixed-income securities:				
U.S. government	2,545,714		227,779	
Lent for securities collateral	**2,545,791**	**2,859**	**227,803**	**917**
Total securities lent	**$7,551,145**	**$6,966,123**	**$3,676,852**	**$3,084,505**
Collateral received				
Cash	$5,104,622	$7,204,652	$3,517,120	$3,196,347
Securities	2,800,360	3,065	631,093	991
Total collateral received	**$7,904,982**	**$7,207,717**	**$4,148,213**	**$3,197,338**
Investment of cash received				
Fixed- or variable-income securities:				
Other U.S. dollar-denominated:				
Corporate bonds	$72,633	$57,358	$50,045	$25,447
Commercial paper	144,485	595,111	99,552	264,021
Repurchase agreements	3,188,710	3,490,239	2,197,061	1,548,446
Certificates of deposit/time deposits	1,722,414	3,066,797	1,186,755	1,360,585
Supranational/foreign	25,186		17,353	
Other assets (liabilities), net*	(48,806)	(4,852)	(33,628)	(2,153)
Total investment of cash collateral	**$5,104,622**	**$7,204,653**	**$3,517,138**	**$3,196,346**

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

The UCRS Plans earn interest and dividends on the collateral held during the loan period, as well as a fee from the brokerage firm, and are obligated to pay a fee and rebate to the borrower. UCRS receives the net investment income.

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 UCRS Plans' investment policies and other information related to each of these risks are summarized below.

Credit Risk

The UCRS Plans' investment policies for the investment of cash collateral maintained in separately managed collateral pools restrict the credit rating of issuers 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 and commingled funds associated with the investment of cash collateral at June 30, 2023 and 2022, is shown below in Table 3.2:

Table 3.2: Credit Risk Profile *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Other U.S. dollar-denominated:				
AAA	$16,402		$11,301	
AA-	414,434	$548,200	285,548	$243,208
A+	807,124	1,401,293	556,114	621,685
A	268,937	639,023	185,300	283,504
A-1+	167,257	367,092	115,242	162,861
A-1	281,782	763,658	194,149	338,799
A1/P1/F1		1,130,750		501,660
Not rated	8,784		6,051	
Other liability, net	(48,806)	(4,852)	(33,628)	(2,153)

Custodial Credit Risk

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

Concentration of Credit Risk

The UCRS Plans' investment guidelines for 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 in money market funds to no more than 5 percent of the portfolio value at the time of purchase.

Investments in issuers other than U.S. government-guaranteed securities that represent 5 percent or more of the total investment of cash collateral held at June 30, 2023 and 2022, are shown below in Table 3.3:

Table 3.3: Investment in Issuers Other Than U.S. Government-Guaranteed Securities that Represent 5 percent or more of the Total Investment of Cash Collateral *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Goldman Sachs & Co.	$353,694		$243,697	
Citigroup Global Markets Inc.	404,705	$421,008	278,847	$186,781
JP Morgan Securities LLC		473,204		209,936
Barclays Bank PLC	791,187		545,134	

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 UCRS Plans' investment guidelines for the investment of cash collateral in the separately managed collateral pools requires 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 outstanding for fixed- or variable-income securities associated with the investment of cash collateral at June 30, 2023 and 2022, is shown below in Table 3.4:

Table 3.4: Weighted Average Maturity *(in days)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Other U.S. dollar-denominated:				
Corporate bonds	1	1	1	1
Commercial paper	39	6	39	6
Repurchase agreements	2	3	2	3
Certificates of deposit/time deposits	4	5	4	5
Supranational/foreign	17		17	

Investment of cash collateral may include various asset-backed securities, structured notes and variable-rate securities that may be considered 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, 2023 and 2022, the fair value of investments that are considered to be highly sensitive to changes in interest rates is shown below in Table 3.5:

Table 3.5: Fair Value of Investments Considered Highly Sensitive to Interest Rate Changes *(in thousands of dollars)*

	DB Plans 2023	DB Plans 2022	UCRSP Plans 2023	UCRSP Plans 2022
Other asset-backed securities	$25,186		$17,353	
Variable-rate investments	4,259,687	$5,810,318	2,934,954	$2,577,750

At June 30, 2023 and 2022, the weighted average maturity expressed in days for asset-backed securities and variable-rate investments was less than 1 day.

Foreign Currency Risk

The UCRS Plans' investment guidelines for the investment of cash collateral maintained in separate collateral pools restrict investments to U.S. dollar-denominated securities. Therefore, there is no foreign currency risk.

4. FINANCIAL DERIVATIVE INSTRUMENTS

The UCRS Plans' investments may use derivatives including futures, foreign currency exchange contracts, options, forward contracts, stock rights and warrants as a substitute for investment in equity and fixed-income securities or to reduce the effect of fluctuating foreign currencies on foreign currency-denominated investments or to limit the exposure of variable-rate bonds to changes in market interest rates.

The UCRS Plans enter 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 UCRS Plans are 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 UCRS Plans agree 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 statements of changes in fiduciary 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.

A swap is a contractual agreement entered into between the UCRS Plans 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, interest rate or currency. The UCRS Plans consider their futures, forward contracts, rights, warrants and interest rate swaps to be investment derivatives.

The fair value balances and notional amounts of investment derivative instruments outstanding at June 30, 2023 and 2022, categorized by type, and the changes in fair value of such derivatives from the prior years then ended, with positive changes reflected as net appreciation and negative changes reflected as net depreciation are shown below in Tables 4.1a-d:

Table 4.1a: DB Plans 2023 *(in thousands of dollars)*

		Fair Value		Changes in Fair Value	
Category	**Notional Amount**	**Classification**	**Fair Value**	**Classification**	**Changes in Fair Value**
Investment Derivatives					
Futures contracts, net:					
Domestic equity futures:					
Long positions	$445,205	Investments	$10,421	Net appreciation	$57,041
Foreign equity futures:					
Long positions	7,363	Investments	118	Net appreciation	418
Futures contracts, net	**452,568**		**10,539**		**57,459**
Foreign currency exchange contracts, net:					
Long positions				Net appreciation	3,350
Short positions	309,399	Investments	1,005	Net depreciation	(8,153)
Foreign currency exchange contracts, net	**309,399**		**1,005**		**(4,803)**
Other, net:					
Stock rights/warrants		Investments	190	Net appreciation	475
Other, net			**190**		**475**
Total investment derivatives	**$761,967**		**$11,734**		**$53,131**

Table 4.1b: DB Plans 2022 *(in thousands of dollars)*

		Fair Value		Changes in Fair Value	
Category	**Notional Amount**	**Classification**	**Fair Value**	**Classification**	**Changes in Fair Value**
Investment Derivatives					
Futures contracts, net:					
Domestic equity futures:					
Long positions	$527,160	Investments	($3,282)	Net depreciation	($85,074)
Foreign equity futures:					
Long positions	7,086	Investments	(459)	Net depreciation	(141)
Futures contracts, net	**534,246**		**(3,741)**		**(85,215)**
Foreign currency exchange contracts, net:					
Long positions	1,644	Investments	(16)	Net appreciation	814
Short positions	340,938	Investments	15,422	Net appreciation	32,506
Foreign currency exchange contracts, net	**342,582**		**15,406**		**33,320**
Other, net:					
Stock rights/warrants	167	Investments	911	Net depreciation	(1,879)
Other, net	**167**		**911**		**(1,879)**
Total investment derivatives	**$876,995**		**$12,576**		**($53,774)**

Table 4.1c: UCRSP Plans 2023 *(in thousands of dollars)*

		Fair Value		Changes in Fair Value	
Category	**Notional Amount**	**Classification**	**Fair Value**	**Classification**	**Changes in Fair Value**
Futures contracts, net:					
Domestic equity futures:					
Long positions	$159,269	Investments	$3,082	Net appreciation	$18,049
Foreign equity futures:					
Long positions	42,527	Investments	525	Net appreciation	7,408
Short positions				Net appreciation	202
Futures contracts, net	**201,796**		**3,607**		**25,659**
Foreign currency exchange contracts, net:					
Long positions	10,939	Investments	(225)	Net depreciation	(336)
Short positions				Net depreciation	(324)
Foreign currency exchange contracts, net	**10,939**		**(225)**		**(660)**
Other, net:					
Stock rights/warrants		Investments	119	Net appreciation	1,217
Other, net			**119**		**1,217**
Total investment derivatives	**$212,735**		**$3,501**		**$26,216**

Table 4.1d: UCRSP Plans 2022 *(in thousands of dollars)*

		Fair Value		Changes in Fair Value	
Category	**Notional Amount**	**Classification**	**Fair Value**	**Classification**	**Changes in Fair Value**
Futures contracts, net:					
Domestic equity futures:					
Long positions	$110,772	Investments	($1,219)	Net depreciation	($22,318)
Foreign equity futures:					
Long positions	48,236	Investments	(1,793)	Net depreciation	(3,665)
Futures contracts, net	**159,008**		**(3,012)**		**(25,983)**
Foreign currency exchange contracts, net:					
Long positions	11,186	Investments	(256)	Net depreciation	(2,544)
Short positions				Net appreciation	397
Foreign currency exchange contracts, net	**11,186**		**(256)**		**(2,147)**
Other, net:					
Stock rights/warrants	1	Investments	227	Net depreciation	(1,501)
Other, net	**1**		**227**		**(1,501)**
Total investment derivatives	**$170,195**		**($3,041)**		**($29,631)**

5. FAIR VALUE

Fair value is defined 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 financial instruments 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 other investments. The inputs into the determination of fair value of these investments are based upon the best information in the circumstance and may require significant management judgment. Level 3 investments include private equity investments, real assets and real estate.

Net Asset Value (NAV) — Investments whose fair value is measured at NAV are excluded from the fair value hierarchy. Investments in nongovernmental 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 including pending trades and settlements within various pools are not measured at fair value and, thus, are not subject to the fair value disclosure requirements.

Tables 5.1a-d below summarize the investments and other assets reported at fair value within the fair value hierarchy as of June 30, 2023 and 2022:

Table 5.1a: Investments at Fair Value - DB Plans 2023 *(in thousands of dollars)*

	Total	Quoted Prices in Active Markets (Level 1)	Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Not Leveled
Equity securities	$39,683,037	$39,678,809		$4,228		
Fixed- or variable-income securities:						
U.S. government-guaranteed	4,651,576		$4,651,576			
Other U.S. dollar-denominated	6,993,247	2,225	6,991,022			
Commingled funds	33,660,626	2,383,512	(11,544)	4,275,136	$28,317,097	($1,303,575)
Investment derivatives	11,734	1,316	10,418			
Publicly traded real estate investment trusts	953,733	953,733				
Other investments	548,539			367,396	181,143	
Real estate	1,242,310			845	1,241,465	
Total investments	**$87,744,802**	**$43,019,595**	**$11,641,472**	**$4,647,605**	**$29,739,705**	**($1,303,575)**
Securities lending investments of cash collateral	**$5,104,622**		**$5,153,428**			**($48,806)**

Table 5.1b: Investments at Fair Value - DB Plans 2022 *(in thousands of dollars)*

	Total	Quoted Prices in Active Markets (Level 1)	Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Not Leveled
Equity securities	$35,700,106	$35,700,106				
Fixed- or variable-income securities:						
U.S. government-guaranteed	3,609,184		$3,609,184			
Other U.S. dollar-denominated	7,574,456	4,810	7,569,646			
Commingled funds	30,451,929	836,016	911	$1,043,286	$28,314,517	$257,199
Investment derivatives	12,576	21,460	(8,884)			
Publicly traded real estate investment trusts	1,793,774	1,793,774				
Other investments	576,364			379,465	196,899	
Real estate	1,811,614			1,379	1,810,235	
Total investments	**$81,530,003**	**$38,356,166**	**$11,170,857**	**$1,424,130**	**$30,321,651**	**$257,199**
Securities lending investments of cash collateral	**$7,204,653**		**$7,209,498**			**($4,845)**

Table 5.1c: Investments at Fair Value - UCRSP Plans 2023 *(in thousands of dollars)*

	Total	Quoted Prices in Active Markets (Level 1)	Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Not Leveled
Equity securities	$18,608,749	$18,608,749				
Fixed- or variable-income securities:						
U.S. government-guaranteed	3,301,784		$3,301,784			
Other U.S. dollar-denominated	4,986,433	1,741	4,984,692			
Commingled funds	2,980,766	225,413	(3,383)		$2,671,610	$87,126
Investment derivatives	3,501	3,501				
Publicly traded real estate investment trusts	1,173,180	1,173,180				
Total investments	**$31,054,413**	**$20,012,584**	**$8,283,093**		**$2,671,610**	**$87,126**
Securities lending investments of cash collateral	**$3,517,138**		**$3,550,766**			**($33,628)**

Table 5.1d: Investments at Fair Value - UCRSP Plans 2022 *(in thousands of dollars)*

	Total	Quoted Prices in Active Markets (Level 1)	Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Not Leveled
Equity securities	$14,742,018	$14,742,018				
Fixed- or variable-income securities:						
U.S. government-guaranteed	3,676,470		$3,676,470			
Other U.S. dollar-denominated	5,590,345	4,286	5,586,059			
Commingled funds	2,587,039	370,696	204		$2,133,081	$83,058
Investment derivatives	(3,041)	204	(3,245)			
Publicly traded real estate investment trusts	1,016,967	1,016,967				
Total investments	**$27,609,798**	**$16,134,171**	**$9,259,488**		**$2,133,081**	**$83,058**
Securities lending investments of cash collateral	**$3,196,346**		**$3,198,499**			**($2,153)**

Tables 5.2a-b below present significant terms of certain investments at June 30, 2023:

Table 5.2a: Significant Terms of Certain Investments - DB Plans

Investment Type	Fair Value *(thousands of dollars)*	Unfunded Commitments *(thousands of dollars)*	Remaining Life *(Years)*	Redemption Terms and Restrictions
Absolute return	$1,779,371			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	9,232,758	$3,444,656	0 to 15	Not eligible for redemption.
Private credit	3,084,346	526,019	0 to 10	Not eligible for redemption and lock-up provisions ranging from 0 to 10 years. For securities not eligible for redemptions the underlying assets are estimated to be liquidated within 3 to 7 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 before winding down.
Real assets	4,032,506	795,481	0 to 15	Not eligible for redemption.
U.S. equity funds	454,892			Redemption generally requires at least 0 to 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 to 120 days.
Non-U.S. equity funds	4,101,525			Redemption requires at least 0 to 180 days' prior written notice of intention to terminate as of a date determined by the legal agreement between the investment manager and The Regents. Withdrawals may occur on the last business day of the month and are subject to certain withdrawal guidelines.
Real estate and real estate investment trusts	7,410,134	523,457	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 four quarters.

Table 5.2b: Significant Terms of Certain Investments - UCRSP Plans

Investment Type	Fair Value *(thousands of dollars)*	Unfunded Commitments *(thousands of dollars)*	Remaining Life *(Years)*	Redemption Terms and Restrictions
U.S. equity funds	$2,426,069			Redemption generally requires at least 0 to 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 to 120 days.

6. CONTRIBUTIONS

Contributions to UCRP are based upon rates determined by The Regents. The Regents' funding policy provides for contributions at rates which are reasonably expected 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 policy contributions. 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 (University) and by the employees (members). The University pays a uniform contribution rate on behalf of all UCRP active members on covered payroll. The contribution rate was 14.0 percent and 15.0 percent for the fiscal years ended June 30, 2023 and 2022, respectively. In order to pay down the unfunded liability of UCRP, effective July 1, 2016, the University pays a separate uniform contribution rate into UCRP on covered payroll on behalf of all active Savings Choice participants, which is generally 8 percent less than the contribution rate the University pays on behalf of UCRP active members. This separate University contribution rate was 6.0 percent and 7.0 percent for the fiscal years ended June 30, 2023 and 2022, respectively. Future University contribution rates, as approved by The Regents, are shown below in Table 6.1:

Table 6.1: University Contribution Rates *(shown as percentage)*

Effective Date	UCRP Actives	Savings Choice Actives
7/1/2023	14.0%	6.0%
7/1/2024	15.0	7.0
7/1/2025	15.5	7.5
7/1/2026	16.0	8.0
7/1/2027	16.5	8.5
7/1/2028	17.0	9.0

Mandatory employee contributions, made as a condition of employment, are based upon covered University wages less a specified monthly reduction, determined periodically by The Regents. Effective July 1, 2014, member contribution rates, by tier are as shown below in Table 6.2:

Table 6.2: Member Contribution Rates *(shown as percentage)*

Member Tier	Member Contribution Rate
1976 Tier*	8.0%
2013 Tier/2016 Tier	7.0
Safety*	9.0

** Contributions offset by $19 per month.*

Under current collective bargaining agreements, employees represented by several unions participate in a modified version of the 2013 Tier (Modified 2013 Tier), where the retirement ages and age factors are not increased and lump sum cashouts are available. In exchange for these modifications, all employees represented by these unions (including those who are 1976 Tier members) pay 9.0 percent of their retirement covered gross salary effective July 1, 2014.

Member 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, if entitled, a lump sum equal to the present value of their accrued benefits.

The Lawrence Berkeley National Laboratory (LBNL), as a separate segment of UCRP, is required to make employer and employee contributions in conformity with The Regents' contract with the Department of Energy (DOE). In addition, under certain circumstances the University contributes to UCRP based upon a contractual arrangement with the DOE designed to achieve 100 percent funding within seven years for each of the Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory (LLNL) retained segments within UCRP, with these contributions reimbursed by the DOE.

7. NET PENSION LIABILITY

The components of the net pension liability of UCRP and UC-VERIP at June 30, 2023 and 2022, are shown below in Table 7.1:

Table 7.1: Components of Net Pension Liability *(in thousands of dollars)*

	UCRP 2023	UCRP 2022	UC-VERIP 2023	UC-VERIP 2022
Total pension liability	$108,565,697	$102,635,910	$16,739	$20,227
Plan net position	88,194,785	81,363,028	67,989	65,024
Net pension liability (surplus)	**$20,370,912**	**$21,272,882**	**($51,250)**	**($44,797)**
Ratio of plan net position to total pension liability	81.2%	79.3%	406.2%	321.5%
Covered payroll	$15,191,170	$13,921,086		
Net pension liability as a percentage of covered payroll	134.1%	152.8%		

Actuarial Assumptions

The net pension liability was measured as of June 30, 2023 and June 30, 2022. Plan net position was valued as of the measurement date (June 30), while the total pension liability was determined based upon rolling forward the total pension liability from the July 1, 2022 and 2021 actuarial valuations, respectively. The actuarial assumptions used as of June 30, 2023 were based upon the results of an experience study conducted for the period July 1, 2018 through June 30, 2022. The actuarial assumptions used as of June 30, 2022 were based upon the results of an experience study conducted for the period July 1, 2014 through June 30, 2018.The net pension liability was calculated using the methods and assumptions shown below in Table 7.2:

Table 7.2: Actuarial Assumptions Used to Calculate Net Pension Liability *(shown as percentage)*

	2023	2022
Discount rate	6.75%	6.75%
Inflation	2.50	2.50
Investment rate of return	6.75	6.75
Projected salary increases	3.65 - 5.95	3.65 - 5.95
Cost-of-living adjustments	FYE 6/30/2023: 2.90%. Future years: 2.00%	FYE 6/30/2022: 4.41% for those who retired 7/2/2019 - 7/1/2020; 3.69% for all others eligible for COLA. Future years: 2.00%

Discount Rate

To calculate the discount rate, cash flows into and out of the DB Plans were projected in order to determine whether each DB Plan has sufficient cash in future periods for projected benefit payments for current members. For this purpose, University contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected University, state and member contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions of future plan members, are not included. The DB Plans are projected to have assets sufficient to make projected benefit payments for current members for all future years.

Investment Rate of Return

The long-term expected investment rate of return assumption for the DB Plans was determined 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 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 Table 7.3 below:

Table 7.3: Target Asset Allocation and Real Rates of Return *(shown as percentage)*

	Target Allocation	Projected Real Rate of Return
Asset class:		
U.S. equity	33.0%	6.0%
Developed international equity	13.0	6.8
Emerging market equity	7.0	8.5
Core bonds	13.0	1.8
High-yield bonds	2.5	4.6
Emerging market debt	1.5	4.6
Private equity	12.0	9.6
Private credit	3.5	2.9
Real estate	7.0	3.9
Absolute return	3.5	1.1
Real assets	4.0	4.0
Weighted average	**100.0%**	**5.6%**

Mortality rates used to calculate the total pension liability for 2023 and 2022 are described below in Table 7.4.

Table 7.4: Mortality Rates Used to Calculate the Total Pension Liability

	2023	2022
Mortality Rates		
Preretirement	Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table multiplied by 90 percent for males and 95 percent for females	Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table
Postretirement healthy members	Pub-2010 Healthy Teacher Amount-Weighted Above-Median Mortality Table multiplied by 85 percent for male faculty members, 95 percent for female faculty members, 100 percent for other male members and 105 percent for other female members	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
Postretirement disabled members	Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table multiplied by 100 percent for males and 95 percent for females	Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table
Beneficiaries of retired members	In pay status at the beginning of the plan year: Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table multiplied by 100 percent for males and 90 percent for females Not in pay status at the beginning of the plan year: Pub-2010 Healthy Teacher Amount-Weighted Above-Median Mortality Table multiplied by 100 percent for males and 105 percent for females	Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table multiplied by 100 percent for males and 90 percent for females
Projection scale for all mortality tables	Generational with the two-dimensional mortality improvement scale MP-2021.	Generational with the two-dimensional mortality improvement scale MP-2018.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

Table 7.5 presents the current-period net pension liability (surplus) of UCRP and UC-VERIP calculated using the current-period discount rate assumption of 6.75 percent, as well as what the net pension liability (surplus) would be if it were calculated using a discount rate 1% lower and 1% higher than the current assumption:

Table 7.5: Sensitivity of Net Pension Liability to Changes in the Discount Rate *(in thousands of dollars)*

	1% Decrease (5.75%)	Current Assumption (6.75%)	1% Increase (7.75%)
UCRP	$34,982,449	$20,370,912	$8,377,910
UC-VERIP	(50,483)	(51,250)	(51,946)

8. PLAN TERMINATION

The Regents expects to continue the UCRS Plans indefinitely but reserves the right to amend or discontinue the UCRS Plans at any time provided that any such action shall not lessen accrued benefits of any members. In the event that either DB Plan is terminated, UCRS Plan assets shall be applied solely for the benefit of retired, vested or active participants and beneficiaries, until all liabilities of the UCRS Plans have been satisfied. Once all liabilities have been satisfied, any excess assets of the DB Plans shall revert to The Regents.

The benefits of UCRS noted above are not insured by the Pension Benefit Guaranty Corporation, a federal insurance agency established under Title IV of the Employee Retirement Income Security Act of 1974.

Required Supplementary Information *(Unaudited)*

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. UCRP RSI Table 1 shows the schedule of changes in the net pension liability for UCRP as of June 30 for the past 10 years.

UCRP RSI Table 1: Changes in Net Pension Liability *(in thousands of dollars)*

	2023	2022	2021	2020	2019
Total Pension Liability					
Service cost	$2,753,510	$2,588,194	$2,564,134	$2,466,497	$1,946,612
Interest on the total pension liability	6,985,737	6,633,210	6,311,412	5,981,599	5,576,660
Changes in benefit terms	33,303				
Difference between expected and actual experience	451,908	284,807	462,839	(282,321)	334,605
Changes of assumptions or other inputs	469,788				7,816,717
Benefits paid, including refunds of employee contributions	(4,764,459)	(4,534,161)	(4,299,910)	(3,944,998)	(3,816,434)
Net change in total pension liability	**5,929,787**	**4,972,050**	**5,038,475**	**4,220,777**	**11,858,160**
Total pension liability - beginning of year	102,635,910	97,663,860	92,625,385	88,404,608	76,546,448
Total pension liability - end of year	**108,565,697**	**102,635,910**	**97,663,860**	**92,625,385**	**88,404,608**
Plan Net Position					
Contributions - employer	2,770,474	2,892,621	2,705,058	2,444,025	2,408,650
Contributions - member	1,206,097	1,105,405	1,053,939	1,019,302	956,543
Net investment income (loss)	7,696,274	(9,765,875)	21,439,296	1,184,938	4,018,595
Benefits paid, including refunds of employee contributions	(4,764,459)	(4,534,161)	(4,299,910)	(3,944,998)	(3,816,434)
Administrative expense	(76,629)	(84,760)	(64,826)	(65,989)	(61,981)
Net change in plan net position	**6,831,757**	**(10,386,770)**	**20,833,557**	**637,278**	**3,505,373**
Plan net position - beginning of year	81,363,028	91,749,798	70,916,241	70,278,963	66,773,590
Plan net position - end of year	**88,194,785**	**81,363,028**	**91,749,798**	**70,916,241**	**70,278,963**
Net pension liability - end of year	**$20,370,912**	**$21,272,882**	**$5,914,062**	**$21,709,144**	**$18,125,645**

UCRP RSI Table 1: Changes in Net Pension Liability *(in thousands of dollars) (Continued)*

	2018	2017	2016	2015	2014
Total Pension Liability					
Service cost	$1,873,004	$1,807,143	$1,710,241	$1,589,267	$1,519,183
Interest on the total pension liability	5,295,733	5,035,267	4,784,904	4,538,846	4,316,728
Difference between expected and actual experience	138,419	74,664	136,167	(112,155)	(320,624)
Changes of assumptions or other inputs				2,136,793	
Benefits paid, including refunds of employee contributions	(3,587,554)	(3,320,990)	(3,105,641)	(2,976,992)	(2,687,540)
Net change in total pension liability	**3,719,602**	**3,596,084**	**3,525,671**	**5,175,759**	**2,827,747**
Total pension liability - beginning of year	72,826,846	69,230,762	65,705,091	60,529,332	57,701,585
Total pension liability - end of year	**76,546,448**	**72,826,846**	**69,230,762**	**65,705,091**	**60,529,332**
Plan Net Position					
Contributions - employer	2,335,874	2,385,576	2,426,683	2,510,046	1,580,876
Contributions - member	941,144	891,987	845,036	793,012	577,466
Contributions - state	169,000	171,000	96,000		
Net investment income (loss)	4,837,552	7,866,281	(1,104,655)	1,993,801	8,009,980
Benefits paid, including refunds of employee contributions	(3,587,554)	(3,320,990)	(3,105,642)	(2,976,993)	(2,687,540)
Administrative expense	(36,684)	(44,128)	(48,340)	(48,283)	(37,641)
Net change in plan net position	**4,659,332**	**7,949,726**	**(890,918)**	**2,271,583**	**7,443,141**
Plan net position - beginning of year	62,114,258	54,164,532	55,055,450	52,783,867	45,340,726
Plan net position - end of year	**66,773,590**	**62,114,258**	**54,164,532**	**55,055,450**	**52,783,867**
Net pension liability - end of year	**$9,772,858**	**$10,712,588**	**$15,066,230**	**$10,649,641**	**$7,745,465**

Notes to Required Supplementary Information

UCRP was amended during the plan year ended June 30, 2023 to provide an ad-hoc cost-of-living adjustment (ad-hoc COLA) to a cohort of retirees. There were no changes to the size or composition of the covered population in any of the fiscal years in the 10-year period which ended June 30, 2023, that significantly affected the total pension liability.

Actuarial assumptions were changed three times during the 10-year period which ended June 30, 2023, each time coinciding with an experience study. Amounts reported in 2023 include an adjustment to the mortality assumption reflecting longer life expectancy. Amounts reported in 2019 include an adjustment to the mortality assumption reflecting longer life expectancy and a decrease in the investment rate of return from 7.25 percent to 6.75 percent. Amounts reported in 2015 include an adjustment to the mortality assumption reflecting longer life expectancy and a decrease in the investment rate of return from 7.50 percent to 7.25 percent.

All plan assets are available to pay any member's benefit. UCRP's net pension liability is measured as of June 30. Plan fiduciary net position (plan assets) is valued as of the measurement date, while the total pension liability is determined by rolling forward the total pension liability from the July 1 actuarial valuations.

UCRP RSI Table 2 presents a 10-year history of the ratio of net pension liability to total pension liability and the net pension liability as a percentage of covered payroll.

UCRP RSI Table 2: Ratio of Net Pension Liability to Total Pension Liability *(in thousands of dollars)*

	2023	2022	2021	2020	2019
Total pension liability	$108,565,697	$102,635,910	$97,663,860	$92,625,385	$88,404,608
Plan net position	88,194,785	81,363,028	91,749,798	70,916,241	70,278,963
Net pension liability	**$20,370,912**	**$21,272,882**	**$5,914,062**	**$21,709,144**	**$18,125,645**
Ratio of plan net position to total pension liability	81.2%	79.3%	93.9%	76.6%	79.5%
Covered payroll	$15,191,170	$13,921,086	$13,215,494	$13,056,696	$12,168,209
Net pension liability as a percentage of covered payroll	134.1%	152.8%	44.8%	166.3%	149.0%

(in thousands of dollars)

	2018	2017	2016	2015	2014
Total pension liability	$76,546,448	$72,826,846	$69,230,762	$65,705,091	$60,529,332
Plan net position	66,773,590	62,114,258	54,164,532	55,055,450	52,783,867
Net pension liability	**$9,772,858**	**$10,712,588**	**$15,066,230**	**$10,649,641**	**$7,745,465**
Ratio of plan net position to total pension liability	87.2%	85.3%	78.2%	83.8%	87.2%
Covered payroll	$11,923,489	$11,301,506	$10,689,424	$10,047,570	$9,372,583
Net pension liability as a percentage of covered payroll	82.0%	94.8%	140.9%	106.0%	82.6%

The Regents' funding policy provides for actuarially determined contributions at rates reasonably expected to maintain UCRP on an actuarially sound basis. LBNL is required to make employer and employee contributions in conformity with The Regents' contract with the DOE. The annual contribution deficiency as of June 30 is presented in UCRP RSI Table 3 below:

UCRP RSI Table 3: Annual Contribution Deficiency *(in thousands of dollars)*

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to Actuarially Determined Contributions	Contribution Deficiency	Covered Payroll	Contributions as a Percentage of Covered Payroll
2023	$3,814,606	$2,770,474	$1,044,132	$15,191,170	18.2%
2022	3,712,774	2,892,621	820,153	13,921,086	20.8
2021	3,523,568	2,705,058	818,510	13,215,494	20.5
2020	2,516,234	2,444,025	72,209	13,056,696	18.7
2019	2,742,671	2,408,650	334,021	12,168,209	19.8
2018	2,669,169	2,504,874	164,295	11,923,489	21.0
2017	2,654,710	2,556,576	98,134	11,301,506	22.6
2016	2,610,953	2,522,683	88,270	10,689,424	23.6
2015	2,664,384	2,510,046	154,338	10,047,570	25.0
2014	2,472,697	1,580,876	891,821	9,372,583	16.9

Actuarial assumptions were changed in 2019, resulting in a significant increase in the actuarially determined contribution starting with the year ended June 30, 2021. Those assumption changes included an adjustment to the mortality assumption reflecting longer life expectancies and a decrease in the investment rate of return assumption from 7.25 percent to 6.75 percent.

Notes to Schedule

Methods and assumptions used to determine 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	15.82 years as of July 1, 2022.
	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. Any changes in UAAL due to plan amendments after July 1, 2014 affecting non-active members are separately amortized over a fixed (closed) 10-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.
Inflation	2.50%.
Investment rate of return	6.75%, net of pension plan investment expenses, including inflation.
Projected salary increases	3.65-5.95%, varying by service, including inflation.
Cost-of-living adjustments	2.00%
Mortality	Actives and inactives: Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table.
	Healthy retired members: 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 members: 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.

A money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. The annual money-weighted rates of return, net of investment expense adjusted for changing amounts actually invested for the years ended June 30 is presented below in UCRP RSI Table 4:

UCRP RSI Table 4: Annual Money-Weighted Rate of Return

Last 10 Fiscal Years Ended June 30	**Annual Money-Weighted Rate of Return, Net of Investment Expense** *(shown as percentage)*
2023	9.5%
2022	(10.6)
2021	30.2
2020	1.7
2019	6.0
2018	7.7
2017	14.5
2016	(2.0)
2015	3.4
2014	17.3

UC-VERIP

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. UC-VERIP RSI Table 1 shows the schedule of changes in the net pension liability for the UC-VERIP as of June 30:

UC-VERIP RSI Table 1: Changes in Net Pension Liability *(in thousands of dollars)*

	2023	**2022**	**2021**	**2020**	**2019**
Total Pension Liability					
Interest on the total pension liability	$1,181	$1,384	$1,513	$1,656	$1,983
Difference between expected and actual experience	(1,242)	108	179	(1,342)	(79)
Changes of assumptions or other inputs	(440)				714
Benefits paid, including refunds of employee contributions	(2,987)	(3,324)	(3,750)	(4,142)	(4,213)
Net change in total pension surplus	**(3,488)**	**(1,832)**	**(2,058)**	**(3,828)**	**(1,595)**
Total pension liability - beginning of year	20,227	22,059	24,117	27,945	29,540
Total pension liability - end of year	**16,739**	**20,227**	**22,059**	**24,117**	**27,945**
Plan Net Position					
Net investment income (loss)	5,955	(7,853)	18,277	1,049	3,748
Benefits paid, including refunds of employee contributions	(2,987)	(3,324)	(3,750)	(4,142)	(4,213)
Administrative expense	(3)	(3)	(4)	(4)	(5)
Net change in plan net position	**2,965**	**(11,180)**	**14,523**	**(3,097)**	**(470)**
Plan net position - beginning of year	65,024	76,204	61,681	64,778	65,248
Plan net position - end of year	**67,989**	**65,024**	**76,204**	**61,681**	**64,778**
Net pension surplus - end of year	**($51,250)**	**($44,797)**	**($54,145)**	**($37,564)**	**($36,833)**

(in thousands of dollars)

	2018	2017	2016	2015	2014
Total Pension Liability					
Interest on the total pension liability	$2,042	$2,463	$2,533	$2,704	$2,857
Difference between expected and actual experience	(436)	(189)	(650)	242	(436)
Changes of assumptions or other inputs				1,837	
Benefits paid, including refunds of employee contributions	(4,610)	(4,738)	(4,937)	(5,081)	(5,169)
Net change in total pension liability (surplus)	**(3,004)**	**(2,464)**	**(3,054)**	**(298)**	**(2,748)**
Total pension liability - beginning of year	32,544	35,008	38,062	38,360	41,108
Total pension liability - end of year	**29,540**	**32,544**	**35,008**	**38,062**	**38,360**
Plan Net Position					
Net investment income (loss)	4,885	8,666	(1,425)	2,550	11,035
Benefits paid, including refunds of employee contributions	(4,610)	(4,738)	(4,937)	(5,081)	(5,169)
Administrative expense	(5)	(6)	(7)	(6)	(6)
Net change in plan net position	**270**	**3,922**	**(6,369)**	**(2,537)**	**5,860**
Plan net position - beginning of year	64,978	61,056	67,425	69,962	64,102
Plan net position - end of year	**65,248**	**64,978**	**61,056**	**67,425**	**69,962**
Net pension surplus - end of year	**($35,708)**	**($32,434)**	**($26,048)**	**($29,363)**	**($31,602)**

Notes to Required Supplementary Information

There were no changes in benefit terms, the size or composition of the covered population that significantly affected the total pension liability for the fiscal year ended June 30, 2023.

Actuarial assumptions were changed three times during the 10-year period which ended June 30, 2023, each time coinciding with an experience study. Amounts reported in 2023 include an adjustment to the mortality assumption reflecting longer life expectancy. Amounts reported in 2019 include an adjustment to the mortality assumption reflecting longer life expectancy and a decrease in the investment rate of return from 7.25 percent to 6.75 percent. Amounts reported in 2015 include an adjustment to the mortality assumption reflecting longer life expectancy and a decrease in the investment rate of return from 7.50 percent to 7.25 percent.

Plan fiduciary net position (plan assets) is valued as of the measurement date, while the total pension liability is determined by rolling forward the total pension liability from the July 1 actuarial valuations.

UC-VERIP RSI Table 2 presents a 10-year history of the ratio of net pension liability to total pension liability.

UC-VERIP RSI Table 2: Ratio of Net Pension Liability to Total Pension Liability *(in thousands of dollars)*

	2023	2022	2021	2020	2019
Total pension liability	$16,739	$20,227	$22,059	$24,117	$27,945
Plan net position	67,989	65,024	76,204	61,681	64,778
Net pension surplus	**($51,250)**	**($44,797)**	**($54,145)**	**($37,564)**	**($36,833)**
Ratio of plan net position to total pension liability	406.2%	321.5%	345.5%	255.8%	231.8%

(in thousands of dollars)

	2018	2017	2016	2015	2014
Total pension liability	$29,540	$32,544	$35,008	$38,062	$38,360
Plan net position	65,248	64,978	61,056	67,425	69,962
Net pension surplus	**($35,708)**	**($32,434)**	**($26,048)**	**($29,363)**	**($31,602)**
Ratio of plan net position to total pension liability	220.9%	199.7%	174.4%	177.1%	182.4%

There is no covered payroll for the UC-VERIP and the University has not been required to contribute to the plan since 1996.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Plan Oversight — The Board of Regents (Committee Chairs)

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